

# Background for the Operational List of Care Episode and Patient Condition Codes

Centers for Medicare & Medicaid Services

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## Overview

This document provides the background and context for the information presented in the “Operational List of Care Episode and Patient Condition Codes” Excel file, which presents the operational list of eight episode-based cost measures for the Medicare Access and Children's Health Insurance Program Reauthorization Act (MACRA) of 2015 and their corresponding episode group trigger codes.

MACRA mandates that the Centers for Medicare & Medicaid Services (CMS) collaborate with clinician and other stakeholder communities in the development of cost measures for potential implementation in the new Merit-based Incentive Payment System (MIPS), which is one of the tracks for the Quality Payment Program. Section 101(f) of MACRA requires CMS to develop care episode groups and patient condition groups (hereafter “episode groups”) to classify similar patients. Episode-based cost measures represent the cost to Medicare for the items and services provided to a patient during an episode of care (“episode”). An episode-based cost measure is designed to inform clinicians on the cost of their beneficiary’s care for which they are responsible during the timeframe specified by the episode. For example, an episode for Elective Outpatient Percutaneous Coronary Intervention (PCI) would include services furnished for and complications related to this procedure, such as electrographic cardiac monitoring, a subsequent PCI, or readmission for gastrointestinal bleed.

Throughout the measure development process, CMS has sought stakeholder input to inform the development of episode-based cost measures through several mechanisms, including a Technical Expert Panel (TEP) and multiple Clinical Subcommittees. The TEP serves a high-level advisory role and has provided guidance on the overall direction of measure development. It consists of 21 expert stakeholders representing specialty societies, academia, healthcare administration, and patient and family member organizations. The Clinical Subcommittees are groups of clinicians that provide structured clinical input on the components of episode-based cost measures. CMS decided to use a “wave” approach wherein sets of Clinical Subcommittees, each focused on a particular clinical area, are convened over time to select episode groups for development and make recommendations about the clinical specifications for the episode groups. The first wave included seven Clinical Subcommittees with a total of 148 members affiliated with 98 specialty societies. Future Clinical Subcommittees under this project, including Subcommittees focused on chronic condition episode group development, will be convened through separate nomination periods.

The first wave of seven Clinical Subcommittees selected eight episode groups for development. The Subcommittees provided input on each component of the measures between May - August 2017, including refinement of the trigger codes for the selected episode groups that were listed in the "Draft List of MACRA Episode Groups and Triggers Codes" posting from December 2016. Additionally, in December 2017, the Clinical Subcommittees reviewed, discussed, and incorporated changes based on feedback received through a field test feedback period held from October 15 to November 20, 2017. The “Operational List of Care Episode and Patient Condition Codes” Excel file (hereafter referred to as the operational list) includes the final operational list of episode groups and associated trigger codes for the episode-based cost measures.

The Subcommittees selected the cost measures to develop and were convened via in-person meetings and webinars from May to August of 2017 to provide input on the cost measure name,



episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on these episode-based cost measures from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittees were convened in early December 2017 to review and vet the feedback. The Subcommittees implemented changes to the measures based on the feedback, and the final specifications based on this implementation are incorporated into the operational list.



## Episode-based Cost Measures

This section provides descriptions of the eight episode-based cost measures that are included in the operational list. For each episode-based cost measure, the episode group trigger codes are listed within the measure-specific tabs of the operational list. The eight episode-based cost measures in the operational list including the following:

- Elective Outpatient Percutaneous Coronary Intervention (PCI)
- Knee Arthroplasty
- Revascularization for Lower Extremity Chronic Critical Limb Ischemia
- Routine Cataract Removal with Intraocular Lens (IOL) Implantation
- Screening/Surveillance Colonoscopy
- Intracranial Hemorrhage or Cerebral Infarction
- Simple Pneumonia with Hospitalization
- ST-Elevation Myocardial Infarction (STEMI) with PCI

### **Elective Outpatient Percutaneous Coronary Intervention (PCI)**

*Overview:* The Elective Outpatient PCI episode-based cost measure is meant to apply to clinicians who perform Elective Outpatient PCIs for Medicare beneficiaries during the measurement period. This surgical procedure is meant to place a coronary artery stent for heart disease in a non-emergent, outpatient setting. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who undergo an outpatient PCI triggering an Elective Outpatient PCI episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Elective Outpatient PCI episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Elective Outpatient PCI episode group attributed to a clinician.

*Outcome:* The primary outcome of the Elective Outpatient PCI episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Elective Outpatient PCI episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 39 Clinical Subcommittee members affiliated with 29 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of

episode groups and episode trigger codes (referred to as the “Percutaneous Coronary Intervention (PCI)” episode group in that posting) and provided input on all components of the Elective Outpatient PCI episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **Knee Arthroplasty**

*Overview:* The Knee Arthroplasty episode-based cost measure is meant to apply to clinicians who perform elective total and partial knee arthroplasties during the measurement period for Medicare beneficiaries. This surgical procedure is meant to replace a patient’s own poorly functional knee with an artificial one, thereby reducing pain and increasing functionality. The measure evaluates a clinician’s risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or “episode window.”

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who undergo a knee arthroplasty procedure triggering a Knee Arthroplasty episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Knee Arthroplasty episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Knee Arthroplasty episode group attributed to a clinician.

*Outcome:* The primary outcome of the Knee Arthroplasty episode-based cost measure is the clinician’s average risk-adjusted cost to Medicare across all Knee Arthroplasty episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician’s role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 28 Clinical Subcommittee members affiliated with 27 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the “Total Knee Replacement”

episode group in that posting) and provided input on all components of the Knee Arthroplasty this episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **Revascularization For Lower Extremity Chronic Critical Limb Ischemia**

*Overview:* The Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode-based cost measure is meant to apply to clinicians who perform elective revascularization for lower extremity chronic critical limb ischemia for Medicare beneficiaries during the measurement period. This surgical procedure is meant to alleviate symptoms of pain and difficulty walking associated with chronic limb ischemia and excludes those patients who require emergent revascularization for acute limb ischemia. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who undergo a procedure for vessel revascularization for chronic critical limb ischemia triggering a Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode group attributed to a clinician.

*Outcome:* The primary outcome of the Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Revascularization for Lower Extremity Chronic Critical Limb Ischemia episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 22 Clinical Subcommittee members affiliated with 19 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the “Lower Extremity Peripheral Vascular Disease Treatment” episode group in that posting) and provided input on all components of the Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure. The Revascularization for Lower Extremity Chronic Critical Limb Ischemia episode-based cost measure is meant to apply to clinicians who perform elective revascularization for lower extremity chronic critical limb ischemia for Medicare beneficiaries during the measurement period. This surgical procedure is meant to alleviate symptoms of pain and difficulty walking associated with chronic limb ischemia and excludes those patients who require emergent revascularization for acute limb ischemia. The measure evaluates a clinician’s risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or “episode window.”

### **Routine Cataract Removal with Intraocular Lens (IOL) Implantation**

*Overview:* The Routine Cataract Removal with IOL Implantation episode-based cost measure is meant to apply to clinicians who perform Routine Cataract Removal with IOL Implantation procedures for Medicare beneficiaries during the measurement period. The measure evaluates a clinician’s risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or “episode window.”

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who undergo a procedure for routine cataract removal with IOL implantation triggering a Routine Cataract Removal with IOL Implantation episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Routine Cataract Removal with IOL Implantation episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Routine Cataract Removal with IOL Implantation episode group attributed to a clinician.

*Outcome:* The primary outcome of the Routine Cataract Removal with IOL Implantation episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Routine Cataract Removal with IOL Implantation episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 10 Clinical Subcommittee members affiliated with 11 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the "Routine Cataract Removal with Intraocular Lens [IOL] Implantation" episode group in that posting) and provided input on all components of the Routine Cataract Removal with IOL Implantation episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **Screening/Surveillance Colonoscopy**

*Overview:* The Screening/Surveillance Colonoscopy episode-based cost measure is meant to apply to clinicians who perform screening/surveillance colonoscopy procedures for Medicare beneficiaries during the measurement period. Screening and surveillance colonoscopies are preventative care procedures that are meant to detect the presence of colorectal cancer (CRC) among patients who are at average risk or high risk of CRC, respectively. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who undergo a screening or surveillance colonoscopy procedure triggering a Screening/Surveillance Colonoscopy episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Screening/Surveillance Colonoscopy episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Screening/Surveillance Colonoscopy episode group attributed to a clinician.

*Outcome:* The primary outcome of the Screening/Surveillance Colonoscopy episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Screening/Surveillance Colonoscopy episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 35 Clinical Subcommittee members affiliated with 23 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the "Screening/Surveillance Colonoscopy" episode group in that posting) and provided input on all components of the Screening/Surveillance Colonoscopy episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **Intracranial Hemorrhage Or Cerebral Infarction**

*Overview:* The Intracranial Hemorrhage or Cerebral Infarction episode-based cost measure is meant to apply to clinicians who manage the inpatient care of Medicare beneficiaries hospitalized for an intracranial hemorrhage or cerebral infarction during the measurement period. This cost measure excludes those patients whose initial hospitalization was due to a subarachnoid hemorrhage or a cerebral infarction which received thrombolytic therapy. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who have a hospitalization due to cerebral infarction or intracranial hemorrhage triggering an Intracranial Hemorrhage or Cerebral Infarction episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Intracranial Hemorrhage or Cerebral Infarction episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to

Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Intracranial Hemorrhage or Cerebral Infarction episode group attributed to a clinician.

*Outcome:* The primary outcome of the Intracranial Hemorrhage or Cerebral Infarction episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Intracranial Hemorrhage or Cerebral Infarction episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 24 Clinical Subcommittee members affiliated with 32 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the "Intracranial Hemorrhage Or Cerebral Infarction" episode group in that posting) and provided input on all components of the Intracranial Hemorrhage or Cerebral Infarction episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **Simple Pneumonia with Hospitalization**

*Overview:* The Simple Pneumonia with Hospitalization episode-based cost measure is meant to apply to clinicians who manage the inpatient care of Medicare beneficiaries hospitalized with simple pneumonia during the measurement period. This acute inpatient medical condition episode group is meant to capture patients who are hospitalized for pneumonia without severe complicating factors. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who have a hospitalization due to simple pneumonia triggering a Simple Pneumonia with Hospitalization episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the Simple Pneumonia with Hospitalization episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the Simple Pneumonia with Hospitalization episode group attributed to a clinician.

*Outcome:* The primary outcome of the Simple Pneumonia with Hospitalization episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all Simple Pneumonia with Hospitalization episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 22 Clinical Subcommittee members affiliated with 23 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the "Simple Pneumonia & Pleurisy" episode group in that posting) and provided input on all components of the Simple Pneumonia with Hospitalization episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.

### **ST-Elevation Myocardial Infarction (STEMI) with PCI**

*Overview:* The STEMI with PCI episode-based cost measure is meant to apply to clinicians who manage the inpatient care of Medicare beneficiaries hospitalized during the measurement period for a STEMI requiring PCI. This acute medical condition captures the care of those patients who present with STEMI indicating complete blockage of a coronary artery who emergently receive PCI as treatment. The measure evaluates a clinician's risk-adjusted cost for the episode group by averaging it across all episodes attributed to the clinician. The cost of each episode is the sum of the cost to Medicare for services performed by the attributed clinician and other healthcare providers over the length of the episode, or "episode window."

*Cohort:* The cohort for this episode-based cost measure consists of patients who are Medicare beneficiaries enrolled in Medicare fee-for-service and who have a hospitalization due to ST-elevation myocardial infarction requiring percutaneous coronary intervention triggering a STEMI with PCI episode. Patients whose episodes are included in the measure must be continuously enrolled in both Medicare Parts A and B, but not Part C, during the episode window. The cohort does not include beneficiaries receiving Medicare-covered services for which Medicare was not the primary payer. Only patients whose episode end date occurs during the measurement period are included in the cohort for the measure; episodes where patient death occurs during the episode window are not included.

*Numerator:* The numerator of the STEMI with PCI episode-based cost measure is the sum of the ratio of observed to expected payment-standardized cost to Medicare for all episodes attributed to a clinician. This is then multiplied by the national average observed episode cost to generate a dollar figure.

*Denominator:* The episode-based cost measure denominator is the total number of episodes from the STEMI with PCI episode group attributed to a clinician.

*Outcome:* The primary outcome of the STEMI with PCI episode-based cost measure is the clinician's average risk-adjusted cost to Medicare across all STEMI with PCI episodes attributed to them. The measure includes costs of services that are clinically related to the attributed clinician's role in managing patient care during the episode window.

*Development:* For this episode-based cost measure, 39 Clinical Subcommittee members affiliated with 29 specialty societies participated throughout the cost measure development process. This Subcommittee selected the episode group from the December 2016 draft list of episode groups and episode trigger codes (referred to as the "Acute Myocardial Infarction, Discharged Alive" episode group in that posting) and provided input on all components of the STEMI with PCI episode-based cost measure. The Subcommittee was convened via in-person meetings and webinars from May to August of 2017 to provide input on the measure name, episode group trigger codes, episode sub-groups, episode window, service assignment rules, episode exclusions, risk adjustment variables, and attribution. Once the draft episode-based cost measures were specified, attributed clinicians and clinician groups received confidential Cost Measure Field Test Reports on October 16, 2017. Stakeholders were able to provide public comment on this episode-based cost measure from October 16 to November 20, 2017. Once the stakeholder input from the field test feedback period was summarized, the Subcommittee was convened in early December 2017 to provide additional input used to refine the episode-based cost measure.