CMS Episode Groups

I. Introduction

As required by section 101(f) of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA), Pub. L. 114-10, enacted April 16, 2015, CMS is soliciting comment on episode groups in addition to those listed in Appendix B of this document, and on specific clinical criteria and patient characteristics to classify patients into care episode and patient condition groups. The purpose of this document is to provide background and context to solicit stakeholder input on the episode groups that the Centers for Medicare & Medicaid Services (CMS) has developed pursuant to section 3003 of the Affordable Care Act (ACA). In addition, CMS seeks stakeholder input on the future role of episode groups in resource use measurement. CMS has developed a number of episode groups which utilize differing methods. Some of these episode groups have been used in feedback reports on resource use to physician group practices, and been used to support bundled payment and hospital quality reporting programs. This overview paper provides a summary of the construction of episode groups; the methodologies used by CMS, and highlight several issues for consideration and feedback. Additional supplemental materials available include detailed codes and additional descriptive materials on the episode groups developed by CMS for physician groups.

Additional supplemental materials are available for review at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html. Please submit any comments to episodegroups@cms.hhs.gov by February 15, 2016.

II. The Medicare Access and CHIP Reauthorization Act of 2015

Merit-Based Incentive Payment System

On April 16, 2015 the Medicare Access and CHIP Reauthorization Act of 2015 was enacted. Section 101(c) of the MACRA requires the establishment of a new Merit-Based Incentive Payment System (MIPS) consolidating features of current physician programs, including the Physician Quality Reporting System (PQRS), the Physician Value-Based Payment Modifier (VM) and the Medicare Electronic Health Record (EHR) Incentive Program for physicians. Payment adjustments under each of these programs sunset at the end of 2018 (payment adjustments for eligible hospitals and critical access hospitals under the Medicare EHR Incentive Program are not affected). Section 101(e)(2) of the MACRA also creates payment incentives for physicians and other eligible professionals to join alternative payment models (APMs). The MIPS will assess the performance of eligible professionals in four categories: quality, resource use, meaningful use of certified EHR technology, and clinical practice improvement activities.

Beginning in 2019, CMS is required to provide for a composite performance score based upon the four categories listed above for each MIPS eligible professional and use the composite performance score to determine and apply a MIPS adjustment factor to each MIPS eligible professional. As specified in section 101(c) of the MACRA, resource use measures will comprise not more than 10 percent of the composite performance score in the first year, not more than 15

percent in the second year, and 30 percent thereafter. CMS expects to issue a notice of proposed rulemaking for MIPS in 2016.

MACRA section 101(f) requirements to improve resource use measurement

Section 101(f) of the MACRA requires CMS to establish care episode groups and patient condition groups, and related classification codes, to measure resource use for purposes including the MIPS and APMs. These groups should account for a target of an estimated one-half of expenditures under Parts A and B (with such target increasing over time as appropriate). CMS is required to take in account several factors when establishing these groups. For care episode groups, CMS must consider the patient's clinical problems at the time items and services are furnished during an episode of care, such as clinical conditions or diagnoses, whether or not hospitalization occurs, and the principal procedures or services furnished. For patient condition groups, CMS must consider the patient's clinical history at the time of a medical visit, such as the patient's combination of chronic conditions, current health status, and recent significant history (such as hospitalization and major surgery during a previous period).

CMS is also required to develop classification codes to identify patient relationship categories that define and distinguish the relationship and responsibility of a physician or applicable practitioner with a patient at the time of furnishing an item or service. These categories shall include different scenarios, including potentially a combination of categories, such as a physician or applicable practitioner who:

- Considers themself to have primary responsibility for the general and ongoing care for the patient over extended periods of time;
- Considers themself to be the lead physician or practitioner and who furnishes items and services and coordinates care furnished by other physicians or practitioners for the patient during an acute episode;
- Furnishes items and services to the patient on a continuing basis during an acute episode of care, but in a supportive rather than a lead role;
- Furnishes items and services to the patient on an occasional basis, usually at the request of another physician or practitioner; or
- Furnishes items and services only as ordered by another physician or practitioner.

Claims submitted for items and services furnished by a physician or applicable practitioner on or after January 1, 2018 shall, as determined appropriate by the Secretary, include the applicable codes established for care episode groups, patient condition groups, and patient relationship categories. In addition, claims shall specify the national provider identifier of the ordering physician or applicable practitioner (if different from the billing physician or applicable practitioner).

In order to evaluate the resources used to treat patients, CMS is required to conduct an analysis of resource use using, as determined appropriate, the care episode, patient condition, and patient relationship codes that will be submitted on claims. The patient relationship codes reported on claims will be used to attribute patients (in whole or in part) to one or more physicians and

applicable practitioners. CMS must use the care episode and patient condition codes reported on claims as a basis to compare similar patients, care episodes, and patient condition groups for specific time periods. CMS must use per patient total allowed charges for all services provided under Part A, Part B, and if determined appropriate, Part D for the analysis of resource use. CMS may use other measures of allowed charges and utilization of items and services, such as the frequency of specific items and services and the ratio of specific items and services among attributed patients or episodes.

Statutory Timelines

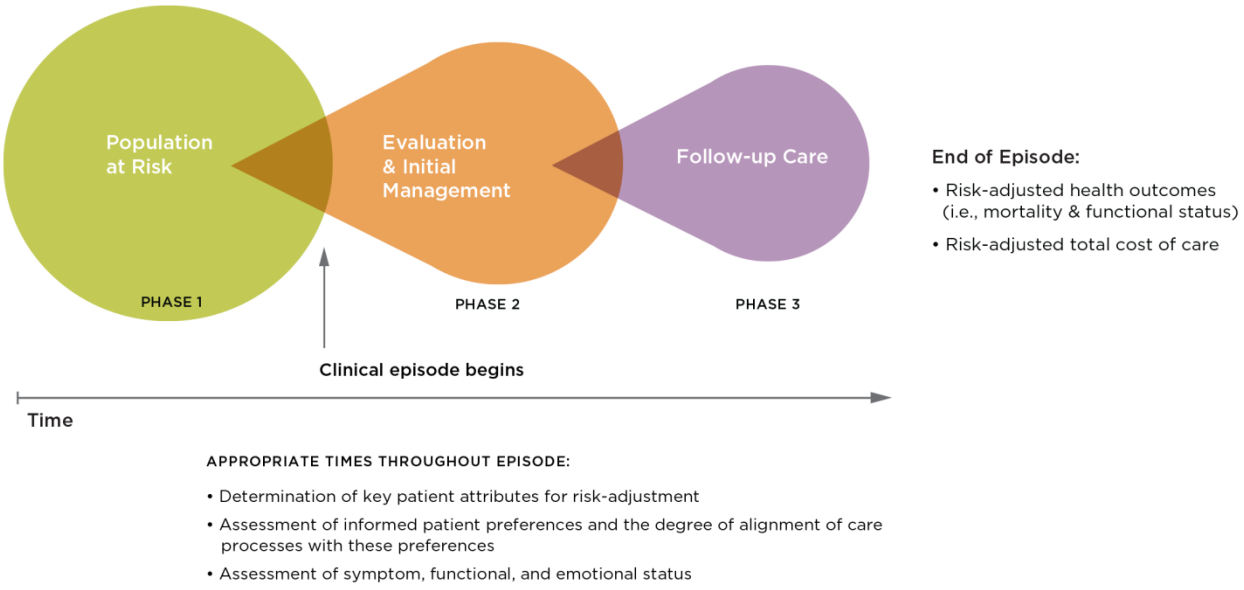
CMS is required to seek stakeholder input throughout the development of care episode and patient condition groups and codes, patient relationship categories and codes, and resource use methodology through solicitation of comment and other appropriate mechanisms, such as town hall meetings, open door forums, or web-based forums. The timelines for these stakeholder input opportunities are summarized in Appendix A.

III. Context

Section 3003 of the ACA requires the Secretary of the Department of Health and Human Services (HHS) to develop an episode grouper that combines separate but clinically related items and services into an episode of care for use in comparing the patterns of resource use of physicians.[1] To inform this effort, CMS commissioned the National Quality Form (NQF) to convene a national expert panel to explore and recommend best practices for the construction of an episode grouper, define its key characteristics, and issue recommendations for evaluation and endorsement of episode groupers. The NQF issued a final report which defined an episode grouper as "the software and logic that assign patient claims representing their utilization of healthcare services to clinically relevant episodes of care."[2] The report noted that episodes "provide a picture of healthcare utilization for relevant conditions over a defined period of time." (Figure 1) The report also highlighted the complex challenges in constructing episodes, particularly in the presence of multiple, concurrent acute and chronic conditions and co-morbidities.

[1] Patient Protection and Affordable Care Act, Pub. L. No. 111-148, § 3003, 124 Stat. 366 (2010).
[2] Evaluation Episode Groupers: A report from the National Quality Form, 2014. http://www.qualityforum.org/Publications/2014/09/Evaluating_Episode_Groupers__A_Report_from_the_National_Quality_Forum.aspx

Figure 1. Episode of care conceptual model

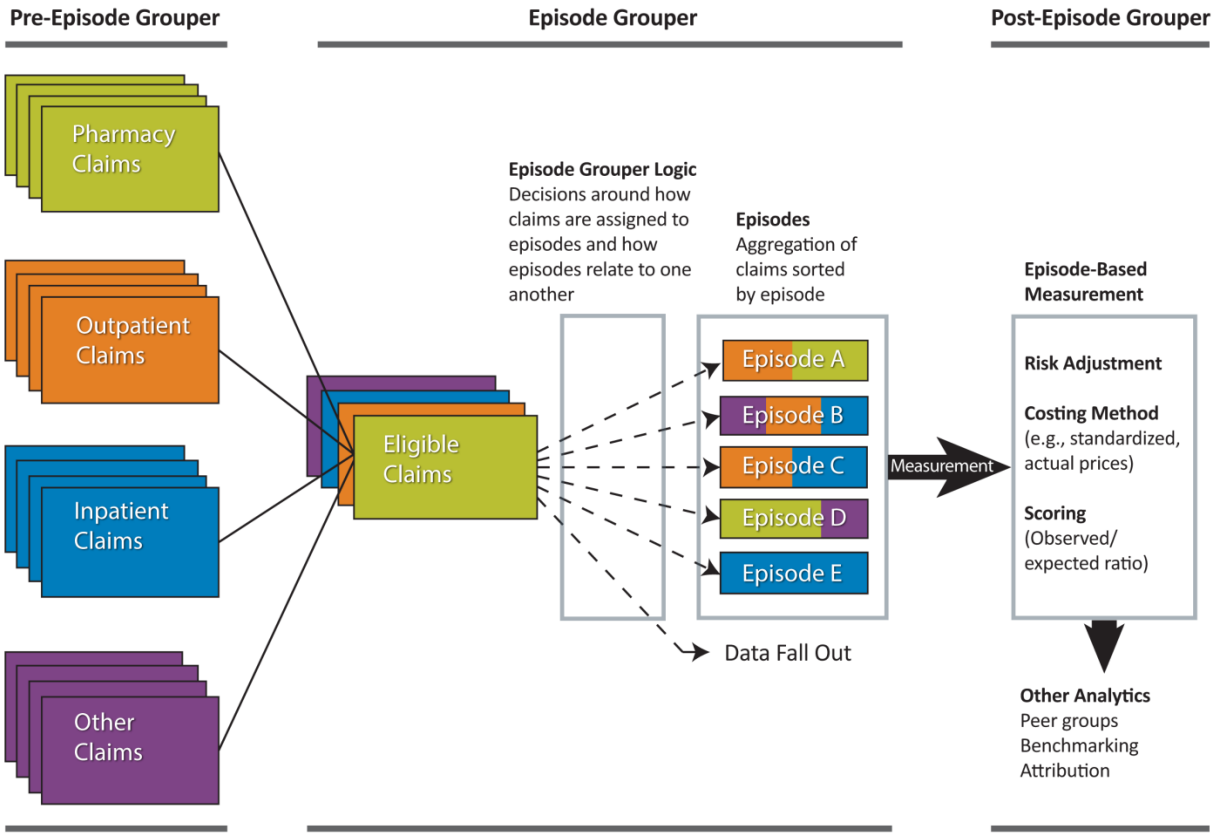


SOURCE: Evaluating Episode Groupers: A Report from the National Quality Form, 2014.

The NQF report also provided a succinct description of the intent of an episode grouper:

> "Figure 2 illustrates the basic function of an episode grouper, showing the flow of patient-level administrative claims data into the grouper, the grouper functions, and the resulting output. The pre-grouper functionality is primarily user-driven; the intended use of the grouper, or "use case," drives the decision logic for the grouper and the potential for calculating measures to support the use case once the grouping is complete. During grouping (assignment of claims to episode groups), logic can be applied for addressing risk and severity, determining inclusion and exclusions at both the patient and service levels, and addressing threats to validity. Once the claims are aggregated into clinical groupings, or episodes (e.g., Episode A, Episode B, etc.), analysis of the episodes post-grouper may occur. Post-grouper analysis may include analysis of resource utilization, profiling, identification of cost drivers and opportunities for improvement, and highlighting variability of services and examining patient care pathways."

Figure 2. Illustrating episode grouping



SOURCE: Evaluating Episode Groupers: A Report from the National Quality Form, 2014.

The NQF report additionally stated that, "most episode groupers employ a patient-centric approach to grouping episodes using the patient's experience as the framework for triggering an episode group and assigning claims to clinical groupings. This approach enables the analysis of patient care for a specified condition across all providers, settings, and interventions throughout the episode to better understand gaps in care coordination and care integration. Attribution of costs associated with utilization to specific providers often occurs post-grouper and is designed around the user's needs, specific application, and intended use."

To meet the requirements of section 3003 of the Affordable Care Act, CMS has developed and is continuing to develop multiple episode groups to assign items and services into clinically meaningful groups. These algorithms use administrative claims data (except for Part D claims) for the Medicare population to determine the set of clinically related services and items to include in the episode.

Since 2013, CMS has utilized episode grouping for a number of different episode groups on a limited basis to provide medical group practices with payment-standardized[3], risk-adjusted

[3] The episodes developed by CMS are utilized to calculate aggregate payments for these episodes and provide feedback to physician groups. Payments are standardized to eliminate geographic differences in rates paid within

resource use data regarding the care provided to their Medicare fee-for-service (FFS) patients. These data are provided in confidential Supplemental Quality and Resource Use Reports (Supplemental QRURs), which provide detailed comparative data on aggregate costs for episodes of care attributable to a group practice (as determined by the billing Taxpayer Identification Number, or TIN) relative to national averages. CMS has also included episode of care payment measures attributable to hospitals in the Hospital Inpatient Quality Reporting Program and Hospital Value-Based Purchasing Program, and incorporated the concept of episode groups into bundled payment models such as Bundled Payments for Care Improvement Initiative and the proposed Comprehensive Care for Joint Replacement model. The goal is to provide actionable and transparent information that can support providers in their efforts to gauge and improve the efficiency of medical care provided to patients with certain medical conditions. Episodes include the costs of services occurring across settings over a defined period of time, and encompass the relevant diagnosis, treatment, and aftercare (including post-acute care) for the clinical condition or procedure.

In addition to the episode groups included in Supplemental QRURs developed for physician groups, CMS developed episode grouping algorithms for a broader set of episode groups. A list of the episode groups developed pursuant to section 1848(n)(9)(A) of the Social Security Act, as added by section 3003 of the Affordable Care Act, available for public comment is presented in Appendix B. The table indicates the name of the clinical episode as well as the specific methodological approach utilized in developing that episode as differentiated by Method A and B. A brief overview of each methodological approach is described below, and additional details on each of these episodes are available in the supplemental materials. Method A was developed to fulfill certain requirements of section 3003 of the ACA. Method B was developed to complement those efforts and provide a more robust measure set in the Supplemental QRURs. As part of our efforts to develop episode costs for use in and alignment with Medicare value based purchasing programs, there are a small number of episode groups which were developed using both Methods A and B, though only one version was included in the Supplemental QRURs.

Medicare payment systems. While payment standardization is not part of episode construction, it is important part of applying the episodes to generate payment data comparable nationally. For the purposes of the Supplemental QRURs, all payment data reflect allowed charges, which include both Medicare trust fund payments and beneficiary deductible and coinsurance. Payment standardization assigns a standard payment for each service so that the price Medicare paid for a service is expressed identically across all geographic regions. This analysis, in essence, removes regional variation in Medicare payment rules to determine a base payment rate for each service. In addition, expenditure calculations remove the payments that are paid to support larger Medicare program goals, such as Indirect Medical Education (IME) and Disproportionate Share Hospital (DSH) payments added to inpatient claim types. For an overview of payment standardization, please see the "Basics of Payment Standardization" document available through this QualityNet webpage. For a detailed description of the methodology applied to each setting, please see the "CMS Price Standardization Methodology" document that is also available through the QualityNet webpage.

Considerations in defining episode groups

Aligning Attribution with Intended Use

As noted in the NQF report on the evaluation of episode groupers, there are many challenges to validity and reliability in constructing episodes. The specific design of the episodes depends on their intended use. The episodes reported in the Supplemental QRURs were created to allow medical groups or solo practices to evaluate their resource use on conditions and procedures that are costly and prevalent in the Medicare Fee for Service (FFS) population. To accomplish this, episodes are attributed to the one or more medical group(s) or solo practice(s) most responsible for the patient's care. Episodes used for the Hospital Value Based Purchasing Program (HVBP) were designed for attribution to a single hospital. Aligning attribution with patient relationship to providers will require consideration of the configuration of episode groups.

Episode construction

Simplistically, after the claims for a patient are arrayed in chronological order, episodes are constructed using three steps using a combination of logic rules and medical billing codes specific to each episode.

(1) Opening (also referred to as "triggering"): episodes are opened when specific billing codes on a claim indicate the presence of the episode condition/procedure;

(2) Grouping: clinically related services are grouped to the episode according to clinical logic that defines relatedness based on service and/or diagnosis codes on the claims; and

(3) Closing: episodes are closed after a specified length of time based on the typical course of care provided for a given episode type or as a result of patient death.

These three steps use claims data to identify services that meet the specifications for defining the episode.[4] Episode construction rules are typically based on the service and/or diagnosis codes present on Medicare claims but can also be based on temporal associations, such as time from the trigger event. Clinical logic is applied to determine the relevance of the service to the episode.

Opening episodes

Episodes are opened, or triggered, based on the occurrence of a trigger event. A trigger event is identified by certain procedure or diagnosis codes on specific service types, such as an inpatient stay or an office visit. The specific medical codes that identify a trigger event, also known as "trigger codes," are codes on certain types of claims which reflect strong evidence of a beneficiary having a particular condition or treatment.

Condition trigger events are generally the occurrence of an International Classification of Diseases diagnosis code, such as on an evaluation and management (E&M) service, or a

[4] Parts A and B Medicare claims data include the seven claim types: inpatient (IP) hospital facility, outpatient (OP) hospital facility, physician/supplier Part B (PB), skilled nursing facility (SNF), home health (HH), hospice (HS), and durable medical equipment (DME).

Medicare Severity Diagnosis Related Group (MS-DRG) code on an inpatient stay. Some condition episodes have additional logic, such as the requirement of two separate occurrences of the trigger code to improve the likelihood that the patient has the medical condition, since one diagnostic code could be used for evaluating whether a patient has a medical condition, whereas two claims with the same diagnosis make it more likely that the patient actually has the condition. Procedural episodes are opened by the occurrence of the procedure, identified by the presence of one or more procedure codes, such as Common Procedural Terminology (CPT) codes, ICD procedure codes, Healthcare Common Procedure Coding System (HCPCS) codes, or MS-DRG codes.

Grouping services

Once an episode is opened, the grouping algorithms identify and aggregate the related services provided for the management, treatment, or evaluation of the medical condition during the episode window specific to the episode type. Grouping rules identify clinically-vetted and relevant service, procedural, or diagnostic codes on claims starting during the episode in certain claim settings (e.g., an inpatient hospital) and aggregate those claims to the related open episode. Grouped services may occur before, during, or after the trigger event. Examples of grouped services that occur before the trigger include diagnostic testing and visits with the surgeon before a procedural episode.

There are a number of similarities between the grouping algorithms used by the Methods A and B. In both methods, clinical reviewers evaluated the medical codes to determine if they should be grouped to a given episode.[1] In both cases, the algorithm may vary by claim type or setting because the information available on a claim/line can differ by setting. In general, types of services deemed relevant by clinicians for each method include: treatments (e.g., thrombolysis for acute myocardial infarction (AMI)); care for typical signs and symptoms of the episode condition (e.g., pain control for chest pain during AMI); complications of the condition itself or its usual treatments (e.g., stroke for atrial fibrillation); diagnostic tests (e.g., echocardiogram for AMI); and post-acute care (e.g., home health care for oxygen use after an inpatient stay for pneumonia). In addition, in both cases, if a service is associated with more than one episode type, the full cost of the service can be assigned to all associated episodes.

Closing episodes

The final step in episode construction is ending the episode. The grouping algorithms for both methods utilize a fixed window of time after a trigger event to group claims to an episode. This time window, or episode length, was selected for each episode type based on the typical course of medical care provided for that episode type. Clinical input is obtained to validate the episode lengths during the episode clinical development process.

Additional considerations

Several issues must be considered in episode construction, including some issues related to the characteristics of Medicare beneficiaries and claims. These include:

- Adequacy of claims data: The building blocks of episodes, claims, inherently have data reliability issues. Some diagnosis codes are non-specific, such as cough, while others are more specific to the underlying condition, such as heart failure. Also, there is variation in

the codes used by different providers to describe a given clinical condition. Ideally, an episode includes all services that are clinically relevant to the condition or treatment of interest.

- Achieving the balance between validity and reliability: Defining (triggering) episodes requires a balance to maximize the clinical validity (having clinically comparable conditions or treatments) and reliability (having a sufficient number of patients to compare).

- Incorporating responsibility: Aligning responsibility with accountability requires consideration of the role of the billing providers. A single-attribution approach, as used in Medicare Spending Per Beneficiary (MSPB) measure[5] and Supplemental QRUR episodes, assigns responsibility for all costs to a provider (a hospital for MSPB episodes and the attributed group practice for Supplemental QRUR episodes). Evaluating based on the relationship of the physician or applicable practitioner to the patient section 101(f) of the MACRA, will require consideration of overlapping attribution, as well as in the construction of clinically valid episodes, as more than one physician or applicable practitioner may claim responsibility for all or a specific portion of the patient's episode of care. Chronic conditions: The presence of multiple chronic conditions is a special challenge among Medicare beneficiaries because various conditions can have common symptoms, often share treatment resources (e.g., office visits), and present their own risks for acute exacerbations and other sequelae. Isolating the resources used for each chronic condition episode can be problematic. In addition, a given physician/practitioner may be involved in the care under only specific circumstances, such as place of service (such as hospital or outpatient) or a particular stage of disease.

- Acute exacerbations: Proper management of chronic conditions to avoid or reduce the severity of acute exacerbations is one of the most important challenges in Medicare payment and delivery system reforms. There are challenges when an acute event occurs in the context of a chronic condition (e.g., hospitalization for pneumonia in a beneficiary with chronic obstructive pulmonary disease).

- Risk adjustment: In order to account for the characteristics of the patients included in an episode, the episode must be appropriately risk-adjusted to facilitate comparisons across providers by accounting for factors that are outside the influence or control of the provider(s) of care, such as comorbidities, gender and age.

There is no one "gold standard" for constructing episode groups, and in fact there are many ways to define the specific rules for each step, each with its own set of advantages and disadvantages. These differences are reflected in the approaches taken with episode groupers developed by CMS, and reflect nuances specific to each episode of care and its intended use. More details on

[6] Detailed Methods of the 2012 Medical Group Practice Supplemental Quality and Resource Use Reports (QRURs), 2014. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Downloads/2012-Supplemental-QRURs-Methods.pdf

the approaches with respect to the 3 steps of episode construction are detailed in Appendix C, and a detailed discussion of the differences is available on the CMS website.[6]

Episodes included in this posting

The episode types included in this posting represent conditions and procedures that are costly and prevalent in the Medicare FFS population. Two methods are used to construct 46 episode groups: 34 episode groups were constructed using Method A and 12 episode groups using Method B. Both methods were used to construct 4 of the 46 episode groups. Method A is in a developmental stage and work pursuant to section 3003 of the ACA is ongoing with additional episode groups under development that may be posted for public comment at a later date. Both Methods A and B implement clinical logic to parse claims information to open episodes and allocate medical services to one or more episodes during a specific length of time, although some methodological differences exist. Condition episodes include all the care furnished for the treatment of a condition, such as the initial and follow-up care for an acute myocardial infarction. Procedural episodes include the care associated with a specific treatment, such as a coronary artery bypass graft surgery, as well as related follow-up care. Appendix C provides a summary of the information on claims that are used by Methods A and B to open episodes, group services to episodes, and close episodes. Full specifications for each episode type can be found in the accompanying supplemental materials.

IV. Public comment

Supplemental materials are available at https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/Value-Based-Programs/MACRA-MIPS-and-APMs/MACRA-MIPS-and-APMs.html. These supplemental materials include:

- Individual workbooks for each episode group listed in Appendix B. Each workbook includes a brief summary of the episode group, the construction rules, and a list of all the codes used to define the episode group. Within each workbook, there may be additional subtypes of the episode group, and this is noted within the relevant workbooks. For example, the Aortic Aneurysm Procedure workbook contains details for both Abdominal Aortic Aneurysm and Thoracic Aortic Aneurysm Procedures.

- Additional technical documentation on the methodologies used to construct the episode groups, including details on the approaches used in Method A and B.

CMS recognizes that the episode groups included in this posting were developed pursuant to section 1848(n)(9)(A) of the Social Security Act, as added by section 3003 of the Affordable Care Act, and that these episode groups may need to be modified for potential use in MIPS and APMs. CMS recognizes that one of the key issues which would need to be addressed as part of updating episode groups is the transition from the International Classification of Diseases, Ninth Revision (ICD-9) to the Tenth Revision (ICD-10) and will welcome comments on the best ways to address this transition. .

[6] Detailed Methods of the 2012 Medical Group Practice Supplemental Quality and Resource Use Reports (QRURs), 2014. http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeedbackProgram/Downloads/2012-Supplemental-QRURs-Methods.pdf

CMS seeks comments on the episode groups listed in Appendix B and described in the supplemental materials, suggestions and rationale for additional episode groups, and responses to the questions included below. In addition to comments on the questions below, CMS welcomes feedback on methodologies, and other aspects of the episode groups. Please submit comments to episodegroups@cms.hhs.gov by February 15, 2016.

Care episode and patient condition groups

- Within a specialty, a limited number of conditions and procedures account for the bulk of spending. Focusing on the top conditions and procedures for a specialty, what care episode groups and patient condition groups would you suggest?

- What specific clinical criteria and patient characteristics should be used to classify patients into care episode groups and patient condition groups? What rules should be used to aggregate clinical care into an episode group? When should an episode be split into finer categories? Should multiple, simultaneous episodes be allowed?

- Medicare beneficiaries often have multiple co-morbidities. Recognizing the challenge of distinguishing the services furnished for any one condition in the care of patients with multiple chronic conditions, how should CMS approach development of patient condition groups for patients with multiple chronic care conditions?

- Given that these co-morbidities are often inter-related, what approaches can be used to determine whether a service or claim should be included in an episode?

- What should be the duration of patient condition groups for chronic conditions (e.g., shorter or longer than a year)?

- How can care coordination be addressed in measuring resource use?

- CMS has received public comment encouraging CMS to align resource use measures (which utilize episode grouping) with clinical quality measures. How can episodes be designed to achieve this goal?

- Information that is not in the claims data may be needed to create a more reliable episode. For example, the stage of a cancer and responsiveness history may be useful in defining cancer episodes. How can the validity of an episode be maximized without such clinical information?

- How can complications, severity of illness, potentially avoidable occurrences and other consequences of care be addressed in measuring resource use?

- Reliability of resource use measures are impacted by sample size. How should low volume patient condition groups and care episodes be handled?

Patient relationship codes

- Episode Groups have traditionally considered a patient's course of care as a unit; including in it all care relevant to the course regardless of the specific provider. Section

101(f) of the MACRA requires CMS to distinguish the relationship and responsibility of physicians and practitioners during the course of caring for a patient and to allow the resources used in furnishing care to be attributed (in whole or in part) to physicians serving in a variety of care delivery roles. While CMS will seek additional public comment on patient relationship codes in the future, we seek stakeholder input on how to simultaneously measure resource use based upon patient relationship while promoting care coordination and patient centrality.

- Section 101(c) of the MACRA requires CMS to give consideration to the circumstances of professional types (or subcategories of those types determined by practice characteristics) who typically furnish services that do not involve face-to-face interaction with a patient. Are there specific issues that should be considered when developing resource use measures which apply to these professionals?

Additional considerations

- How should the resources be reported for an episode that is truncated (cut short, likely resulting in a resource usage reduction) by death or the onset of another related episode? Should imputed values be used to add resources to the truncated episode (for comparison purposes)?

V. Conclusion

While CMS is continuing to engage in ongoing research and development on ways to improve the design of episode groups and resource use measures, CMS recognizes the importance of obtaining public input and feedback on the process and methodology used to develop episode groups for use in resource use measurement. CMS intends to review all comments received by the deadline as it refines and develops care episode and patient condition groups and codes. CMS expects to post the draft list of care episode and patient condition groups and codes for public comment by November 9, 2016. As section 101(f) of the MACRA also requires CMS to develop patient relationship categories and codes, CMS expects to post a draft list of these categories and codes separately by April 16, 2016.

Please send comments on the questions outlined above and feedback on the episode groups described in the supplemental materials to episodegroups@cms.hhs.gov by February 15, 2016.

Appendix A- Statutory timeline

Section 101(f) Requirement	Statutory Deadline	Corresponding Date
Care episode and patient condition groups and codes		
Post on CMS website a list of episode groups developed pursuant to section 1848(n)(9)(A) and accompanying description	NLT 180 days after date of enactment	October 16, 2015
Public comment #1	Duration 120 days	February 15, 2016
Post on CMS website a draft list of codes for groups	NLT 270 days after end of public comment #1	November 9, 2016
Public comment #2, including additional mechanisms (e.g., ODF, town hall meetings)	Duration 120 days	March 9, 2017
Post on CMS website an operational list of groups and codes	NLT 270 after end of public comment #2	December 14, 2017
Annual updates	By November 1 of each year, beginning in 2018	November 1, 2018
Patient relationship categories and codes		
Post on CMS website a list of patient relationship categories and codes	NLT 1 year after date of enactment	April 16, 2016
Public comment #3, including additional mechanisms (e.g., ODF, town hall meetings)	Duration 120 days	August 13, 2016
Post on CMS website an operational list of categories and codes	NLT 240 days after end of public comment period #3	April 10, 2017
Annual updates	By November 1 of each year, beginning in 2018	November 1, 2018

KEY: NLT = not later than; ODF = Open Door Forum

Appendix B- Episode Groups developed by CMS

Clinical Topic	Episode Type	Grouping Method
Breast		
	Mastectomy for Breast Cancer	A
Cardiovascular		
	Acute Myocardial Infarction (AMI) without PCI/CABG	A
	Aortic Aneurysm Procedure	B
	Abdominal Aortic Aneurysm	A*
	Thoracic Aortic Aneurysm	A*
	Aortic/Mitral Valve Surgery	A
	Atrial Fibrillation (AFib)/Flutter, Acute Exacerbation	A
	Atrial Fibrillation (AFib)/Flutter, Chronic	A*
	Coronary Artery Bypass Graft (CABG)	A
	Heart Failure, Acute Exacerbation	A
	Heart Failure, Chronic	A*
	Ischemic Heart Disease (IHD), Chronic	A*
	Pacemaker	A
	Percutaneous Cardiovascular Intervention (PCI)	A

Cerebrovascular		
	Ischemic Stroke	A
	Carotid Endarterectomy	A
Gastrointestinal		
	Gastrointestinal (GI) Hemorrhage	B
	Cholecystectomy and Common Duct Exploration	B
	Cholecystitis	A*
	Clostridium difficile Colitis	A*
	Colonoscopy	B
	Diverticulitis of Colon	A*
Genitourinary		
	Prostatectomy for Prostate Cancer	A
	Transurethral Resection of the Prostate (TURP) for Benign Prostatic Hyperplasia	B
Infectious Disease		
	Cellulitis	B
	Kidney and Urinary Tract Infection (UTI)	A*, B
Metabolic		
	Osteoporosis	A*

Neurology		
	Parkinson Disease	A*
Ophthalmology		
	Lens and Cataract Procedures	B
Musculoskeletal		
	Rheumatoid Arthritis	A*
	Hip/Femur Fracture or Dislocation Treatment, Inpatient (IP)-Based	A
	Hip Replacement or Repair	A*, B
	Knee Arthroplasty (Replacement)	A*, B
	Knee Joint Repair	B
	Spinal Fusion	A*, B
Respiratory		
	Asthma/Chronic Obstructive Pulmonary Disease (COPD), Acute Exacerbation	A
	Asthma/Chronic Obstructive Pulmonary Disease (COPD), Chronic	A*
	Pneumonia, Community Acquired, Inpatient (IP)-Based	A
	Pneumonia, Community Acquired, Outpatient (OP)-Based	A*
	Pulmonary Embolism, Acute	A*
	Upper Respiratory Infection, Acute, Simple	A*

Vascular		
	Deep Venous Thrombosis of Extremity, NOS, Acute	A*

* Denotes episode groups, including versions of episode groups, not included in 2014 Supplemental Quality and Resource Use Reports for physician groups.

Appendix C- Comparison of information on administrative claims used by Methods A and B in episode construction

Construction Step	Method A	Method B
Opening (Triggering)	**Acute conditions:** (a) principal ICD-9 diagnosis code on inpatient (IP) claim, or (b) ICD-9 diagnosis code on evaluation and management (E&M) claim **Chronic conditions:** (a) ICD-9 diagnosis code on E&M claim, or (b) ICD-9 diagnosis and specific procedure code in any claim setting **Procedures:** (a) DRG on IP claim, or (b) ICD-9 procedure code on IP claims, or (c) CPT-4 code on OP or carrier claim	**Acute condition episode types:** DRG on IP claim **Procedural episode types:** CPT-4 code on Physician/Supplier Part B claims (PB)
Grouping Services	**For all episode types according to indicated claim type:** *E&M claims* (a) principal ICD-9 diagnosis code is a trigger code or relevant service, or (b) if during an acute IP stay, group to the same episode as the IP stay. *IP claims:* (a) Any procedure is a trigger for a treatment episodes, or (b) procedure is relevant and principal diagnosis is a trigger for condition episode a procedural episode treats, or (c) procedure is relevant, or (d) procedure is relevant and principal diagnosis is relevant, or (e) principal diagnosis is a trigger for condition episode or condition episode a procedural episode treats. *Non-E&M carrier claims (also known as Physician/Supplier Part B claims (PB)), durable medical equipment (DM), and hospice (HS) claims:* (a) CPT-4 code is a trigger, or (b) CPT-4 is relevant and principal diagnosis is a trigger code, or (c) CPT-4 is relevant and principal diagnosis is relevant, or (d) principal diagnosis is a trigger code for a treated condition or (e) the principal diagnosis is relevant, or (f) if during an acute IP stay, group to the same episode as the IP stay. *OP Department, Home Health, Skilled Nursing and Hospice Services:* (a) CPT-4 code is a trigger, or (b) CPT-4 is relevant and principal diagnosis is a trigger code, or (c) CPT-4 is relevant and principal diagnosis is relevant, or	The grouping services step for Method B distinguishes two categories of medical care: (i) "*treatment services*" that comprise the medical care directly related to managing the illness and are automatically grouped to the episode, and (ii) "*clinically associated services (CAS)*" that include those services linked to the episode and are grouped if deemed clinically relevant. The following describe the claim information used to assess and group services. ***(i) Treatment Services*** **For acute condition episodes according to indicated claim/service type:** *All claim types:* if occurring during trigger IP stay *PB services:* if occurring in 3 days prior to the episode trigger event and provided by managing provider(s) **For procedural episodes according to indicated claim/service type:** *All claim types*: if occurring during the trigger event, on days the patient is treated by the managing provider(s) in a fixed period prior to the trigger event, or on days the patient is treated by the managing provider(s) in a fixed window after the trigger event ***(ii) Clinically Associated Services (CAS)*** **For all episode types according to indicated**

Construction Step	Method A	Method B
	(d) CPT-4 is relevant and secondary diagnosis is a trigger, or (e) CPT-4 is relevant and the secondary diagnosis is relevant, or (f) if during an acute IP stay, group to the same episode as the IP stay. *Skilled nursing facility (SNF) claims:* (a) if following an acute IP stay within 30 days, group to the same episode as the IP stay, or (b) if not occurring within 30 days of an acute IP stay, use CPT-4 and/or ICD-9 diagnosis code *Home health (HH) claims:* (a) if following an acute IP stay within 20 days, group to same episode as IP stay, or (b) if not occurring within 20 days of an acute IP stay, use CPT-4 and/or ICD-9 diagnosis code	**service categorizations:** [a] *IP services:* (a) DRG alone, or (b) DRG with principal ICD-9 procedure code and/or diagnosis code on IP claim *OP emergency room (ER) services:* E&M CPT-4 procedure code with ICD-9 diagnosis code *Major OP procedures:* (a) APC code alone, or (b) APC with ICD-9 diagnosis code *Other OP and PB services:* grouped if (a) CCS category[b] alone, or (b) CCS category with CPT-4 code and/or ICD-9 diagnosis code *DME:* (a) HCPCS alone, or (b) HCPCS with ICD-9 diagnosis code *HH services:* (a) home health service type (identified by Revenue Center code) or, (b) service type and principal ICD-9 diagnosis code deemed clinically relevant
Closing	**Acute conditions:** 90 day period after trigger event **Chronic conditions:** patient leaves the original Medicare program **Procedures:** 90 days fixed period after trigger event or hospital discharge	**Acute condition and procedural episode types:** Varies by episode type (e.g., 90 days or 120 days)

[a] SNF claims are grouped as CAS if they are linked to a qualifying IP stay that is grouped to the episode

[b] CCS category refers to Clinical Classifications Software for Services and Procedures categories, a clinical classification system developed by the Agency for Healthcare Research and Quality (AHRQ) that categorizes CPT/HCPCS codes into meaningful and comparable groups of medical services.