

**Summary Report of Technical Expert Panel Meeting:  
Measures of Hospital Visits after Selected Ambulatory Surgical Center  
Procedures**

June 2016

**Prepared by:**

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(CORE)

This material was prepared by CORE under contract to the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy.

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## Introduction

The Centers for Medicare & Medicare Services (CMS) has contracted with Yale New Haven Health Services Corporation – Center for Outcomes Research and Evaluation (CORE) to develop claims-based outcomes measures to assess quality of care delivered at ambulatory surgical centers (ASCs). Specifically, CORE is developing three risk-adjusted measures of acute care visits after surgery for the following three groups of procedures: (1) general surgery, (2) orthopedic, and (3) urology. These measures will assess ASC-level quality based on how often their patients have unplanned hospital visits (emergency department visits, observation stays, and unplanned inpatient admissions) within seven days of these procedures.

As is standard with all measure development processes, CORE has convened a technical expert panel (TEP) to inform measure development. This report summarizes the feedback and recommendations received from the TEP during the first TEP meeting. The report will be updated to include feedback and recommendations from future meetings as they occur.

## Measure Development Team and Consultants

Dr. Jennifer Schwartz (a health services researcher and Associate Research Scientist at the Yale School of Medicine) and Dr. Mayur Desai (an epidemiologist and Associate Professor of Epidemiology at the Yale School of Public Health) co-lead the CORE measure development team, and Dr. Elizabeth Drye, Director of Quality Measurement at CORE and a Research Scientist at the Yale School of Medicine, oversees the work. In addition, CORE is supported by three clinical consultants and one statistical consultant. See [Appendix A](#) for the full list of members of the CORE development team and individuals consulted during measure development.

Finally, Dr. Vinitha Meyyur, the project's Contracting Officer's Representative and additional CMS staff, including Dr. Anita Bhatia, attended the first TEP meeting and provide ongoing input.

## The TEP

In alignment with the CMS Measures Management System, CORE released a 30-day public call for nominations to convene the TEP. CORE solicited potential TEP members via direct email, CMS email distributions, and through a public posting on CMS's website.

The TEP's role in development is to provide feedback on key conceptual, clinical, and methodological decisions made in consultation with CORE's measure development team.

The TEP is comprised of individuals with diverse perspectives and backgrounds, and includes clinicians, surgeons, patients, patient advocates, and other stakeholders with expertise in ambulatory surgery, performance measurement, quality improvement, and patient safety. The appointment term for this TEP is from May 2016 through September 2016.

## **Specific Responsibilities of the TEP Members**

- Complete and submit all nomination materials, including the TEP Nomination/Disclosure/Agreement Form, statement of interest, and curriculum vitae.
- Review background materials provided by CORE prior to each TEP meeting.
- Participate in TEP conference calls.
- Provide input on key clinical and methodological decisions about the approach to measurement.
- Provide feedback to CORE on other non-technical issues related to the measures, such as the usability of the measure scores.
- Review the TEP Summary Report prior to public release.
- Be available to discuss recommendations following submission of the measures to the National Quality Forum (NQF).

## TEP Members

**Table 1. TEP members**

Name	Organization (Title)	Location
<b>Kirk Campbell, MD</b>	New York University Hospital for Joint Diseases (Clinical Assistant Professor of Orthopedic Surgery)	New York, NY
<b>Gary Culbertson, MD, FACS</b>	Iris Surgery Center (Surgeon; Medical Director)	Sumter, SC
<b>Martha Deed, PhD</b>	Consumers Union Safe Patient Project (Patient Safety Advocate)	Austin, TX
<b>James Dupree, MD, MPH</b>	University of Michigan (Urologist; Health Services Researcher)	Ann Arbor, MI
<b>Nester Esnaola, MD, MPH, MBA</b>	Fox Chase Cancer Center (Professor of Surgery; Associate Director for Cancer Health Disparities and Community Engagement)	Philadelphia, PA
<b>John Gore, MD, MS</b>	University of Washington (Associate Professor of Urology)	Seattle, WA
<b>Lisa Ishii, MD, MHS</b>	Johns Hopkins School of Medicine (Associate Professor of Otolaryngology); American Academy of Otolaryngology-Head and Neck Surgery (Coordinator for Research and Quality)	Baltimore, MD; Alexandria, VA
<b>Atul Kamath, MD</b>	Perelman School of Medicine, University of Pennsylvania (Assistant Professor and Clinical Educator Director of Orthopedic Surgery); Hospital of the University of Pennsylvania (Attending Surgeon)	Philadelphia, PA
<b>Tricia Meyer, PharmD, MS, FASHP</b>	Scott & White Medical Center (Regional Director of Pharmacy); Texas A&M University College of Medicine (Associate Professor of Anesthesiology)	Temple, TX
<b>Amita Rastogi, MD, MHA, CHE, MS</b>	Health Care Incentives Improvement Institute (Chief Medical Officer)	Newtown, CT
<b>Donna Slosburg, RN, BSN, LHRM, CASC</b>	ASC Quality Collaboration (Executive Director)	St. Pete Beach, FL
<b>Thomas Tsai, MD, MPH</b>	Brigham and Women's Hospital (General Surgeon); Harvard School of Public Health (Research Associate)	Boston, MA
<b>Katherine Wilson, RN, BA, MHA</b>	AMSURG Corp (Vice President of Quality)	Nashville, TN
<b>Patient</b>	Participation is confidential	—
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## TEP Meetings

CORE held its first TEP meeting on June 1, 2016 and a make-up call on June 2, and will hold at least one additional meeting by September 2016 (see [Appendix B](#) for the TEP meeting schedule). This summary report contains a summary of the June 1 and June 2 meetings.

TEP meetings follow a structured format consisting of a presentation of key measurement decisions and CORE's proposed approaches to each, followed by an open discussion of these issues with the TEP members. During the first TEP meeting, CORE staff presented the project overview, gaps in ASC measures, and challenges in measuring ASC quality. CORE then reviewed the evidence for the three potential measures, the procedures proposed for inclusion in the three measures (the measure cohorts), and the patient outcome proposed for measurement. TEP members commented on various aspects of the measures, including the specific procedures included in each of the three cohorts during and after the meeting.

Specifically, the TEP:

- Suggested revisions to and approved the TEP Charter.
- Encouraged the measure development team to consider whether the reasons for hospital visits following ASC procedures are truly related to the index procedures.
- Discussed the outcome of emergency department visits for urinary retention, best practices to prevent them, patient experiences, and the potential unintended consequences of including them in the measure outcome.
- Commented briefly on the procedures included in each of the measures.

Because there was inadequate meeting time to hear all of the TEP's comments, CORE invited TEP members to provide further input on the procedures included in each of the measures by email. Several TEP members voiced additional thoughts, shared with the TEP and CORE, by email.

## Conclusion

The TEP's input was valuable in refining the procedures for inclusion in each cohort. [Table 2](#) describes the key issues CORE presented to the TEP during the first meeting and the TEP member responses; [Table 3](#) summarizes TEP comments received by email after the first TEP meeting.

## Key Issues Discussed During First TEP Meeting

**Table 2. Key issues discussed during the first TEP meeting and TEP feedback**

Topic	Key Issues Discussed	TEP Feedback/Discussion
<p>Meeting 1: Overview of Project Status</p>	<p>CORE provided an overview of the project to develop three quality measures of unplanned hospital visits following selected ASC procedures on the facility level using claims data. The three measures will focus on general surgery procedures, orthopedic procedures, and urology procedures. These measures are related to two measures developed by CORE under contract to CMS: (1) 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy and (2) Hospital Visits after Hospital Outpatient Surgery. Some of the TEP members also served on the TEP for the Hospital Visits after Hospital Outpatient Surgery measure.</p> <p>The development of these measures will span one year and include eight steps, three of which were the topics of the first TEP meeting: development of 1) measure concept; 2) measure outcome; and 3) measures' cohorts. The future meetings will focus on the remaining steps including risk model development, measure testing, public comment, and measure finalization.</p>	<p>One TEP member suggested changing the project title to "Development of Facility-Level Quality Measures of Unplanned Hospital Visits after <i>Selected</i> Ambulatory Surgical Center Procedures." CORE agreed to revise the project title and has done so within these materials.</p> <p>A TEP member asked whether the measures' outcomes will include hospital transfer or admissions at discharge from ASCs since there is an existing hospital admission/transfer measure (ASC-4) in the Ambulatory Surgical Center Quality Reporting (ASCQR) program. A second TEP member asked whether the occurrence of few direct hospitalizations after surgery is evidence of a lack of standard care. CORE explained that the hospital transfer/admission measure (ASC-4) captures direct transfers to a hospital from an ASC for patients that require care that an ASC cannot provide. The number of these admissions/transfers is small (with some facilities not experiencing them at all) and likely would not affect the overall measure score. However, CORE responded that the team will assess the impact of counting hospital visits at discharge.</p> <p>A few TEP members sought clarification about the target setting and outcome for measurement. CORE explained that the measures will assess outcomes for ASCs only, and the outcome will include emergency department visits,</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>observation stays, and unplanned inpatient admissions.</p> <p><b>Summary: The TEP suggested revisions to the Project Title and approved the TEP Charter. TEP members were supportive of the project overall. TEP members asked CORE to investigate overlap with another ASC measure.</b></p>
<p>Meeting 1: Challenges and Gaps in Measurement</p>	<p>CORE reviewed the definition of ASC facilities as well as key measurement challenges for the ASC setting. ASCs are diverse, often focusing on one to two surgery types.</p> <p>The three surgical specialties under consideration for measurement (general surgery, orthopedic, and urology) are important to measure since they result in unplanned hospital visits that reflect quality of care, are relatively common procedures for the Medicare population, and exhibit varying outcome rates across facilities. In addition, the team can make fair comparisons of meaningful outcomes among facilities by focusing each measure on a particular surgical specialty.</p> <p>The quality of ASC procedures is largely unmeasured, as existing measures are generally narrowly focused on rare events, such as wrong site, wrong side, wrong patient, etc. The measures under development would assess unplanned hospital visits for more common causes, expanding quality assessment for the covered procedures.</p>	<p>One TEP member requested that the CORE team provide information on the cohorts that the team investigated but did not choose for measurement. In addition, the TEP member requested that the team identify how those cohorts compare to the cohorts chosen for measurement. CORE responded that the team will share information regarding cohorts considered but not chosen for measurement with the TEP.</p>
<p>Meeting 1: Understand Approach to the Three Measures</p>	<p>CORE reviewed the measure outcome of all-cause unplanned hospital visits within seven days following ASC procedures, which includes emergency department visits, observation stays, and unplanned</p>	<p>Two TEP members asked why patients younger than 65 years of age who qualify for Medicare due to disability are not included in the measures. CORE responded that Medicare beneficiaries</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
	<p>inpatient admissions. The team will remove “planned” admissions from the measure outcome by adapting the Planned Readmission Algorithm developed for CMS’s 30-day readmission measures.</p> <p>Patients included in the measures are 65 years of age and older and enrolled in Medicare fee-for-service (FFS) for at least 12 months prior to and seven days following the ASC procedure.</p> <p>The measures will risk adjust for patient and procedural differences, such as facility case mix, procedure type, patient age and sex, and patient health status. Specific risk factors and the risk-adjustment approach will be discussed during the next TEP meeting.</p> <p>Reporting a quality score at the facility (rather than physician) level makes sense given that ASC policies, procedures, and personnel impact outcomes for all patients. ASC policies, procedures and personnel impact outcomes for all patients. Facility-level reporting also combines a large number of cases for measurement (which will allow for greater measure score reliability).</p>	<p>who qualify for services due to disability are a fundamentally different population and tend to be sicker, making risk adjustment challenging.</p> <p>One TEP member asked why a patient would lose FFS enrollment in the seven days following surgery. CORE explained that some patients change their enrollment status (for example, from FFS Medicare to Medicare Advantage) post-procedure and within the seven-day outcome timeframe.</p> <p>Another TEP member pointed out that any deaths after ASC surgery would not be included in the measures because of the seven-day enrollment in FFS post-surgery requirement. CORE responded that mortality is a very rare outcome in the ASC setting. However, the team will assess if mortality after ASC procedures affects the measures’ scores by investigating the number of patients who die during the post-surgery seven-day FFS enrollment timeframe.</p> <p>One TEP member asked whether the measure accounts for pre-planned home care since home care may reduce emergency department visits or result in the rendering of services that would reduce the likelihood of seeking emergent care. CORE explained that pre-planned home care is often appropriate care and would hopefully prevent adverse outcomes and reduce the risk of acute care visits. The measures will not risk adjust for home care, but this approach to management, if effective, will be reflected in a lower outcome rate (a better measure score).</p>

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		<p>Another TEP member pointed out that the youngest patients in the measures will be 66 years of age due to the requirement of at least 12 months of prior enrollment in FFS, and asked whether including one year of dual-eligible patients would skew the measure scores. CORE responded that some Medicare-Medicaid dual-eligible patients may be included in the measures due to the inclusion criteria. The CORE team will further consider this point.</p> <p>One TEP member agreed with the approach to provide facility-level measure scores since many people other than surgeons have a role in ASC procedures and patient care.</p> <p><b>Summary: TEP members asked about inclusion criteria for the cohort – specifically, why patients under the age of 65 who qualify for Medicare are not included for measurement. CORE clarified why the cohorts do not include patients under the age of 65 and agreed to investigate further the impact of Medicare-Medicaid dual-eligible patients aged 65 years who may be captured by the measure. CORE will also assess the potential impact of post-surgical mortality on measure scores.</b></p>
<p>Meeting 1: Review and Comment on Evidence for the Measures</p>	<p>CORE presented the National Quality Forum (NQF) Measure Evaluation Criteria as well as the role of the NQF in measure endorsement.</p> <p>CORE presented data depicting an elevation in hospital visits within the first seven days after general surgery, orthopedic, and urology ASC procedures. In addition, CORE reported that the most common reasons for hospital visits are</p>	<p>One TEP member pointed out that, of the three surgical specialty groups of procedures considered for measurement, the orthopedic surgical specialty group has the highest number of surgeries performed but also has the lowest rate of hospital visits. CORE noted the variation in hospital visits across facilities, which suggests opportunities for improvement in ASC orthopedic care. In addition,</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
	<p>complications and other related outcomes and reported variation in outcome rates across facilities.</p>	<p>improving quality of care through the reduction of unplanned hospital visits will influence the large number of orthopedic patients.</p> <p>Another TEP member asked whether the orthopedic cohort includes all orthopedic procedures or just those selected by the team. The same TEP member asked whether the general surgery cohort includes thyroid surgery and breast biopsies. CORE explained the construction of the cohorts. The CORE team first identified procedures performed at ASCs through Medicare’s list of covered and authorized procedures in the ASC setting. From there, the team identified major and minor procedures, as defined by Medicare’s Global Surgical Package (Global Surgical Indicators 090 and 010, respectively). The team did not consider lower-risk (very minor) procedures that do not typically result in unplanned hospital visits, except with regard to the urology cohort, which includes therapeutic cystoscopies. The CORE team used the Clinical Classification Software (CCS), developed by the Agency for Healthcare Research and Quality (AHRQ), to classify procedures into the three surgical specialty cohorts. The AHRQ’s CCS classifies procedures by “body system.” The body systems roughly align with surgical specialties. The CCS is maintained by AHRQ, so using this approach, as new procedures and codes evolve, the list will evolve appropriately. The aim is to group procedures typically performed by general surgeons, orthopedists, and urologists. CORE used AHRQ’s “digestive” body system to define the general surgery preliminary cohort</p>

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		<p>and agreed that to better align with the scope of practice of general surgeons it may make sense to add additional procedures beyond those captured in this particular AHRQ body system.</p> <p><b>Summary: TEP members sought clarification on how the team identified procedures to be included in the cohorts. The CORE team intended to capture procedures performed by general surgeons, orthopedic surgeons, and urologists in the three cohorts. The CORE team used an AHRQ grouper to define the cohorts so that the cohorts will be easy to maintain as procedures and codes evolve. CORE will consider suggested additions to the general surgery cohort.</b></p>
<p>Meeting 1: Discuss Procedures in the Three Measures</p>	<p>CORE requested feedback from the TEP on the procedures included in the three measure cohorts.</p> <p>The CORE team presented examples of the 10 most common diagnoses for each clinical category. TEP members were asked to comment on whether any particular procedures or clinical categories should not be included in the measures based on the associated reasons for hospital visits or the patient population undergoing these procedures. The CORE team aims to measure procedures that could benefit from improvements in care and for which ASCs can reasonably implement strategies to improve care.</p> <p>In particular, the CORE team reviewed cholecystectomy and common duct exploration procedures and the top reasons for hospital visits, including urinary retention, respiratory</p>	<p>Two TEP members expressed concern about patients who may be addicted to pain medication.</p> <ul style="list-style-type: none"> <li>One TEP member asked if the team will distinguish between patients who visit the emergency department for postoperative pain and those who are seeking medication due to an addiction. The same TEP member asked whether there is a way to identify chronic pain patients, by, for example, using claims codes for visits to pain therapists or for chronic pain. The scenario described by the TEP member was of patients who visit the emergency department claiming they did not receive a prescription after ASC surgery.</li> </ul> <p>The CORE team will investigate the identification and inclusion of patients</p>

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	<p>complications, nausea and vomiting, and acute postoperative pain. The team suggested that ASCs could prevent or minimize some of the resulting hospital visits, and requested TEP input.</p> <p>Prior to the TEP meeting, the CORE team reviewed the list of general surgery, orthopedic, and urology procedures with our consulting general surgeon, orthopedist, and urologist, respectively.</p>	<p>who may be addicted to pain medication, and will consider risk adjusting for substance abuse. The team does not anticipate that inclusion of these patients in the measures' cohorts will affect the quality measure scores since they are likely randomly distributed across facilities.</p> <p>A TEP member asked why the general surgery cohort does not include other procedures, such as thyroid procedures and upper gastrointestinal (GI) endoscopies. The CORE team explained that the general surgery cohort includes procedures such as hernia repair, hemorrhoid procedures, and removal of the gall bladder, which are typically performed by general surgeons. Most skin and breast procedures are very low-risk and rarely result in hospital visits. With respect to upper GI endoscopies, our previous work developing the related Hospital Visits after Hospital Outpatient Surgery measure demonstrated that a large proportion of hospital visits following these procedures were for reasons related to the underlying condition that prompted the endoscopy as opposed to a signal of poor quality care.</p> <p>With respect to top diagnoses for post-surgical hospital visits:</p> <ul style="list-style-type: none"> <li>• One TEP member pointed out that conjunctival hemorrhage following colorectal resection would probably be a result of retching from postoperative nausea and vomiting and not the procedure itself.</li> </ul>

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		<ul style="list-style-type: none"> <li>• One TEP member pointed out that respiratory complications could be a result of residual paralysis from the neuromuscular blockage, and could be common.</li> </ul> <p>Three TEP members expressed concern about unintended consequences. In particular, they discussed concern that measurement may change clinical behavior to prevent urinary retention (for example, providers may send patients home with a urinary catheter following surgery), which may not be optimal care for the patients.</p> <ul style="list-style-type: none"> <li>• One TEP member requested that the team consider how clinicians may respond to measurement. For example, providers may begin sending patients home with catheters in order to prevent patients from visiting the emergency department with urinary retention. In addition, providers may supply patients with a surplus of pain medication in order to prevent emergency department visits for postoperative pain despite documented problems with opioid overuse.</li> <li>• Two additional TEP members agreed that providers may use catheters to prevent patients from visiting the emergency department. They also agreed that it would be preferable to address urinary retention at the ASC prior to discharge rather than the emergency department.</li> <li>• One TEP member cautioned that unintended consequences may</li> </ul>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>result from measuring other outcomes as well.</p> <ul style="list-style-type: none"> <li>• Two TEP members believe ASC facilities could better prevent urinary retention and the resulting hospital visits.</li> <li>• One TEP member pointed out that the measures may influence some procedural care positively, and summarized research about preventing urinary retention. For example, the TEP member noted that providers may be more likely to place catheters for procedures that take longer than anticipated. Measurement might motivate providers to use bladder scans and in-and-out catheters in the operating room.</li> <li>• One TEP member asked when a catheter would be removed in the event that a patient was sent home with one.</li> <li>• Another TEP member commented that the patient would return to the center the next day for catheter removal.</li> <li>• One TEP member asked whether there is a way to identify patients with a greater risk of urinary retention in order to provide those individuals with a catheter prior to leaving the ASC. The same TEP member pointed out that urinary retention could be contingent on the anesthesia used during the procedure.</li> <li>• Another TEP member noted that risk factors for urinary retention likely include male sex, age, procedure complexity, and history of lower urinary tract symptoms,</li> </ul>

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		<p>such as benign prostatic hyperplasia.</p> <p>The CORE team agreed that it is important to consider unintended shifts in clinical practices and patient experiences. CORE’s urologist consultant had emphasized that patients visiting the hospital for urinary retention may wait long periods, and such visits are an expense for the healthcare system. The measures aim to motivate facilities to consider patient-centered care and efficient strategies, such as performing urology procedures earlier in the day with enough time for the patient to demonstrate the ability to urinate.</p> <p>One TEP member suggested examining patients who undergo repeat procedures since providers may repeat procedures to increase performance on measures, which may not be in the best interest of patients.</p> <p>Another TEP member asked whether there was a way to identify, in claims data, whether the complication (for example, urinary retention) occurred during ASC operating hours in order to incentivize patients to return to the ASC rather than go to the hospital for follow-up care.</p> <p>The CORE team thanked the TEP members for their feedback and will consider unintended consequences.</p> <p>CORE explained that the measures are being developed for the ASCQR program, a pay-for-reporting quality data program. In the past, for outcomes measures, CMS has confidentially provided patient-level</p>

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		<p>data to facilities to aid quality improvement efforts.</p> <p>In addition, CORE noted that the measures aim to incentivize behaviors that ultimately lead to improved care processes that impact patients at ASCs.</p> <p>One TEP member asked whether the measures will utilize an existing algorithm for risk adjustment.</p> <p>The CORE team has not built the risk-adjustment model yet since the cohorts will inform risk-adjustment variables.</p> <p><b>Summary:</b></p> <ul style="list-style-type: none"> <li>• <b>The TEP encouraged the team to consider whether the reasons for hospital visits are related to the index ASC procedures.</b></li> <li>• <b>The TEP discussed the outcome of emergency department visits for urinary retention, best practices to prevent them, patient experiences, and the potential unintended consequences of measurement.</b></li> </ul>
Meeting 1: Next Steps	<p>The CORE team requested that the TEP members comment on any procedures for exclusion by June 3<sup>rd</sup>, and explained that yellow highlighting in the Supplementary Excel Workbook indicated procedures that did not occur in the 2012 20% Sample of Medicare FFS claims but are procedures approved for the ASC setting.</p> <p>Next steps include finalizing the cohorts, testing risk models, and examining risk-adjusted rates. In addition, the CORE team will hold a public comment period as well as revise and finalize the models.</p>	<p>One TEP member suggested checking the procedures that had only one patient or no patients with another set of data or excluding procedures by indicating a minimum sample size.</p> <p>The CORE team explained that some procedures have low outcome rates because they are high-risk and rarely performed in the ASC setting, yet it is important to include them as their prevalence may increase and these are the procedures most likely to lead to unplanned hospital visits. CORE will risk-</p>

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	<p>The second TEP meeting will likely be held in July or August to review risk-adjustment models. The TEP members will also review the TEP Summary Report prior to public posting.</p>	<p>adjust for procedure complexity using work Relative Value Units (RVUs).</p> <p>One TEP member expressed approval of the measure concept and the benefits of measurement for the ASC setting.</p> <p><b>Summary: The TEP agreed to further review the procedures for inclusion in each of the three measures after the meeting.</b></p>

**Table 3. Overview of key issues discussed in follow-up emails after the first TEP meeting**

Topic	Key Issues Discussed	TEP Feedback/Discussion
<p>Meeting 1 Follow-up Email Discussion: Procedures in the Three Measures</p>	<p>CORE asked TEP members to review the lists of procedures included in the three measures and provide feedback about cohort exclusions over email.</p>	<p>A total of seven TEP members gave feedback on 1) the procedures included for measurement, 2) the risk model, and/or 3) the outcome.</p> <p><u>Procedures Included for Measurement</u></p> <p>Five TEP members commented on the list of included procedures.</p> <ul style="list-style-type: none"> <li>• One of these TEP members supported keeping all procedures in the measure cohorts and noted it is the clinician’s role to choose the safest setting for surgical care.</li> <li>• One TEP member recommended including only procedures of similar complexity.</li> <li>• One TEP member suggested excluding complex, higher-risk procedures from the orthopedic cohort. One TEP member suggested excluding procedures not typically performed by orthopedists. The TEP member identified that procedures to treat facial fractures (defined by AHRQ clinical category 144) are typically performed by plastic surgeons; ear, nose and throat surgeons; and/or oral maxillofacial surgeons.</li> <li>• For the urology cohort, one TEP member suggested excluding complex, higher-risk procedures such as procedures that transit the urethra; these procedures would put patients at much higher risk for urinary retention. This TEP member also asked why the measure cohort includes non-operating room procedures such as therapeutic cystoscopy. A</li> </ul>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>second TEP member favored an inclusive cohort and not excluding complex, higher-risk procedures as the risk model would account for procedural complexity. This TEP member recommended excluding open prostatectomies (AHRQ clinical category 113) as these are rarely performed in the ASC setting.</p> <ul style="list-style-type: none"> <li>Two TEP members asked whether the general surgery cohort includes colonoscopies since a measure in the ASCQR program already measures hospital visits after colonoscopy (Facility 7-Day Risk-Standardized Hospital Visit Rate after Outpatient Colonoscopy, ASC-12). CORE responded that the measure under development will not include colonoscopies.</li> </ul> <p>CORE thanked the TEP for their feedback and explained that the aims are to build clinically coherent cohorts while including as many procedures as possible. The team clarified that the measures will risk-adjust for the differences in procedural complexity that affect the risk of hospital use, and for patient characteristics that may affect hospital use (for example, age, sex, comorbidities). As long as the measures can adequately risk adjust for differences within the cohort, the measures can include procedures with a range of inherent risk of seven-day unplanned hospital visits.</p> <p>For the orthopedic cohort: CORE responded that the team’s intent is to include procedures typically performed by orthopedic surgeons in the cohort.</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>CORE agrees with the suggestion not to include procedures performed to treat facial fractures (AHRQ clinical category 144), and will remove them from the cohort.</p> <p>For the urology cohort: CORE explained that the urology cohort also includes non-OR procedures, such as therapeutic cystoscopies, in the measure cohort since these are common procedures, often performed for therapeutic intervention and have outcome rates similar to other procedures in the urology measure cohort.</p> <p><u>Risk Adjustment</u></p> <p>Two TEP members commented on the need for a robust risk-adjustment model.</p> <ul style="list-style-type: none"> <li>• Two TEP members agreed with risk adjusting for procedural complexity.</li> <li>• One TEP member requested more information about risk model development and how the risk model would account for procedural complexity.</li> <li>• One TEP member expressed concern that adjusting for procedural complexity would not properly account for the different types of procedures included in the cohort.</li> </ul> <p>CORE thanked the TEP members for their feedback. CORE reiterated that the measures will risk adjust for differences in both procedural complexity using work RVUs and that we will empirically test this approach, share the results, and obtain input from the TEP in future discussions. CORE will specifically test the adequacy of</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>risk adjustment for higher-risk procedures.</p> <p><u>Outcome</u></p> <ul style="list-style-type: none"> <li>• One TEP member suggested considering a longer outcome timeframe for the orthopedic measure. CORE appreciates the suggestion. Based on discussion with an orthopedic consultant, literature review, and empiric analysis, the team recommends an outcome timeframe of seven days. The team believes an outcome timeframe of seven days is optimal because it will capture most procedure-related events, minimize capture of hospital visits unrelated to the index procedures, and maximize the measure’s reliability for detecting facility variation in the quality of ASC care.</li> <li>• Five TEP members commented on whether to measure only those hospital visits that are related to the index ASC procedures:</li> <li>• Four TEP members suggested including only outcomes directly related to the index procedure. Many of these TEP members recommended closely examining the nature of postoperative complications and relevance to the index procedure.</li> <li>• One TEP member suggested that we expect a baseline rate of post-surgical hospital visits (that is, the hospital visit rate is not intended to be zero), and favored measuring all hospital visits.</li> </ul>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>CORE thanked the TEP members for their feedback. CORE reiterated that the aim is to use a broad, patient-centered outcome of acute, unplanned hospital visits for several reasons. First, based on our literature review, hospital visits are a recognized and reported measure of post-surgical outcomes for ASC procedures. Additionally, we measure acute, unplanned hospital visits to encourage ASCs to minimize all types of risk that may lead to the need for a hospital visit after the procedure. Excluding hospital visits that may or may not be related to the procedures would limit the measure’s impact on quality improvement efforts. As one TEP member explained, we do not expect the rate of hospital visits to be zero. The measures will be risk-adjusted so that ASCs that are more likely to have higher hospital visit rates unrelated to quality because they have a generally higher-risk patient mix are not disadvantaged in the measure. CORE further explained that CMS supported developing measures with a broader outcome (unplanned hospital visits) that are harmonized with other CMS quality measures.</p> <p><b>Summary: CORE appreciates the feedback. Based on TEP member and consultant feedback, CORE will include procedures that are typically performed by general surgeons, orthopedists, and urologists in each of the three measures. CORE will test risk adjustment for procedural complexity as well as patients’ demographic characteristics and share those results with the TEP.</b></p>

## Appendix A. CORE Measure Development Team

**Table A1. CORE Team Members**

Name and Credentials	Team Role
Faseeha Altaf, MPH	Project Coordinator
Haikun Bao, PhD	Analytic Co-Lead
Mayur Desai, PhD, MPH	Project Co-Lead
Elizabeth Drye, MD, SM	Project Director
Erica Norton, BS	Research Assistant
Zhenqiu Lin, PhD	Analytics Director
Megan LoDolce, MA	Project Manager
Craig Parzynski, MS	Analytic Co-Lead
Jennifer Schwartz, PhD, MPH	Project Co-Lead

**Table A2. Consultants for measure development**

Name and Credentials	Area of Expertise	Organization (Title)	Location
Robert Becher, MD, MS	General surgery	Yale University (Assistant Professor, Surgery)	New Haven, CT
Simon Kim, MD, MPH	Urology	Case Western Reserve University School of Medicine (Urologic Oncologist, Assistant Professor)	Cleveland, OH
Sharon-Lise Normand, PhD	Statistics	Harvard Medical School (Professor of Health Care Policy)	Boston, MA
David Ring, MD, PhD	Orthopedics	The University of Texas at Austin (Associate Dean of Comprehensive Care, Professor of Surgery)	Austin, TX

## **Appendix B. TEP Call Schedule**

### **TEP Meeting #1**

Wednesday, June 1, 2016; 5:00-7:00 pm ET (Location: Webinar)

Make-Up Call: June 2, 2016; 2:00-3:30 pm ET (Location: Webinar)

### **TEP Meeting #2 (optional)**

July 2016 (date TBD) (Location: Webinar)

### **TEP Meeting #3**

August 2016 (date TBD) (Location: Webinar)