

# **Development, Reevaluation, and Implementation of Outpatient Outcome and Efficiency Measures**

## ***Summary of the First Meeting for the STEMI eCQM Technical Expert Panel***

Tuesday, August 21, 2018

Prepared by:

Yale-New Haven Health Services Corporation Center for Outcomes Research and Evaluation  
(YNHHSC/CORE)

The Lewin Group



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## Background

The Centers for Medicare & Medicaid Services (CMS) has contracted with Yale-New Haven Health Services Corporation/Center for Outcomes Research and Evaluation (YNHHSC/CORE) and its partner, The Lewin Group (Lewin), to respecify OP-2 (*Fibrinolytic Therapy Received within 30 Minutes of Emergency Department [ED] Arrival*) as an electronic clinical quality measure (eCQM) focused on appropriate care for patients presenting to the emergency department (ED) with ST-segment elevation myocardial infarction (STEMI). The contract name is *Development, Reevaluation, and Implementation of Outpatient Outcome and Efficiency Measures*. The contract number for this work is HHSM-500-2013-13018L.

Per the Blueprint for the CMS Measures Management System (MMS), eCQMs are based on information readily available in electronic health records (EHRs) in a structured format and can be readily accessed without affecting facility workflow. The electronic specification of the measure will ensure that all data elements used to calculate the measure's performance score can be captured in a site's EHR. CORE and Lewin convened a technical expert panel (TEP), composed of a breadth of stakeholders and experts, to discuss the electronic respecification of OP-2, including considerations for refining its specifications and field testing the measure's feasibility, validity, and use.

This report summarizes the feedback and recommendations provided by the TEP at its first meeting, discussing the history and rationale for the respecification of OP-2; reviewing the measure specifications of the STEMI eCQM; discussing the STEMI eCQM formative testing results; and addressing stakeholder concerns around developing the measure.

## Measure Development Team

Dr. Arjun Venkatesh leads the CORE measure development and maintenance team; Dr. Charlie Bruetman leads the Lewin measure development and maintenance team. Dr. Venkatesh is a scientist at CORE and an assistant professor in the Department of Emergency Medicine at the Yale University School of Medicine. Dr. Bruetman is the Senior Vice President and Market Lead for the Federal Health and Human Services practice at The Lewin Group. See [Appendix A](#) for the full list of members of the CORE and Lewin staff.

## The TEP

As part of its measure development process, CMS requests input from a broad group of stakeholders that may include EHR vendors/implementers; clinicians and caregivers with subject matter expertise including emergency medicine, cardiology, and care for patients in rural and critical access communities; informaticists; epidemiologists, methodologists, and other experts in measurement science; quality measure experts; disparities experts; and, consumers, patients, and caregivers. A well-balanced representation of stakeholders on the TEP helps to ensure the consideration of key perspectives in the measure selection, development, respecification, and maintenance process.

Under the guidance of CMS and in alignment with the MMS Blueprint, CORE and Lewin held a public call for nominations in 2017 to convene a TEP. Lewin solicited nominations for potential TEP members through a posting on CMS's website, sent email blasts to CMS physician and hospital listservs, and reached out to individuals and organizations recommended by the team and stakeholder groups.

The appointment term for the TEP runs from February 2017 through July 2019. CORE and Lewin will ask the TEP for input and feedback on areas of measure importance, scientific acceptability, feasibility, usability and use, and harmonization for the potential STEMI eCQM.

## TEP Members

<b>TEP Member Name</b> <i>Credentials and Professional Role</i>	<b>Organizational Affiliation</b> <i>City, State</i>
<b>Joseph Drozda, MD</b> <i>Director of Outcomes Research</i>	Mercy Hospital <i>Chesterfield, MO</i>
<b>John Gale, MS</b> <i>Senior Research Associate</i>	Maine Rural Health Research Center <i>Portland, ME</i>
<b>Raj Gorla, MBA, MS</b> <i>Chief Executive of Operations</i>	Contineo Health <i>Stamford, CT</i>
<b>M. Shazam Hussain, MD</b> <i>Director, Cerebrovascular Center</i>	Cleveland Clinic <i>Cleveland, OH</i>
<b>Katherine K. Leon, MS</b> <i>Co-Founder and Board Chair</i>	SCAD Alliance <i>Alexandria, VA</i>
<b>Wato Nsa, MS, PhD, MPH</b> <i>Director of Analytics</i>	Oklahoma Foundation for Medical Quality <i>Oklahoma City, OK</i>
<b>Cathy Olson, MSN, RN</b> <i>Director, Institute for Quality, Safety, and Injury Prevention</i>	Emergency Nurses Association <i>Plaines, IL</i>
<b>Robin Olson</b> <i>Co-Champion</i>	WomenHeart <i>Downing, PA</i>
<b>Linda J L Radach</b> <i>Patient Advocate</i>	Washington Advocates for Patient Safety <i>Lake Forest Park, WA</i>
<b>Stephen Traub, MD</b> <i>Chairman, Department of Emergency Medicine</i>	Mayo Clinic <i>Phoenix, AZ</i>
<b>Matt Zavadsky, MS</b> <i>HAS, Chief Strategic Integration Officer</i>	MedStar Mobile Healthcare <i>Worth, TX</i>

## TEP Meetings

As of September 2018, CORE and Lewin have convened one TEP meeting (see [Appendix B](#) for schedule of TEP meetings). TEP meetings follow a structured format consisting of a presentation of key topics followed by an open discussion of these issues with the TEP members.

The first TEP meeting focused on the respecification of OP-2 as an eCQM. The TEP reviewed the history of and rationale for respecification, the current measure specifications for OP-2 and the proposed STEMI eCQM, and results from alpha testing. The TEP provided feedback on key questions for developing the STEMI eCQM and identified potential next steps.

During the first meeting of the TEP, members shared the following recommendations for respecification of OP-2 as an eCQM:

- The TEP reached a consensus that transfer to a PCI-capable hospital should be captured in the numerator. CORE and Lewin will continue to explore the appropriateness of the 60-minute transfer window during beta testing to ensure it is feasible to capture and aligns with current clinical practice.
- TEP members reached a consensus that it is feasible to capture STEMI-related diagnostic procedures in data from facility EHRs, though doing so would require that a site's EHR have the necessary structured fields.
- The TEP members agreed that there are contraindications that could delay treatment for both fibrinolysis and PCI that should be excluded from the measure; these include elevated blood pressure, facial or head trauma within three months, history of intracranial hemorrhage, recent stroke, hypertension, and patient-centered reasons for delay.
- The TEP recommended that CORE/Lewin investigate the impact of STEMI eCQM public reporting on rural facilities and those with limited EHRs.

## Conclusion

TEP feedback will be instrumental in respecifying OP-2 into an eCQM; [Table 1](#) describes the key issues discussed during the first TEP meeting, including responses from the TEP.

**Table 1: Key Issues Discussed during STEMI eCQM TEP Meeting #01, including Feedback from TEP Members**

Topic	Key Issues Discussed	TEP Feedback/Discussion
<i>Welcome and Introductions</i>	CORE and Lewin welcomed TEP members. Lewin described the meeting objectives: to review and approve the TEP charter; to review the history of OP-2 and discuss the rationale for respecification; to review the STEMI eCQM measure specifications; to discuss STEMI eCQM alpha testing methodology and share findings; and, to obtain feedback on key questions pertaining to the STEMI eCQM.	One TEP member disclosed activities in which they participate outside of the TEP (which were not identified as conflicts of interests). There were no reported conflicts of interest that precluded TEP members from participating in the meeting.
<i>Review and Approve TEP Charter</i>	CORE and Lewin reviewed the TEP charter, TEP member responsibilities, and measure development guiding principles.	<u>TEP Charter</u> No TEP members proposed amendments to the charter.
<i>Review History of OP-2 and STEMI eCQM Development and Discuss Rationale for eCQM Respecification</i>	CORE and Lewin reviewed the timeline for STEMI eCQM development, the rationale for the electronic respecification of OP-2, and potential barriers to respecification as an eCQM.	<u>OP-2 History and Rationale</u> CMS approved CORE/Lewin's recommendation to respecify OP-2 as an eCQM in June 2017. The proposed eCQM could better align current process measures to clinical practice guidelines; increase the size of the denominator, addressing 2016 NQF feedback; and, reduce facility burden associated with chart abstraction while extending electronic clinical quality measurement to smaller hospital settings.
<i>Review STEMI eCQM Measure Specifications</i>	CORE and Lewin reviewed the measure specifications for OP-2 and the proposed STEMI eCQM specifications, including its exclusions. CORE and Lewin shared the benefits and drawbacks of expanding the	<u>Review of the Specifications for the STEMI eCQM</u> The proposed eCQM, <i>Appropriate Treatment for STEMI Patients in the ED</i> , will focus on ED AMI patients with ST-segment elevation who received appropriate treatment for AMI.

Topic	Key Issues Discussed	TEP Feedback/Discussion
	measure population for the proposed STEMI eCQM.	
<i>Share Results from eCQM Alpha Testing</i>	CORE and Lewin reviewed the results from alpha testing of the STEMI eCQM, including the number of case counts identified within the OptumOne dataset and the feasibility of capturing each data element using these data.	<p><u>Results from Alpha Testing</u></p> <p>Outcomes from alpha testing allowed CORE/Lewin to estimate the size of the initial patient population using the OptumOne dataset, but could not fully support measure calculation due to missing procedure times for PCI. Respecification has expanded the measure population and allows evaluation of facilities for all types of appropriate STEMI care, without restriction to those that primarily administer fibrinolysis. A TEP member asked whether CMS considered use of both ECG and troponin to identify STEMI cases as part of alpha testing; CORE and Lewin will evaluate the feasibility and clinical appropriateness of doing so during beta testing.</p>
<i>Obtain TEP Feedback on Key Questions for the STEMI eCQM</i>	<p>CORE and Lewin posed several questions to the TEP regarding the proposed STEMI eCQM specifications. These questions included:</p> <ul style="list-style-type: none"> <li>• Does the addition of patients who were transferred to a PCI-capable hospital within 60 minutes of ED arrival at a non-PCI capable facility improve the face validity of the measure?</li> <li>• Is it feasible to capture STEMI-related diagnostic procedures in facility EHRs?</li> <li>• Are there clinical/patient-centered conditions or scenarios that would warrant delays in or cessation of appropriate STEMI treatment?</li> <li>• Are there additional considerations CORE/Lewin</li> </ul>	<p><u>Transfer to a PCI-Capable Facility within 60 Minutes</u></p> <p>A TEP member expressed concern about the validity of the 60-minute transfer window, as appropriateness of timely care would vary based on the travel time between facilities (which would vary by distance of facility one, where the patient first arrives, and facility two, where the patient is transferred to receive PCI). Another TEP member responded that Mission Lifelines Veterans Health Association (VHA) Quality Program uses a door-in, door-out time of less than or equal to 45 minutes. A different TEP member stated that 60 minutes is too long and facilities should strive for transfer within 30 minutes.</p> <p>Another TEP member stated that excluding transferred patients from the measure would prevent CMS from adequately capturing the quality of services for patients with STEMI and would limit opportunities for facilities to improve care.</p> <p>A TEP member questioned whether there should be a proscriptive timeframe for transfer. The TEP member assessed what would be acceptable care, given that the time to transfer the patient to a PCI-</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
	<p>should anticipate for the STEMI eCQM?</p>	<p>capable facility may vary from hospital to hospital. This TEP member asked whether the goal of the measure is to create a benchmark for care, or if its intent is to set a standard, whereby facilities that do not meet the measure are considered to have delivered suboptimal care. Another TEP member countered this perspective, stating that it is necessary to retain the transfer action in the numerator; not all patients arrive to EDs by ambulance, so it is important to take into account patients whose first medical contact occurs upon arrival at facility one.</p> <p>A TEP member recommended that CORE and Lewin consider the implications of patient demographics on the 60-minute timeframe.</p> <p>A TEP member asked whether the proposed eCQM applies to patients who arrive at a freestanding ED, and if these sites would be accountable to meet guidelines for transfer to a PCI-capable facility. CORE and Lewin confirmed that the measure would only apply to facilities included in the Outpatient Prospective Payment System (OPPS), making care at freestanding facilities out of scope for this measure.</p> <p><u>Feasibility of Capturing STEMI-Related Diagnostic Procedures in Sites' EHR</u></p> <p>A TEP member stated that it is feasible to capture STEMI-related diagnostic procedures in facility EHRs. Another TEP member stated that procedure times are captured systems used by catheterization labs, which may not be interoperable with EHRs used to document ED care.</p> <p><u>Clinical or Patient-Centered Reasons for Delay or Cessation of Appropriate Treatment</u></p> <p>A TEP member stated that contraindications for delivering fibrinolytic therapy should be excluded from the measure specifications and suggested that one such diagnosis would be elevated blood pressure. This TEP member stated that CORE and Lewin should also exclude cases for which there is a</p>



Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>delay due to hesitation in initiating treatment from a patient or family member. Another TEP member noted that significant facial or head trauma within three months and any history of intracranial hemorrhage or recent stroke are contraindications for fibrinolysis. A different TEP member suggested CORE and Lewin explore advanced cardiac life support (ACLS) guidelines to identify additional exclusions.</p> <p><u>Additional Feedback</u></p> <p>A TEP member explained that the measure, as currently specified, would evaluate facilities both on clinical performance and on their EHR system capabilities. This TEP member noted that smaller hospitals without EHR resources might not be able to record reasons for delay in appropriate treatment. The TEP member suggested that CORE and Lewin speak with EHR vendors to discuss the feasibility of building modules tailored to capturing data necessary to calculate the STEMI eCQM to improve its usability.</p> <p>A TEP member suggested that CORE and Lewin consider how the respecification of this measure aligns with efforts to monitor and improve overall systems of care function. One TEP member asked whether emergency medical technician (EMT) protocols would be captured in the measure. This TEP member also asked how the measure will address patient readmissions.</p> <p><b>Summary:</b> The TEP reached a consensus that transfer to a PCI-capable hospital should be captured in the numerator; CORE and Lewin will continue to explore the appropriateness of the 60-minute transfer window during beta testing to ensure it is feasible to capture and aligns with current clinical practice. TEP members reached a consensus that it is feasible to capture STEMI-related diagnostic procedures in data from facility EHRs, though doing so would require that the site's EHR have the structured fields necessary for</p>

Topic	Key Issues Discussed	TEP Feedback/Discussion
		<p>measure calculation. Ensuring sites store their data in these fields will require further investigation and will be explored during beta testing. TEP members agreed that there are contraindications that could delay treatment for both fibrinolysis and PCI that should be excluded from the measure, including elevated blood pressure, facial or head trauma within three months, history of intracranial hemorrhage, recent stroke, hypertension, and patient-centered reasons for delay. The TEP recommended that CORE and Lewin investigate the impact of publicly reporting the STEMI eCQM on rural facilities and hospitals with limited EHR capabilities.</p>

## **Appendix A. CORE and Lewin Measure Development and Maintenance Teams**

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

### **TEP Meeting #1:**

Tuesday, August 21, 2018, 10:00 AM–12:00 PM ET (*Location: Webinar*)

### **Future TEP Meetings:**

Spring 2019 (date TBD) (*Location: Webinar*)