











Technical Expert Panels

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Measure developers seek Technical Expert Panel (TEP) input during each stage of the Measure Lifecycle to ensure the [quality measures](#)  they develop are rigorous, patient-centered, and meaningful. Although written primarily for a quality measure development TEP, this supplemental material notes it is important to recognize that TEPs also provide input useful for a variety of other healthcare quality related purposes, for example, gathering input for [guidelines](#)  and the quality measure development process, identifying quality measure gap areas, and other topics.



Measure developers may find the [TEP templates](#)  useful and may adapt each as applicable according to the corresponding instructions. The information in this supplemental material augments the information found in the Blueprint content on the MMS Hub, [Stakeholder Engagement](#) .

1 TIMING OF TEP INPUT


TEP timing will depend on the type and focus of the quality measure or concept under development. Historical best practices from measure developers suggest posting the TEP call for nominations as soon as possible after the project begins and concurrently with conducting the [environmental scan](#) , literature review, and other tasks that require TEP review. This timing makes findings available for review in advance of and during the TEP meetings. Occasionally, measure developers may find it necessary to convene a smaller, more focused group of subject matter experts (SMEs), instead of the entire TEP, to provide specific expertise (e.g., on technical aspects of coding measure [specifications](#)  or electronic health record [EHR]  clinical workflow). These smaller groups can inform the larger TEP on measure [feasibility](#) . More recently, measure developers have convened standing TEPs, which can provide comments earlier in the Measure Lifecycle.

The measure developer should consider obtaining TEP input at these points during the Measure Lifecycle:

Measure Conceptualization

- Gather information to give input on topics and importance.
- Refine the candidate measure list.
- Apply the quality measure evaluation criteria to the candidate measures.
- Conduct a feasibility assessment (i.e., the TEP should assess the feasibility of alternative methods to address the quality measurement opportunity, such as when a quality measure originally intended to be an electronic clinical quality measure [[eCQM](#)]  was determined not to be feasible as an eCQM, but is feasible as a chart-abstracted quality measure); refer to the CMS consensus-based entity (CBE) website for the [eCQM Feasibility Scorecard](#) .

Measure Specification

- Construct technical specifications.
- Risk-adjust [outcome measures](#) .

Measure Testing

- Analyze test results.
- Review updated measure evaluation and updated specifications.




Measure Implementation



- Respond to questions or suggestions from the CMS CBE Steering Committee, public comment, and stakeholder input.




Measure Use, Continuing Evaluation, and Maintenance

- Review measure performance during comprehensive reevaluations.
- Meet as needed to review other information, specifications, and evaluation.

For most measure development projects, measure developers will convene several TEP meetings, either virtual and/or face-to-face. During early TEP meetings, the members will review the results of the environmental scan and clarify quality measure concepts. Using the evaluation criteria, they will also evaluate the list of potential quality measures and narrow them down to candidate quality measures.

During subsequent meetings, the TEP will review and comment on the draft quality measure specifications to clarify the quality measure components such as numerator  and denominator , review the public comments received on the quality measures, and evaluate the quality measure testing  results and quality measure evaluation criteria.

After implementation, measure maintenance  plans should include TEP review of quality measure performance. The measure developer should continue conducting environmental scans of the literature about the quality measure; watch the general media for articles and commentaries about the quality measure; and scan the collected, calculated, and publicly reported data. Results of these scans will provide information about quality measure performance, unintended consequences, and other issues for TEP review. During maintenance, TEPs should also compare quality measure performance to the business case  of impact on quality.

Refer to the [Stakeholder Engagement in the Measure Lifecycle](#) , [Evaluation During Maintenance](#) , and [Measure Maintenance Reviews](#)  supplemental material on the MMS Hub for more information about TEP involvement in comprehensive reevaluation, annual updates, and early maintenance reviews.

In addition to developing quality measures that address measurement gaps, the measure developer should keep an overall vision for discerning the breadth of quality concerns and related goals for improvement. The measure developer should direct and encourage the TEP to think broadly about principal areas of concern regarding quality as they relate to the topic or contract at hand. Finally, at the end of the measure development process, the measure developer should be able to show how the recommended quality measures relate to quality priorities and quality measurement goals.

2 TEP STRUCTURES

2.1 TRADITIONAL TEP STRUCTURE

Measure developers may follow a traditional TEP structure model in which the measure developer selects a new TEP and convenes it when there is development of a new measure. Under this model, the measure developer convenes the TEP at the beginning of each measure development process, with measure developers undertaking a lengthy and resource-intensive nomination and review process as they are in the information gathering stage.

One challenge with this structure is the lack of opportunity to solicit input from stakeholders or eventual TEP members in the early stages of measure development because the convening of a formal TEP is concurrent with early measure development activities. After formation of a TEP, the measure developer solicits expert opinion from the whole TEP on all aspects of the quality measure. This process can often lead to confusion or feelings of exclusion by patient and family representatives who lack detailed statistical knowledge necessary for active participation in technical discussions. A standing TEP structure can help address some of these issues and concerns.

2.2 STANDING TEP STRUCTURE

More recently, measure developers have migrated toward the creation of a standing TEP. Under this model, the measure developer nominates and gathers a standing TEP with a 2- or 3-year term of membership. The standing TEP has a diverse membership with broad-based expertise (e.g., policy and program, measure development, clinician, patient/advocate, technical) that enables review of the general aspects of quality measures that the measure developer is producing across a multiple-year

measure cycle. The standing TEP meets approximately once per quarter for several hours to consider the policy surrounding each of the quality measures under development (MUD) or at the conceptualization stage in advance of further development. This cross-cutting focus enables the standing TEP to view and help solve problems across the portfolio of MUD.

In concert with the standing TEP, the measure developer convenes a series of expert working groups through targeted outreach. These working groups are condition- or measure-specific and members are SMEs (e.g., statisticians, specialty clinicians) with targeted expertise and a narrow focus to view and solve problems on a specific measure. They may also include standing TEP members with expertise in the specific topic. These experts meet in smaller groups more frequently than the standing TEP, and for shorter periods of time, to dive deeply into the technical aspects of a quality measure. The expert working groups give guidance on their specific quality measure under consideration by the standing TEP, which will take their recommendation(s) into account in the broader context of the program. Similar to TEP meetings, it can be beneficial to prepare a report summarizing the discussion and decisions.

Advantages of the standing TEP structure include

- time and resource efficiency through avoidance of a full TEP nomination process for every measure
- continuity, perspective, and programmatic knowledge within the standing TEP membership
- trust building among TEP members who meet regularly and become acquainted with each other
- less alienation and confusion for patient and family representatives because the expert working group tackles the technicalities separately
- combination of both broad and narrow feedback results from differing perspectives

Disadvantages of the standing TEP structure include

- potential disagreement between the expert working group and standing TEP
- more frequent meetings


3 STEPS FOR CONVENING THE TEP

The exact order and level of detail required for the steps in convening a TEP may vary depending on the stage of the Measure Lifecycle, but the same general process applies. The general steps for convening a TEP are

- Draft the TEP Charter and consider potential TEP members for recruitment.
- Notify relevant stakeholder organizations.
- Select the TEP members.
- Select a chair or meeting facilitator.
- Arrange TEP meetings.
- Send materials to the TEP members.
- Conduct TEP meetings and take minutes.

3.1 DRAFT THE TEP CHARTER AND CONSIDER POTENTIAL TEP MEMBERS FOR RECRUITMENT

3.1.1 Draft the TEP Charter

Prior to convening the TEP, the measure developer should draft a TEP Charter (refer to the [TEP Charter Template](#)  for an example). Typically, the TEP ratifies the draft charter at the first TEP meeting.

The draft is important so that prospective TEP members know the purpose of the TEP and level of commitment required. The charter should address


- TEP goals and objectives
- TEP scope of responsibilities and how the measure developer will use the TEP's input
- TEP use of the measure evaluation criteria
- estimated number and frequency of meetings
- interest in participating in future maintenance activities

The TEP's responsibilities may include working with the measure developer to develop the technical specifications and business case, review testing results, and identify potential measures for further development or refinement. The charter should specify how the measure developer will use the TEP input and describe clearly how the measure developer will handle issues of confidentiality, particularly for patients/family representatives/caregivers, in the TEP reports.


Recruitment Considerations

While formulating the TEP charter, the measure developer should consider the types of expertise needed for the TEP, including those who can provide input based on patient experiences, such as patients, family representatives, and/or caregivers. The measure developer should have a diverse TEP, including representation from marginalized communities. Although healthcare and patient advocacy organizations' participation may be desirable, their participation is not a substitute for actual patients.

 A TEP for an eCQM should include recognized SMEs in relevant fields such as


- implementers of EHR systems—clinicians with personal knowledge of EHR workflow
- clinical informaticists
- EHR/health information technology (IT)  vendors—preferably at least two vendors
- programmers
- coding experts
- other measure developers
- current EHR users (e.g., staff from measure testing sites)

3.1.2 Recruit the TEP

TEP recruitment begins with the call for TEP nominations, which the measure developer can distribute through website postings, announcements on professional email lists, and professional connections. The call for TEP nominations document should be in plain language that non-expert participants can understand. See the [Technical Expert Panel Call for TEP Web Posting Template](#)  for an example.

The measure developer should address these items in the call for TEP nominations:

- overview of the measure development project
- overall vision for discerning the breadth of quality concerns and related goals for improvement identified for the setting of care
- project objectives
- measure development processes
- types of expertise needed
- information from the draft charter that explains the objectives, scope of responsibilities, etc.
- expected time commitment and anticipated meeting dates and locations, including ongoing involvement throughout the development process

- instructions for required information (e.g., [TEP Nomination form](#) , letter of intent)
- information on confidentiality of TEP proceedings and use of the TEP summary
- the measure developer's email address for submitting TEP nominations and questions

3.2 NOTIFY RELEVANT STAKEHOLDER ORGANIZATIONS

The measure developer should notify stakeholder organizations regarding the call for TEP nominations before the posting goes live or simultaneously with the posting. Contacts at the organizations may choose to nominate specific individuals who may fill a need, or they may help disseminate information about the call for TEP nominations.

Relevant stakeholder groups to notify of the call for TEP nominations may include

- organizations that might help with recruiting appropriate patients, family representatives, or their caregivers, e.g., Person and Family Engagement Network
- quality alliances
- medical and other professional societies
- setting-specific associations (e.g., American Hospital Association, American College of Emergency Physicians)
- scientific organizations related to the measure topic
- provider groups potentially affected by the measures
- CMS CBE measure developer groups
- EHR and interoperability standards development organizations and industry organizations involved with clinical data collection and exchange
- clinical data registries
- other measure developers

Individuals and organizations should be aware that the persons selected for the TEP represent themselves and not their organization. TEP members will use their experience, training, and perspectives to provide input on the proposed measures.

3.3 SELECT TEP

Most TEPs include 8 to 15 members. This number may be larger or smaller depending on the quality measure under development or topic under discussion and the level of expertise required. The measure developer may require multiple TEPs when developing multiple measure sets or quality measures for multiple topics, and may function simultaneously or within a larger TEP. Individual members of the TEP may represent multiple areas of expertise.

The measure developer should select a diverse and balanced panel that includes nationally recognized experts in the relevant fields, including clinicians (e.g., physicians, pharmacists, and registered nurses), statisticians, quality improvement experts, methodologists, experienced measure developers, and EHR vendors. As noted previously, each TEP should explicitly incorporate the patient perspectives and preferences in measure development through patient and family representative participation.

The measure developer should consider these factors when choosing the final list of TEP members:

- Geography—Include individuals from multiple areas of the country who show a diversity of geographic characteristics, such as from rural and urban settings.
- Expertise in the subject matter of the measure.

- Diversity of experience—Consider individuals with diverse backgrounds (e.g., different types of clinicians and information technology professionals) and experience in different types of organizations and organizational structures.
- Inclusion of patients, patient advocates, family representatives, caregivers, and caregiver advocates. Each TEP should have at least one patient or family representative on its roster. Current best practice is to include, at a minimum, two patients and/or family representatives.
- Affiliation—Include members not predominately from any one organization.
- Fair balance—Make a reasonable effort to have differing points of view represented, including those from marginalized communities
- Availability—Select individuals who can commit to attending meetings, whether they are face-to-face or via telephone, and who can be accessible throughout the performance period of the measure developer’s project.

TEP participants, including patients, should understand the recording of their input in the meeting minutes. The measure developer should answer any questions that participants have about confidentiality and how the measure developer will use their input.

3.4 SELECT CHAIR OR MEETING FACILITATOR

Prior to the first TEP meeting, the measure developer should select a TEP chair (and co-chair, if indicated) who has either content or measure development expertise. A person with strong facilitation skills must guide this first meeting to

- convene and conduct the meeting in a professional and timely manner
- conduct the meeting according to the agenda
- recognize speakers
- build consensus

The TEP chair should be available to represent the TEP at the CMS CBE Standing Committee meetings and follow-up conference calls. Additionally, all TEP members need to be available for potential conference calls with the measure developer to discuss CMS CBE recommendations. Some measure developers have successfully had patients or family representative chairs.


Some measure developers may choose to add a meeting facilitator to help with some of these tasks. In such cases, the TEP must still have a TEP chair. The facilitator guides the meeting logistics and discussion, but the TEP chair is in charge of the technical content of the meeting and in charge of its products or deliverables to the measure developer.

3.5 ARRANGE TEP MEETINGS

The measure developer is responsible for organizing all TEP meetings and conference calls. TEP meetings may occur face-to-face, virtually, or as a combination of the two. If the requirement is for an in-person meeting, the measure developer should plan the meeting date, time, and venue, and help participants with travel and hotel arrangements, as needed. Consider scheduling meetings outside normal working hours.


The measure developer may determine the need for additional SMEs and staff, such as data management and coding experts, EHR experts, health informatics personnel, and statisticians/health services researchers, to support the TEP. These SMEs can contribute summarized technical information to the TEP for consideration.

3.6 SEND MATERIALS TO THE TEP

The measure developer should send the meeting agenda, meeting materials, and supporting documentation to TEP members at least one week before the meeting. For TEP lay members (i.e., patients and family representatives), the measure developer should present or package the materials in a manner they will be able to understand. Do not burden patients and family representatives with detailed technical documents. See the [Person and Family Engagement in Quality Measurement](#)  supplemental material for more information.





At a minimum, the measure developer should prepare and disseminate

- Instructions on the measure evaluation criteria and their application by the TEP. Materials should also indicate how the measure developer plans to use the TEP's evaluation and recommendations.
- the list of initial or potential quality measures identified by the measure developer
- the TEP Charter
- other documents, as applicable


The measure developer should remind TEP members that they must disclose any current and past activities that may cause a conflict of interest . If a member's status changes and a potential conflict of interest arises at any time while a member is serving on the TEP, the TEP member must notify the measure developer and the TEP chair.

3.7 CONDUCT THE TEP MEETINGS

Next, the measure developer convenes the panel and conducts the TEP meetings. Initial TEP meeting discussions should include

- Review and ratification of the TEP Charter. The measure developer should ensure that all participants understand the TEP's role and scope of responsibilities.
- Discussions about the importance  and usability  of measure concepts and potential measures to the identified patient population .
- Discussion of the findings of the literature review and the environmental scan. The TEP should discuss any overall quality concerns such as measurement gaps, alignment  across programs and settings, and overarching goals for improvement.

To facilitate development of TEP meeting minutes and the TEP summary report (Section 3.9), the measure developer may choose to record the discussion. Prior to recording, the measure developer should inform the participants they will be recording the conversation.

As discussed in Section 1, the measure developer may consult the TEP during any stage of measure development. By the end of the initial TEP discussions, the measure developer should be able to identify quality measures/measure concepts deemed important, usable, and valuable by the patient(s) on the TEP, and for further discussion in later TEP meetings. Ongoing TEP meetings may involve details about the feasibility of the measures and in-depth technical discussions about acceptability of the evidence base for the measures, face validity , and adequacy of measure specifications. Depending on the specifics of the measure under development, the measure developer may focus TEP guidance on one or more measure evaluation criteria based on the TEP's expertise. If technical discussions become overwhelming or burdensome for lay members of the TEP, the TEP chair or facilitator may offer to excuse them from the discussion.

3.8 PREPARE TEP SUMMARY REPORT AND PROPOSE RECOMMENDED SET OF CANDIDATE MEASURES

Following the TEP meeting, the measure developer prepares a report summarizing the discussion and decisions. Refer to the [TEP Membership List Template](#) and the [TEP Summary Web Posting Template](#) as documentation examples. If the TEP has met several times on one topic, it may be appropriate to summarize discussions held during multiple meetings.

At a minimum, the measure developer should include these items in the summary report:

- a record of attendance
- key points of discussion and input
- decisions about topics presented to the TEP, including the list of candidate quality measures
- copies of the meeting materials

In general, reports should not include personally identifiable medical information. If a participant has disclosed personal data by his or her own choice, then the measure developer may deem that material and those communications are not subject to confidentiality laws. The measure developer may share the TEP summary report with the TEP panel.

4 KEY POINTS

Measure developers seek TEP input during each stage of the measure lifecycle to ensure the measures they develop are rigorous, patient-centered, and meaningful. A typical TEP is composed of 8-15 individuals with varied backgrounds and expertise. For most measure development projects, measure developers will convene several TEP meetings. During early TEP meetings, members will review the results of the environmental scan and clarify measure concepts. Using the evaluation criteria, they will also evaluate the list of potential quality measures and narrow them down to candidate quality measures. During subsequent meetings, the TEP will review and comment on the draft measure specifications to clarify the measure components such as numerator and denominator, review measure-related public comments, and evaluate the measure testing results and measure evaluation criteria. After implementation, measure maintenance plans should include TEP review of measure performance.

The steps for convening a TEP are

- Draft the TEP Charter and consider potential TEP members for recruitment.
- Notify relevant stakeholder organizations.
- Select the TEP members.
- Select a chair or meeting facilitator.
- Arrange TEP meetings.
- Send materials to the TEP members.
- Conduct TEP meetings and take minutes.

Following the TEP meeting, the measure developer prepares a report summarizing the discussion and decisions.

Reference

National Quality Forum. (n.d.). *NQF eCQM feasibility scorecard*. Retrieved April 6, 2022, from <https://www.qualityforum.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=89036>