NQF's Scientific Methods Panel Charge

September 2017

NQF relies on four criteria for evaluating the suitability of quality measures for endorsement as voluntary consensus standards: *Importance to Measure and Report*, *Scientific Acceptability of Measure Properties*, *Use and Usability*, and *Feasibility*. The second criterion, *Scientific Acceptability of Measure Properties*, refers to the reliability and validity of measures. The use of measures that are unreliable or invalid undermines confidence in measures among providers and consumers of healthcare. NQF's measure evaluation criteria can be viewed as a hierarchy that guides the sequential process for evaluating measures. If a measure is not important, its other characteristics are less meaningful. If a measure is not scientifically acceptable, its results may be at risk for improper interpretation. To ensure higher-level and more consistent reviews of the scientific acceptability of measures, NQF has launched a new Scientific Methods Panel. The *2017 Consensus Development Process Redesign* report outlines the broader changes with the Consensus Development Process.

The new panel will have two specific charges:

1. Conduct evaluation of complex measures for the criterion of Scientific Acceptability, with a focus on reliability and validity analyses and results; and
2. Serve in an advisory capacity to NQF on methodologic issues, including those related to measure testing, risk adjustment, and measurement approaches.

1. Scientific Methods Panel: Measure Evaluation

The Scientific Methods Panel will evaluate the must-pass Scientific Acceptability subcriteria of reliability and validity. The Scientific Methods Panel's evaluation and ratings on reliability and validity are analogous to NQF's staff's current evaluation and ratings of Scientific Acceptability and other criterion in the staff preliminary analysis. NQF staff will compile the method's panel's ratings, evaluation and commentary on reliability and validity and provide it to NQF's standing committees.. As a whole, this information will help to inform the standing committee's endorsement decision. The Scientific Methods Panel will not render endorsement recommendations. Instead, its members will help promote consistency in the evaluation of complex measures against NQF's endorsement criteria. Standing committees may raise concerns with the specifications of the measure or with potential threats to validity (e.g., selection of variables for risk adjustment model) and can overturn the Scientific MethodsPanel ratings. As part of its ongoing education efforts, NQF will provide clear guidance to standing committees regarding the circumstances wherein an overturn of the rating would be permissible.

At present, NQF has defined complex measures as outcome measures (including intermediate clinical outcomes), instrument-based measures (e.g., patient-reported outcomes), cost/resource use measures, and composite measures. The complex measure review is intended to assure consistent evaluation of the scientific merits of a measure, reduce standing committee burden, and ensure that more committee time can be spent on consideration of other important elements of measure endorsement.

For each complex measure, a minimum of three panel members will independently evaluate each measure. The majority recommendation from the three evaluations will serve as the overall assessment of reliability and validity. However, if there is substantial disagreement in the ratings between the three reviewers (i.e., disagreement as to whether the measure does or does not "pass" the Reliability or Validity subcriteria), the panel co-chairs will evaluate the measure and determine the overall recommendation. A two-week period will be provided during which developers can provide clarification to address concerns raised by the Scientific Methods Panel. As per NQF's current standing committee process, measure worksheets that are shared with the standing committee also will be posted on the project webpage (the measure worksheets include measure information submitted by the developers as well as the staff/Scientific Methods Panel preliminary analysis). If the Scientific Methods Panel rates a complex measure as low/insufficient for reliability or validity, the measure will be removed from the current evaluation cycle to provide an opportunity for additional testing, clarification, or NQF technical support prior to consideration of the measure in a future evaluation cycle.

2. Scientific Methods Panel: Methodologic Guidance

As measures have become more complex, a myriad of issues have emerged related to measure testing, data sources, and assessment of reliability and validity. Assessment of these issues requires a deeper understanding of the complexities of measurement not usually available on NQF's existing standing committees. NQF previously empaneled a Measure Testing Task Force in 2011 to provide specific recommendations on what constitutes scientific acceptability of measure properties and assist participants in the measure evaluation process. To ensure that NQF's testing requirements adjust to the growing complexity of measures and measurement approaches, the Scientific Methods Panel will serve in an ongoing advisory capacity to NQF on methodologic issues related to measure testing, risk adjustment, and measurement approaches, including emerging issues from cost and patient-reported outcome-based performance measures.

The Scientific Methods Panel will provide specific guidance and recommendations to NQF regarding the evaluation criteria related to measure testing and scientific acceptability including,

- Ratings categories for the reliability and validity of measures being considered for endorsement, including thresholds for reliability and validity;
- Measure testing approaches and requirements, including those using newer data sources such as eMeasures and patient-reported outcome-based performance measures;
- Methodologic and statistical guidance regarding acceptability of multivariate modeling and risk adjustment approaches; and
- Monitoring of the testing requirements and ratings for reliability and validity.

The guidance and recommendations of the Scientific Methods Panel are non-binding. Panel recommendations regarding changes to the evaluation criteria will be subject to NQF's processes, with review and approval of the changes by the Consensus Standards Approval Committee (CSAC).

Panel Composition

The NQF Scientific Methods Panel will consist of up to 25 methodologists with expertise in statistics, risk adjustment, measure testing, psychometrics, economics, composites, eMeasures, and disparities. After ensuring adequate representation of each expertise, preference will be given to individuals with experience on an NQF standing committee.

As per NQF's current standing committee process, Scientific Methods Panel members will be appointed randomly to an initial two- or three-year term, with an optional three-year term to follow. All panel members will complete an annual general disclosure of interest (DOI) form, as well as measure-specific disclosure forms to identify the need for recusal for specific measures. NQF will assign measures to panel members based on identified conflicts of interest, relevant expertise, and availability.

Panel Meeting Schedule

NQF will convene the Scientific Methods Panel via web meeting on a monthly basis, as well as via an in-person meeting once a year. The purpose of these meetings will be to discuss methodologies and other testing-related issues, provide guidance regarding these issues, and promote consistency in the evaluation of measures against NQF's endorsement criteria. At present, NQF does not anticipate discussion of specific measures during these monthly web meetings. The monthly web meetings and in- person meetings will be open to the public.