NATIONAL QUALITY FORUM

TO: NQF Members and Public

FR: NQF Staff

RE: Review of NQF Draft Requirements for eMeasure Review and Testing

DA: December 7, 2011

NQF is seeking input on requirements for eMeasure review and testing. The draft requirements build on the recommendations of the NQF Measure Testing Task Force. The intent of this document is to clarify the review and testing required at initial review and maintenance review for eMeasures.

The CSAC discussed this draft guidance at their in-person meeting last month. The CSAC recognized that this is a transition period for performance measurement and flexibility is needed in NQF requirements. The CSAC identified the following issues for targeted member and public comment:

1. The document offers two accepted methods for testing eMeasures: 1) Measure testing in a simulated EHR data environment; and 2) Testing the output of EHRs v. visual inspection of an electronic record. The CSAC questioned whether a single method would be acceptable or whether both testing methods should be required.
2. The document allows endorsed measures that have been retooled for EHRs to undergo eMeasure Format Review at initial maintenance review with testing using one of the two accepted methods required by the time of the second maintenance review. The CSAC questioned whether testing using one of the two accepted methods should be required at the time of initial maintenance endorsement rather than only eMeasure Format Review.
3. Are the proposed methods of eMeasure testing sufficient or should eMeasure testing incorporate implementation and workflow issues?
4. What are the respective roles of eMeasure developers and EHR vendors to ensure that the measures are implemented appropriately across EHRs?
5. Should eMeasure testing require include testing on multiple installations and vendor systems?
6. Should eMeasure testing incorporate the feasibility of data capture for the data elements utilized in the eMeasures?
7. NQF requires measure testing on the data platform(s) on which the measure will be used. As indicated in the attached guidance, time-limited measures that have been tested for EHRs but not for the original data platform will only remain endorsed for the eMeasure.

NQF Member and public comments must be submitted no later than 6:00 pm ET, January 9, 2012.

Thank you for your interest in NQF's work. We look forward to your review and comments.

NQF Draft Requirements for eMeasure Review and Testing

The recommended approach for evaluating reliability and validity of data elements for EHR measures takes into account the current environment in which standards for EHRs and EHR measures are under development and widespread adoption is not yet reality. Although the NQF criteria allow testing at the level of either the data elements or the performance measure score, it is unlikely in the near term that EHR data sets will include enough measured entities and patients to conduct signal-to-noise analysis or validity testing using performance measure scores. Therefore, the current accepted approaches to measure testing at the data element level for measures from EHRs include:

1. Measure testing in a simulated EHR data environment; and
2. Testing the output of EHRs v. visual inspection of an electronic record.

Since data elements extracted from EHRs using computer programming are by virtue of automation repeatable (reliable), testing at the data element level focuses on validity. As detailed in the NQF Measure Testing Task Force report, validity testing would analyze agreement between data elements and scores obtained with data exported electronically using the specifications to those obtained by review and abstraction of the entire EHR. The EHR refers to the complete set of components that comprise a comprehensive electronic health record that can be used to meet HITECH meaningful use requirements defined by ONC and CMS.

At a minimum, all EHR measures should be specified in accordance with the Quality Data Model (QDM). [i] There are two important reasons for requiring specifications using the QDM: 1) the QDM can be translated to machine readable specifications that can be applied to EHRs; and 2) the structure of QDM fulfills the criterion for precise specifications. The new Measure Authoring Tool (MAT) will produce eMeasures that routinely utilize the QDM and associated value sets. An eMeasure is encoded in the Health Quality Measures Format (HQMF) format – the standard used to represent a quality measure as an electronic document.

To satisfy the need for measures based on an electronic platform, endorsed measures continue to be respecified (retooled) for EHRs. Some of these measures have been tested for reliability and validity on the data sources for which they were originally developed (e.g., chart abstraction, administrative claims data). Measures that received time limited endorsement were not previously tested on any data platform. Therefore, to maintain endorsement of the measure as originally specified, retooled measures with time-limited status require testing of the original measure in the original data source and moderate ratings for reliability and validity.

eMeasure Format Review

All retooled measures must undergo an eMeasure Format Review with assessment of the following:

1) **Consistency with endorsed measure specifications and measure logic**: Parity between the original measure specifications and logic and the eMeasure's logic pattern
2) **Appropriate use of QDM data types**: The QDM elements in the eMeasure are used as they are intended to be used in order to represent the original measure's concepts and process

3) **Appropriate use of taxonomy and codes**: Defined as either: the code(s) and/or the chosen taxonomy is correct or the appropriate code(s) and/or an taxonomy is represented (NOTE: a code or taxonomy may be missing because the concept does not exist OR is not approved for particular use.

The crosswalk of the EHR measure specifications to the endorsed measure specifications should demonstrate that they represent the original measure. The developers need to provide justification and explanation for any changes to the measure logic. In some cases, eMeasures will represent a substantive change to the measure so that an assessment of reliability and validity of the EHR measure is needed.

The eMeasure Format Review will be conducted by NQF HIT staff. If the specifications have been produced using the MAT and the measure has been tested for EHRs using one of the two methods, additional review will not be required.

eMeasure Testing

There are two currently accepted approaches to measure testing at the data element level for measures from EHRs:

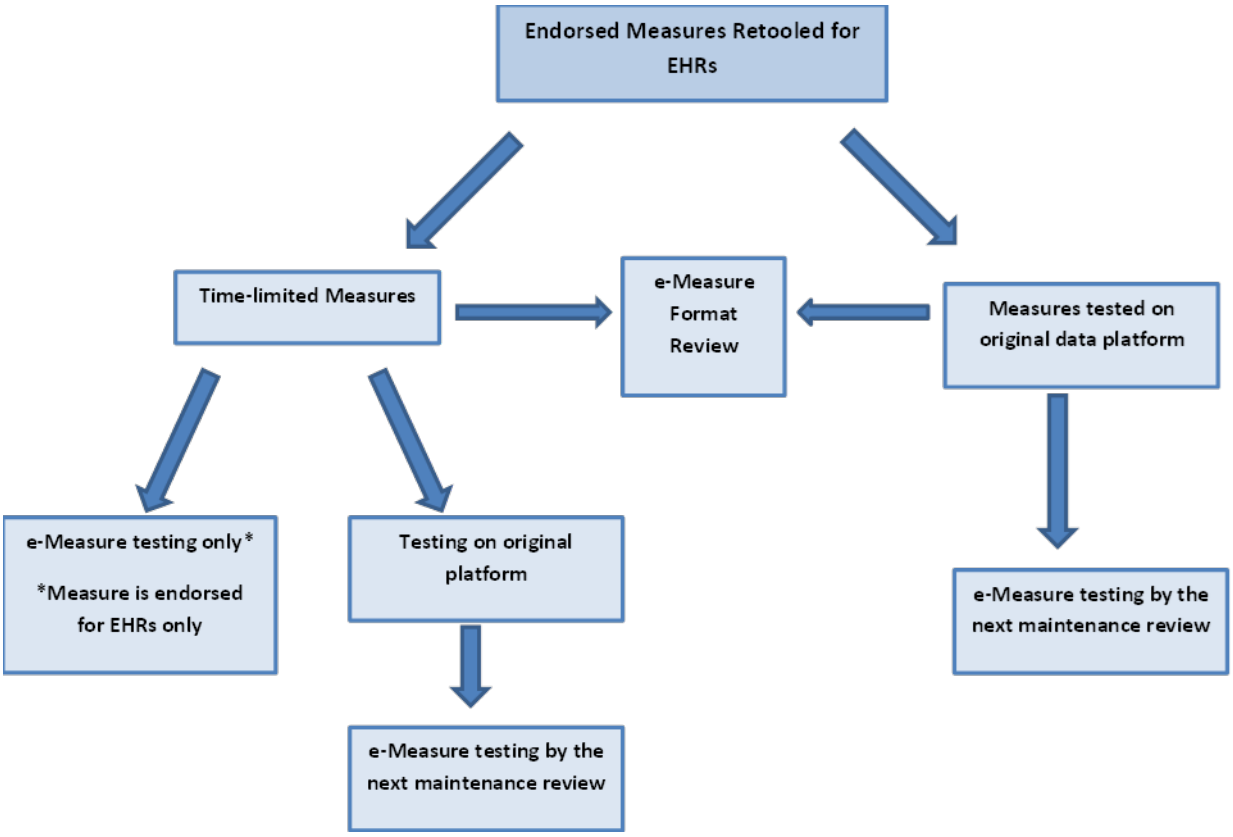
1. Measure testing in a simulated EHR data environment; and
2. Testing the output of EHRs v. visual inspection of an electronic record.

Endorsed Measures retooled for EHRs:

1) **If tested on a prior data platform, the following is required**:
    a. First Endorsement Maintenance (EM) review, at a minimum:
        i. eMeasure Format Review (as outlined above)
    b. If possible, at first EM review, but no later than the Second EM review:
        i. Testing of eMeasures for reliability and validity using one of two accepted methods specified for eMeasure testing (as outlined above)

2) **Time-limited measures, the following is required**:
    a. eMeasure Format Review (as outlined above) and
    b. Testing on the original data platform with moderate ratings OR testing of reliability and validity using one of two accepted approaches for eMeaure testing (as outlined above). If eMeasure testing is submitted without testing on the original data platform, only the eMeasure will retain endorsement.

The flow chart below provides an overview of the proposed plan for review and testing of retooled measures:



New Measures developed for EHRs

For new measures developed for EHRs, all of the following is required at initial review:

a. Appropriate use of QDM data types
b. Appropriate use of taxonomy and codes
c. Testing of eMeasures for reliability and validity using one of two accepted methods specified for EHRs required

[i] NQF Quality Data Model. Available at http://www.qualityforum.org/QualityDataModel.aspx. Accessed November 14, 2011: