



Measure Maintenance Reviews of Quality Measures

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The purpose and extent of a [measure maintenance](#) ① review varies depending on the type of review. This document describes three types of maintenance reviews, including the steps required for each.

- annual update
- comprehensive reevaluation
- ad hoc review

The information in this document supplements the information found in the *Blueprint*, Chapter 8.5, Measure Maintenance Reviews. For more information about National Quality Forum (NQF) Endorsement, see the [NQF Endorsement and Maintenance supplemental material](#) ②.

1 ANNUAL UPDATE

One type of measure reevaluation is the annual update, which is usually a limited review of the precision of the [measure](#) ①'s [specifications](#) ①—completed annually (or semiannually, in some cases). Annual updates ensure the procedure, diagnostic, and other codes (e.g., Current Procedural Terminology [CPT], International Classification of Diseases, 10th Revision, Clinical Modification [ICD-10-CM], Logical

Observation Identifiers Names and Codes [LOINC]) used within the [measure](#) are updated when [code systems](#) change. However, this is also the time to review and address feedback received from stakeholders about the measure's [specifications](#), [reliability](#), and [validity](#), and review the measure for opportunities for [harmonization](#). For more information on codes see the [Codes, Code Systems, and Value Sets supplemental material](#).

The annual update process involves three parts, divided into six steps outlined in [section 1.1, Annual Update Procedure](#).

- gathering information generated since the last review (i.e., comprehensive reevaluation, annual update, or measure development—whichever occurred most recently)
- recommending action
- approving and implementing the action(s)

 The measure developer should consider feedback from the field to address [feasibility](#) concerns for [electronic clinical quality measures \(eCQMs\)](#) and implement code changes suggested from the field to address validity. For more information on the eCQM Annual Update see the [Electronic Clinical Quality Measures \(eCQMs\) Specifications, Standards, and Tools supplemental material](#).

During the 2 years when an endorsed measure is not being reevaluated for continued NQF endorsement, [measure stewards](#) will submit the online, annual update form(s) as required by NQF for continued endorsement. This submission will either reaffirm that the measure specifications remain the same as those at the time of endorsement or last update or outline any changes or updates made to the endorsed measure.

If changes occur to a measure at any time during the 3-year endorsement period, the measure steward is responsible for informing NQF immediately of the timing and purpose of the changes. An NQF ad hoc review will be conducted if the changes materially affect the measure's result (e.g., changes to the [population](#) being measured, changes in what is being measured, inclusion of new [data sources](#), expansion of the level of analysis or care settings).

1.1 ANNUAL UPDATE PROCEDURE

To perform an annual update, the measure developer should perform seven steps as outlined in [sections 1.1.1-1.1.7](#).

1.1.1 Review the Measure's Code Systems

The measure developer reviews the code systems used by the measure to determine whether

- addition or deletion of new codes from the code systems may affect the measure
- codes changed so that their new meaning affects their usefulness within the measure

If not specified with ICD-10 codes, the measure developer converts any ICD-9 codes in the measure to ICD-10 unless needed for a look-back period or historical data.

 When maintaining eCQM [value sets](#), it is important to align with the vocabulary recommendations made by the Office of the National Coordinator for Health Information Technology in the [Interoperability Standards Advisory](#).

1.1.2 Gather Information

The expectation is the measure developer conducts environmental scans ① continually. This includes reviewing and managing stakeholder comments on the measure ①, e.g., from public comments on proposed rules, and reviewing literature pertinent to the measure. The measure developer should consider all new information during the annual update; with special consideration given to evidence of unforeseen adverse consequences or measure-related controversies. This surveillance may result in an ad hoc review by NQF.

If there is a resolution to stakeholder feedback requiring minimal change to the measure, the measure developer should consider doing so. If the feedback indicates a serious scientific concern with the clinical practice underlying the measure, the measure developer should consider performing an ad hoc review. A discussion of the details of the ad hoc procedure is in [Section 3, Ad Hoc Review](#). The measure developer should evaluate the feasibility ① and impact of changing measure specifications ①. If feedback during the review recommends modifications, conduct a limited review of measure performance including

- national performance rates
- state and regional performance rates
- variations in performance rates
- validity ① of the measure and its constituent data elements
- reliability ① of the measure and its constituent data elements

1.1.3 Determine the Recommended Disposition of the Measure

A discussion of the criteria that form the basis for the disposition decision for each measure and description of the possible outcomes is available in the *Blueprint* Chapter 8.5, Measure Maintenance Reviews.

The possible dispositions are

- retain
- revise
- remove
- retire
- suspend

1.1.4 Implement the Disposition Action

For measures proposed for revision, suspension, removal, or retirement, the measure developer should evaluate the impact of the decision on the program using the measure when developing the implementation plan. If there are relevant regulatory or rulemaking schedules, the measure developer should include them in the implementation plan.

1.1.5 Notify NQF of the Updated Measure

After a measure is endorsed by NQF, the measure steward ① is required to submit a status report of the measure specifications to NQF annually. This report either affirms that the detailed measure specifications of the endorsed measure have not changed or, if the measure developer is making changes, it provides details and underlying reason(s) for the change(s). If changes occur to a measure at any time in the 3-year endorsement period, the measure steward must inform NQF immediately of the timing and purpose of the changes.

NQF provides a standardized template for submission of an annual [measure maintenance](#) update that is prepopulated with measure information. The measure developer is responsible for preparing this report for NQF. If the changes materially affect the [measure](#)'s original intent, NQF may conduct its own ad hoc review. The measure developer responsible for measure maintenance should be aware of NQF's measure maintenance schedule and when the annual update is due to NQF. The measure developer should confirm annually the due date for their measure update with NQF because schedules may change. The measure developer should also inform NQF of any contact information changes so the correct recipients receive the notifications.

1.1.6 Consider Measures Not Stewarded by CMS

When CMS is not the [measure steward](#) (i.e., not ultimately responsible for maintaining the measure), the measure developer is responsible for monitoring the maintenance of the measure. This includes ensuring that the measure is revised periodically in response to updates in the underlying [code systems](#) (e.g., CPT, ICD-10-CM, LOINC) and that the measure is reevaluated in a manner consistent with (though not necessarily identical to) the reevaluation requirements discussed in [section 2, Comprehensive Reevaluation](#).

1.1.7 Submit the NQF Annual Status Update Report

The measure developer prepares the annual update report of the measure [specifications](#), and submits it online to NQF. Some measures in the maintenance phase may require updates more than once per year. In those cases, the measure developer should notify NQF of the changes as often as appropriate.

NQF staggers deadlines for annual maintenance submissions throughout the year. NQF assigns each newly endorsed measure to a quarter (i.e., Q1, Q2, Q3, Q4) for annual maintenance submission, and that schedule remains the same through subsequent years. However, measure developers may request a different quarter for their annual updates.

The measure developer should confirm the deadline for each annual update with NQF. These update requirements also appear on measure developers' NQF dashboards. It is the responsibility of the measure developer to visit their NQF dashboard periodically to track when updates are due and ensure timely submission of updates.

2 COMPREHENSIVE REEVALUATION

Measure developers should conduct, and NQF requires, a thorough review of the measure every 3 years. In many ways, the comprehensive reevaluation process parallels the measure development process.

A comprehensive reevaluation consists of information gathering (including a literature review of recent studies and [guidelines](#)), analysis of measure performance rates, and synthesis of all feedback received. Measure developers usually convene and consult a Technical Expert Panel (TEP) for the comprehensive review.

The comprehensive reevaluation process includes nine steps, outlined in [section 2.2, Comprehensive Evaluation Procedure](#), which falls into three phases.

- gathering information generated since the measure's development or since the last comprehensive reevaluation, whichever occurred most recently
- evaluating the measure and recommending action based on the evaluation

- approving and implementing the action

The comprehensive reevaluation process assumes that the measure developer has been monitoring the scientific literature and clinical environment related to the [measure](#), including relevant [clinical guidelines](#).

2.1 HARMONIZATION DURING COMPREHENSIVE REEVALUATION

Whenever a measure is reevaluated, it must be compared to [related](#) or [competing measures](#), assessing for the possibility of [harmonization](#). If the measure developer identifies related measures, they should consider ways the measure being reevaluated could be [aligned](#) with the related measures. If the measure developer identifies competing measures, they should either justify why the reevaluated measure is best in class or give a rationale for continuing with possibly duplicative measures.

If measure [specifications](#) need alterations so they can harmonize with other measures, the changes could be substantive. The comprehensive reevaluation period may be the best time to make these changes. During its maintenance reviews, NQF will evaluate measures for harmonization opportunities. For more information about harmonization, see the [Quality Measure Harmonization, Respecification, and Adoption](#) supplemental material.

2.2 COMPREHENSIVE REEVALUATION PROCEDURE

2.2.1 Develop a Work Plan

The measure developer begins the comprehensive reevaluation process by developing a work plan. When developing the work plan, the measure developer should consider two other schedules.

- rulemaking cycle for any regulatory process governing the measure set in question
- NQF's measure maintenance schedule

2.2.2 Gather Information

The measure developer should conduct ongoing surveillance during measure monitoring and summarize the findings of their [environmental scan](#) in a report. The ongoing environmental scan should focus on information published or otherwise available since the last measure evaluation.

At a minimum, this synthesis should include

- changes to clinical guidelines on which the measure is based
- relevant studies that might change clinical practice, which in turn, might affect the underlying assumptions of the measure
- relevant studies that document unintended consequences of the measure
- relevant studies that document continued variation or gaps in the measured care
- technological changes that might affect the collection, calculation, or dissemination of data
- similar measures based on their structure, clinical practices, or conditions that could offer an opportunity for harmonization or might serve as replacement measures
- relevant information gathered from the TEP or interviews with subject matter experts or measurement experts
- patients' perspective on the measure
- reevaluation of the [business case](#) supporting the measure

- feedback received since the last measure evaluation (i.e., the initial evaluation or the last comprehensive reevaluation, whichever is most recent)

The measure developer should obtain measure performance information including, but not limited to

- current aggregate national and regional measurement results
- measurement results trended across the years since the [measure](#)'s initial implementation
- comparison to the trajectory predicted in the [business case](#)
- current distribution of measurement results by provider types (e.g., rural vs. urban, for-profit vs. nonprofit, facility bed size)
- analysis of the measure's [reliability](#), stability, and [validity](#) since implementation
- results of [audit](#) and data [validation](#) activities
- analysis of any [disparities](#) in quality of care based on race, ethnicity, age, social risk factors, income, region, gender, primary language, disability, or other classifications, including a determination the reduction of elimination of any disparities identified earlier
- analysis of unintended consequences that have arisen from the use of the measure
- validation and analysis of the exclusions, including, but not limited to
 - analysis of variability of use
 - implications of rates

The measure developer compares the information gathered with projections made in the original business case and reports the measure performance and the impact of the measure. The measure developer should update the business case as appropriate and make projections for the next evaluation period.

2.2.3 Convene a TEP

Typically, the measure developer convenes a TEP during comprehensive reevaluation to assess the measure. It is a best practice for the measure developer to continue with the TEP that was involved with measure development. However, the measure developer should review the membership to ensure continued representation of an appropriate breadth of expertise and diversity. The *Blueprint* Chapter 4.3.1, Technical Expert Panel, and the [Technical Expert Panel](#) supplemental material provide details of the standardized process for issuing a call for nominations and convening a TEP.

During the TEP meeting, the measure developer presents the results of the [environmental scan](#), literature review, and empirical data analysis of the measure performance data, patients' perspective, and analysis of ongoing feedback received. If information about the patient perspective is not available, the measure developer will want to ensure that the TEP includes patient representative(s). Using input from the TEP, the measure developer develops recommendations on the disposition of the measure using the measure evaluation and selection criteria. The *Blueprint* Chapter 6.2, Testing and Measure Evaluation Criteria describes the measure evaluation criteria and there is a discussion of the measure selection criteria in the *Blueprint* Chapter 7.2, Measure Selection.

2.2.4 Identify and Document Recommended Changes

For each measure, the measure developer compiles the information gathered in these steps using the measure evaluation criteria.

The measure developer should identify any material or substantive changes and explain the purpose of the changes. A material or substantive change is one that changes the [specifications](#) of a measure to

affect the original [measure](#)'s concept or [logic](#), the intended meaning of the measure, or the strength of the measure relative to the measure evaluation criteria.

2.2.5 Determine the Preliminary Recommended Disposition of the Measure

A discussion of the criteria that form the basis for the disposition decision for each measure and description of the possible outcomes is in the *Blueprint* Chapter 8.3, [Measure Maintenance](#).

The possible dispositions include

- retain
- revise
- remove
- retire
- suspend

2.2.6 Test Measures as Necessary

For the first comprehensive reevaluation, the measure will require evaluation of [reliability](#) and [validity](#) beyond what occurred during measure testing at the time of development. If the measure is not in use, it will require expanded testing. The extent of [measure testing](#) or reevaluation of validity and reliability for measures in use and not in use are outlined [Table 1](#).

Table 1. Extent of Measure Evaluation as a Function of Prior Comprehensive Evaluation and Measure Use

	Measure in Use	Measure Not in Use
First comprehensive reevaluation	Measure developer should obtain data from the population measured and analyze it to augment previous evaluation findings obtained from initial measure development and endorsement. If making material changes at this time, test the revised measure.	Measure developer should conduct expanded testing relative to the initial testing conducted during development (e.g., expand number of groups/patients included in testing compared to prior testing used to support the measure's initial development and submission for endorsement).
Subsequent comprehensive reevaluations	If measure has not materially changed, NQF may want minimal analysis and prior data for maintenance if past results demonstrated a high rating for reliability and validity of the measure.	If measure has not materially changed, measure developer may submit prior testing data when past results demonstrated adequate reliability and validity of the measure.

If the measure needs testing, the measure developer should develop a plan. A description of the components of a testing plan are in the *Blueprint* Chapter 6.3, [Develop the Measure Testing Work Plan](#).

2.2.7 Obtain Public Comment on the Measure

If there have been substantive changes to a measure as the result of comprehensive reevaluation, the measure developer should seek public comment on those changes. If the comprehensive reevaluation results in a recommendation to retain the measure with only minor changes, it likely is not necessary to seek public comment. Find the process for obtaining public comment in the *Blueprint* Chapter 4.3.3, [Public Comment](#).

The measure developer next analyzes the comments received and refines the measure as indicated. Depending on the extent of measure revisions, the measure developer may deem it necessary to retest the measure.

2.2.8 Implement the Disposition Action

After review, the measure developer may be responsible for implementing the chosen measure disposition. When proposing [measures](#) for revision, suspension, removal, or retirement, the measure developer should evaluate the impact of the decision on the program using the measure when developing the implementation plan. If there are relevant regulatory or rulemaking schedules, the measure developer should include them in the implementation plan.

2.2.9 Maintain NQF Endorsement

NQF requires comprehensive review every 3 years to maintain continued endorsement. Endorsed measures are reevaluated against NQF's [Measure Evaluation Criteria and Guidance for Evaluating Measures for Endorsement](#) and are reviewed alongside newly submitted (but not yet endorsed) measures. This head-to-head comparison of new and previously endorsed measures fosters [harmonization](#) and helps ensure NQF is endorsing the best available measures. A description of the NQF [maintenance](#) requirements, including the schedule, is on the [NQF website](#).

Ideally, the comprehensive reevaluation should precede the NQF scheduled review so that measure developers can determine the outcome of the reevaluation and address any identified harmonization issues. Measure developers will need to factor the time required for testing significant changes into the timing of the comprehensive reevaluation.

The notification of when a measure is due to expire will appear on the measure developer's NQF dashboard. NQF usually sends reminders and email notifications about the maintenance review due date; however, measure developers must be aware of NQF endorsement expiration dates and seek advice from NQF if they have not received notification of an endorsement maintenance review.

NQF will send a standardized online submission template for the 3-year endorsement maintenance review to the [measure steward](#) of record. The form will be prepopulated with information from the original or most recent annual update submission.

The 3-year maintenance review report documents the review of the current evidence and [guidelines](#) and provides information about how the measure still meets the criteria for NQF endorsement. The measure developer will use information from the most recent comprehensive reevaluation, subsequent annual updates, and ongoing surveillance to complete the NQF submission form.

3 AD HOC REVIEW

An ad hoc review is a limited examination of the measure based on new information. If evidence comes to light before the annual or triennial review that may have a significant, adverse effect on the measure or its implementation, the measure developer should conduct an ad hoc review. The measure developer should complete ad hoc reviews as quickly as possible regardless of annual or 3-year scheduled comprehensive reviews because of the nature of the triggering information. The ad hoc review process ensures that the measures remain balanced between the need for measure stability and the reality that the measure environment is constantly shifting. To preserve measure stability, the measure developer should reserve ad hoc review for instances when new evidence indicates the need for a very significant revision.

Ad hoc review specifically does not include the process of adapting or harmonizing a measure for use with a broader or otherwise different population.

3.1 TRIGGER FOR AN AD HOC REVIEW

The ad hoc review process begins when the measure developer becomes aware of evidence – either through ongoing surveillance or other stakeholders – that may have a significant, adverse effect on the [measure](#)  or its implementation. If it is an NQF-endorsed measure, NQF may have received a request for an ad hoc review.

3.2 DEFERRING AN AD HOC REVIEW

The measure developer should postpone an ad hoc review to the next scheduled review if that is reasonable. The presence of any accompanying patient safety concerns associated with the changes to the endorsed measure will influence the timing of the ad hoc review. If the measure developer will be updating or reevaluating the measure in the near future, they should incorporate the information received into that update or reevaluation. For example, if the measure is due for a comprehensive reevaluation or an annual update within the next 120 days, refer the information to the team conducting the review and that team should incorporate the ad hoc review process into its work.

3.3 AD HOC REVIEW PROCEDURE

The ad hoc review process includes six steps, outlined in [sections 3.3.1-3.3.6](#), comprising three primary subparts.

- determining whether to conduct an ad hoc review
- conducting the review and recommending an outcome
- approving and implementing the approved outcome

3.3.1 Determine Whether the Concern Is Significant

If the clinical practice underlying the measure is causing harm to patients (directly or as a function of unintended consequences), the measure developer should revise, suspend, remove, or retire the measure. Although there is no defined schedule for this process, NQF may require the measure developer to give the measure urgent attention. If measure revision is not feasible in the time frame necessary, the measure developer should suspend or retire the measure.

If there are no projections of patient harms, only the strongest concerns will result in an ad hoc review. The measure developer monitoring the measure should consider first whether the issue is significant and then may engage the TEP most recently involved with the measure. If the measure developer does not have access to the TEP, they may contact a professional association closely associated with the measure for input regarding the significance of the issue raised. NQF may also be the source of the request for urgent ad hoc review depending on the nature and source of the concerns.

If experts determine that the issue is not significant, the measure developer should document the issue for consideration at the next scheduled review.

3.3.2 Conduct Focused Information Gathering

The measure developer conducts a literature review to determine the extent of the issues involved and to identify significant areas of controversy if they exist. Unlike [environmental scans](#)  conducted during measure development, ongoing surveillance, or comprehensive reevaluation, the measure developer should limit the scan performed for an ad hoc review to new information directly related to

the issue that triggered the review. Investigation of all aspects of the [measure](#) ① is not necessary—only the aspect that generated concern.

Detailed guidance for conducting and documenting the [environmental scan](#) ① (including literature review) is in the *Blueprint* Chapter 4.1.2, Conduct an Environmental Scan and the [Environmental Scans for Quality Measurement](#) supplemental material.

3.3.3 Consult with the Experts, Especially the TEP

If feasible, the measure developer should consult with the TEP that contributed to the most recent comprehensive reevaluation or measure development.

If the issue generating the concern relates to clinical guidelines, the measure developer should ask the organization responsible for the [guidelines](#) ① about its plans for updating the guidelines or issuing interim guidelines. The measure developer may also consult professional organizations closely related to the measure.

The measure developer should ask the experts (e.g., TEP, guideline writers, professional organizations) about the

- significance of the issue, to confirm that they consider it important
- risk of possible patient harm if the measure remains in use, including harm from unintended consequences
- feasibility of implementing measure revisions, including cost and time

3.3.4 Determine Whether It Is Feasible to Change the Measure

Assessing the feasibility of changing a measure should include consideration of the cost of resources associated with data collection, measure calculation, and reporting systems, and those requiring updates to vendor systems. Depending on the resources available and the time involved in making the necessary changes, the measure may be either revised immediately or suspended until updates to the systems occurs with the measure's updated specifications.

3.3.5 Recommend a Course of Action

Based on the findings of these steps, the measure developer will recommend a course of action. A discussion of the criteria that form the basis for the disposition decision for each measure and description of the possible outcomes is in the *Blueprint* Chapter 8.3 Measure Maintenance.

Depending on the findings from the previous steps, the recommendation may be

- retain
- revise
- remove
- retire
- suspend

3.3.6 Implement the Disposition Action

When proposing measures for revision, suspension, removal, or retirement, the measure developer should evaluate the impact of the decision on the program using the measure when developing the implementation plan. If there are relevant regulatory or rulemaking schedules, the measure developer

should include them in the implementation plan. For more information, see the *Blueprint* Chapter 8, Measure Use, Continuing Evaluation, and [Maintenance](#).

4 NQF AD HOC REVIEWS

NQF has its own ad hoc review process. In order for NQF to initiate an ad hoc review, a [measure](#) must meet one or more of these five criteria.

- The evidence supporting the measure, practice, or event has changed, and it no longer reflects updated evidence.
- There is evidence that implementation of the measure or practice may result in unintended consequences.
- There is evidence that use of the measure or practice may result in inappropriate or harmful care.
- There is evidence that measure performance [scores](#) may yield invalid conclusions about quality of care (e.g., misclassification or incorrect representation of quality).
- The measure developer made material changes to a currently endorsed measure.

Any party may request an NQF ad hoc review of any measure at any time. The requestor must state the criterion justifying the review and provide supporting evidence. If NQF determines that a review is warranted, it notifies the [measure steward](#) of the request and indicates the response and format required. If NQF requests an ad hoc review for a measure supported by the measure developer, the expectation is that the measure developer will respond to the request and be available to address related questions.

5 KEY POINTS

The purpose and extent of measure maintenance review varies depending on the type of review. Measure developers perform three types of measure maintenance reviews.

- annual updates at least yearly to verify that measure [specifications](#), primarily codes, are up to date
- comprehensive reevaluations at least every 3 years to ensure the measure meets the measure evaluation criteria
- ad hoc reviews when new information about a measure comes to light. In particular, information that may have a significant, adverse effect on the measure or its implementation may precipitate an ad hoc review

Whenever a measure undergoes an annual review or comprehensive reevaluation, it must be compared to [related](#) or [competing measures](#) to assess for [harmonization](#).

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