NATIONAL QUALITY FORUM

Improving Diagnostic Quality and Safety/Reducing Diagnostic Error: Measurement Considerations

Orientation Web Meeting

October 2, 2019

Agenda

- Welcome, Introductions, and Review of Meeting Objectives
- Overview of NQF
- Project Overview
- Introduction to Framework
- Environmental Scan Overview
- Committee Discussion
- SharePoint Overview
- Opportunity for Public Comment
- Next steps

Welcome and Introductions

NQF Project Staff

- Andrew Lyzenga, MPP, Senior Director
- Jean-Luc Tilly, MPA, Senior Project Manager
- Desmirra Quinnonez, Project Analyst
- Jesse Pines, MD, Consultant

Committee Roster

- David Andrews
- Flavio Casoy, MD, FAPA
- Karen Cosby, MD
- Sonali Desai, MD
- Jane Dickerson, PhD
- Andreea Dohatcu, PhD, DABR, MRSC, CMQ
- Mark Graber, MD
- Helen Haskell, MA
- Cindy Hou, DO
- John James, PhD
- Joseph Kunisch, PhD
- Prashant Mahajan MD, MPH, MBA
- Kathy McDonald, MM, PhD
- Lavinia Middleton, MD
- David Newman-Toker, MD, PhD
- Craig Norquist, MD
- Shyam Prabhakaran, MD
- Ricardo Quinonez, MD, FAAP
- Roberta Reed
- Hardeep Singh, MD, MPH
- Colleen Skau, PhD
- Michael Woodruff, MD
- Ronald Wyatt, MD

Federal Liaisons (Nonvoting Committee Representatives)

- Andrea Benin, MD
- David Hunt, PhD
- Marsha Smith, MD, MPH, FAAP

Meeting Objectives

Meeting Objectives

- Provide a brief orientation to the National Quality Forum
- Review roles, Committee charge, project objectives, and activities
- Review timeline of project
- Review previous work of the Improving Diagnostic Quality and Safety Committee
- Review Environmental Scan findings to date
- Review updates to Diagnostic Process and Outcomes Domain

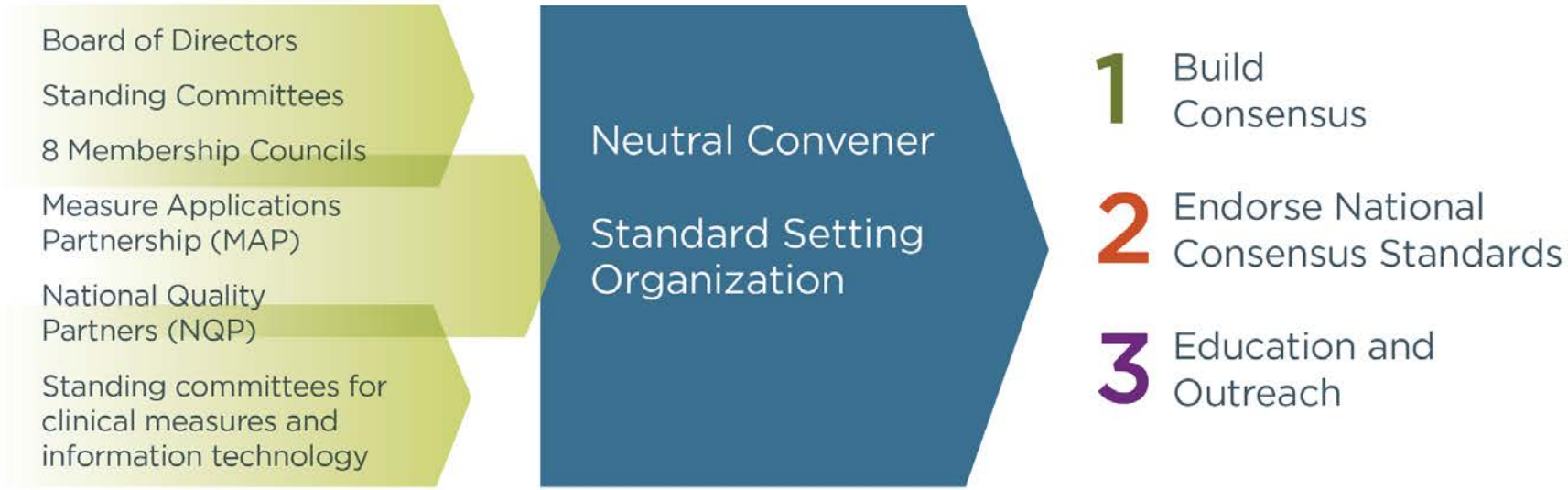
Overview of the National Quality Forum

The National Quality Forum (NQF)

Established in 1999, NQF is a nonprofit, nonpartisan, membership-based organization that brings together public and private sector stakeholders to reach consensus on healthcare performance measurement. The goal is to make healthcare in the U.S. better, safer, and more affordable.

Mission: To lead national collaboration to improve health and healthcare quality through measurement.

NQF Mission


Board of Directors
Standing Committees
8 Membership Councils
Measure Applications Partnership (MAP)
National Quality Partners (NQP)
Standing committees for clinical measures and information technology
Neutral Convener
Standard Setting Organization
1 Build Consensus
2 Endorse National Consensus Standards
3 Education and Outreach

Activities in Multiple Measurement Areas

- **Performance Measure Endorsement**
  - *500+ NQF-endorsed measures across multiple clinical areas*
  - *14 empaneled standing expert committees*
- **Measure Applications Partnership (MAP)**
  - *Provides input to HHS on selecting measures for 20+ federal programs, Medicaid, and health exchanges*
- **National Quality Partners**
  - *Convenes stakeholders around critical health and healthcare topics*
  - *Spurs action on patient safety, early elective deliveries, and other issues*
- **Measurement Science**
  - *Convenes private and public sector leaders to reach consensus on complex issues in healthcare performance measurement such as attribution, alignment, sociodemographic status (SDS) adjustment*

Project Objectives and Timeline

Project Objectives

- Environmental Scan:
  - *Update the measure inventory*
  - *Identify new measure concepts and high-priority areas for measure development*
  - *Revise the Diagnostic Process and Outcomes domain of the Framework and update applicable cross-cutting themes*
- Four Use Cases:
  - *Based in Diagnostic Process and Outcomes domain*
  - *Identify cause of the error*
  - *Propose a comprehensive resolution of the error*
  - *Include setting/population-specific considerations*
- Advance recommendations for the application of the conceptual framework, and to reduce diagnostic error and improve safety in a variety of systems and settings, with applications to multiple populations.

Project Timeline

Meeting	Date/Time
Web Meeting 2: Committee Additional Feedback and Review of Environmental Scan	October 9, 2019
Final Environmental Scan Report	October 28, 2019
Web Meeting 3: Identify and Obtain Input on High Priority Use Cases 1 and 2	December 11, 2019
Web Meeting 4: Prioritize Measure and Identification of Measure Gaps	January 15, 2020
Web Meeting 5: Finalize Measure Recommendations and Gaps	March 12, 2020
Web Meeting 6: Review and update Use Cases (Use Cases 3&4)	May 13, 2020
Web Meeting 7: Continue Updates to Use Cases	June 30, 2020
Web Meeting 8: Final Review of Report, Public Comments	September 1, 2020
Final Recommendations and Use Cases Report	October 7, 2020

Roles and Responsibilities

Role of the Committee

- Serve as experts working with NQF staff to achieve goals of the project
- Review meeting materials and participate in all meetings and web meetings
- Guide and provide input on:
  - *Environmental Scan (e.g., key words, measure concepts, etc.) to refine Diagnostic Process and Outcomes domain*
  - *Development and resolution of use cases*
  - *Recommendations for application of the framework, reducing diagnostic error and improving patient safety*

Role of the Co-chairs

- Facilitate Committee meetings and participate as Committee members
- Guide and keep the Committee discussions relevant to project scope without hindering critical discussion/input
- Represent the Committee at CSAC meetings
- Assist NQF in anticipating questions and identifying additional information that may be useful to the Committee
- Work with NQF staff to achieve project goals

Role of NQF Staff

NQF project staff will work with the Committee to achieve the goals of the project and includes:

- Organize and staff Committee meetings and conference calls
- Ensure communication among all project participants
- Prepare materials for Committee review
- Maintain documentation of project activities
- Facilitate necessary communication and collaboration between different NQF projects and external stakeholders
- Publish project reports

NQF Members and the Public at Large

NQF membership and the public will engage in the work by:

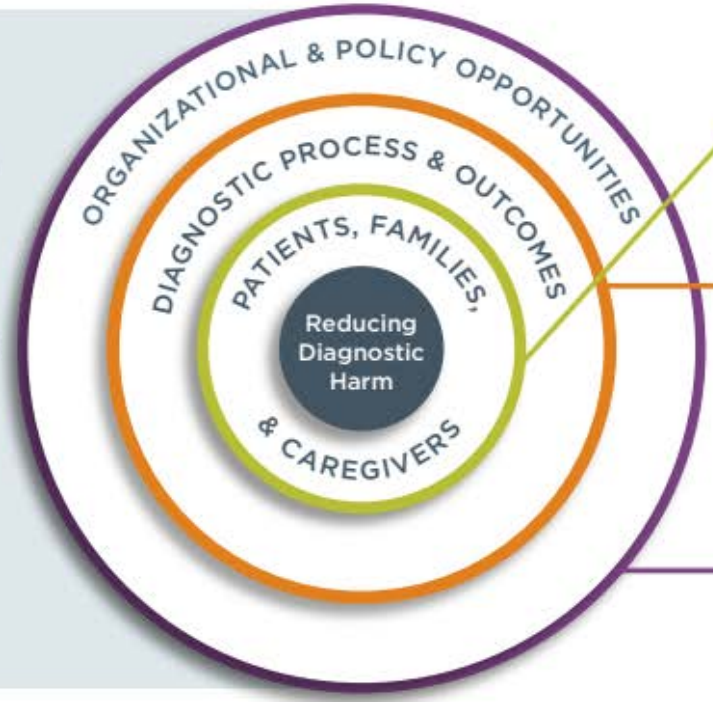
- Reviewing the draft reports and providing feedback to NQF and the Committee
- Participating in web meetings and in-person meetings during opportunities for public comment

Introduction to the Improving Diagnostic Quality and Safety Framework

The Framework

CROSS CUTTING THEMES:

- Patient Engagement
- The Impact of Electronic Health Records on Diagnostic Quality and Safety
- Transitions of Care
- Communication, Health Literacy, & Cultural Competency
- The Opportunity for Medical Specialty Societies to Provide Guidance
- Interprofessional Education and Credentialing
- The External Environment



SUBDOMAINS

- Patient Experience
- Patient Engagement
- Information Gathering and Documentation
- Information Integration
- Information Interpretation
- Diagnostic Efficiency
- Diagnostic Accuracy
- Follow-Up
- Diagnostic Quality Improvement Activities
- Access to Care and Diagnostic Services
- Workforce

Diagnostic Process and Outcomes Domain

The Diagnostic Process domain addresses the actions and processes that are carried out by the healthcare providers and/or teams to develop, refine, and confirm a diagnosis, or to explain the patient's health problem.

Subdomains:

- Information Gathering and Documentation: Includes the collection and documentation of diagnostic-related information
- Information Integration: Includes the use of consultants, hand-offs, and care transitions between providers (e.g., provider-provider, provider-system communication)
- Information Interpretation: Includes the use of decision support and best practices, cognitive processing, and machine computation
- Diagnostic Efficiency: Includes timeliness, efficiency, and appropriate use of diagnostic resources and tests
- Diagnostic Accuracy: Includes diagnostic errors, delay in diagnoses, and missed diagnoses
- Follow-Up: Includes appropriate and timely follow-up of labs, radiology, consultation notes, and other diagnostic findings

No Major Updates for Subdomains

- Information Gathering
  - *Patient narratives may help identify diagnostic errors*
- Information Integration
  - *New framework for diagnostic teams*
  - *Peer review*
  - *Communication about pending results*
- Information Interpretation
  - *Cognitive bias*
- Diagnostic Efficiency
  - *Reduction of ED evaluations of headache using HCT not contributing to missed DX*
- Diagnostic Accuracy
  - *Trigger tools*
- Follow-Up
  - *Applications in Radiology*

No Major Updates for Cross-Cutting Themes

- Patient Engagement
  - *Improves follow-up on test results*
- Electronic Health Records
  - *Health IT problems correlated with patient safety issues*
- Transitions of Care
  - *Process Maps*
- Communication
  - *Diagnostic team, follow-up policies*
- Specialty Societies
  - *Applications in radiology*
- Interprofessional education
  - *Applications in Radiology*
- External Environment
  - *Payment incentives, fatigue*

Prioritized Measure Concepts from 2017 — Examples

Subdomain	Concept
Information Gathering and Documentation	Clinical documentation should support quality in the diagnostic process and be clear, complete, and accurate
Information Integration	Diagnosis reconciliation (reviewing and confirming diagnoses across hand-offs; similar to medication reconciliation)
Information Interpretation	Use of decision support: Availability of EHR-integrated, evidence-based decision support pathways for diagnosis of common symptoms (e.g., chest pain, dyspnea, headache, dizziness, abdominal pain)
Diagnostic Efficiency	Appropriate testing (underuse/overuse): Percentage of patients with symptom A or disease X who are tested inappropriately (e.g., percentage with benign positional vertigo undergoing CT for dizziness; e.g., Lyme disease serology ordered in patient with nonspecific rash in non-Lyme-endemic area)
Diagnostic Accuracy	De-escalation: Early care de-escalation (e.g., ICU to ward) associated with a diagnosis change linked to the index encounter symptoms/signs/test results

High-Priority Areas for Future Measure Development (from 2017): Near-Term

Measurement Areas	Committee Rationale
Timeliness of test result follow-up	The Committee agreed that improvement in this area can have a significant impact on patient safety, and that there are existing efforts and infrastructure in place that could make measurement highly feasible.
Patient access to information	The Committee stressed the engagement of patients in their diagnostic care, and noted that patients having access to information is key in enabling and facilitating that engagement.
Diagnostic quality improvement activities	The Committee noted that some of the most important efforts to improve diagnostic quality and safety are likely to emerge out of internal improvement efforts, where innovative approaches may be developed and validated before being implemented more broadly. Ensuring that organizations are systematically assessing diagnostic performance is also important in driving improvement.
Hand-offs	The Committee agreed that ensuring effective hand-offs related to tests, referrals, and care transitions is essential to diagnostic quality and safety.

High-Priority Areas for Future Measure Development (From 2017): Future

Measurement Areas	Committee Rationale
Diagnostic outcomes	The Committee generally agreed that efforts to improve diagnostic quality and safety should aspire to measurement of diagnostic outcomes (e.g., timeliness and accuracy of diagnosis). However, Committee members acknowledged that outcome measures related to diagnostic care will need to be studied carefully before being implemented widely, suggesting that organizations should focus internal measurement activities on tracking and benchmarking diagnostic outcomes to help advance the field in this area.
Patient understanding of diagnosis	As with patient access to information, the Committee considered patients' understanding of their diagnoses to be very important to ensuring patient safety and patient engagement. However, Committee members also acknowledged that measuring the degree to which patients understand their diagnosis will be a challenge.
Adequacy of communication with patients	The Committee emphasized that communication with patients is central to the issue of diagnostic quality and safety, as acknowledged by the National Academy of Medicine. The Committee noted that measuring the effectiveness and adequacy of communication—as opposed to simple documentation of communication—will be difficult but important.
Diagnostic workload	The Committee identified the diagnostic workload of clinicians as a critical issue in improving quality and safety. Ensuring that providers have adequate time and opportunity to gather, synthesize, and interpret information would be very impactful, but may be hard to achieve in practice.

Cross-Cutting Themes and Recommendations

- **Patient Engagement:** patients must be considered an integral part of the diagnostic team
- **Electronic Health Records:** must be capable of recording diagnoses and steps, and be interoperable
- **Transitions of Care:** ineffective transitions can lead to loss of information critical to diagnostic process
- **Communication:** provider-provider, provider-system, patient-system, and patient-provider, health literacy and cultural competency
- **Education and Credentialing:** diagnostic quality and safety as a formal component of education and credentialing
- **External Environment:** align payment incentives to promote timely and correct diagnosis, a legal environment that promotes case discussions

Environmental Scan Strategy

Research Questions

- What new measures are available to assess diagnostic processes and outcomes?
- What are emerging high-priority measurement areas, and what are some proposed concepts?
- How should the Diagnostic Process and Outcomes domain of the Framework be revised?
- Are cross-cutting themes proposed in 2017 still relevant?

Literature Review

- Information Sources
  - *PubMed*
  - *Grey Literature (i.e., academic or policy literature that is not commercially published)*
    - *Government publications (e.g., federal or state agency reports, rules and regulations, etc.)*
    - *Reports or publications from foundations, associations, or nonprofit groups*
    - *Conference papers, abstracts, or proceedings*
    - *Key informant interviews*
  - *Measures Inventory*
    - NQF
    - CMIT

Keywords

- Diagnostic errors
- Diagnosis errors
- Diagnostic process
- Diagnostic performance
- Diagnostic uncertainty
- Diagnostic accuracy
- Diagnostic safety
- Latent error
- Medical error
- Near misses
- Adverse event
- Misdiagnosis
- Missed diagnosis
- Safety culture

Committee Discussion

- Are there other key words to include in the search?
- Do you know of any reports or work underway that we should review?

Environmental Scan Findings To Date

Literature Review

- A novel framework was proposed that is relevant, the Safer Dx Trigger Tools Framework, which is intended to enable health systems to develop and implement e-trigger tools to identify and measure diagnostic errors using electronic health record (EHR) data.
- A cluster randomized study of pediatric practices called "Project RedDE" which is a collaborative aimed at reducing the rates of three diagnostic errors (missed diagnoses of elevated blood pressure and adolescent depression and delayed diagnoses of abnormal laboratory studies

Literature Review

- One analysis of patient-authored narratives of care experience found that just 9 percent were satisfied with the response of the institution to their report of a diagnostic error—and nearly half did not report the error at all. In tracing the causes of diagnostic error, the analysis revealed four principal categories:
    1. ignoring patients' knowledge,
    2. disrespecting patients,
    3. failing to communicate, and
    4. engaging in manipulation or deception.

The authors recommend new lifelong learning requirements to improve and maintain clinician communication skills.

Literature Review

- Several review articles underscored the importance of cognitive biases in leading to diagnostic errors, suggesting the possibility of a revision to the cross-cutting theme in order to capture this important component.
- Examples included social and cultural biases as well as biases towards intuitive statistics. The review highlighted the importance of implementing procedures, such as unbiased checklists, as well as simply slowing down, in order to minimize the impact of biases on clinical decision-making

New Measure Concepts

Subdomain	Measure Concept Count
Information Gathering and Documentation: Includes the collection and documentation of diagnostic-related information	6
Information Integration: Includes the use of consultants, hand-offs, and care transitions between providers (e.g., provider-provider, provider-system communication)	1
Information Interpretation: Includes the use of decision support and best practices, cognitive processing, and machine computation	0
Diagnostic Efficiency: Includes timeliness, efficiency, and appropriate use of diagnostic resources and tests	8
Diagnostic Accuracy: Includes diagnostic errors, delay in diagnoses, and missed diagnoses	13
Follow-Up: Includes appropriate and timely follow-up of labs, radiology, consultation notes, and other diagnostic findings	0

Example New Measure Concepts

Domain	Measure Concept Count
Evaluation and management of penetrating lower extremity arterial trauma	Diagnostic Accuracy
Use of Glasgow Coma Scale with reporting of all three components (eye, verbal, and motor response)	Information Gathering and Documentation
Rate of missed myocardial infarction among patients with presenting problems of chest pain or shortness of breath	Diagnostic Accuracy
Use of head CT in patients without focal neurological symptoms with a presenting problem of syncope	Diagnostic Efficiency

Update to Measure Inventory

Subdomain	Measure Count
Information Gathering and Documentation: Includes the collection and documentation of diagnostic-related information	109
Information Integration: Includes the use of consultants, hand-offs, and care transitions between providers (e.g., provider-provider, provider-system communication)	3
Information Interpretation: Includes the use of decision support and best practices, cognitive processing, and machine computation	0
Diagnostic Efficiency: Includes timeliness, efficiency, and appropriate use of diagnostic resources and tests	19
Diagnostic Accuracy: Includes diagnostic errors, delay in diagnoses, and missed diagnoses	6
Follow-Up: Includes appropriate and timely follow-up of labs, radiology, consultation notes, and other diagnostic findings	3

SharePoint Overview

Next Steps for Reducing Diagnostic Error

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Final Report	October 7, 2020

Project Contact Information

- Email: diagnosticerror@qualityforum.org
- NQF phone: 202-783-1300
- Project page: http://www.qualityforum.org/
- SharePoint: http://share.qualityforum.org/Projects/

Questions?

Thank you.