THE NATIONAL QUALITY FORUM

National Voluntary Consensus Standards for Imaging Efficiency
Summary of the Imaging Efficiency Conference Call
February 19, 2010: 1:00-3:00 pm Eastern Standard Time

Steering Committee members present: G.Scott Gazelle, MD, MPH (co-chair); Michael Backus, MBA; Jacqueline A. Bello, MD, FACR; Stephen V. Cantrill, MD, FACEP; Carl D'Orsi, MD; Troy Fiesinger, MD, FAAFP; Howard P. Forman, MD, MBA; Mary Gemignani, MD; Raymond Gibbons, MD; Richard Griffey, MD, MPH; Laszlo Mechtler, MD; Patti Raksin, MD; Gavin Setzen, MD, FACS, FAAOA; Rebecca Smith-Bindman, MD; Roger L. Snow, MD, MPH; Dr. Kirk Spencer, MD; Arthur Stillman, MD, PhD; Judy Zerzan, MD, MPH.

NQF Staff present: Helen Burstin, MD, MPH; Ian Corbridge, MPH, RN, BSN; Anne Hammersmith; Sarah Fanta

Audience Members Registered: Sharman Stevens

Introduction

A conference call for the National Voluntary Consensus Standards for the Imaging Efficiency Steering Committee was held on Friday, February 26, 2010. The co-chair, Dr. Scott Gazelle began the meeting and led introductions. Ann Hammersmith, general counsel for NQF had the steering committee members disclose any specific interests pertaining to the measures under consideration in the Imaging Efficiency project.[1]

Orientation to NQF

Ian Corbridge, MPH, RN, BSN, NQF Project Manager and the Imaging Efficiency advisor presented a standard slide set being used to orient all Committees in the project that outlines the following topics:

- description of NQF organization, mission and vision, multi-stakeholder membership, activities and recent accomplishments;
- encouragement to use NQF's new website;
- the National Priorities Partnership priorities and goals;
- growth in NQF endorsed measures and evolution of quality measurement; and
- the steps of NQF's formal Consensus Development Process.

[1] No specific conflicts of interest were reported relating to the measures under consideration.

Project Goals

Ian Corbridge advised the Steering Committee of the goals of this project which is funded by the Department of Health and Human Services is to expand NQF's current portfolio of imaging efficiency measures. The two goals of the project are:

- to identify, evaluate and endorse additional measures suitable for public reporting and quality improvement that specifically address imaging efficiency; and
- to identify gaps in existing imaging efficiency measures and recommend potential measures to fill those gaps.

Role of the Steering Committee

Ian Corbridge advised the Steering Committee members that their role is to:

- act as a proxy for the NQF multi-stakeholder membership for a specific project
- work with NQF staff to achieve the goals of the project
- evaluate candidate measures against the formal measure evaluation criteria
- make recommendations to the NQF membership for endorsement
- respond to comment submitted during the review period
- co-chairs represent the Steering Committee when CSAC (Consensus Standards Approval Committee) meets
- respond to any directions from CSAC

NQF Evaluation Criteria

Steering Committee members were advised that new measure evaluation criteria were approved by Board of Directors in August 2008 to clarify, strengthen and recommend changes to endorsement criteria in order to achieve:

- a stronger link to national priorities and higher-level performance measures;
- greater measure harmonization;
- greater emphasis on outcome measures; and
- for process measures, a tighter outcomes-process link.

Project Scope and Timeline

The Steering Committee members were advised that the project defines efficiency according to the NQF defintion:

"efficiency refers to the interaction between resources used to deliver care and the quality of care delivered."

The Hospital Outpatient Imaging Efficiency project is a follow-up consensus development project to the initial NQF Imaging Efficiency Project conducted in 2008. While the imaging field is expansive, the scope of this project will focus on imaging efficiency measures at the hospital outpatient level. Specific hospital outpatient imaging efficiency measurement domains central to this project are:

- Overlap
- Screening;
- Duplication;
- Patient Safety;
- Negative studies;
- Coordination of care; &
- Use of non-contrast imaging of the same body part using same imaging modality followed by, but on a separate occasion, with contrast imaging of adjacent body parts

The timeline was presented highlighting the Imaging Efficiency in-person meeting on February 23-24, 2010 in Washington, DC and endorsement in late August of 2010.

Currently Endorsed Imaging Efficiency Measures:

A list of the eight currently endorsed imaging efficiency measures from the 2008 Outpatient Imaging Efficiency project. The key focus areas of that completed project:

- Cardiac Imaging
- Mammography
- Emergency Department
- Patient Safety
- Coordination of Care

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NQF Endorsed Imaging Efficiency Measures

Measures ID/Title	Description	IP Owner
NQF#0507 **Stenosis measurement in carotid imaging studies**	Percentage of final reports for carotid imaging studies (neck MR angiography [MRA], neck CT angiography [CTA], neck duplex ultrasound, carotid angiogram) performed that include direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis measurement.	American Medical Association - Physician Consortium for Performance Improvement
NQF #0508 **Inappropriate use of "probably benign" assessment category in mammography screening**	Percentage of final reports for screening mammograms that are classified as"probably benign".	American Medical Association - Physician Consortium for Performance Improvement
NQF#0509 **Reminder System for Mammograms**	Percentage of patients aged 40 years and older undergoing a screening mammogram whose information is entered into a reminder system* with a target due date for the next mammogram.	American Medical Association - Physician Consortium for Performance Improvement
NQF# 0510 **Exposure time reported for procedures using fluoroscopy**	Percentage of final reports for procedures using fluoroscopy that include documentation of radiation exposure or exposure time.	American Medical Association - Physician Consortium for Performance Improvement
NQF#0511 **Correlation With Existing Imaging Studies for All Patients Undergoing Bone Scintigraphy**	Percentage of final reports for all patients, regardless of age, undergoing bone scintigraphy that include physician documentation of correlation with existing relevant imaging studies (eg, x-ray, MRI, CT) that were performed.	American Medical Association - Physician Consortium for Performance Improvement
NQF#0512 **Percentage of patients undergoing cervical spine radiographs in trauma who do not have neck pain, distracting pain, neurological deficits, reduced level of consciousness, or intoxication**	Percentage of patients undergoing cervical spine radiographs in trauma who do not have neck pain, distracting pain, neurological deficits, reduced level of consciousness or intoxication.	Harborview Medical Center

NQF #0513 **Use of Contrast: Thorax CT**	Thorax CT – Use of combined studies (with and without contrast). Estimate the ratio of combined (with and without) studies to total studies performed. A high value would indicate a high use of combination studies (71270). Results to be segmented based upon data availability by rendering provider, rendering provider group and facility. This measure calculates the percentage of thorax studies that are performed with and without contrast out of all thorax studies performed (those with contrast, those without contrast, and those with both). Current literature clearly defines indications for the use of combined studies, that is, examinations performed without contrast followed by contrast enhancement. The intent of this measure is to assess questionable utilization of contrast agents that carry an element of risk and significantly increase examination cost. While there may be a direct financial benefit to the service provider for the use of contrast agents due to increased reimbursements for "combined" studies, this proposed measure is directed at the identification of those providers who typically employ interdepartmental/facility protocols that call for its use in nearly all cases. The mistaken concept is that more information is always better than not enough. The focus of this measure is one of the specific body parts	Centers for Medicare & Medicaid Services
NQF#0514 **MRI Lumbar Spine for Low Back Pain**	This measure estimates the percentage of people who had an MRI of the Lumbar Spine with a diagnosis of low back pain without claims based on evidence of antecedent conservative therapy.	Centers for Medicare & Medicaid Services

NQF#0514 **MRI Lumbar Spine for Low Back Pain (con't)**	Studies are limited to the outpatient place of service. This measure looks at the proportion of Lumbar MRI's for low back pain performed in the outpatient setting where conservative therapy was utilized prior to the MRI. Lumbar MRI is a common study to evaluate patients with suspected disease of the lumbar spine. The most common, appropriate, indications for this study are low back pain accompanied by a measurable neurological deficit in the lower extremity(s) unresponsive to conservative management. The use of Lumbar MRI for low back pain (excluding operative, acute injury or tumor patients) is not typically indicated unless the patient has received a period of conservative therapy and serious symptoms persist. A Lumbar MRI claim for low back pain without the presence of prior Evaluation and Management codes (E&M codes) or claims suggesting conservative therapy (which would include the administration of injectable analgesic care, physical therapy, or chiropractic evaluation and manipulative treatment within specified time periods), suggests that the MRI was likely obtained on the first visit without a trial of conservative therapy.	

THE NATIONAL QUALITY FORUM

Submitted Imaging Efficiency Measures:

TITLE/DESCRIPTION	NUMERATOR	DENOMINATOR	STEWARD
NQF #IEP-001-10 **Cancer Detection Rate** The percentage of screening mammograms interpreted as positive (BIRADS 0, 4 or 5) that had a tissue diagnosis of cancer with 12 months.	Number of screening mammograms with a BIRADS assessment category of 4 or 5, plus the number of screening mammograms with 0 that result in a tissue.	Number of screening mammograms.	American College of Radiology
NQF #IEP-002-10 **Screening Mammography Positive Predictive Value 2 (PPV2 - Biopsy Recommended)** Percentage of screening mammograms with abnormal interpretation (BIRADS 0, 4 or 5) that result in a tissue diagnosis of cancer within 12 months. The measure is to be reported annually based on aggregated patient data for mammograms performed 12 to 24 months prior to the reporting date to allow a 12 month follow up.	True positive screening cases are being measured: Of the number of screening mammograms with a BIRADS 4 or 5, or BIRADS 0 associated with a 4 or 5 on a diagnostic mammogram, the number that result in tissue diagnosis of cancer within 12 months.	Date of examination.	American College of Radiology
NQF #IEP-003-10 **Diagnostic Mammography Positive Predictive Value 2(PPV2-Biopsy Recommended)** Percentage of diagnostic mammograms recommended for biopsy or surgical consult (BIRADS 4 or 5) that result in a tissue diagnosis of cancer within 12 months. The measures is to be reported annually based on aggregated patient data for mammograms performed 12 to 24 months prior to the reporting date to allow a 12 month follow up.	True positive diagnostic cases are being measured: number of diagnostic mammograms with a tissue diagnosis of breast cancer within 12 months.	Number of diagnostic mammograms with an assessment category of BIRADS 4 or 5 (recommended for biopsy or surgical consult).	American College of Radiology

NQF #IEP-004-10 **Abnormal Interpretation Rate of Screening Mammography Exams (Recall Rate)** The percentage of screening mammograms interpreted as positive (BIRADS 0, 4 or 5).	Number of screening mammograms with a final assessment category of BIRADS 0, 4 or 5.	Number of screening mammograms.	American College of Radiology
NQF #IEP-005-10 **Appropriate Pulmonary CT Imaging for Pulmonary Embolism** Percent of patients undergoing CT pulmonary angiogram for the evaluation of possible PE who have a documented indication consistent with guidelines (1) prior to CT imaging. (1) Torbicki A, Perrier A, Konstantinides S, et al. Guidelines on the diagnosis and management of acute pulmonary embolism: the Task Force for the Diagnosis and Management of Acute Pulmonary Embolism of the European Society of Cardiology (ESC). Eur Heart J. 2008 Sep;29(18):2276-315	Number of denominator patients with a documented indication consistent with guidelines prior to CT imaging.	Number of patients who have a CT pulmonary angiogram (CTPA) for the evaluation of possible pulmonary embolism.	Brigham and Women's Hospital
NQF #IEP-006-10 **Appropriate Head CT Imaging in Adults with Acute Atraumatic Headache** Percent of adults undergoing head CT for acute, atraumatic headache who have a documented indication consistent with clinical guidelines.(1) (1) Edlow JA, Panagos PD, Godwin SA, Thomas TL, Decker WW; American College of Emergency Physicians. Clinical policy: critical issues in the evaluation and management of adult patients presenting to the emergency department with acute headache. Ann Emerg Med. 2008 Oct;52(4):407-36. PubMed PMID: 18809105.	Number of denominator patients who have a documented indication consistent with the ACEP clinical policy prior to imaging.	This measure does not measure across time intervals as all numerator and denominator elements are available at the index visit.	Brigham and Women's Hospital

NQF #IEP-007-10 **Appropriate Head CT Imaging in Adults with Mild Traumatic Brain Injury** Percent of adult patients who presented within 24 hours of a non-penetrating head injury with a Glasgow coma score (GCS) >13 and underwent head CT for trauma in the ED who have a documented indication consistent with guidelines (1) prior to imaging. (1) Jagoda AS, Bazarian JJ, Bruns JJ Jr, Cantrill SV, Gean AD, Howard PK, Ghajar J, Riggio S, Wright DW, Wears RL, Bakshy A, Burgess P, Wald MM, Whitson RR; American College of Emergency Physicians; Centers for Disease Control and Prevention. Clinical policy: neuroimaging and decision-making in adult mild traumatic brain injury in the acute setting. Ann Emerg Med. 2008 Dec;52(6):714-48. PubMed PMID: 19027497.	Number of denominator patients who have a documented indication consistent with the ACEP clinical policy for mild traumatic brain injury prior to imaging.	Number of adult patients undergoing head CT for trauma who presented within 24 hours of a non-penetrating head injury with a Glasgow Coma Scale (GCS).	Brigham and Women's Hospital
NQF #IEP-008-10 **Appropriate Cervical Spine CT Imaging in Trauma** Percent of adult patients undergoing cervical spine CT scans for trauma who have a documented evidence-based indication prior to imaging (Canadian C-Spine Rule or the NEXUS Low-Risk Criteria).	Number of denominator patients who have a documented evidence-based indication prior to imaging.	Number of adult patients undergoing cervical spine CT scans for trauma (as initial full imaging of C-spine).	Brigham and Women's Hospital
NQF #IEP-009-10 **Mammography Follow-up Rates** The Mammography Follow-up Rate measure calculates the percentage of Medicare patients with mammography screening studies done in the outpatient	The number of Medicare beneficiaries who had a diagnostic mammography study or an ultrasound of the breast following a screening mammography study within 45 days.	Medicare beneficiaries who had a screening mammography.	Centers for Medicare and Medicaid

hospital setting that are followed within 45 days by a diagnostic mammography or ultrasound of the breast study in an outpatient or office setting.			
NQF #IEP-010-10 **Preoperative Evaluation for Low-Risk Non-Cardiac Surgery Risk Assessment** This measure calculates the percentage of low-risk, non-cardiac surgeries performed at a hospital outpatient facility with a Stress Echocardiography, SPECT MPI or Stress MRI study performed in the 30 days prior to the surgery at a hospital outpatient facility (e.g., endoscopic, superficial, cataract surgery, and breast biopsy procedures). Results are to be segmented and reported by hospital outpatient facility where the imaging procedure was performed.	Number of Stress Echocardiography, SPECT MPI and Stress MRI studies performed at the hospital outpatient facility in the 30 days preceding low-risk non-cardiac surgery.	Number of low-risk, non-cardiac surgeries performed at the hospital outpatient facility.	Centers for Medicare and Medicaid
NQF #IEP-011-10 **Use of Stress Echocardiography, SPECT MPI, and Cardiac Stress MRI Post CABG** This measure identifies the post-CABG patients being treated with an outpatient service in an outpatient hospital facility, who also had an imaging procedure done at a hospital outpatient facility (i.e., post-CABG patients receiving imaging procedures without exclusion /post-CABG patients seen at the hospital outpatient facility).	Out of patients in the denominator, patients who received a SPECT MPI, Stress Echocardiography or Stress MRI study not meeting exclusion criteria. The following exclusions will be applied to the numerator alone: 1. Patients with claims based indicators for silent ischemia or accelerated coronary artery disease in the 6 months preceding the imaging study; 2. Patients with catheterization, percutaneous coronary intervention (PCI) or CABG procedure in 6 months following imaging study; or 3. SPECT MPI, Stress Echocardiography or Stress MRI studies within the first 6 months following a CABG procedure.	Number of patients with a CABG procedure in the previous five (5) year period treated at a hospital outpatient department for any hospital outpatient service. CABG procedure may have been performed at a hospital unrelated to the current hospital outpatient service.	Centers for Medicare and Medicaid

NQF #IEP-012-10 **Simultaneous Use of Brain Computed Tomography (CT) and Sinus Computed Tomography (CT)** This measure calculates the percentage of Brain CT studies with a simultaneous Sinus CT (i.e., Brain and Sinus CT studies performed on the same day at the same facility). Results of this measure are to be segmented and reported at the facility level.	Of studies identified in the denominator, studies with a simultaneous Sinus CT study (i.e., on the same date at the same facility as the Brain CT).	Brain CT studies.	Centers for Medicare and Medicaid
NQF #IEP-013-10 **Use of Brain Computed Tomography (CT) in the Emergency Department (ED) for Atraumatic Headache** This measure calculates the percentage of Emergency Department (ED) visits for headache with a coincident brain computed tomography (CT) study for Medicare beneficiaries. The results are segmented and reported at the facility level.	Of ED visits identified in the denominator, visits with a coincident Brain CT study (i.e. Brain CT studies on the same day for the same patient).	ED patient visits with a primary diagnosis code of headache.	Centers for Medicare and Medicaid
NQF #IEP-014-10 **Cardiac stress imaging not meeting appropriate use criteria: Preoperative evaluation in low risk surgery patients** Percentage of stress SPECT MPI and stress echo performed in low risk surgery patients for preoperative evaluation.	Number of stress SPECT MPI and stress echo performed in low risk surgery patients as a part of the preoperative evaluation.	Number of stress SPECT MPI and stress echo performed.	American College of Cardiology
NQF #IEP-015-10 **Cardiac stress imaging not meeting appropriate use criteria: Routine testing after percutaneous coronary intervention (PCI)** Percentage of all stress SPECT MPI and stress echo performed routinely after PCI, with reference to timing of test after PCI and symptom status.	Number of stress SPECT MPI and stress echo performed in asymptomatic patients within 2 years of the most recent PCI	Number of stress SPECT MPI and stress echo performed.	American College of Cardiology

NQF #IEP-016-10 **Cardiac stress imaging not meeting appropriate use criteria: Testing in asymptomatic, low risk patients** Percentage of all stress SPECT MPI and stress echo performed in asymptomatic, low CHD risk patients for initial detection and risk assessment.	Number of stress SPECT MPI and stress echo performed for asymptomatic, low CHD risk patients for initial detection and risk assessment.	Number of stress SPECT MPI and stress echo performed.	American College of Cardiology
NQF #IEP-017-10 **Adequacy of data to assess appropriate use of cardiac stress imaging** Proportion of test requisitions and/or patient charts documenting use of stress SPECT MPI and stress echo with adequate data to demonstrate avoidance of common inappropriate uses.	Number of patients for which the following are recorded within the test requisition and/or patient chart 1) Symptom Status Ischemic equivalent symptom status (asymptomatic, ischemic equivalent [typical or atypical] AND 2) Presence of Prior Known CHD Yes No AND 3) Risk Category OR Procedure Documentation at time of test requisition a) If PCI, time since prior most recent PCI OR b) If preoperative evaluation, scheduled surgery OR c) If initial risk assessment in asymptomatic patient, clinician estimate of coronary heart disease risk category (ATP III criteria) * *Submission of individual clinical data variables required for Framingham risk (ATP III criteria) calculation for	Number of stress SPECT MPI or stress echo performed in post PCI patients, preoperative patients, or asymptomatic patients for initial risk assessment.	American College of Cardiology

NQF #IEP-017-10 **Adequacy of data to assess appropriate use of cardiac stress imaging (cont'd)**	asymptomatic patients is recognized to place a significant data collection burden upon institutions and may not be possible based on data elements that are readily available at the imaging laboratory. As such, a clinician estimate of CHD risk will be collected for all asymptomatic patients who are being seen for initial detection and risk assessment without known coronary heart disease. However, in making their estimate, clinicians should consider the maximum number of available patient factors used to estimate risk based on Framingham (ATP III criteria), typically age, gender, diabetes, smoking status, and use of blood pressure medication, and integrate age appropriate estimates for missing elements, such as LDL or standard blood pressure. While calculation of the estimate does not require submission of the actual clinical data elements other than the clinician estimate of CHD risk, clinicians are attesting to the accuracy of the estimate by submitting it. An audit of clinician estimates should be completed on a subset of clinicians to verify their estimates as being accurate based on the data that was available.		

Project Work plan and Timeline

Ian Corbridge, MPH, RN, BSN went over the project time-line with the Steering Committee.

***All dates are tentative and subject to change.**

Call for Nominations	December 8,2009-January 6, 2010
Call for Measures	December 8,2009-January 6, 2010
Introduction Call to Steering Committee	February 19, 2010
Steering Committee In-person Meeting	February 23-24, 2010
Report Comment Period	April 16-May 17, 2010
NQF Member Voting	June 7-July 6, 2010
CSAC	July 15-16, 2010
NQF Board Endorsement	July 28, 2010
30-Day Appeals Process	August 2-31, 2010

Steering Committee Discussion

Members of the Panel raised several questions or comments:

- A concern was suggested that some of the measures may not fit accurately under the scope of "efficiency", Dr. Burstin responded to this concern by stating that NQF was taking a broad look at efficiency in a sense that it may be comparable to "appropriateness".

Steering Committee Action Items

NQF staff advised the Steering Committee members that they have two action items to work on:

- familiarize themselves with the details of the measure evaluation sub-criteria in preparation for the meeting on February 23-24,2010

In conclusion, the Steering Committee was advised that they would be receiving meeting materials in the coming days to prepare for the February 23-24, 2010 in-person meeting.

Audience Comment

No audience member offered comment at the end of the call.