

# NATIONAL QUALITY FORUM

TO: NQF Members and Public

FR: NQF Staff

RE: Voting draft for *National Voluntary Consensus Standards for Imaging Efficiency: A Consensus Report: Addendum*

DA: December 20, 2010

## BACKGROUND

The Imaging Efficiency project sought to expand the availability of imaging efficiency measures in the outpatient setting. This addendum report results from the resubmission of a measure under the [National Voluntary Consensus Standards for Imaging Efficiency project](#) after it was combined with a similar NQF-endorsed<sup>®</sup> measure. Specifically, the Imaging Efficiency Steering Committee requested that the originally submitted measure, IEP-008-10: Appropriate cervical spine CT imaging in trauma (Brigham and Women's Hospital), be combined with NQF measure 0512: Percentage of patients who do not have neck pain, distracting pain, neurological deficits, reduced level of consciousness, or intoxication (Harborview Medical Center). The two measure developers worked together and resubmitted measure IEP-008-10, now named Appropriate cervical spine radiography and CT imaging in trauma. This resubmitted measure is the focus of this addendum report. The Committee reviewed the new measure and recommended it for time-limited endorsement. If the combined measure is endorsed, then NQF 0512 will be retired. IEP-008-10 was released for the 30-day Member and public comment period as a part of the Consensus Development Process and is now available for a 30-day Member voting period.

## COMMENTS AND ADDENDUM DRAFT REPORT

The comment period for the addendum draft report, *National Voluntary Consensus Standards for Imaging Efficiency: A Consensus Report*, concluded on December 9, 2010. NQF received 14 comments from eight organizations on the draft addendum report. The breakdown of the comments by Member Council is as follows:

Consumers – 0	Health Professionals – 4
Purchasers – 1	Public Health/Community – 0
Health Plans – 2	QMRI – 2
Providers – 5	Supplier and Industry – 0
Non-members – 0	

The measure developers received all measure-specific comments and were invited to respond. The Steering Committee discussed all comments, including responses from the measure developers, during a conference call on December 15, 2010.

A table of detailed comments submitted during the review period, with responses and actions taken by the Steering Committee, is posted on the [NQF voting webpage](#).

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NQF MEMBER VOTES DUE BY FEBRUARY 3, 2011, BY 6:00 PM ET**

# NATIONAL QUALITY FORUM

## **General Comments**

Overall, the comments supported the endorsement of measure IEP-008-10. In general, the comments addressed three main themes: 1) testing data, 2) inclusion of computed tomography (CT), and 3) clarity of the report.

### ***Concerns Regarding Testing Evidence***

Several comments expressed concern that the measure lacks testing data and data collection to support the effectiveness of the measure.

*Action Taken:* The measure is recommended for time-limited endorsement. The measure developer will be required to submit complete measure testing results within 12 months of NQF endorsement; the measure and testing data will be re-evaluated at that time. The information provided by the measure developer included data on which to base a decision regarding the reliability and validity of the two clinical decision rules, upon which the measure is based (Canadian C-Spine and NEXUS).

### ***The Use of Computed Tomography (CT)***

Comments suggested it may be more beneficial to look only at CT dosages, costs and outcomes, rather than at CT and radiography together.

*Action Taken:* The Steering Committee specifically recommended that both be included in the measure; no further action is required. The measure developer responded that because the measure targets the initial imaging for patients with low-risk trauma, examining both CT and radiography is warranted. If the measure only addressed radiography or CT, it would miss similar patients who underwent the other imaging type. The initial test is at the discretion of the providers (emergency medicine and trauma).

### ***Clarification of the Addendum Draft Report***

Comments requested that NQF clarify whether NQF 0512 will be retired if IEP-008-10 is endorsed.

*Action Taken:* NQF staff will clarify the draft addendum report, which is hyperlinked to the main report and was sent to the Steering Committee prior to its posting for vote. If IEP-008-10 is endorsed, then NQF 0512 will be retired.

## **NQF MEMBER VOTING**

Information for electronic voting has been sent to primary contacts at NQF Member organizations. Comments accompanying votes must be submitted by e-mail and must identify submitter, organization, and the specific ballot item that the comments accompany.

**Please note that voting concludes on *Thursday, February 3, 2011, at 6:00 pm ET* – no exceptions.**

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# NATIONAL QUALITY FORUM

## NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR IMAGING EFFICIENCY: ADDENDUM CONSENSUS REPORT

**DRAFT REPORT FOR VOTING**

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# NATIONAL QUALITY FORUM

## NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR IMAGING EFFICIENCY: A CONSENSUS REPORT

### BACKGROUND

NQF's draft report, *National Voluntary Consensus Standards for Imaging Efficiency: A Consensus Report*, recommended six measures for NQF endorsement. The Steering Committee identified NQF-endorsed<sup>®</sup> measure 0512, Percentage of patients who do not have neck pain, distracting pain, neurological deficits, reduced level of consciousness, or intoxication (Harborview Medical Center) as being similar to submitted measure IEP-008-10, Appropriate cervical spine CT imaging in trauma (Brigham and Women's Hospital). Consequently, the Committee asked the measure developers to combine the two measures into one measure that incorporates CT imaging of the cervical spine into the endorsed measure. The measure developers successfully combined the two measures and submitted IEP-008-10 with a new name, Appropriate cervical spine radiography and CT imaging in trauma, for evaluation. The Steering Committee recommended this measure for time-limited endorsement; the measure developers will be required to submit testing data and results to NQF within 12 months after endorsement. Given the time needed to address the Steering Committee's request, the final combined measure was added as an addendum to the previous draft report and underwent a separate public and Member comment period.

If IEP-008-10 is endorsed, NQF 0512 will be retired, Partners Healthcare, Inc. will be the measure steward, and both Brigham and Women's Hospital and Harborview Medical Center will be co-developers.

### RECOMMENDATION FOR ENDORSEMENT

This clinician-, facility-, or population-level measure assesses whether adult patients who undergo cervical spine CT scans for trauma have documented evidence-based indications prior to imaging (Canadian C-Spine Rule or the NEXUS Low-Risk Criteria). In 2006, more than 13 million trauma patients at risk of cervical spine injury presented to emergency departments

# NATIONAL QUALITY FORUM

across the United States.<sup>1</sup> Clinical decision rules (Canadian C-Spine Rule or the NEXUS Low-Risk Criteria) were developed to identify patients at low risk for cervical spine injury and therefore safe to discharge without imaging of the cervical spine. These validated decision rules were meant to improve efficiency and decrease variation in radiography utilization, but they remain underutilized.<sup>2</sup>

With the introduction of new technologies (CT), clinical practice in the United States is shifting toward the use of plain CT rather than radiography as the initial routine imaging modality in screening for cervical spine injury.<sup>3</sup> This measure aims to ensure that if a CT scan is ordered as the initial imaging modality for patients at low risk of a cervical spine fracture, then the radiography decision guidelines should be followed.

The Steering Committee requested that the measure developers of IEP-008-10 and NQF 0512 work together to combine both imaging modalities into one measure. Once the two measures were combined and resubmitted, the Steering Committee reviewed and recommended IEP-008-10 for time-limited endorsement. The measure developers will submit the testing results to NQF within 12 months of endorsement; at this time the measure will be re-evaluated for NQF endorsement.

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<sup>1</sup>McCaig LF, Nawar EW, 1-32.

<sup>2</sup>Hoffman JR, Mower WR, Wolfson AB, et al., Validity of a set of clinical criteria to rule out injury to the cervical spine in patients with blunt trauma, National Emergency X-Radiography Utilization Study Group, *N Engl J Med*, 2000;343(2):94-99. Erratum in: *N Engl J Med* 2001;344(6):464.

<sup>3</sup>National Quality Forum, *Voting Draft for National Voluntary Consensus Standards for Imaging Efficiency: A Consensus Report*, Washington, DC: NQF; 2010.

## NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR IMAGING EFFICIENCY APPENDIX A: MEASURE SPECIFICATIONS

### Appendix A: Specifications of the National Voluntary Consensus Standards for Imaging Efficiency

The following table presents the detailed specifications for the Nation Quality Forum (NQF)-endorsed® *National Voluntary Consensus Standards for Imaging Efficiency*. All information presented has been derived directly from measure sources/developers without modification or alteration (except when the measure developed agreed to such modification during the NQF Consensus Development Process) and is current as of May 4, 2010. All NQF-endorsed voluntary consensus standards are open source, meaning they are fully accessible and disclosed. Measures were developed by the American College of Radiology, Brigham and Women’s Hospital, Centers for Medicare and Medicaid Services and the American College of Cardiology.

Measure Numbers	Measure Title	Measure Steward	Measure Description	Numerator	Denominator	Exclusions	Data Source	Level of Analysis
Measure ID #: IEP-008-10	Appropriate Cervical Spine Radiography and CT Imaging in Trauma	Brigham and Women's Hospital	Percent of adult patients undergoing cervical spine radiography or CT imaging 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 radiography or CT for trauma (as initial imaging of C-spine).	<p>Patients who have not experienced trauma</p> <p>&lt;16 years of age or &gt;65 years of age</p> <p>Patients with a reduced ability to communicate (verbal or cognitive dysfunction)</p> <p>Underwent prior cervical spine radiograph (3 view or more) that is interpreted as inadequate to fully assess fracture</p> <p>Underwent prior imaging concerning or diagnostic for injury of the cervical spine requiring further imaging</p>	Paper medical record/flow-sheet, Electronic administrative data/claims, Electronic clinical data	Clinicians: Group, Facility/Agency, Population: national, regional/network, Population: states

To see the measure specifications for all imaging efficiency measures recommended for NQF endorsement, please click [here](#), and look under Appendix A.

**National Voluntary Consensus Standards for Patient Outcomes  
Appendix B – Main Steering Committee**

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NATIONAL VOLUNTARY CONSENSUS STANDARDS FOR IMAGING EFFICIENCY  
APPENDIX C: Other NQF-Endorsed Imaging Efficiency Consensus Standards

Measure	Measure Steward	Numerator	Denominator	Exclusions
Measure ID #: 0507 Stenosis measurement in carotid imaging studies	ACR/AMA PCPI/NCQA	Final carotid imaging study reports that include direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis measurement. Definition: "Direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis measurement" includes direct angiographic stenosis calculation based on the distal lumen as the denominator for stenosis measurement <i>OR</i> an equivalent validated method referenced to the above method (e.g., for duplex ultrasound studies, velocity parameters that correlate with anatomic measurements that use the distal internal carotid lumen as the denominator for stenosis).	All final reports for carotid imaging studies (neck MR angiography [MRA], neck CT angiography [CTA], neck duplex ultrasound, carotid angiogram) performed.	N/A
Measure ID #: 0508 Inappropriate use of "probably benign" assessment category in mammography screening*	ACR/AMA PCPI/NCQA	Final reports classified as "probably benign." Definition of "probably benign" classification: MQSA assessment category of "probably benign"; BI-RADS® category 3; or FDA approved equivalent assessment category.* Instructions: For performance, a lower percentage, with a definitional target approaching 0%, indicates appropriate assessment of screening mammograms (e.g., the proportion of screening mammograms that are classified as "probably benign").	All final reports for screening mammograms.	N/A
Measure ID #: 0509 Reminder system for mammograms	ACR/AMA PCPI/NCQA	Patients whose information is entered into a reminder system* with a target due date for the next mammogram.	All patients aged 40 years and older undergoing a screening mammogram.	N/A

Measure ID #: 0510 Exposure time reported for procedures using fluoroscopy	ACR/AMA PCPI/NCQA	Final reports for procedures using fluoroscopy that include documentation of radiation exposure or exposure time.	All final reports for procedures using fluoroscopy.	N/A
Measure ID #: 0511 Correlation with existing imaging studies for all patients undergoing bone scintigraphy	SNM/AMA PCPI/NCQA	Final reports that include physician documentation of correlation with existing relevant* imaging studies (e.g., x-ray, MRI, CT).	All final reports for patients, regardless of age, undergoing bone scintigraphy.	System reason for not documenting correlation with existing relevant imaging studies in final report (e.g., no existing relevant imaging study available,* patient did not have a previous relevant imaging study).
Measure ID #: 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	Harborview Medical Center	Number of patients who receive cervical spine radiographs for trauma who either:  1. Do not fulfill the NEXUS Low-Risk Criteria for cervical spine injury: neck pain or posterior mid-line cervical spine tenderness, distracting pain, neurological deficits, reduced level of consciousness or intoxication, or 2. Do not fulfill the Canadian C-Spine Rule Criteria for cervical spine radiography (applies to stable trauma patients with a GCS of 15 and a potential C-Spine Injury).a. If there is a high-risk factor, radiography is necessitated  (Age 65 or older, significant mechanism** or parathesias in the extremities). b. If there is a low risk factor which does not permit safe assessment of the range of motion then radiography should be performed. Low-risk factors permitting safe range of motion assessment include: i. Simple rear-end collision (excluding rollover, collision with bus, large truck, vehicle traveling at high speeds or being pushed into oncoming traffic), or ii. Patient found sitting in the Emergency Department or ambulatory after the incident or delayed onset of neck pain, or iii. Absence of any midline cervical	Number of cervical spine radiographs performed on trauma patients.	Patients who have not experienced trauma. Patients <16 years of age. Patients >65 years of age. Patients with reduced ability to communicate (permanent verbal or cognitive dysfunction).

		<p>tenderness. c. Range of motion assessment: Is the patient able to actively rotate the neck 45 degrees to the left and right? If the patient is unable, radiography</p> <p>should be performed, otherwise radiography should not be performed. Numerous well-designed large prospective studies (specifically the NEXUS and Canadian cervical spine rule studies) have evaluated the efficacy of cervical spine radiography in trauma, and they have found that no patient has had a clinically significant cervical spine injury if they had no neck pain, no distracting pain, no neurological deficits, a normal level of consciousness, and no intoxication.</p>		
<p>Measure ID #: 0513</p> <p>Use of contrast: Thorax CT</p>	CMS	<p>Thorax CT–Use of combined studies (with and without contrast). The number of thorax CT studies with and without contrast (combined studies). Sum of global and technical units associated with CPT codes: 71270–Thorax CT With and Without Contrast. A technical unit can be identified by a modifier code of TC. A global unit can be identified by the absence of a TC or 26 modifier code. Thorax CT studies can be billed separately for the technical and professional components, or billed globally to include both the professional and technical components. Professional component claims will outnumber Technical component claims due to over reads. To capture all outpatient and office volume, both office (typically paid under the MPFS) and facility claims (typically paid under the OPFS/ APC methodology) should be considered. In the absence of a TC or 26 modifier code, outpatient facility claims should be considered technical components and included in utilization.</p>	<p>Thorax CT–Use of combined studies (with and without contrast). The number of thorax CT studies performed (with contrast, without contrast or both with and without contrast). Sum of global and technical units for CPT codes: 71250–Thorax Without Contrast 71260–Thorax CT With Contrast 71270–Thorax CT With and Without Contrast.</p>	N/A

<p>Measure ID: 0514</p> <p>MRI lumbar spine for low back pain</p>	<p>CMS</p>	<p>Number of Lumbar MRI studies where there are indications in the claim file of antecedent conservative therapy among patients with low back pain (excluding operative, tumor, and acute injury cases). Antecedent conservative therapy may include codes for manual therapy or massage, chiropractic care, or a prior exam for low back pain evaluation.</p>	<p>Number of Lumbar MRI studies for patients with low back pain (excluding operative, tumor, and acute injury cases).</p>	<p>Lumbar Spine MRI studies without an ICD-9 related to low back pain. Patients with Cancer: ICD-9-CM codes 140208, 230-234, 235-239. (Recent) Trauma: ICD-9- CM codes 800, 839, 850-854, 860-869, 905-909, 926.11, 926.12, 929, 952, 958- 959 (Recent) IV Drug Abuse: ICD-9-CM codes 304.0, 304.1X, 304.2X, 304.4X, 305.4X, 305.5X, 305.6X, 305.7X (Recent) Neurologic Impairment: ICD-9-CM codes 344.60, 729.2 Human Immunodeficiency Virus (HIV): ICD-9-CM codes 042-044; 279.3 Unspecified Immune Deficiencies; Intraspinal abscess: ICD-9-CM codes 324.9, 324.1.</p>
<p>Measure ID: Carotid imaging reports</p>	<p>American None. Academy of Nursing, American College of Radiology, American Medical Association, National Committee for Quality Assurance</p>	<p>Final carotid imaging study reports that include direct or indirect reference to measurements of distal internal carotid diameter as the denominator for stenosis measurement. ICD-9 diagnosis codes, CPT procedure codes, and patient demographics (age, gender, etc) are used to determine patients that are included in the measure. y ICD-9-CM codes: 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 435.0, 435.1, 435.2, 435.3, 435.8, 435.9, 997.02 AND CPT codes with or without Modifier 26 to specify physician component: 70547, 70548, 70549, 70498, 75660, 75662, 7566, 75671, 75676, 75680, 93880, 93882.</p>	<p>All final reports for carotid imaging studies (neck MR angiography [MRA], neck CT angiography [CTA], neck duplex ultrasound, carotid angiogram) performed for patients aged 18 years and older with a diagnosis of ischemic stroke or TIA.</p>	<p>N/A</p>

Measure ID: Computed tomography (CT) or magnetic resonance imaging (MRI) reports	American None. College of Radiology, American Medical Association, National Committee for Quality Assurance, American Medical Association Physician Consortium for Performance Improvement American College of Nurse-Midwives	Final reports of the initial CT or MRI that include documentation of the presence or absence of each of the following: hemorrhage and mass lesion and acute infarction.	All final reports for CT or MRI studies of the brain performed within 24 hours of arrival to the hospital for patients aged 18 years and older with the admitting diagnosis of ischemic stroke or TIA or intracranial hemorrhage ICD-9 Diagnosis codes, CPT procedure codes, CPT Category II codes, and patient demographics (age, gender, etc.) are used to determine patients that are included in the measure. y ICD-9-CM codes: 431, 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.01, 434.11, 434.91, 435.0, 435.1, 435.2, 435.3, 435.8, 435.9, 997.02 AND CPT II 3111F: CT or MRI of the brain performed within 24 hours of arrival to the hospital; 3112F: CT or MRI of the brain performed greater than 24 hours of arrival to the hospital AND CPT codes with or without Modifier 26 to specify physician component: 70450, 70460, 70470, 70551, 70552, 70553, 0042T.	N/A
Measure ID: Low back pain (LBP): repeat imaging studies	National Committee for Quality Assurance	The number of patients with inappropriate imaging studies (as defined in denominator).	Patients with more than one imaging study and patients with only one imaging study and no documentation in medical record of physician asking about prior imaging.	Patients with red flags or worsening/progressive signs.
Measure ID: LBP: appropriate imaging for acute	National Committee for Quality Assurance	The number of patients with an order for or report on an imaging study during the six weeks after pain onset.	Patients with back pain lasting six weeks or less.	Patients with documentation of red flags.

back pain	Assurance			
Measure ID: LBP: use of imaging studies	National Committee for Quality Assurance	Patients who received an imaging study (plain x-ray, MRI, CT scan) conducted on the Episode Start Date or in the 28 days following the Episode Start Date.	All patients aged 18-50 years as of December 31 of the measurement year with a new episode of low back pain.	Exclude patients with an indication for imaging studies in the presence of low back pain. Cancer: ICD-9-CM codes: 140-208, 230-239 (Recent) Trauma: ICD-9-CM codes: 800-839, 850-854, 860-869, 905-909, 926.11, 926.12, 929, 952, 958-959 (Recent) IV drug abuse: ICD-9-CM codes: 304.0, 304.1x, 304.2x, 304.4x, 305.4x, 305.5x, 305.6x, 305.7x (Recent) Neurologic impairment: ICD-9-CM codes: 344.60, 729.2.

5