

# NATIONAL QUALITY FORUM

## Measure Submission and Evaluation Worksheet 5.0

This form contains the information submitted by measure developers/stewards, organized according to NQF's measure evaluation criteria and process. The evaluation criteria, evaluation guidance documents, and a blank online submission form are available on the [submitting standards web page](#).

NQF #: 0511	NQF Project: <a href="#">Care Coordination Project</a>
(for Endorsement Maintenance Review)	
Original Endorsement Date: <a href="#">Oct 28, 2008</a> Most Recent Endorsement Date: <a href="#">Oct 28, 2008</a>	
BRIEF MEASURE INFORMATION	
De.1 Measure Title: <a href="#">Correlation With Existing Imaging Studies for All Patients Undergoing Bone Scintigraphy</a>	
Co.1.1 Measure Steward: <a href="#">American Medical Association - Physician Consortium for Performance Improvement</a>	
De.2 Brief Description of Measure: <a href="#">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</a>	
2a1.1 Numerator Statement: <a href="#">Final reports that include physician documentation of correlation with existing relevant* imaging studies (eg, x-ray, MRI, CT)</a>	
Definition: *Relevant imaging studies are defined as studies that correspond to the same anatomical region in question.	
2a1.4 Denominator Statement: <a href="#">All final reports for patients, regardless of age, undergoing bone scintigraphy</a>	
Note: Correlative studies are considered to be unavailable if relevant studies (reports and/or actual examination material) from other imaging modalities exist but could not be obtained after reasonable efforts to retrieve the studies are made by the interpreting physician prior to the finalization of the bone scintigraphy report.	
2a1.8 Denominator Exclusions: <a href="#">System reason for not documenting correlation with existing relevant imaging studies in final report (eg, no existing relevant imaging study available, patient did not have a previous relevant imaging study)</a>	
1.1 Measure Type: <a href="#">Process</a>	
2a1. 25-26 Data Source: <a href="#">Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Imaging/Diagnostic Study, Electronic Clinical Data : Registry, Paper Records</a>	
2a1.33 Level of Analysis: <a href="#">Clinician : Group/Practice, Clinician : Individual</a>	
1.2-1.4 Is this measure paired with another measure? <a href="#">No</a>	
De.3 If included in a composite, please identify the composite measure (title and NQF number if endorsed): <a href="#">This is not a composite measure.</a>	

STAFF NOTES (issues or questions regarding any criteria)
Comments on Conditions for Consideration:
Is the measure untested? Yes <input type="checkbox"/> No <input type="checkbox"/> If untested, explain how it meets criteria for consideration for time-limited endorsement:
1a. Specific national health goal/priority identified by DHHS or NPP addressed by the measure (check De.5):
5. Similar/related <a href="#">endorsed</a> or submitted measures (check 5.1):
Other Criteria:
Staff Reviewer Name(s):

**1. IMPACT, OPPORTUNITY, EVIDENCE - IMPORTANCE TO MEASURE AND REPORT**

Importance to Measure and Report is a threshold criterion that must be met in order to recommend a measure for endorsement. All three subcriteria must be met to pass this criterion. See [guidance on evidence](#).

**Measures must be judged to be important to measure and report in order to be evaluated against the remaining criteria. (evaluation criteria)**

**1a. High Impact:** H  M  L  I

*(The measure directly addresses a specific national health goal/priority identified by DHHS or NPP, or some other high impact aspect of healthcare.)*

**De.4 Subject/Topic Areas** (Check all the areas that apply): Musculoskeletal, Musculoskeletal : Arthritis-Osteo, Musculoskeletal : Arthritis-Rheumatoid, Musculoskeletal : Functional Status, Musculoskeletal : Hip/Pelvic Fracture, Musculoskeletal : Joint Surgery, Musculoskeletal : Low Back Pain, Musculoskeletal : Osteoporosis

**De.5 Cross Cutting Areas** (Check all the areas that apply): Care Coordination

**1a.1 Demonstrated High Impact Aspect of Healthcare:** Affects large numbers, Frequently performed procedure, Patient/societal consequences of poor quality

**1a.2 If "Other," please describe:**

**1a.3 Summary of Evidence of High Impact** (Provide epidemiologic or resource use data):

More than 2 million regular (planar) bone scans are performed every year in the United States for the detection of cancer that has spread to the bone.(1)

Bone scanning is widely accepted as a method of choice for initial diagnosis of bone and joint changes in patients with oncologic diseases. Because the choice of treatment strategy is influenced by the presence or absence of bone metastases, the correct interpretation of the bone scans is important.(2)

In an attempt to improve quality (as defined by diagnostic accuracy), we must first understand the existing limitations and frequency of reporting errors. It has been suggested that as many as 30% of radiology reports contain errors, regardless of the imaging modality, radiologist's experience, or time spent in interpretation. These can be classified as errors in observation(perception) or interpretation (cognition). Perceptual errors have been shown to be common in radiology and can be reduced through the practice of double reading. Interpretation errors do not exclusively result from a lack of knowledge and often can be attributed to other factors, including an inadequacy of clinical information, technical deficiencies, and a failure to consult historical imaging studies or reports.(3)

Skeletal imaging by 18F-FDG PET has been shown to be useful in the detection of bone metastases of breast, lung, thyroid, esophageal, gastric, colorectal, endemic nasopharyngeal, renal cell, prostate, ovarian, and testicular carcinomas.(4)

**1a.4 Citations for Evidence of High Impact cited in 1a.3:** 1. Czernin J. 18F-Fluoride PET/CT versus 99Tc-MDP scanning for detecting Bone Metastases: A Randomized Multi-Center-Trial to compare two bone imaging techniques. Accessed at: <http://www.ami-imaging.org/pdf/icpreport.pdf>.

2. Sadik M, Hamadeh I, Nordblom P, Suurkula M, Høglund P, Ohlsson M, Edengrandt L. Computer-Assisted Interpretation of Planar Whole-Body Scans. J Nucl Med 2008;49:1958-1965.

3. Reiner B, Knight N, Siegel E. Radiology Reporting, Past, Present, and Future: The Radiologist's Perspective. J Am Coll Radiol 2007;4:313-319.

4. Ito S, Kato K, Ikeda M, Iwano S, et al. Comparison of 18F-FDG PET and Bone Scintigraphy in Detection of Bone Metastases of Thyroid Cancer. J Nucl Med 2007;48:889-895.

**1b. Opportunity for Improvement:** H  M  L  I

*(There is a demonstrated performance gap - variability or overall less than optimal performance)*

**1b.1 Briefly explain the benefits (improvements in quality) envisioned by use of this measure:**

Evidence has suggested that Radiology reports are largely non-standardized and commonly incomplete, vague, untimely, and error-prone and may not serve the needs of referring physicians. Radionuclide bone imaging plays an integral part in tumor staging and management; the majority of bone scans are performed in patients with a diagnosis of malignancy, especially carcinoma of the breast, prostate gland, and lung. This modality is extremely sensitive for detecting skeletal abnormalities, and numerous studies have confirmed that it is considerably more sensitive than conventional radiography for this purpose (1). However, the specificity of bone scan abnormalities can be low since many other conditions may mimic tumor; therefore it is important that radionuclide bone scans are correlated with available, relevant imaging studies. Existing imaging studies that are available can help inform the diagnosis and treatment for the patient. Furthermore, correlation with existing radiographs is considered essential to insure that benign conditions are not interpreted as tumor.

1. Journal of Clinical Oncology. 22:2942-2953. 2004, American Society of Clinical Oncology

**1b.2 Summary of Data Demonstrating Performance Gap** *(Variation or overall less than optimal performance across providers):*

**[For Maintenance – Descriptive statistics for performance results for this measure - distribution of scores for measured entities by quartile/decile, mean, median, SD, min, max, etc.]**

This measure was included in the CMS Physician Quality Reporting Initiative/System (PQRI/S) in 2009 and 2010 in the claims and registry options. The number of professionals reporting on this measure in 2009 was approximately 4,383. The 2009 PQRI/S Performance Rate reveals that there is a gap in care as shown by the following data: 42.40% of patients reported on did not receive the optimal care.

**1b.3 Citations for Data on Performance Gap:** **[For Maintenance – Description of the data or sample for measure results reported in 1b.2 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included]**

2009 Physician Quality Reporting System and eRx Experience Report. Available at: [www.cms.gov](http://www.cms.gov)

**1b.4 Summary of Data on Disparities by Population Group:** **[For Maintenance –Descriptive statistics for performance results for this measure by population group]**

We are not aware of any publications/evidence outlining disparities in this aspect of Nuclear Medicine.

**1b.5 Citations for Data on Disparities Cited in 1b.4:** **[For Maintenance – Description of the data or sample for measure results reported in 1b.4 including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included]**

Not Applicable

**1c. Evidence** *(Measure focus is a health outcome OR meets the criteria for quantity, quality, consistency of the body of evidence.)*

Is the measure focus a health outcome? Yes  No  **If not a health outcome, rate the body of evidence.**

Quantity: H  M  L  I  Quality: H  M  L  I  Consistency: H  M  L  I

Quantity	Quality	Consistency	Does the measure pass subcriterion1c?
M-H	M-H	M-H	Yes <input type="checkbox"/>
L	M-H	M	Yes <input type="checkbox"/> IF additional research unlikely to change conclusion that benefits to patients outweigh harms: otherwise No <input type="checkbox"/>
M-H	L	M-H	Yes <input type="checkbox"/> IF potential benefits to patients clearly outweigh potential harms: otherwise No <input type="checkbox"/>
L-M-H	L-M-H	L	No <input type="checkbox"/>

Health outcome – rationale supports relationship to at least one healthcare structure, process, intervention, or service	Does the measure pass subcriterion1c? Yes <input type="checkbox"/> IF rationale supports relationship
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**1c.1 Structure-Process-Outcome Relationship** *(Briefly state the measure focus, e.g., health outcome, intermediate clinical outcome, process, structure; then identify the appropriate links, e.g., structure-process-health outcome; process- health outcome; intermediate clinical outcome-health outcome):*

This measure captures the percentage of final reports for patients undergoing bone scintigraphy that include physician

documentation of correlation with existing relevant imaging studies (eg, x-ray, MRI, CT) that were performed. The process of identifying the number of reports that contain this important information is linked to improved outcomes. These may include but are not limited to increased incidences of proper diagnosis, appropriate patient treatment, reduced report errors, identification of osseous or soft-tissue abnormalities, and potential reduction in overuse of bone scintigraphy imaging studies.

**1c.2-3 Type of Evidence** (*Check all that apply*):

Clinical Practice Guideline, Selected individual studies (rather than entire body of evidence)

**1c.4 Directness of Evidence to the Specified Measure** (*State the central topic, population, and outcomes addressed in the body of evidence and identify any differences from the measure focus and measure target population*):

The SNM Procedure Guideline for Palliative Treatment of Painful Bone Metastases guideline recommendation focuses on reviewing and correlating bone scintigraphic abnormalities with a physical exam and imaging studies, which will enable physicians to identify osseous or soft-tissue abnormalities.

The SNM Procedure Guideline for Bone Scintigraphy recommendations recognize that bone scans are very sensitive for disease but the specificity of the findings is low and must be interpreted in light of other information, including other test results and comparison with previous studies. The guideline goes on to list the information that should be included in the final report, including but not limited to correlation with other studies and comparison with previous studies.

The SNM Practice Guideline for Sodium 18F-Fluoride PET/CT Bone Scans recommendation emphasizes the importance of including comparisons with previous examinations and reports in the final report, stressing that the studies are more valuable when correlated with previous imaging studies and clinical data.

The topic, population, and outcomes addressed in the body of evidence are completely aligned with this measure, as the measure focuses on all patients, regardless of age, undergoing bone scintigraphy.

**1c.5 Quantity of Studies in the Body of Evidence** (*Total number of studies, not articles*): This information is not captured in the guideline. The Society of Nuclear Medicine Guideline for Guideline Development states the following:

Procedure guidelines summarize scientific evidence and expert opinion regarding the performance of nuclear medicine procedures. In instances where there is little scientific evidence upon which to base procedure guidelines, expert opinion will be used in conjunction with available scientific data. The intent of a procedure guideline is to describe a procedure that will maximize the diagnostic information obtained and optimize patient care, while minimizing radiation exposures and resources expended. Procedure guidelines are not intended to describe "cutting edge" or "state-of-the-art" procedures that may be under development at academic medical centers, nor are they intended to be advocacy statements. Procedure guidelines are also not intended to describe the minimally acceptable procedure. Guidelines are not intended to be legal standards of care or conduct and may be modified as determined by individual circumstances and available resources.

**1c.6 Quality of Body of Evidence** (*Summarize the certainty or confidence in the estimates of benefits and harms to patients across studies in the body of evidence resulting from study factors. Please address: a) study design/flaws; b) directness/indirectness of the evidence to this measure (e.g., interventions, comparisons, outcomes assessed, population included in the evidence); and c) imprecision/wide confidence intervals due to few patients or events*): This information is not captured in the guideline. The Society of Nuclear Medicine Guideline for Guideline Development states the following:

Procedure guidelines summarize scientific evidence and expert opinion regarding the performance of nuclear medicine procedures. In instances where there is little scientific evidence upon which to base procedure guidelines, expert opinion will be used in conjunction with available scientific data. The intent of a procedure guideline is to describe a procedure that will maximize the diagnostic information obtained and optimize patient care, while minimizing radiation exposures and resources expended. Procedure guidelines are not intended to describe "cutting edge" or "state-of-the-art" procedures that may be under development at academic medical centers, nor are they intended to be advocacy statements. Procedure guidelines are also not intended to describe the minimally acceptable procedure. Guidelines are not intended to be legal standards of care or conduct and may be modified as determined by individual circumstances and available resources.

**1c.7 Consistency of Results across Studies** (*Summarize the consistency of the magnitude and direction of the effect*): This information is not captured in the guideline. The Society of Nuclear Medicine Guideline for Guideline Development states the following:

Procedure guidelines summarize scientific evidence and expert opinion regarding the performance of nuclear medicine procedures. In instances where there is little scientific evidence upon which to base procedure guidelines, expert opinion will be used in conjunction with available scientific data. The intent of a procedure guideline is to describe a procedure that will maximize the diagnostic information obtained and optimize patient care, while minimizing radiation exposures and resources expended. Procedure guidelines are not intended to describe "cutting edge" or "state-of-the-art" procedures that may be under development at academic medical centers, nor are they intended to be advocacy statements. Procedure guidelines are also not intended to describe the minimally acceptable procedure. Guidelines are not intended to be legal standards of care or conduct and may be modified as determined by individual circumstances and available resources.

The three guidelines cited in support of this measure, remain consistent with recommendations regarding information contained in final imaging reports, including the review and correlation with existing relevant imaging studies. The guidelines cited range from 2003 to 2010.

**1c.8 Net Benefit** (*Provide estimates of effect for benefit/outcome; identify harms addressed and estimates of effect; and net benefit - benefit over harms*):

No studies have been identified that identify harm as a result of including information about correlating bone scintigraphy imaging studies in final imaging reports.

**1c.9 Grading of Strength/Quality of the Body of Evidence.** Has the body of evidence been graded? **No**

**1c.10 If body of evidence graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:** **N/A**

**1c.11 System Used for Grading the Body of Evidence:** **Other**

**1c.12 If other, identify and describe the grading scale with definitions:** **The body of evidence was not graded within the guideline.**

**1c.13 Grade Assigned to the Body of Evidence:** **N/A**

**1c.14 Summary of Controversy/Contradictory Evidence:** **No contradictory evidence has been identified.**

**1c.15 Citations for Evidence other than Guidelines**(*Guidelines addressed below*):  
**Not applicable**

**1c.16 Quote verbatim, the specific guideline recommendation** (*Including guideline # and/or page #*):

Bone scintigraphic abnormalities should be correlated with appropriate physical examination and imaging studies to ascertain that osseous or soft-tissue abnormalities, which might cause cord or other nerve compression or pathologic fracture in an extremity, are not present. (Society of Nuclear Medicine Procedure guideline for Palliative Treatment of Painful Bone Metastases, Society of Nuclear Medicine, 2003)

Interpretation criteria

Bone scans are very sensitive for disease, but specificity of findings is low and must be interpreted in light of other information

- a. History
- b. Physical exam
- c. Other test results
- d. Comparison with previous studies

(Procedure guideline for bone scintigraphy, Society of Nuclear Medicine, 2003)

Reporting

1. Description of technique
2. Description of abnormal tracer uptake
3. Correlation with other studies
4. Comparison with previous studies
5. Interpretation

(Procedure guideline for bone scintigraphy, Society of Nuclear Medicine, 2003)

Comparisons with previous examinations and reports, when possible, should be a part of the imaging consultation and report. Integrated PET/CT studies are more valuable when correlated with previous diagnostic CT, previous PET, previous PET/CT, previous MRI, and all appropriate imaging studies and clinical data that are relevant. (The SNM Practice Guideline for Sodium 18F-Fluoride PET/CT Bone Scans 1.1, Society of Nuclear Medicine, 2010)

**1c.17 Clinical Practice Guideline Citation:** Silberstein EB, Buscombe JR, McEwan A, Taylor AT. Society of Nuclear Medicine Procedure Guideline for Palliative Treatment of Painful Bone Metastases. Version 3.0: Society of Nuclear Medicine; 2003.e. Available at: [http://interactive.snm.org/docs/pg\\_ch25\\_0403.pdf](http://interactive.snm.org/docs/pg_ch25_0403.pdf)

Donohoe KJ, Brown ML, Collier BD, Carretta RF, Henkin RE, Royal HD, O'Mara RE. Procedure guideline for bone scintigraphy, 3.0. Reston (VA): Society of Nuclear Medicine; 2003.e. Available at: [http://interactive.snm.org/docs/pg\\_ch34\\_0403.pdf](http://interactive.snm.org/docs/pg_ch34_0403.pdf).

Segall G, Delbeke D, Stabin MG, Even-Sapir E, Fair J, Sajdak R, Smith GT. The SNM Practice Guideline for Sodium 18F-Fluoride PET/CT Bone Scans 1.1: Society of Nuclear Medicine; 2010.e. Available at: <http://interactive.snm.org/docs/Practice%20Guideline%20NaF%20PET%20V1.1.pdf>

**1c.18 National Guideline Clearinghouse or other URL:** [http://interactive.snm.org/docs/pg\\_ch34\\_0403.pdf](http://interactive.snm.org/docs/pg_ch34_0403.pdf), [http://interactive.snm.org/docs/pg\\_ch34\\_0403.pdf](http://interactive.snm.org/docs/pg_ch34_0403.pdf), and [http://interactive.snm.org/docs/pg\\_ch25\\_0403.pdf](http://interactive.snm.org/docs/pg_ch25_0403.pdf)

**1c.19 Grading of Strength of Guideline Recommendation.** Has the recommendation been graded? No

**1c.20 If guideline recommendation graded, identify the entity that graded the evidence including balance of representation and any disclosures regarding bias:**

**1c.21 System Used for Grading the Strength of Guideline Recommendation:** Other

**1c.22 If other, identify and describe the grading scale with definitions:** The recommendations were not graded, within the guideline.

**1c.23 Grade Assigned to the Recommendation:** N/A

**1c.24 Rationale for Using this Guideline Over Others:** It is the PCPI policy to use guidelines, which are evidence-based, applicable to physicians and other health-care providers, and developed by a national specialty organization or government agency. In addition, the PCPI has now expanded what is acceptable as the evidence base for measures to include documented quality improvement (QI) initiatives or implementation projects that have demonstrated improvement in quality of care.

Based on the NQF descriptions for rating the evidence, what was the developer's assessment of the quantity, quality, and consistency of the body of evidence?

1c.25 Quantity: Moderate 1c.26 Quality: Moderate 1c.27 Consistency: Moderate

Was the threshold criterion, *Importance to Measure and Report*, met?

(1a & 1b must be rated moderate or high and 1c yes) Yes  No

Provide rationale based on specific subcriteria:

**For a new measure if the Committee votes NO, then STOP.**

**For a measure undergoing endorsement maintenance, if the Committee votes NO because of 1b. (no opportunity for improvement), it may be considered for continued endorsement and all criteria need to be evaluated.**

**2. RELIABILITY & VALIDITY - SCIENTIFIC ACCEPTABILITY OF MEASURE PROPERTIES**

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **(evaluation criteria)**

Measure testing must demonstrate adequate reliability and validity in order to be recommended for endorsement. Testing may be conducted for data elements and/or the computed measure score. Testing information and results should be entered in the appropriate field. Supplemental materials may be referenced or attached in item 2.1. See [guidance on measure testing](#).

**S.1 Measure Web Page** (*In the future, NQF will require measure stewards to provide a URL link to a web page where current detailed specifications can be obtained*). Do you have a web page where current detailed specifications for this measure can be obtained? **Yes**

**S.2** If yes, provide web page URL: [www.physicianconsortium.org](http://www.physicianconsortium.org)

**2a. RELIABILITY. Precise Specifications and Reliability Testing:** H  M  L  I

**2a1. Precise Measure Specifications.** (*The measure specifications precise and unambiguous.*)

**2a1.1 Numerator Statement** (*Brief, narrative description of the measure focus or what is being measured about the target population, e.g., cases from the target population with the target process, condition, event, or outcome*):

[Final reports that include physician documentation of correlation with existing relevant\\* imaging studies \(eg, x-ray, MRI, CT\)](#)

Definition:

[\\*Relevant imaging studies are defined as studies that correspond to the same anatomical region in question.](#)

**2a1.2 Numerator Time Window** (*The time period in which the target process, condition, event, or outcome is eligible for inclusion*):  
[Once for each final report during the measurement period](#)

**2a1.3 Numerator Details** (*All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, codes with descriptors, and/or specific data collection items/responses*):

[Numerator Definition:](#)

[Relevant Imaging Studies – Studies that correspond to the same anatomical region in question.](#)

For EHR:

[See attached for eMeasure.](#)

For Claims/Administrative:

Report CPT Category II Code:

[3570F: Final report for bone scintigraphy study includes correlation with existing relevant imaging studies \(eg, x-ray, MRI, CT\) corresponding to the same anatomical region in question](#)

**2a1.4 Denominator Statement** (*Brief, narrative description of the target population being measured*):

[All final reports for patients, regardless of age, undergoing bone scintigraphy](#)

[Note: Correlative studies are considered to be unavailable if relevant studies \(reports and/or actual examination material\) from other imaging modalities exist but could not be obtained after reasonable efforts to retrieve the studies are made by the interpreting physician prior to the finalization of the bone scintigraphy report.](#)

**2a1.5 Target Population Category** (*Check all the populations for which the measure is specified and tested if any*): [Adult/Elderly Care, Children's Health](#)

**2a1.6 Denominator Time Window** (*The time period in which cases are eligible for inclusion*):

[\[ex: 12 consecutive months\]](#)

Each final report during 12 consecutive month measurement period

**2a1.7 Denominator Details** (All information required to identify and calculate the target population/denominator such as definitions, codes with descriptors, and/or specific data collection items/responses):

For EHR:

See attached for eMeasure. Submission form did not allow for submission of zip file, so complete eMeasure will be emailed to NQF staff

For Claims/Administrative:

CPT Codes: 78300, 78305, 78306, 78315, 78320

**2a1.8 Denominator Exclusions** (Brief narrative description of exclusions from the target population):

System reason for not documenting correlation with existing relevant imaging studies in final report (eg, no existing relevant imaging study available, patient did not have a previous relevant imaging study)

**2a1.9 Denominator Exclusion Details** (All information required to identify and calculate exclusions from the denominator such as definitions, codes with descriptors, and/or specific data collection items/responses):

To report system reason exception for claims/administrative:

Documentation of system reason(s) 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)

- Append modifier to CPT Category II Code: 3570F-3P

System Exception Note:

Correlative studies are considered to be unavailable if relevant studies (reports and/or actual examination material) from other imaging modalities exist but could not be obtained after reasonable efforts to retrieve the studies are made by the interpreting physician prior to the finalization of the bone scintigraphy report.

The PCPI methodology uses three categories of reasons for which a patient may be excluded from the denominator of an individual measure. These measure exception categories are not uniformly relevant across all measures; for each measure, there must be a clear rationale to permit an exception for a medical, patient, or system reason. Examples are provided in the measure exception language of instances that may constitute an exception and are intended to serve as a guide to clinicians. For measure 0511, exceptions may include system reason(s) for not documenting correlation with existing relevant imaging studies in final report (eg, no existing relevant imaging study available, patient did not have a previous relevant imaging study).

Where examples of exceptions are included in the measure language, these examples are coded and included in the eSpecifications. Although this methodology does not require the external reporting of more detailed exception data, the PCPI recommends that physicians document the specific reasons for exception in patients' medical records for purposes of optimal patient management and audit-readiness. The PCPI also advocates the systematic review and analysis of each physician's exceptions data to identify practice patterns and opportunities for quality improvement. For example, it is possible for implementers to calculate the percentage of patients that physicians have identified as meeting the criteria for exception. Additional details by data source are as follows:

For Claims/Administrative specifications,

Append modifier to CPT Category II code: 3570F-3P

**2a1.10 Stratification Details/Variables** (All information required to stratify the measure results including the stratification variables, codes with descriptors, definitions, and/or specific data collection items/responses):

We encourage the results of this measure to be stratified by race, ethnicity, gender, and primary language, and have included these variables as recommended data elements to be collected.

**2a1.11 Risk Adjustment Type** (Select type. Provide specifications for risk stratification in 2a1.10 and for statistical model in 2a1.13): No risk adjustment or risk stratification    **2a1.12 If "Other," please describe:**

**2a1.13 Statistical Risk Model and Variables** (Name the statistical method - e.g., logistic regression and list all the risk factor



variables. Note - risk model development should be addressed in 2b4.):

No risk adjustment or risk stratification.

**2a1.14-16 Detailed Risk Model Available at Web page URL** (or attachment). Include coefficients, equations, codes with descriptors, definitions, and/or specific data collection items/responses. Attach documents only if they are not available on a webpage and keep attached file to 5 MB or less. NQF strongly prefers you make documents available at a Web page URL. Please supply login/password if needed:

**2a1.17-18. Type of Score:** Rate/proportion

**2a1.19 Interpretation of Score** (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score): Better quality = Higher score

**2a1.20 Calculation Algorithm/Measure Logic**(Describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; aggregating data; risk adjustment; etc.):

To calculate performance rates:

- 1) Find the patients who meet the initial patient population (ie, the general group of patients that the performance measure is designed to address).
- 2) From the patients within the initial patient population criteria, find the patients who qualify for the denominator (ie, the specific group of patients for inclusion in a specific performance measure based on defined criteria). Note: in some cases the initial patient population and denominator are identical.
- 3) From the patients within the denominator, find the patients who qualify for the Numerator (ie, the group of patients in the denominator for whom a process or outcome of care occurs). Validate that the number of patients in the numerator is less than or equal to the number of patients in the denominator
- 4) From the patients who did not meet the numerator criteria, determine if the physician has documented that the patient meets any criteria for denominator exception when exceptions have been specified [for this measure: system reason(s) (eg, no existing relevant imaging study available, patient did not have a previous relevant imaging study)]. If the patient meets any exception criteria, they should be removed from the denominator for performance calculation. --Although the exception cases are removed from the denominator population for the performance calculation, the number of patients with valid exceptions should be calculated and reported along with performance rates to track variations in care and highlight possible areas of focus for QI.

If the patient does not meet the numerator and a valid exception is not present, this case represents a quality failure.

Calculation algorithm is included in data dictionary/code table attachment 2a1.30.

**2a1.21-23 Calculation Algorithm/Measure Logic Diagram URL or attachment:**

**2a1.24 Sampling (Survey) Methodology.** If measure is based on a sample (or survey), provide instructions for obtaining the sample, conducting the survey and guidance on minimum sample size (response rate):

Not applicable. This measure does not require sampling or a survey.

**2a1.25 Data Source** (Check all the sources for which the measure is specified and tested). If other, please describe:

Administrative claims, Electronic Clinical Data : Electronic Health Record, Electronic Clinical Data : Imaging/Diagnostic Study, Electronic Clinical Data : Registry, Paper Records

**2a1.26 Data Source/Data Collection Instrument** (Identify the specific data source/data collection instrument, e.g. name of database, clinical registry, collection instrument, etc.): Not Applicable

2a1.27-29 Data Source/data Collection Instrument Reference Web Page URL or Attachment:

2a1.30-32 Data Dictionary/Code Table Web Page URL or Attachment:

Attachment

NQF\_0511\_Value Sets\_Updated\_Dec\_2011.xls

2a1.33 Level of Analysis (Check the levels of analysis for which the measure is specified and tested): Clinician : Group/Practice, Clinician : Individual

2a1.34-35 Care Setting (Check all the settings for which the measure is specified and tested): Imaging Facility, Other: ANY SETTING WHERE BONE SCINTIGRAPHY IS PERFORMED

2a2. Reliability Testing. (Reliability testing was conducted with appropriate method, scope, and adequate demonstration of reliability.)

2a2.1 Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

PCPI Testing Project

- Three radiology practice sites representing various types, locations and sizes were identified to participate in testing the measures
- o The number of physicians per site was between 10 and 1,000 physicians
- o Two of the sites were hospital-based radiology group practices and one was a stand-alone radiology group practice
- o All three sites were located in urban regions
- o Patient visit volume ranged from 550-1600 patients, per site, per day
- Sample size included a total of 97 records for this measure
- The data collection period was 1/1/2010- 12/31/2010
- Data abstraction was performed in 2011

2a2.2 Analytic Method (Describe method of reliability testing & rationale):

Data abstracted from patient records were used to calculate inter-rater reliability for the measure.

Data analysis included:

- Percent agreement
- Kappa statistic to adjust for chance agreement

2a2.3 Testing Results (Reliability statistics, assessment of adequacy in the context of norms for the test conducted):

Correlation with Existing Imaging Studies: N, % Agreement, Kappa ( 95% Confidence Interval)

Overall Reliability: 97, 96.0%, 0.91 (0.825 – 0.996)

Numerator Reliability: 97, 95.9%, 0.90 (0.808 – 0.996)

Denominator Reliability: 97, 100%, Kappa non-calculable\* (n/a)

Exception Reliability: 97, 100%, Kappa non-calculable\* (n/a)

2b. VALIDITY. Validity, Testing, including all Threats to Validity: H  M  L  I

2b1.1 Describe how the measure specifications (measure focus, target population, and exclusions) are consistent with the evidence cited in support of the measure focus (criterion 1c) and identify any differences from the evidence:

The guideline recommendations focus on the review and correlation of previous imaging studies and state that this information should be captured in the final imaging report. The measure specifications are consistent with the evidence cited in support of the measure focus, as the measure focuses on all patients, regardless of age, undergoing bone scintigraphy.

2b2. Validity Testing. (Validity testing was conducted with appropriate method, scope, and adequate demonstration of validity.)

2b2.1 Data/Sample (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

An expert panel was used to assess face validity of the measure. This panel consisted of the following 16 members, with representation from the following specialties:

List of Work Group Members:

Robert Henkin, MD, FACNP, FACR (Co-Chair) (Nuclear Medicine)  
Paul Wallner, DO, FACR, FAOCR, FASTRO (Co-Chair) (Radiation Oncology)  
Sue Abreu, MD, FACNP (Nuclear Medicine)  
Terence Beven, MD, FACNP (Nuclear Medicine)  
Gary L. Dillehay, MD, FACR, FACNP (Radiology & Nuclear Medicine)  
Gregory A. Francken, MD (Diagnostic Radiology)  
Mark Gebhardt, MD (Orthopedic Surgery)  
Leonie Gordon, MD, FACNP (Nuclear Medicine)  
Kenneth McKusick, MD, FACR, FACNP (Radiology & Nuclear Medicine)  
Haydee Muse, MD (Health Plan representative, Internal Medicine & Pulmonary Medicine)  
Henry D. Royal, MD, FACR, FACNP (Nuclear Medicine & Internal Medicine)  
John Schneider, MD, PhD (Internal Medicine)  
William G. Spies, MD, FACR (Radiology & Nuclear Medicine)  
Amol M. Takalkar, MD, FACNP (Nuclear Medicine)  
Robert Wagner, MD, MSMIS, FACNP (Nuclear Medicine)  
Elizabeth Yung, MD (Radiology & Nuclear Medicine)

**2b2.2 Analytic Method** (*Describe method of validity testing and rationale; if face validity, describe systematic assessment*):

All PCPI performance measures are assessed for content validity by expert Work Group members during the development process. Additional input on the content validity of draft measures is obtained through a 30-day public comment period and by also soliciting comments from a panel of consumer, purchaser, and patient representatives convened by the PCPI specifically for this purpose. All comments received are reviewed by the expert Work Group and the measures adjusted as needed. Other external review groups (i.e. focus groups) may be convened if there are any remaining concerns related to the content validity of the measures.

Face validity has been quantitatively assessed for this measure. Specifically, the American College of Radiology Quality Metrics Committee members were asked to empirically assess face validity of the measure. The expert panel consists of 14 members, whose specialties include , neuroradiology, abdominal radiology, musculoskeletal radiology, cardiac/thoracic radiology, breast imaging, general diagnostic radiology, nuclear medicine, informatics, quality, and physics.

Face validity of the measure score as an indicator of quality was systematically assessed as follows:

After the measure was fully specified, the expert panel was asked to rate their agreement with the following statement:

The scores obtained from the measure as specified will provide an accurate reflection of quality and can be used to distinguish good and poor quality.

Scale 1-5, where 1=Disagree; 3=Neither Disagree nor Agree; 5=Agree

**2b2.3 Testing Results** (*Statistical results, assessment of adequacy in the context of norms for the test conducted; if face validity, describe results of systematic assessment*):

The results of the expert panel rating of the validity statement were as follows: N = 9; Mean rating = 4.56

Frequency Distribution of Ratings

1 - 0 (Strongly Disagree)

2 - 0

3 - 0 (Neither Disagree nor Agree)

4 - 4

5 - 5 (Strongly Agree)

**POTENTIAL THREATS TO VALIDITY.** (*All potential threats to validity were appropriately tested with adequate results.*)

**2b3. Measure Exclusions.** (Exclusions were supported by the clinical evidence in 1c or appropriately tested with results demonstrating the need to specify them.)

**2b3.1 Data/Sample for analysis of exclusions** (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

PCPI Testing Project

- Three radiology practice sites representing various types, locations and sizes were identified to participate in testing the measures
  - o The number of physicians per site was between 10 and 1,000 physicians
  - o Two of the sites were hospital-based radiology group practices and one was a stand-alone radiology group practice
  - o All three sites were located in urban regions
  - o Patient visit volume ranged from 550-1600 patients, per site, per day
- Sample size included a total of 97 records for this measure
- The data collection period was 1/1/2010- 12/31/2010
- Data abstraction was performed in 2011

**2b3.2 Analytic Method** (Describe type of analysis and rationale for examining exclusions, including exclusion related to patient preference):

Specifications allowed for exceptions for system reasons. Exceptions were analyzed for frequency and variability across providers.

**2b3.3 Results** (Provide statistical results for analysis of exclusions, e.g., frequency, variability, sensitivity analyses):

- Exception rate for this measure was 18.6%
- Reliability of exceptions was 100% agreement; with a kappa of 1.00

**2b4. Risk Adjustment Strategy.** (For outcome measures, adjustment for differences in case mix (severity) across measured entities was appropriately tested with adequate results.)

**2b4.1 Data/Sample** (Description of the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

This measure is not risk adjusted.

**2b4.2 Analytic Method** (Describe methods and rationale for development and testing of risk model or risk stratification including selection of factors/variables):

This measure is not risk adjusted.

**2b4.3 Testing Results** (Statistical risk model: Provide quantitative assessment of relative contribution of model risk factors; risk model performance metrics including cross-validation discrimination and calibration statistics, calibration curve and risk decile plot, and assessment of adequacy in the context of norms for risk models. Risk stratification: Provide quantitative assessment of relationship of risk factors to the outcome and differences in outcomes among the strata):

Not Applicable

**2b4.4 If outcome or resource use measure is not risk adjusted, provide rationale and analyses to justify lack of adjustment:** As a process measure, no risk adjustment necessary.

**2b5. Identification of Meaningful Differences in Performance.** (The performance measure scores were appropriately analyzed and discriminated meaningful differences in quality.)

**2b5.1 Data/Sample** (Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included):

PCPI Testing Project

- Three radiology practice sites representing various types, locations and sizes were identified to participate in testing the measures
  - o The number of physicians per site was between 10 and 1,000 physicians
  - o Two of the sites were hospital-based radiology group practices and one was a stand-alone radiology group practice
  - o All three sites were located in urban regions
  - o Patient visit volume ranged from 550-1600 patients, per site, per day

- Sample size included a total of 97 records for this measure
- The data collection period was 1/1/2010- 12/31/2010

Data abstraction was performed in 2011

**2b5.2 Analytic Method** (*Describe methods and rationale to identify statistically significant and practically/meaningfully differences in performance*):

A mean performance rate across testing sites was calculated for this measure.

**2b5.3 Results** (*Provide measure performance results/scores, e.g., distribution by quartile, mean, median, SD, etc.; identification of statistically significant and meaningfully differences in performance*):

PCPI Testing Project Results:

Performance Rate: 88.6% N=97

**2b6. Comparability of Multiple Data Sources/Methods.** (*If specified for more than one data source, the various approaches result in comparable scores.*)

**2b6.1 Data/Sample** (*Describe the data or sample including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included*):

The testing sites were queried to determine PQRI/S involvement for the 2010 PQRI/S program. It was determined that 2 of the 3 testing sites for the imaging measures were submitting information for the 2010 PQRI/S Program for this measure.

**2b6.2 Analytic Method** (*Describe methods and rationale for testing comparability of scores produced by the different data sources specified in the measure*):

Abstractors conducted a validation of the PQRI/S claims data for sites submitting PQRI/S data. The process began with the identification of a random sample of Medicare claims submitted containing Quality Data Codes for PQRI/S. The abstractors then obtained a copy of the Medicare claim from the sites and compare the information submitted on Medicare claim with patient record to determine if it matches PQRI/S measure specifications.

**2b6.3 Testing Results** (*Provide statistical results, e.g., correlation statistics, comparison of rankings; assessment of adequacy in the context of norms for the test conducted*):

The Correlation with Existing Imaging Studies measure was compared to PQRI/S claims submissions for the studied site(s). There were 35 PQRI/S claims reviewed, of which 100% (35/35) were verified.

**2c. Disparities in Care:** H  M  L  I  NA  (*If applicable, the measure specifications allow identification of disparities.*)

**2c.1 If measure is stratified for disparities, provide stratified results** (*Scores by stratified categories/cohorts*): We encourage the results of this measure to be stratified by race, ethnicity, gender, and primary language, and have included these variables as recommended data elements to be collected.

**2c.2 If disparities have been reported/identified (e.g., in 1b), but measure is not specified to detect disparities, please explain:**

The PCPI advocates that performance measure data should, where possible, be stratified by race, ethnicity, and primary language to assess disparities and initiate subsequent quality improvement activities addressing identified disparities, consistent with recent national efforts to standardize the collection of race and ethnicity data. A 2008 NQF report endorsed 45 practices including stratification by the aforementioned variables.(1) A 2009 IOM report "recommends collection of the existing Office of Management and Budget (OMB) race and Hispanic ethnicity categories as well as more fine-grained categories of ethnicity(referred to as granular ethnicity and based on one's ancestry) and language need (a rating of spoken English language proficiency of less than very well and one's preferred language for health-related encounters)."(2)

References:

(1)National Quality Forum Issue Brief (No.10). Closing the Disparities Gap in Healthcare Quality with Performance Measurement and Public Reporting. Washington, DC: NQF, August 2008.

(2)Race, Ethnicity, and Language Data: Standardization for Health Care Quality Improvement. March 2010. AHRQ Publication No. 10-0058-EF. Agency for Healthcare Research and Quality, Rockville, MD. Available at: <http://www.ahrq.gov/research/iomracereport>. Accessed May 25, 2010.

2.1-2.3 Supplemental Testing Methodology Information:

Steering Committee: Overall, was the criterion, *Scientific Acceptability of Measure Properties*, met? (Reliability and Validity must be rated moderate or high) Yes  No

Provide rationale based on specific subcriteria:

If the Committee votes No, STOP

3. USABILITY

Extent to which intended audiences (e.g., consumers, purchasers, providers, policy makers) can understand the results of the measure and are likely to find them useful for decision making. (evaluation criteria)

C.1 Intended Purpose/ Use (Check all the purposes and/or uses for which the measure is intended): Public Reporting, Quality Improvement (Internal to the specific organization)

3.1 Current Use (Check all that apply; for any that are checked, provide the specific program information in the following questions): Public Reporting, Quality Improvement (Internal to the specific organization)

3a. Usefulness for Public Reporting: H  M  L  I   
(The measure is meaningful, understandable and useful for public reporting.)

3a.1. Use in Public Reporting - disclosure of performance results to the public at large (If used in a public reporting program, provide name of program(s), locations, Web page URL(s)). If not publicly reported in a national or community program, state the reason AND plans to achieve public reporting, potential reporting programs or commitments, and timeline, e.g., within 3 years of endorsement: [For Maintenance – If not publicly reported, describe progress made toward achieving disclosure of performance results to the public at large and expected date for public reporting; provide rationale why continued endorsement should be considered.]

This measure was used in the Physician Quality Reporting Initiative in 2009 and 2010. The measure is currently in use in the 2011 Physician Quality Reporting System (PQRS).

<http://www.cms.gov/pqrs/>

The PCPI believes that the reporting of participation information is a beneficial first step on a trajectory toward the public reporting of performance results, which is appropriate since the measure has been tested and the reliability of the performance data has been validated. Continued NQF endorsement will facilitate our ongoing progress toward this public reporting objective.

3a.2. Provide a rationale for why the measure performance results are meaningful, understandable, and useful for public reporting. If usefulness was demonstrated (e.g., focus group, cognitive testing), describe the data, method, and results: The PCPI believes that the reporting of participation information is a beneficial first step on a trajectory toward the public reporting of performance results, which is appropriate since the measure has been tested and the reliability of the performance data has been validated. Continued NQF endorsement will facilitate our ongoing progress toward this public reporting objective.

3.2 Use for other Accountability Functions (payment, certification, accreditation). If used in a public accountability program, provide name of program(s), locations, Web page URL(s): This measure may be used in a Maintenance of Certification program.

3b. Usefulness for Quality Improvement: H  M  L  I   
(The measure is meaningful, understandable and useful for quality improvement.)

3b.1. Use in QI. If used in quality improvement program, provide name of program(s), locations, Web page URL(s): [For Maintenance – If not used for QI, indicate the reasons and describe progress toward using performance results for improvement].

All PCPI measures are suitable for use in quality improvement initiatives and are made freely available on the PCPI website and through the implementation efforts of medical specialty societies and other PCPI members. The PCPI strongly encourages the use

of its measures in QI initiatives and seeks to provide information on such initiatives to PCPI members.

3b.2. Provide rationale for why the measure performance results are meaningful, understandable, and useful for quality improvement. If usefulness was demonstrated (e.g., QI initiative), describe the data, method and results:

The PCPI believes that the use of PCPI measures in quality improvement initiatives is a beneficial way to gather scientific data with which to improve physician performance. This is appropriate since the measure has been tested and the reliability of the performance data has been validated. NQF endorsement will facilitate our ongoing progress toward this quality improvement objective.

Overall, to what extent was the criterion, *Usability*, met? H  M  L  I

Provide rationale based on specific subcriteria:

#### 4. FEASIBILITY

Extent to which the required data are readily available, retrievable without undue burden, and can be implemented for performance measurement. (evaluation criteria)

4a. Data Generated as a Byproduct of Care Processes: H  M  L  I

4a.1-2 How are the data elements needed to compute measure scores generated? (Check all that apply).

Data used in the measure are:

generated by and used by healthcare personnel during the provision of care, e.g., blood pressure, lab value, medical condition

4b. Electronic Sources: H  M  L  I

4b.1 Are the data elements needed for the measure as specified available electronically (Elements that are needed to compute measure scores are in defined, computer-readable fields): ALL data elements in electronic health records (EHRs)

4b.2 If ALL data elements are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources:

4c. Susceptibility to Inaccuracies, Errors, or Unintended Consequences: H  M  L  I

4c.1 Identify susceptibility to inaccuracies, errors, or unintended consequences of the measurement identified during testing and/or operational use and strategies to prevent, minimize, or detect. If audited, provide results:

We are not aware of any unintended consequences related to this measurement.

4d. Data Collection Strategy/Implementation: H  M  L  I

A.2 Please check if either of the following apply (regarding proprietary measures):

4d.1 Describe what you have learned/modified as a result of testing and/or operational use of the measure regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues (e.g., fees for use of proprietary measures):

This measure was found to be reliable and feasible for implementation.

Overall, to what extent was the criterion, *Feasibility*, met? H  M  L  I

Provide rationale based on specific subcriteria:

#### OVERALL SUITABILITY FOR ENDORSEMENT

Does the measure meet all the NQF criteria for endorsement? Yes  No

Rationale:

If the Committee votes No, STOP.

If the Committee votes Yes, the final recommendation is contingent on comparison to related and competing measures.

#### 5. COMPARISON TO RELATED AND COMPETING MEASURES

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If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure before a final recommendation is made.

5.1 If there are related measures (*either same measure focus or target population*) or competing measures (*both the same measure focus and same target population*), list the NQF # and title of all related and/or competing measures:

5a. Harmonization

5a.1 If this measure has EITHER the same measure focus OR the same target population as [NQF-endorsed measure\(s\)](#): Are the measure specifications completely harmonized?

5a.2 If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden:

5b. Competing Measure(s)

5b.1 If this measure has both the same measure focus and the same target population as NQF-endorsed measure(s): Describe why this measure is superior to competing measures (*e.g., a more valid or efficient way to measure quality*); OR provide a rationale for the additive value of endorsing an additional measure. (*Provide analyses when possible*):  
[No competing measures have been identified.](#)

CONTACT INFORMATION

Co.1 Measure Steward (Intellectual Property Owner): [American Medical Association - Physician Consortium for Performance Improvement, 515 N. State St., Chicago, Illinois, 60654](#)

Co.2 Point of Contact: [Mark S., Antman, DDS, MBA, DDS, MBA, mark.antman@ama-assn.org, 312-464-5056-](#)

Co.3 Measure Developer if different from Measure Steward: [American Medical Association - Physician Consortium for Performance Improvement, 515 N. State St., Chicago, Illinois, 60654](#)

Co.4 Point of Contact: [Diedra, Joseph, MPH, diedra.joseph@ama-assn.org, 312-464-4904-](#)

Co.5 Submitter: [Diedra, Joseph, MPH, diedra.joseph@ama-assn.org, 312-464-4904-](#), [American Medical Association - Physician Consortium for Performance Improvement](#)

Co.6 Additional organizations that sponsored/participated in measure development:  
[Society of Nuclear Medicine](#)

Co.7 Public Contact: [Diedra, Joseph, MPH, diedra.joseph@ama-assn.org, 312-464-4904-](#), [American Medical Association - Physician Consortium for Performance Improvement](#)

ADDITIONAL INFORMATION

Workgroup/Expert Panel involved in measure development

Ad.1 Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.

List of Work Group Members:

- [Robert Henkin, MD, FACNP, FACR \(Co-Chair\) \(Nuclear Medicine\)](#)
- [Paul Wallner, DO, FACR, FAOCR, FASTRO \(Co-Chair\) \(Radiation Oncology\)](#)
- [Sue Abreu, MD, FACNP \(Nuclear Medicine\)](#)
- [Terence Beven, MD, FACNP \(Nuclear Medicine\)](#)
- [Gary L. Dillehay, MD, FACR, FACNP \(Radiology & Nuclear Medicine\)](#)



Gregory A. Francken, MD (Diagnostic Radiology)  
 Mark Gebhardt, MD (Orthopedic Surgery)  
 Leonie Gordon, MD, FACNP (Nuclear Medicine)  
 Kenneth McKusick, MD, FACR, FACNP (Radiology & Nuclear Medicine)  
 Haydee Muse, MD (Health Plan representative, Internal Medicine & Pulmonary Medicine)  
 Henry D. Royal, MD, FACR, FACNP (Nuclear Medicine & Internal Medicine)  
 John Schneider, MD, PhD (Internal Medicine)  
 William G. Spies, MD, FACR (Radiology & Nuclear Medicine)  
 Amol M. Takalkar, MD, FACNP (Nuclear Medicine)  
 Robert Wagner, MD, MSMIS, FACNP (Nuclear Medicine)  
 Elizabeth Yung, MD (Radiology & Nuclear Medicine)

PCPI measures are developed through cross-specialty, multi-disciplinary work groups. All medical specialties and other health care professional disciplines participating in patient care for the clinical condition or topic under study must be equal contributors to the measure development process. In addition, the PCPI strives to include on its work groups individuals representing the perspectives of patients, consumers, private health plans, and employers. This broad-based approach to measure development ensures buy-in on the measures from all stakeholders and minimizes bias toward any individual specialty or stakeholder group. All work groups have at least two co-chairs who have relevant clinical and/or measure development expertise and who are responsible for ensuring that consensus is achieved and that all perspectives are voiced.

**Ad.2 If adapted, provide title of original measure, NQF # if endorsed, and measure steward. Briefly describe the reasons for adapting the original measure and any work with the original measure steward:** Not Applicable

**Measure Developer/Steward Updates and Ongoing Maintenance**

**Ad.3 Year the measure was first released:** 2008

**Ad.4 Month and Year of most recent revision:** 09, 2010

**Ad.5 What is your frequency for review/update of this measure?** Please see Additional Information/Comments section.

**Ad.6 When is the next scheduled review/update for this measure?** 09, 2012

**Ad.7 Copyright statement:** Physician Performance Measures (Measures) and related data specifications, developed by the Physician Consortium for Performance Improvement® (the Consortium), are intended to facilitate quality improvement activities by physicians. These Measures are intended to assist physicians in enhancing quality of care. Measures are designed for use by any physician who manages the care of a patient for a specific condition or for prevention. These performance Measures are not clinical guidelines and do not establish a standard of medical care. The Consortium has not tested its Measures for all potential applications. The Consortium encourages the testing and evaluation of its Measures. Measures are subject to review and may be revised or rescinded at any time by the Consortium. The Measures may not be altered without the prior written approval of the Consortium. Measures developed by the Consortium, while copyrighted, can be reproduced and distributed, without modification, for noncommercial purposes, e.g., use by health care providers in connection with their practices. Commercial use is defined as the sale, license, or distribution of the Measures for commercial gain, or incorporation of the Measures into a product or service that is sold, licensed or distributed for commercial gain. Commercial uses of the Measures require a license agreement between the user and American Medical Association, on behalf of the Consortium. Neither the Consortium nor its members shall be responsible for any use of these Measures. THE MEASURES ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND © 2007 American Medical Association. All Rights Reserved Limited proprietary coding is contained in the Measure specifications for convenience. Users of the proprietary code sets should obtain all necessary licenses from the owners of these code sets. The AMA, the Consortium and its members disclaim all liability for use or accuracy of any Current Procedural Terminology

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(CPT®) or other coding contained in the specifications.  
THE SPECIFICATIONS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND.

**Ad.8 Disclaimers:**

**Ad.9 Additional Information/Comments:** Coding/Specifications updates occur annually. The PCPI has a formal measurement review process that stipulates regular (usually on a three-year cycle, when feasible) review of the measures. The process can also be activated if there is a major change in scientific evidence, results from testing or other issues are noted that materially affect the integrity of the measure.

**Date of Submission (MM/DD/YY):** 01/09/2012