



Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

Brief Measure Information

NQF #: 2416

Corresponding Measures:

De.2. Measure Title: Laboratory Investigation for Secondary Causes of Fracture

Co.1.1. Measure Steward: The Joint Commission

De.3. Brief Description of Measure: Percentage of patients age 50 and over with fragility fracture who have had appropriate laboratory investigation for secondary causes of fracture ordered or performed prior to discharge from inpatient status.

1b.1. Developer Rationale: Patients over 50 presenting with fragility fractures (low-trauma fractures) should have the underlying cause determined so that it can be treated, thereby preventing future fractures, readmissions, mortality, and unnecessary costs associated with treating these fractures.

The incidence of low bone mass among wrist fracture patients has been cited as 70-80%. And the incidence of low bone mass among hip fracture patients is 80%, yet the NCQA has found that, in 2011, only one in five women age 67 and over with a fracture is ever tested or treated for osteoporosis.

About half of women and one-fourth of men over the age of 50 will sustain a fracture due to osteoporosis. Further, among these patients, osteoporosis that is secondary to other disease processes or conditions such as glucocorticoid administration occurs in almost two-thirds of men, more than half of premenopausal and perimenopausal women, and in about one-fifth of postmenopausal women. It is essential to determine the presence of any underlying cause of low bone mass, and once a causative factor for fracture has been identified, it is important to treat the underlying cause, since the therapeutic response can be substantial and significant in prevention of future fractures..

In addition, many patients over age 50 have inadequate Vitamin D levels, which contribute towards low levels of calcium in bone. For example, in a study of postmenopausal women with osteoporosis, 82% had low 25(OH)D levels (<30 ng/ml). The laboratory testing required for this measure is designed to detect indications of any underlying causative factors for osteoporosis that can be addressed to prevent future fracture.

S.4. Numerator Statement: Patients who have all the specified laboratory tests ordered or performed prior to discharge:

1. Complete blood cell count (CBC)
2. Kidney function test
3. Liver function test
4. Serum calcium
5. 25(OH) Vitamin D level OR Oral Administration of Vitamin D

S.6. Denominator Statement: Patients age 50 and over discharged from inpatient status with an ICD-10-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture

S.8. Denominator Exclusions: Exclusions are those patients with:

- Age less than 50 years
- "Comfort Measures Only" documented
- Enrollment in a clinical trial pertaining to osteoporosis
- Laboratory testing performed in the prior 12 months
- Expired

De.1. Measure Type: Process

S.17. Data Source: [Electronic Health Records, Other, Paper Medical Records](#)

S.20. Level of Analysis: [Facility](#)

IF Endorsement Maintenance – Original Endorsement Date: [Sep 02, 2014](#) **Most Recent Endorsement Date:** [Sep 02, 2014](#)

IF this measure is included in a composite, NQF Composite#/title:

IF this measure is paired/grouped, NQF#/title:

De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results? This measure is not paired or grouped. It is the first in a set of three measures (laboratory assessment after fracture, risk assessment/treatment after fracture, discharge instructions for emergency department patient) designed to assess and improve the care of fragility fracture patients age 50 and over with regard to the detection and treatment of low bone mass.

1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. ***Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.***

1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[OAF-01_MeasSubm_Evidence_2013_Final-635219213471944549-636426319172395942.docx](#)

1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

1b.1. Briefly explain the rationale for this measure (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.

Patients over 50 presenting with fragility fractures (low-trauma fractures) should have the underlying cause determined so that it can be treated, thereby preventing future fractures, readmissions, mortality, and unnecessary costs associated with treating these fractures.

The incidence of low bone mass among wrist fracture patients has been cited as 70-80%. And the incidence of low bone mass among hip fracture patients is 80%, yet the NCQA has found that, in 2011, only one in five women age 67 and over with a fracture is ever tested or treated for osteoporosis.

About half of women and one-fourth of men over the age of 50 will sustain a fracture due to osteoporosis. Further, among these patients, osteoporosis that is secondary to other disease processes or conditions such as glucocorticoid administration occurs in almost two-thirds of men, more than half of premenopausal and perimenopausal women, and in about one-fifth of postmenopausal women. It is essential to determine the presence of any underlying cause of low bone mass, and once a causative factor for fracture has been identified, it is important to treat the underlying cause, since the therapeutic response can be substantial and significant in prevention of future fractures..

In addition, many patients over age 50 have inadequate Vitamin D levels, which contribute towards low levels of calcium in bone. For example, in a study of postmenopausal women with osteoporosis, 82% had low 25(OH)D levels (<30 ng/ml). The laboratory testing required for this measure is designed to detect indications of any underlying causative factors for osteoporosis that can be addressed to prevent future fracture.

1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis. *(This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

This is a new measure.

1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.

No publications could be found in which one group of fragility fracture patients was investigated for secondary causes via lab testing and another group was not; however, two other studies were found in which a group of osteoporosis or fragility fracture patients were assessed with laboratory testing and the prevalence of secondary causes was measured. These studies demonstrate the importance and need to investigate secondary causes of fracture.

1. 377 subjects with osteoporosis or nontraumatic lumbar vertebral fracture were investigated to determine whether diagnostic tests can identify possible risk factors for secondary osteoporosis and the impact of the risk factors on bone density. In 241 of the 337 patients (64%), one or more risk factors were revealed, and the number of risk factors in each patient was directly related to disease severity. (Deutschmann HA, Weger M, Weger W, Kotanko P, et al. Search for occult secondary osteoporosis: impact of identified possible risk factors on bone mineral density. *Journal of Internal Medicine* 252: 389-397.

2. 300 consecutive osteoporosis patients who presented to an osteoporosis clinic for evaluation were tested with laboratory tests that included CBC, thyroxine, urinary calcium and 25(OH) D levels; 83 (46%) were found to have contributing diagnoses. Johnson BH, Lucasey B, Robinson RG, Lukert BP. Contributing Diagnoses in osteoporosis. *Arch Int Med* – Vol 149, May, 1989.

And, in general:

3. A prospective cohort study was conducted to assess the effect of two different interventions on the rate of osteoporosis treatment in patients with a fragility fracture. One intervention was immediate care for osteoporosis while hospitalized; the other intervention involved delayed care including recommendations for testing and potential treatment that were communicated to the patient's primary care physician after discharge. Patients were surveyed by telephone six months after the fracture, and their medical and pharmacy records were reviewed.

The rate of bone mineral density testing was 92% in the immediate care group and 67% in the delayed-care group; both groups showed improvement over the baseline rate of 0%. However, the primary care physician had initiated treatment by six months in only 30% of the delayed-care group, compared with the treatment rate of 67% in the immediate care group. (Edwards BJ, Koval K, Bunta AD, Genuario K, et al. Addressing Secondary Prevention of Osteoporosis in Fracture Care: Follow-up to "Own the Bone". *J Bone Joint Surg Am.* 2011;93:e87(1-7).)

1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability. *(This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.*

This is the initial submission of this new measure.

1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4

There are no data on disparities available; lack of testing for osteoporosis after fracture is widespread.

2. Reliability and 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. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

2a.1. Specifications The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

De.5. Subject/Topic Area (check all the areas that apply):

Endocrine, Musculoskeletal : Osteoporosis

De.6. Non-Condition Specific(check all the areas that apply):

Care Coordination : Transitions of Care, Health and Functional Status : Change, Primary Prevention, Screening

De.7. Target Population Category (Check all the populations for which the measure is specified and tested if any):

Elderly, Populations at Risk

S.1. Measure-specific Web Page (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

http://www.jointcommission.org/assets/1/6/Osteoporosis_Imp_Guide_16318.pdf

S.2a. If this is an eMeasure, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

S.2b. Data Dictionary, Code Table, or Value Sets (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: [Appendix_Final-636426319170989692.xlsx](#)

S.2c. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Attachment:

S.2d. Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

S.3.1. For maintenance of endorsement: Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

S.3.2. For maintenance of endorsement, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

This is a new submission

S.4. Numerator Statement (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Patients who have all the specified laboratory tests ordered or performed prior to discharge:

1. Complete blood cell count (CBC)
2. Kidney function test
3. Liver function test

4. Serum calcium
5. 25(OH) Vitamin D level OR Oral Administration of Vitamin D

S.5. 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, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Data Elements:

Laboratory Tests Ordered or Performed Prior to Discharge - The specific laboratory tests are (all five):

Complete Blood Count (CBC)

and

Kidney Function Test - may be either:

Serum Creatinine

Kidney Function Panel

Kidney Panel

Renal Function Panel

and

Liver Function Test – may be either:

Liver Panel

Liver Profile

Liver Function Panel

Hepatic Panel

Hepatic Profile

Hepatic Function Profile

All of the following:

Bilirubin

Alk. Phos

AST

ALT

Total Protein

Albumin

and

Serum Calcium

and

25(OH) Vitamin D level

Instructions to the patient must be specific for the laboratory test to be performed; general terms such as “labs” are unacceptable.

If some of the laboratory tests are performed while an inpatient and the patient is given a prescription for the remaining laboratory tests on discharge, select value 1, (Yes).

Allowable Values:

1 (Yes) There is an order for the specified laboratory tests.

2 (Yes) There are results for the specified laboratory tests in the record.

3 (Yes) A prescription for performance of the specified laboratory tests was given to the patient on discharge.

4 (Yes) Written discharge instructions given to the patient include instructions to follow up with his or her physician for the specified laboratory tests.

5 (Partial) The only lab test not ordered or performed is the Vitamin D test, 25(OH)D.

6 (No) There is no order for all the specified laboratory tests, the specified laboratory test results are not in the record, there is no prescription given to the patient for the specified laboratory tests, and there are no written discharge instructions given to the patient to follow up with his or her physician for the specified laboratory tests.

7 (Refused) There is evidence in the record that the patient refused all laboratory testing for osteoporosis.

Oral Administration of Vitamin D - Administration of Vitamin D, alone or in combination with other components, by mouth. Vitamin D must be given by mouth at a dose to equal or exceed 800 IU daily. Examples of dosing regimens that are acceptable are:

1000 IU daily
400 IU. b.i.d.
10,000 IU weekly
50,000 IU weekly

Other dosing regimens that calculate to or are ordered at a level of 800 IU or greater per day are also acceptable.

At least one dose needs to have been administered prior to discharge; orders alone are insufficient.

The Vitamin D can be administered as a single drug or in combination with another medication, such as Os-Cal Extra D3.

Allowable Values:

Y (Yes) There is documentation the patient received Vitamin D by mouth at a dose equal to or greater than 800 IU daily.

N (No) There is no documentation that Vitamin D by mouth at a dose equal to or greater than 800 IU. Daily was ordered.

U (Unable to determine)

R (Refused) Vitamin D was ordered in a dose equal to or greater than 800 IU daily, but the patient refused.

S.6. Denominator Statement *(Brief, narrative description of the target population being measured)*

Patients age 50 and over discharged from inpatient status with an ICD-10-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture

S.7. Denominator Details *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).

Patients age 50 and over discharged from inpatient status with an ICD-10-CM Principal or Other Diagnosis Code of selected fractures as defined in Table 3.1 Vertebral Fracture, Table 4.1 Hip Fracture, or Table 5.1 Other Fracture. (See codes in attached Excel file – Tables).

Data Elements: (See definitions provided in the attached Excel file – Data Elements)

Admission date

Birthdate

ICD-9-CM Principal Diagnosis Code

ICD-9-CM Other Diagnosis Codes

Comfort Measures Only

Clinical Trial

Laboratory Testing Performed in the Prior 12 Months

Discharge Date

Discharge Disposition

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

Exclusions are those patients with:

- Age less than 50 years
- “Comfort Measures Only” documented
- Enrollment in a clinical trial pertaining to osteoporosis
- Laboratory testing performed in the prior 12 months
- Expired

S.9. Denominator Exclusion Details *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

Age less than 50 years Admission date is subtracted from birth date to calculate age.

Comfort Measures Only Comfort Measures Only refers to medical treatment of a dying person where the natural dying process is permitted to occur while assuring maximum comfort. It includes attention to the psychological and spiritual needs of the patient and support for both the dying patient and the patient's family. Comfort Measures Only is commonly referred to as "comfort care" by the general public. It is not equivalent to a physician order to withhold emergency resuscitative measures such as Do Not Resuscitate (DNR).

Clinical Trial Documentation that during this hospital stay the patient was enrolled in a clinical trial in which patients with the same condition as the measure set were being studied (i.e., fragility fracture).

Laboratory Testing Performed in the Prior 12 Months Documentation in the current medical record that all five required laboratory tests were performed in the 12 months prior to the admission date. The five required laboratory tests are:

- Complete blood cell count (CBC)
- Kidney function test
- Liver function test
- Serum calcium
- Vitamin D level (25(OH)D)

S.10. Stratification Information *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*

This measure is not stratified.

S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

No risk adjustment or risk stratification

If other:

S.12. Type of score:

Rate/proportion

If other:

S.13. 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

S.14. Calculation Algorithm/Measure Logic *(Diagram or 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; time period for data, aggregating data; risk adjustment; etc.)*

1. Target population identified as inpatients age 50 and over
2. Target population of fragility fracture patients identified by Diagnosis Code
3. Patients to be excluded by virtue of discharge status expired, comfort measures only, and clinical trial are excluded
4. Patients for whom the physician has documented that they are known to have osteoporosis, or for whom there is documentation of a known cause of osteoporosis, are excluded from the measure to avoid testing for information that is known.
5. Patients who had all the laboratory testing in the prior 12 months are excluded from the measure.
6. Remaining patients who had all the laboratory testing done during the current inpatient stay are placed in the numerator
7. Remaining patients whose only missing laboratory test is a 25(OH)D are identified; if they received at least one oral dose of Vitamin D equal to or greater than 800IU daily they are placed in the numerator
8. All remaining patients are in the denominator.

S.15. Sampling *(If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)*

If an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed.

There is no sampling associated with this measure.

S.16. Survey/Patient-reported data *(If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)*

Specify calculation of response rates to be reported with performance measure results.

N/A

S.17. Data Source (Check *ONLY* the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Electronic Health Records, Other, Paper Medical Records

S.18. Data Source or Collection Instrument (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

IF instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

The data source is the medical record.

S.19. Data Source or Collection Instrument (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

No data collection instrument provided

S.20. Level of Analysis (Check *ONLY* the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

S.21. Care Setting (Check *ONLY* the settings for which the measure is SPECIFIED AND TESTED)

Inpatient/Hospital

If other:

S.22. COMPOSITE Performance Measure - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

N/A

2. Validity – See attached Measure Testing Submission Form

OAF-01_MeasSubm_MeasTesting_2013_Final-635231388618147161-636426319173333442.docx

2.1 For maintenance of endorsement

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

2.2 For maintenance of endorsement

Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

2.3 For maintenance of endorsement

Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.

3. Feasibility

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

3a. Byproduct of Care Processes

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

3a.1. Data Elements Generated as Byproduct of Care Processes.

Coded by someone other than person obtaining original information (e.g., DRG, ICD-9 codes on claims), Abstracted from a record by someone other than person obtaining original information (e.g., chart abstraction for quality measure or registry)

If other:

3b. Electronic Sources

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

3b.1. To what extent are the specified data elements available electronically in defined fields (*i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields*) Update this field for maintenance of endorsement.

3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources. For maintenance of endorsement, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.

Attachment:

3c. Data Collection Strategy

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

3c.1. Required for maintenance of endorsement. Describe difficulties (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.

IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.

Timing: It takes an average of 9 minutes to collect data for this measure

Cost: Costs of data collection are from \$2.81 to \$6.86 for this measure, depending on the level of personnel abstracting

Availability of data: Prior lab data are available electronically only if the patient receives services in the same, integrated health system or if prior laboratory testing is documented in the clinical record by the physician; the latter seldom occurs.

Missing data: 25(OH)D results and test confirmation are delayed when the test is done by outside or reference laboratories; therefore, data collection is enhanced when sufficient time has elapsed after the patient's discharge (>14 days) before data are abstracted.

Practice conventions: As originally alpha-tested for face validity, there was a version of this measure requiring the same level of care for Emergency Department patients sent home with a fragility fracture. Through this testing it was learned that Emergency Department physicians do not consider it within their scope of practice to extend care to patients beyond the care required to stabilize the Emergency situation.

Vitamin D dosing: From public comments submitted and discussion at pilot site hospitals there is considerable difference of opinion regarding the therapeutic dose level of Vitamin D for low bone mass patients.

As a result of these findings, yet considering the high volume of fragility fracture patients sent home from Emergency Departments yet needing investigation for osteoporosis, the Emergency Department measure requiring lab testing prior to discharge home was deleted from the pilot phase of testing and replaced with a measure requiring referral for osteoporosis follow-up after discharge. The literature search was also repeated regarding Vitamin D dosing and resulted in reducing the minimum required daily dose from 1,000 IU to 800 IU in the final versions of the measure, based on the most recent research findings.

3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).

There are no fees, licensing or other requirements to use this measure. It is freely available in the public domain.

4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
Public Reporting	Not in use
Regulatory and Accreditation Programs	Not in use
Quality Improvement (Internal to the specific organization)	Not in use

4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included
- Level of measurement and setting

4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons? (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

It is anticipated that this measure will be made available for use by The Joint Commission for accreditation purposes when NQF endorsement is achieved. This measure will also be publicly reported on The Joint Commission's public reporting site, qualitycheck.org.

4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement. (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

Specific Program: Osteoporosis-Associated Fracture Performance Improvement Measure Set, Core Performance Measures, Quality Check

Purpose: Assessment of acute hospital care for patients with fragility fracture

Intended Audience: Acute Care Hospitals, General Public

Timeline:

Quarters 1 - 2, 2014 – NQF Endorsement

Quarters 3-4, 2014 – Approval by The Joint Commission Board of Directors

Quarter 1, 2015 – Preparation of measure materials for Specifications Manual

Quarters 2-3, 2015 – Publication in Specifications Manual (accountability application)

Quarter 1, 2016 – Data collection and reporting commence

Quarter 1, 2017 – First public reporting, in Quality Check, of data collected in 2016

4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.

How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.

4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.

4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.

Describe how feedback was obtained.

4a2.2.2. Summarize the feedback obtained from those being measured.

4a2.2.3. Summarize the feedback obtained from other users

4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.

Improvement

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results, number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

This is the initial submission and the measure is not in routine use. However, during testing one hospital, recognizing that they were not rendering care in accordance with these performance measures, implemented a plan of education for staff and resident physicians and for hospital staff during the pilot test period. This hospital was able to achieve >90% compliance scores on all test measures, and was the only hospital that implemented a plan of care and the only hospital achieving significantly higher performance scores.

4b2. Unintended Consequences

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for

individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.

There were no unintended negative consequences reported or detected during testing.

4b2.2. Please explain any unexpected benefits from implementation of this measure.

5. Comparison to Related or Competing Measures

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.

5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

5.1a. List of related or competing measures (selected from NQF-endorsed measures)

0045 : Communication with the physician or other clinician managing on-going care post fracture for men and women aged 50 years and older

5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

N/A

5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

OR

The differences in specifications are justified

5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

No

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

Differences : 1. Target population of #0045 is the ambulatory care/clinic or physician office patient; target population of this measure (OAF-01) is hospital inpatient. 2. Numerator of #0045 is notification of physician following the patient that patient should be tested or treated for osteoporosis; numerator of OAF-01 is ordering of laboratory testing for underlying causes of osteoporosis/osteopenia or administration of Vitamin D. 3. Denominator of #0045 is patients with hip, spine or distal radial fracture; denominator of OAF-01 includes those sites of fracture plus additional sites of fracture known to be sites of fragility fracture such as humerus, ankle, and pelvis. 4. The level of analysis for OAF-01 is facility-specific; the level of analysis for #0045 is the individual physician. Rationale: 1. Communication to a following physician does not ensure that testing will be ordered; reviewing hospital inpatients encourages appropriate testing during hospitalization or ordering post discharge. 2. If the patient does not follow up with a physician, or a different physician than the one who was communicated to (partners, etc.), then the communication is lost in terms of benefit to the patient. 3. OAF-01 indicates specifically which laboratory tests should be done, while 0045 does not. Often, patients are not assessed for Vitamin D deficiency/insufficiency. Given that Vitamin D insufficiency is at epidemic levels in the United States and is a substance necessary to enhance the absorption of calcium and increase the efficacy of osteoporosis medications and calcium, treatment success is enhanced by assessment of 25(OH)D levels. 4. OAF-01 avoids the costs of additional phlebotomy and repeat testing. 5. OAF-01 avoids delay in diagnosis and treatment of underlying causes of osteoporosis/osteopenia. 6. #0045 does not recognize the efforts of the orthopedic community to "Own the Bone" and perpetuates the fragmentary care for osteoporosis that has resulted in inadequate diagnosis and

treatment thus far. Impact on interpretability: #0045 results give no information as to whether the testing was ordered, only that the doctor was notified, and therefore the relationship to improved patient care and outcome is unknown. OAF-01 is clear in that it indicates if all required lab tests were done or undone. Data Collection Burden: It is quicker to find laboratory and medication reports than it is to find a specific letter or communication in a medical record, particularly as the measure is converted to eSpecifications.

5b. Competing Measures

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

OR

Multiple measures are justified.

5b.1. If this measure conceptually addresses 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 NQF-endorsed competing measures were found.

Appendix

A.1 Supplemental materials may be provided in an appendix. All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

[Attachment Attachment: OAF_Appendix_Final-635231388987403895-636426319174583442.xlsx](#)

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Co.3 Measure Developer if different from Measure Steward: [The Joint Commission](#)

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Additional Information

Ad.1 Workgroup/Expert Panel involved in measure development

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

The role of the Expert Panel over the seven years of development was to provide advisory oversight in literature review, measure construct and content, review of testing results, and endorsement of draft and finalized measures, as well as to continue to provide measure content oversight and update in the future. Members are:

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Measure Developer/Steward Updates and Ongoing Maintenance

Ad.2 Year the measure was first released: 2013

Ad.3 Month and Year of most recent revision: 09, 2013

Ad.4 What is your frequency for review/update of this measure? Twice Yearly

Ad.5 When is the next scheduled review/update for this measure? 06, 2014

Ad.6 Copyright statement: This measure resides in the public domain and is not copyrighted

Ad.7 Disclaimers:

Ad.8 Additional Information/Comments: The Measure Steward Agreement is under discussion between the legal representatives of NQF and The Joint Commission.