**National Quality Forum—Evidence (subcriterion 1a)**

**Measure Number** (*if previously endorsed*)**:** 0037

**Measure Title**: Osteoporosis Testing in Older Women

**IF the measure is a component in a composite performance measure, provide the title of the Composite Measure here:** N/A

**Date of Submission**: 4/9/2018

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| **Instructions**  *Complete 1a.1 and 1a.2 for all measures. If instrument-based measure, complete 1a.3.*  *Complete* ***EITHER 1a.2, 1a.3 or 1a.4*** *as applicable for the type of measure and evidence.*  *For composite performance measures:*  *A separate evidence form is required for each component measure unless several components were studied together.*  *If a component measure is submitted as an individual performance measure, attach the evidence form to the individual measure submission.*   * All information needed to demonstrate meeting the evidence subcriterion (1a) must be in this form. An appendix of *supplemental* materials may be submitted, but there is no guarantee it will be reviewed. * If you are unable to check a box, please highlight or shade the box for your response. * Contact NQF staff regarding questions. Check for resources at [Submitting Standards webpage](http://www.qualityforum.org/Measuring_Performance/Submitting_Standards.aspx). |

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| **Note: The information provided in this form is intended to aid the Standing Committee and other stakeholders in understanding to what degree the evidence for this measure meets NQF’s evaluation criteria.**   1a. Evidence to Support the Measure Focus The measure focus is evidence-based, demonstrated as follows:   * Outcome: [**3**](#Note3) Empirical data demonstrate a relationship between the outcome and at least one healthcare structure, process, intervention, or service. If not available, wide variation in performance can be used as evidence, assuming the data are from a robust number of providers and results are not subject to systematic bias. * Intermediate clinical outcome: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4)that the measured intermediate clinical outcome leads to a desired health outcome. * Process: [**5**](#Note5) a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured process leads to a desired health outcome. * Structure: a systematic assessment and grading of the quantity, quality, and consistency of the body of evidence [**4**](#Note4) that the measured structure leads to a desired health outcome. * Efficiency: [**6**](#Note6) evidence not required for the resource use component. * For measures derived from patient reports, evidence should demonstrate that the target population values the measured outcome, process, or structure and finds it meaningful. * Process measures incorporating Appropriate Use Criteria: See NQF’s guidance for evidence for measures, in general; guidance for measures specifically based on clinical practice guidelines apply as well.   **Notes**  **3.** Generally, rare event outcomes do not provide adequate information for improvement or discrimination; however, serious reportable events that are compared to zero are appropriate outcomes for public reporting and quality improvement.  **4.** The preferred systems for grading the evidence are the Grading of Recommendations, Assessment, Development and Evaluation [(GRADE) guidelines](http://www.gradeworkinggroup.org) and/or modified GRADE.  **5.** Clinical care processes typically include multiple steps: assess → identify problem/potential problem → choose/plan intervention (with patient input) → provide intervention → evaluate impact on health status. If the measure focus is one step in such a multistep process, the step with the strongest evidence for the link to the desired outcome should be selected as the focus of measurement. Note: A measure focused only on collecting PROM data is not a PRO-PM.  **6.** Measures of efficiency combine the concepts of resource use and quality (see NQF’s [Measurement Framework: Evaluating Efficiency Across Episodes of Care](http://www.qualityforum.org/Publications/2010/01/Measurement_Framework__Evaluating_Efficiency_Across_Patient-Focused_Episodes_of_Care.aspx); [AQA Principles of Efficiency Measures](http://www.aqaalliance.org/files/PrinciplesofEfficiencyMeasurementApril2006.doc)). |

**1a.1.This is a measure of**: (*should be consistent with type of measure entered in De.1*)

Outcome

Outcome: Click here to name the health outcome

Patient-reported outcome (PRO): Click here to name the PRO

*PROs include HRQoL/functional status, symptom/symptom burden, experience with care, health-related behaviors.* (*A PRO-based performance measure is not a survey instrument. Data may be collected using a survey instrument to construct a PRO measure.)*

Intermediate clinical outcome (*e.g., lab value*): Click here to name the intermediate outcome

Process: Screening for Osteoporosis

Appropriate use measure: Click here to name what is being measured

Structure: Click here to name the structure

Composite: Click here to name what is being measured

**1a.2** **LOGIC MODEL** Diagram or briefly describe the steps between the healthcare structures and processes (e.g., interventions, or services) and the patient’s health outcome(s). The relationships in the diagram should be easily understood by general, non-technical audiences. Indicate the structure, process or outcome being measured.

2014 Submission

Female patients at risk for osteoporosis (age 65 and older)>>> bone mineral density test to check for low bone mass or osteoporosis >>> low bone mass identified >>> patient evaluated for treatment options >>> treatment >>> reduced risk of developing osteoporosis or sustaining a fragility fracture >>> maintained quality of life and reduced risk of morbidity and mortality.

**1a.3** **Value and Meaningfulness:**  **IF** this measure is derived from patient report, provide evidence that the target population values the measured ***outcome, process, or structure*** and finds it meaningful. (Describe how and from whom their input was obtained.)

2018 Submission

During the measure’s reevaluation we sought feedback on the value and importance of the measure from our measurement advisory panels and through public comment. Patient and consumer representatives on our panels indicated that osteoporosis screening is a valued service for older women.

**\*\*RESPOND TO ONLY ONE SECTION BELOW -EITHER 1a.2, 1a.3 or 1a.4) \*\***

**1a.2** **FOR OUTCOME MEASURES including PATIENT REPORTED OUTCOMES - Provide empirical data demonstrating the relationship between the outcome (or PRO) to at least one healthcare structure, process, intervention, or service.**

**1a.3.****SYSTEMATIC REVIEW(SR) OF THE EVIDENCE (for intermediate outcome, PROCESS, or STRUCTURE PERFORMANCE measures, including those that are instrument-based) If the evidence is not based on a systematic review go to section 1a.4) If you wish to include more than one systematic review, add additional tables.**

**What is the source of the systematic review of the body of evidence that supports the performance measure? A systematic review is a scientific investigation that focuses on a specific question and uses explicit, prespecified scientific methods to identify, select, assess, and summarize the findings of similar but separate studies. It may include a quantitative synthesis (meta-analysis), depending on the available data. (IOM)**

☐ Clinical Practice Guideline recommendation (with evidence review)

☐ US Preventive Services Task Force Recommendation

☐ Other systematic review and grading of the body of evidence (*e.g., Cochrane Collaboration, AHRQ Evidence Practice Center*)

☐ Other

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| **USPSTF Recommendation:**   * **Title** * **Author** * **Date** * **Citation, including page number** * **URL** | 2018 Submission  NCQA acknowledges that as of April 9, 2018, the U.S. Preventive Services Task Force (USPSTF) has released a DRAFT recommendation statement for osteoporosis screening. A draft Evidence Review was also published in November 2017. When published, NCQA will evaluate the final recommendation statement and supporting evidence review and consider any potential changes that may be needed for this measure. However, based on the draft recommendation statement we do not anticipate that any major revisions will be needed.  U.S. Preventive Services Task Force. 2017. Draft Recommendation Statement: Osteoporosis to Prevent Fractures: Screening. https://www.uspreventiveservicestaskforce.org/Page/Document/draft-recommendation-statement/osteoporosis-screening1  U.S. Preventive Services Task Force. 2017. Draft Evidence Review: Osteoporosis to Prevent Fractures: Screening*.* https://www.uspreventiveservicestaskforce.org/Page/Document/draft-evidence-review/osteoporosis-screening1  2014 Submission  U.S. Preventive Services Task Force. 2011. Screening for osteoporosis: US preventive services task force recommendation statement. Annals of internal medicine, 154(5), 356.  <http://www.uspreventiveservicestaskforce.org/uspstf10/osteoporosis/osteors.htm>, accessed May 2, 2014. |
| Quote the guideline or recommendation verbatim about the process, structure or intermediate outcome being measured. If not a guideline, summarize the conclusions from the SR. | 2018 Submission  “The USPSTF recommends screening for osteoporosis with bone measurement testing to prevent osteoporotic fractures in women age 65 years and older. The USPSTF recommends screening for osteoporosis with bone measurement testing in postmenopausal women younger than age 65 years who are at increased risk of osteoporosis, as determined by a formal clinical risk assessment tool.”  2014 Submission  “The USPSTF recommends screening for osteoporosis in women aged 65 years or older and in younger women whose fracture risk is equal to or greater than that of a 65-year-old white woman who has no additional risk factors.” |
| Grade assigned to the **evidence** associated with the recommendation with the definition of the grade | 2018 Submission  The USPSTF concludes with moderate certainty that the net benefit of screening for osteoporosis in women age 65 years and older is at least moderate. |
| Provide all other grades and definitions from the evidence grading system | 2018 Submission  N/A |
| Grade assigned to the **recommendation** with definition of the grade | 2018 Submission  Grade B: The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.  2014 Submission  This measure is based on a grade B recommendation from the USPSTF.  Grade B: The USPSTF recommends the services. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial |
| Provide all other grades and definitions from the recommendation grading system | 2018 Submission  Grade A: The USPSTF recommends the service. There is high certainty that the net benefit is substantial.  Grade C: The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.  Grade D: The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.  Grade I: The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.  2014 Submission  Grade A: The USPSTF recommends the service. There is high certainty that the net benefit is substantial.  Grade C: The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.  Grade D: The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.  I Statement: The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined. |
| Body of evidence:   * Quantity – how many studies? * Quality – what type of studies? | 2018 Submission  The DRAFT evidence report (Viswanathan et al 2017) supporting this guideline outlines the quantity and quality of evidence, which are summarized below for the key questions of the review.  Key Question 1. Does Screening (Clinical Risk Assessment, Bone Density Measurement, or Both) for Osteoporotic Fracture Risk Reduce Fractures and Fracture-Related Morbidity and Mortality in Adults?   * As in the previous 2011 review, found no good or fair quality studies eligible for this key question   Key Question 2a. What is the accuracy and reliability of screening approaches to identify adults who are at increased risk for osteoporotic fracture?   * Accuracy of Clinical Risk Assessment Tools for Identifying Osteoporosis: included 37 articles (35 studies, fair or good quality) * Accuracy of Bone Measurement Tests Used to Identify Low Bone Mass and Osteoporosis: included 11 studies, fair or good quality * Accuracy of Bone Measurement Tests Used to Predict Fracture: included 21 studies, fair or good quality * Accuracy of Fracture Risk Prediction Instruments: included 1 systematic review and 13 fair or good quality observational studies   Key Question 2b. What is the evidence to determine screening intervals and how do these vary by baseline fracture risk?   * Included 2 articles (2 studies, good quality)   Key Question 3. What are the harms of screening for osteoporotic fracture risk?   * Found no eligible studies that addressed this question   Key Question 4a. What is the effectiveness of pharmacotherapy for the reduction of fractures and related morbidity and mortality?  Bisphosphonates:   * Alendronate: included 7 studies, fair or good quality * Zoledronic Acid: included 2 studies, fair or good quality * Risedronate: included 4 studies, fair or good quality * Etidronate: included 2 fair quality studies * Ibandronate: identified no studies or trials that assessed the benefits of ibandronate for preventing fractures   Raloxifene:   * Included 1 large good quality RCT   Estrogen:   * No studies included   Denosumab:   * Included 3 fair quality trials   Parathyroid Hormone:   * Included 2 fair quality trials   Key Question 4b. How does the effectiveness of pharmacotherapy for the reduction of fractures and related morbidity and mortality vary by subgroup, specifically in postmenopausal women, premenopausal women, men, younger age groups (age <65 years), older age groups (age ≥65 years), baseline bone mineral density, and baseline fracture risk?  Bisphosphonates:   * Zoledronic Acid, Etidronate, Ibandronate: found no relevant results in included studies for subgroup analysis * Alendronate: included 1 study * Risedronate: included 1 RCT   Raloxifene:   * Included 1 study   Estrogen:   * No studies included   Denosumab:   * Included 1 fair quality trial   Parathyroid Hormone:   * Included 1 fair quality trial   Key Question 5. What are the harms associated with pharmacotherapy?  Bisphosphonates:   * Alendronate: included 16 studies, fair or good quality * Zoledronic Acid: included 4 studies, fair or good quality * Risedronate: included 4 studies, fair or good quality * Etidronate: included 2 fair quality studies * Ibandronate: included 7 fair quality studies   Raloxifene:   * Included 6 studies   Estrogen:   * No studies included   Denosumab:   * Included 3 fair quality studies   Parathyroid Hormone:   * Included 2 fair quality studies   Viswanathan, M., et al. 2017. “Screening to Prevent Osteoporotic Fractures: An Evidence Review for the U.S. Preventive Services Task Force.” Available here: https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryDraft/osteoporosis-screening1  **2014 Submission**  Quantity: N/A (not required for previous submission)  Quality: N/A (not required for previous submission) |
| Estimates of benefit and consistency across studies | 2018 Submission  The following text is quoted directly from the USPSTF recommendation statement.  The USPSTF found no studies that evaluated the effect of screening for osteoporosis on fracture rates or fracture-related morbidity or mortality.  The USPSTF found convincing evidence that bone measurement tests are accurate for detecting osteoporosis and predicting osteoporotic fractures in women and men. The USPSTF found adequate evidence that clinical risk assessment tools are moderately accurate in identifying risk of osteoporosis and osteoporotic fractures.  The USPSTF found convincing evidence that drug therapies reduce subsequent fracture rates in postmenopausal women. The benefit of treating screening-detected osteoporosis is at least moderate in women age 65 years and older and younger postmenopausal women who have similar fracture risk. The harms of treatment range from no greater than small for bisphosphonates and parathyroid hormone to small to moderate for raloxifene and estrogen. Therefore, the USPSTF concludes with moderate certainty that the net benefit of screening for osteoporosis in these groups of women is at least moderate.  The USPSTF concludes that the evidence is inadequate to assess the effectiveness of drug therapies in reducing subsequent fracture rates in men without previous fractures. Treatments that have been proven effective in women cannot necessarily be presumed to have similar effectiveness in men, and the direct evidence is too limited to draw definitive conclusions. Thus, the USPSTF could not assess the balance of benefits and harms of screening for osteoporosis in men.  **2014 Submission**  N/A |
| What harms were identified? | 2018 Submission  The following is quoted directly from the USPSTF draft recommendation statement: “The USPSTF found no studies that described harms of screening for osteoporosis in men or women. Based on the nature of screening with bone measurement tests and the low likelihood of serious harms, the USPSTF found adequate evidence to bound these harms as no greater than small. Harms associated with screening may include radiation exposure from DXA and opportunity costs (time and effort required by patients and the health care system).”  **2014 Submission**  N/A |
| Identify any new studies conducted since the SR. Do the new studies change the conclusions from the SR? | 2018 Submission  To our knowledge, there have been no published studies since the systematic review that would impact the recommendations.  **2014 Submission**  N/A |

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**1a.4 OTHER SOURCE OF EVIDENCE**

*If source of evidence is NOT from a clinical practice guideline, USPSTF, or systematic review, please describe the evidence on which you are basing the performance measure.*

**1a.4.1** **Briefly SYNTHESIZE the evidence that supports the measure.** A list of references without a summary is not acceptable.

**1a.4.2 What process was used to identify the evidence?**

**1a.4.3.** **Provide the citation(s) for the evidence.**