Health Benchmarks®
Clinical Quality Indicator Specification 2007

Client	HEALTH BENCHMARKS, INC. STANDARD ALGORITHM *Implemented for Blue Cross Blue Shield of Illinois*
Measure Title	OSTEOPOROSIS SCREENING FOLLOWING FRACTURES
Disease State	Osteoporosis **Indicator Classification[1]** Screening
Strength of Recommendation[2]	C
Clinical Intent	To ensure that all eligible women who experience a fracture receive an osteoporosis screening test within a clinical appropriate timeframe.
Physician Specialties	Family Practice, General Practice, Internal Medicine, Mixed Specialty, OB – Gynecology, Orthopedic Surgery

Clinical Rationale

Disease Burden

- The National Health and Nutrition Examination Survey reports approximately 14 million American women 50 years of age are afflicted with osteopenia, and 5 million more have osteoporosis. Increase in age is associated with an increase in risk of osteoporosis and, up to 70 percent of women over age 80 years have osteoporosis.[1, 2]
- Women with osteoporosis are at excess risk to experience fractures. As age and prevalence of osteoporosis increase, so does the incidence of hip fracture. Hip fractures are associated with high rates of mortality and loss of independence.[2]
- Fractures resulting from osteoporosis are a major cause of disability and death, especially among the elderly.[3] Less than one third of patients that experience fractures associated with fragility are treated for osteoporosis.[4]
- Medical expenditure in the United States for the treatment of fractures related to osteoporosis in adults over 45 years of age neared $14 billion, with the majority being spent on inpatient care. This cost is likely to rise as the median age of the US population increases.[2, 5]

Reason for Indicated Intervention or Treatment

- Up to 20% of women who suffer a hip fracture will die within one year of the fracture. [6, 7]
- The data show that based on current guidelines, osteoporosis screening is being significantly underused.[8]
- A World Health Organization (WHO) working group determined specific guidelines which would be widely used to diagnose and treat osteoporosis and osteopenia.[2]
- Screening for osteoporosis offers the opportunity to treat before fracture occurs. Among women who have fractures before osteoporosis has been identified, it is important to determine whether osteoporosis is the cause so that it can be treated before additional fractures occur.[9]

Evidence supporting Intervention or Treatment

- Among different bone measurement tests performed at various anatomical sites, bone density measured at the femoral neck by dual-energy x-ray absorptiometry (DEXA) is the best predictor of hip fracture and is comparable to forearm measurements for predicting fractures at

other sites.[10]

- In one cohort study of 3107 older adult patients, those who were screened for osteoporosis had 36% fewer incident hip fractures over 6 years compared with usual treatment. [9]
- By recommendation of the National Osteoporosis Foundation, a bone mineral density study is indicated when risk factors are present and a decision must be made regarding osteoporosis medications to reduce fracture risk. The literature indicates that bone mineral density studies should be used as a prevention strategy and targeted at high-risk patients.[11, 12]
- Applying a Markov model to a randomized, double-blind, controlled study demonstrated that intervention with risedronate for postmenopausal women with osteoporosis was cost-effective for women ages 60 and older (if the woman had a prior vertebral fracture and a BMD T score < -2.5 SD). Using risedronate as a treatment was still deemed as cost-effective for women 65 and older who did not have a prior vertebral fracture but did meet the BMD threshold for osteoporosis (T score < -2.5 SD).[13]
- Treating post-menopausal women with drugs to prevent osteoporosis without screening is not cost-effective.[14]

Clinical Recommendations

- The American Association of Clinical Endocrinologists recommends routine screening for osteoporosis for all women 65 years and older, all adult women with a history of one or more fractures not caused by severe trauma, and younger postmenopausal women who have clinical risk factors for fractures (such as low body weight, or a family history of spine or hip fracturing). [15]
- The USPSTF recommends that women aged 65 and older be screened routinely for osteoporosis. The USPSTF also recommends that routine screening begin at age 60 for women at increased risk for osteoporotic fractures. [10] The Institute for Clinical Systems Improvement makes similar recommendations. [16]
- The National Osteoporosis Foundation recommends screening all women over age 65, postmenopausal women at any age who present with a fracture, and postmenopausal women at age 50 who have a history of fracture after age 40.[17, 18]

Source

Adapted from the HEDIS 2007 specification.

Codes 28400, 28405, 28406, 28415, 28420, 28430, 28435, 28436, 28445, 28450, 28455, 28456, 28465 (which refer to the heel and ankle) were dropped in HEDIS 2007. HBI has decided to keep these codes in the specification since they do not refer to fractures of the finger, toe, face, or skull – codes which are to be excluded according to HEDIS.

Denominator

Continuously enrolled women ages 51 and older, who had a fracture (excluding fractures of the finger, toe, face and skull) at any time during the one year period ending 6 months prior to the end of the measurement year.

Denominator Exclusion

Members who received at least one bone mineral density study within 12 months prior to the index date, or who had evidence of treatment for osteoporosis 12 months prior to the index date, or had a fracture in the 60 days prior to the index date.

Numerator

Members who received at least one bone mineral density study 0-6 months after the index date or who had evidence of treatment for osteoporosis 0-6 months after the index date (inclusive of index date).

Interpretation of Score

High score implies better performance

Physician Attribution

Score all physicians (in the selected specialties) who saw the member during the 0-6 months following the index fracture date (inclusive of index date).

References

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17. Fulton, J.P., *New guidelines for the prevention and treatment of osteoporosis. National Osteoporosis Foundation.* Med Health R I, 1999. **82**(3): p. 110-1.
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[1] **Indicator Classification** (Adapted from Health Plan Employer Data Information Set (HEDIS®) technical specifications)

Diagnosis	Measures applicable to patients receiving diagnostic workups for a symptom or condition that delineate appropriate laboratory or radiological testing to be performed (e.g. evaluation of thyroid nodule; pregnancy test in patients with vaginal bleeding or abdominal pain)
Effectiveness of Care	
Prevention	Measures applicable to asymptomatic individuals that are designed to prevent the onset of the targeted condition (e.g. immunizations).
Screening	Measures applicable to asymptomatic patients who have risk factors or pre-clinical disease, but in whom the condition has not become clinically apparent (e.g. pap smears; screening for elevated blood pressure).
Disease Management	Measures applicable to individuals diagnosed with a condition that are part of the treatment or management of the condition (e.g. cholesterol reduction in patients with diabetes; radiation therapy following breast conserving surgery; appropriate follow-up after acute event).
Medication Monitoring	Measures applicable to patients taking medications with narrow therapeutic windows and / or potential preventable significant side effects or adverse reactions (e.g. thyroid stimulating hormone (TSH) testing after levothyroxine dose change; hepatic enzyme monitoring for patients using antimycotic pharmacotherapy)
Medication Adherence	Measures applicable to patients taking medications for chronic conditions that are designed to assess patient adherence to medication (e.g. adherence to lipid lowering medication).
Utilization	Measures applicable to patients receiving treatment for a symptom or condition that advocate appropriate utilization of laboratory and pharmaceutical resources (e.g. conservative use of imaging for low back pain; inappropriate use of antibiotics for viral upper respiratory infection).

[2] **Strength of Recommendation**

Strength of Recommendation Based on a Body of Evidence

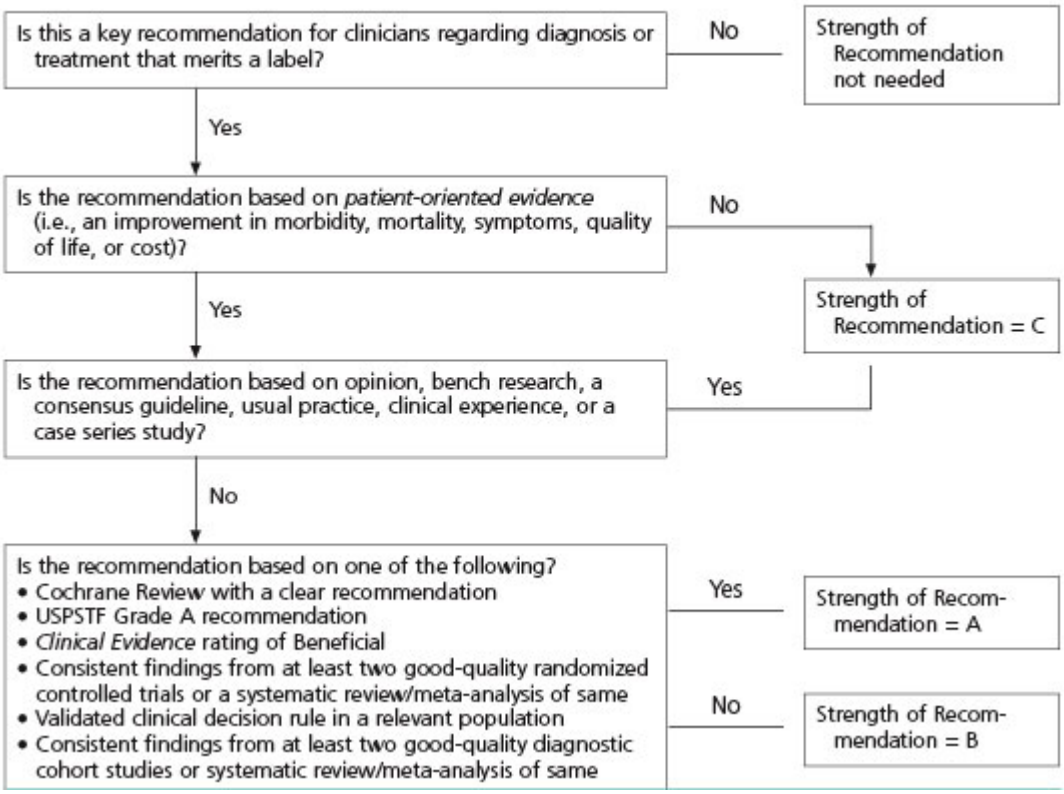

FIGURE 2. Algorithm for determining the strength of a recommendation based on a body of evidence (applies to clinical recommendations regarding diagnosis, treatment, prevention, or screening). While this algorithm provides a general guideline, authors and editors may adjust the strength of recommendation based on the benefits, harms, and costs of the intervention being recommended. (USPSTF = U.S. Preventive Services Task Force)