Submission Id: 4301

Title

Assessing the appropriateness of BMD testing for the prevention of fragility fracture at a family medicine teaching clinic

Priority 1 (Research Category)

Survey research or cross-sectional study

Presenters

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Abstract

Context: Dual x-ray absorptiometry (DEXA) is used to measure bone mineral density (BMD) and identify individuals at risk of fragility fractures. In 2010, Osteoporosis Canada recommended screening females under 65 for low BMD only in the presence of clinical risk factors. Assessing concordance between clinical practice and 2010 guidelines is a step toward improving quality of care by raising awareness of suspected low-value BMD testing. Objective: To determine the extent to which females aged 50-64 have clinical risk factors for fragility fracture in concordance with Osteoporosis Canada guidelines at initial BMD testing. Study Design: Cross-sectional study, December 2021. Setting or Dataset: Community-based primary care. Data were extracted from electronic medical records (EMR) of a family medicine teaching clinic. At this clinic, the EMR was implemented in November 2015. From this date to December 1, 2021, we searched the EMR using keywords for BMD requests or reports in relevant fields: Medical Summary, Visit Purpose, All Documents, Test Requests. Population Studied: Females over 50 as of December 1, 2021 with at least one BMD test report or test request and at least three clinical notes preceding the initial BMD test request to assess the reason for testing. 867 patients met these criteria. Intervention/Instrument: Not applicable. Outcome Measures: For females aged 50-64 screened at the clinic, the proportion with documented clinical risk factors for fragility fracture in comparison to the proportion with no such risk factors. Results: We reviewed a random sample of 322 of 867 patient charts. 226 of 322 (70%, 95% CI 65 to 75%) could not be assessed in the absence of the initial BMD test report, test request or sufficient documentation to assess the appropriateness of the test. Of the remaining 96 patient charts, 40 (42%, 95% CI 32 to 52%) were 65 or older at the time of the initial BMD test. Of the 56 females aged 50-64, 32 (58%, 95% CI 48 to 68%) had clinical risk factors in line with current screening recommendations while 24 (43%, 95% CI 30 to 57%) did not. Conclusion: At a family medicine teaching clinic, initial BMD testing is being done in many females under 65 who do not have risk factors for fragility fracture. This reveals a discordance between clinical practice and Osteoporosis Canada recommendations and identifies a target for quality improvement.