

Beyond Broken Bones: Expanding Secondary Prevention of Osteoporosis through Pre-fracture Screening in Postmenopausal Women

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Abstract

Background and Purpose: Osteoporosis, the most common disease in the US, results in detrimental fractures leading to hospitalizations, loss of independence, chronic pain, and poorer quality of life. These fractures can be prevented with early identification of osteoporosis via non-invasive dual x-ray absorptiometry (DXA) screenings in at-risk postmenopausal women. This DNP/MPH project evaluated the impact of the implementation of a clinical risk assessment tool, the Osteoporosis Self-Assessment Tool (OST) in an ambulatory endocrinology service line in the Southeastern US on the DXA scans ordered.

Methods: This quality improvement project utilized a pre-post test design. The intervention included integration of the OST into the electronic medical record and provision of provider-facing education on fracture risk assessment. Chi-squared test was used to compare the proportion of DXAs ordered and completed pre- and post-intervention. Provider attitudes were assessed with the 12-item Continuing Professional Development (CPD) Reaction Questionnaire. The pre- and post-CPD scores were compared using Wilcoxon signed-rank test.

Results: Although there was a 12.5% increase in DXAs ordered (pre-intervention n=396 charts were reviewed and 296 post-intervention charts were reviewed), it was not statistically significant. There were no statistically significant differences in any of the 5 CPD Reaction Questionnaire (pre-CPD n=11 clinicians completed the pre-CPD Reaction Questionnaire, while 6 completed the post-CPD).

Conclusions: The number of DXA scans ordered did increase; however, the project did not demonstrate statistically significant differences in the proportion of DXA scans ordered and completed. There were no statistically significant changes in clinician attitudes.

Implications: A more comprehensive approach that addresses systems and policy barriers is necessary to make osteoporosis screening rates in at-risk postmenopausal women more acceptable, accessible, and equitable. A shift in the medical paradigm from reactive to proactive management of health conditions is requisite to promoting the prevention of fractures before patients sustain detrimental post-fracture consequences.

Keywords: osteoporosis, population screening, prevention, postmenopausal women, fracture risk