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EXPERIENCE

Interprofessional care for patients with osteoporosis in a continuing care retirement community

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ABSTRACT

Objectives: To assess the quality of care provided to patients with osteoporosis in a continuing care retirement community (CCRC) after implementation of an interprofessional osteoporosis clinic (OPC). Specifically, quality measures were evaluated, including dual-emission X-ray absorptiometry (DXA) screening, calcium and vitamin D supplementation, and prescription treatment of osteoporosis and low bone mass in an ambulatory independent living community.
Setting: Large family medicine teaching practice that provides primary care for residents in one main practice, 5 rural satellite practices, and 2 CCRCs. An *interprofessional* OPC was developed at the main practice in 2005. Patients at all of the organization's sites could be referred to the main practice for osteoporosis management. A needs assessment conducted at one of the CCRCs in 2011 revealed that rates of screening and treatment were suboptimal for its residents despite availability of an off-site OPC.
Practice innovation: In 2012, a new interprofessional OPC including a physician, medical assistant, and pharmacist was replicated on-site at the CCRC so that residents had access to this service within their medical home.
Evaluation: Quality measures were evaluated after implementation of the team-based OPC on-site at a CCRC and included: 1) DXA screening; 2) calcium and vitamin D supplementation; and 3) prescription treatment of osteoporosis and low bone mass.
Results: Twenty-nine patients were seen in the new OPC from January 2012 to August 2013. Ninety-three percent had appropriate DXA testing after OPC implementation. Patients accepted pharmacist recommendations regarding calcium and vitamin D supplementation 90% and 86% of the time, respectively. All but 4 patients received appropriate treatment for osteoporosis or low bone mass.
Conclusion: Providing a team-based OPC on site in a CCRC improved quality measures for screening and treatment of osteoporosis and low bone mass.

Osteoporosis and osteoporosis-related fractures account for significant morbidity and mortality in older adults.[1] The National Osteoporosis Foundation (NOF) estimates that 10 million Americans have osteoporosis and that another 43 million Americans have low bone mass (osteopenia).[1] Osteoporosis is often characterized as a "silent disease," so many patients may not realize they have it until a fracture occurs.[2] One in every 2 women and one in every five men over the age of 50 years will experience an osteoporosis-related fracture during their lifetime.[1]

Although the NOF,[1] American Association of Clinical Endocrinologists,[2] and World Health Organization[3] have published statements on appropriate screening and treatment of osteoporosis, adherence to these guidelines is not optimal.[1-8] One analysis of Medicare claims demonstrated that only 30% of female patients and 4% of male patients at least 65 years old had been screened for osteoporosis or low bone mass over a 7-year span.[5] Moreover, the International Osteoporosis

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Key Points

Background:

- Osteoporosis increases the risk of fracture, which is associated with negative outcomes, including increased mortality, pain, and impaired functional status.
- The adherence to screening and treatment guidelines for the management of osteoporosis is poor.
- There is a paucity of data about the impact of the pharmacist on quality measures for patients with osteoporosis in continuing care retirement communities (CCRCs).

Findings:

- A needs assessment revealed that residents of a CCRC had suboptimal rates of osteoporosis treatment.
- Development of an interprofessional team at the CCRC site including a physician, medical assistant, and a pharmacist improved quality measures for patients with low bone mass (osteopenia) and osteoporosis.

Foundation (IOF) states that there is a significant gap in care for patients who experience fragility fracture, and that osteoporosis is frequently undiagnosed and undertreated.[9] Consequently, fracture liaison services, such as the Capture the Fracture service sponsored by the IOF, seek to improve transitions of care for post-fracture patients.[9] The primary care setting is ideal for providing clinical interventions for chronic diseases, but osteoporosis and osteoporosis-related fractures account for less than 2% of all primary care office visits annually.[1,6,10] Considering the current and projected shortage of primary care physicians, estimated to be 29,800 in 2015 and almost 70,000 by 2025, in addition to the rapidly growing population of older adults who are at risk for osteoporosis, fractures, and their associated costs, more team-based approaches that include other health care providers to fill the gap are needed to assist in the management of these types of chronic conditions.[1,11]

The 2015 Physician Quality Reporting System measure for quality of osteoporosis care is the combined metric of dual-emission X-ray absorptiometry (DXA) screening for osteoporosis and pharmacologic therapy for women over 65 years of age with osteoporosis.[12] Previous studies have demonstrated that adding pharmacists to interprofessional teams improve the quality of care for patients with osteoporosis.[6,13-15] For example, implementation of a pharmacist-managed osteoporosis clinic increased appropriateness of DXA scan frequency from 36% to 82% and appropriateness of prescription therapy for osteoporosis from 36% to 77%.[6] A descriptive study of how pharmacists were incorporated into a patient-centered medical home reported that a screening intervention in an osteoporosis clinic increased DXA screening in women over 65 from 20% to 75% over a 2-year period.[13] However, to our knowledge no study has assessed the impact of developing an interprofessional osteoporosis clinic (OPC) at a continuing care retirement community (CCRC). This article adds to the body of literature by assessing the impact of a multidisciplinary OPC at a CCRC on appropriate medication use for patients with osteoporosis or low bone mass.

Objectives

This study describes quality of care provided for patients with osteoporosis or low bone mass in a CCRC. Quality measures included: 1) DXA testing; 2) frequency of calcium and vitamin D supplementation; and 3) frequency of prescription treatment of osteoporosis and low bone mass after implementation of a team-based OPC.

Setting

The Mountain Area Health Education Center (MAHEC) houses a large family medicine practice with a focus on interdisciplinary, team-based care. The practice encompasses the Family Health Center (FHC), which is the flagship office and 7 satellite offices, 2 of which are at CCRCs. One geriatrician, three family medicine physicians, 2 geriatric fellows, and one faculty pharmacist provide team-based care for the residents of the CCRCs.

The CCRC where the OPC was implemented is an Episcopalian retirement community with accommodations in independent living, assisted living, and a skilled nursing facility; residents are able to move between the various levels of care according to their health status. Currently, of the 476 residing in independent living, 57% are MAHEC patients, 61% are women, and 96% are white. Of the 59 residing in assisted living, 95% are MAHEC patients, 69% are women, and 100% are white.

Practice description

An interdisciplinary OPC was implemented at the flagship office in 2005 at MAHEC.[13] Although the service improved osteoporosis quality measures at the FHC, CCRC patients were not frequent participants. Considerations such as transportation barriers and seeing a new provider at an unfamiliar location outside their medical home potentially affected CCRC residents' ability or willingness to participate in the OPC at the main practice.[13]

In 2011, a needs assessment project evaluated the quality of care provided for patients with low bone mass or osteoporosis at the CCRC. A random sample of 100 ambulatory patients at the CCRC was obtained via a computer-generated randomized list of active MAHEC residents. A retrospective chart review was performed to evaluate quality metrics related to bone health, including diagnosis of osteoporosis and low bone mass, use of calcium and vitamin D, and prescription therapies used for osteoporosis. A summary of the needs assessment findings showed that 77% of residents had not received a DXA scan within the previous 2 years, and more than 60% of those without a scan in the previous 2 years had no DXA screening documented in their medical record at any time. More people were receiving a guideline-recommended dose of vitamin D than of calcium. Appropriate prescription therapy, such as bisphosphonates, was used in only 17% of study patients, with many people meeting criteria for treatment but having no