

Rural Promising Practice Issue Brief: Rural Osteoporosis Evaluation Service (ROPES)

Executive Summary

In the United States, 44 million Americans suffer from osteoporosis¹, a condition in which bone mass deteriorates resulting in brittle and weak bones.² One of the major complications associated with osteoporosis is a higher risk of fractures.² Osteoporosis fractures often occur with minimal trauma, such as an individual falling from a seated or standing position, and repeated fractures are likely to occur after an individual has had an initial fracture.² With roughly two million fractures being attributed to osteoporosis each year, osteoporosis continues to be a significant public health concern due to the growing aging population.³

For individuals over the age of 50, the prevalence of osteoporosis significantly grows.² This is concerning, given that more than half of Veterans are over 50 years of age and many of those aging Veterans reside in rural communities.⁴ It has been estimated that roughly 50 percent of women and 22 percent of men over the age of 50 experience at least one osteoporosis fracture in their lifetime.² For aging Veterans living in rural communities, living alone, or with limited access to care, these compounding risks could lead to negative health outcomes and poor quality of care.

Additionally, osteoporosis fractures can have significant negative health outcomes that include chronic pain, long-term disability, loss of independence, and even death.⁵ Research demonstrates a substantial socioeconomic cost associated with treating and caring for individuals diagnosed with osteoporosis fractures - costs that can be extended to the Department of Veterans Affairs (VA) health care system. These expenses consist of direct costs, including medical, hospital, and surgical care, and indirect costs resulting from loss of independence, in-home nurse or institutionalization placement, and a decrease in income for those who are still active in the workforce.⁶

VA estimates that between 200,000 and 400,000 Veterans suffer from osteoporosis.⁷ In 2010, the VA Office of the Inspector General (OIG) found that less than 28 percent of Veterans with low trauma fractures received appropriate osteoporosis care, and rural Veterans were at greatest risk for suboptimal care.⁸ To improve osteoporosis care, the Durham VA Medical Center (VAMC) established the Rural Osteoporosis Evaluation Service (ROPES). This program identifies and educates Veterans with low trauma fractures and evaluates their risk of osteoporosis.

Within Veterans Integrated Service Network (VISN) 6, the ROPES program offers a centralized fracture liaison service, which provides an osteoporosis e-consult that is automatically triggered after a fracture. Using Clinical Video Telehealth (CVT), an osteoporosis nurse care manager and a metabolic bone disease specialist provide consult services to rural providers who treat Veterans to increase access to specialty care. The ROPES program targets rural Veterans who are at the greatest risk for suboptimal care following a fracture and focuses on improving Veterans' quality of life.

Who Can Use This Rural Promising Practice?

Adoption of this program is appropriate for a team consisting of a bone health nurse and a metabolic bone specialist. ROPES is designed to support multiple VA and non-VA facilities throughout an entire VISN or region to improve osteoporosis care after a low trauma fracture. For example, the original ROPES program was established at the Durham VAMC and provides fracture liaison services to an additional five VAMCs and nine Community-Based Outpatient Clinics. Findings suggest that identifying patients with a fracture increases their likelihood of receiving necessary assessment and management of previously untreated osteoporosis and reduces future fractures.⁹ By establishing a fracture liaison service, VA and non-VA facilities are able to increase access to interventions related to osteoporosis, fracture prevention, and bone health evaluation.¹⁰

Need Addressed

After a low trauma fracture, approximately one in five older men will suffer another fracture within two years. In addition, older men with low trauma fractures experience a two-fold increase in mortality. Despite the negative health outcomes and increased risk of additional fractures, osteoporosis continues to be underdiagnosed and often patients do not receive necessary treatment that would reduce future fractures.¹¹

Research demonstrates the effectiveness of multiple osteoporosis treatments, including bisphosphonates, calcium, and vitamin D, which decrease an individual's risk of experiencing subsequent fractures.¹² By identifying patients who experience a fracture, providers are able to order necessary tests for osteoporosis and develop more effective treatment plans.¹¹

A fracture liaison service is able to identify, diagnosis, and implement appropriate treatments for individuals who have a high risk of experiencing additional fractures.¹⁰ This model is associated with improved osteoporosis care, reduced fracture rates, and reduced costs. However, the fracture liaison service has yet to be widely implemented in the United States health care system at large and the VA health care system specifically.

Implementation

In 2012, the Durham VAMC Geriatric Research Education and Clinical Center (GRECC) established a regional fracture prevention program for five VAMCs within VISN 6. This program is known as ROPES and is based on the fracture liaison service model widely adopted in Europe, Canada, and other capitated health systems in the United States. The ROPES program provides a centralized patient identification mechanism, education, and a standardized protocol to improve Veteran access to osteoporosis care.

To establish this program, the ROPES program team conducted multiple meetings with primary care providers at local VAMCs to create program awareness. The program team also presented information on the ROPES program during VISN-wide leadership conference calls. Following the meetings, the program team provided a follow-up letter to VA facility leadership regarding the ROPES program to determine whether the facility would like to participate in the program. For VA medical facilities who agreed to participate, the bone nurse and the local primary care providers began developing a trusting, collaborative relationship.

The ROPES program initiates a monthly report of all VISN 6 Veterans who had a recent VA visit associated with a fracture code. After Veterans are identified, the program team conducts a review of the Veterans' medical records to identify whether they have previously undergone an osteoporosis evaluation and treatment. Veterans with fractures within the last six months and not receiving osteoporosis treatment are eligible for the ROPES program. After the Veterans are identified, the metabolic bone disease specialist conducts a thorough chart review to determine potential treatment options. During this chart review, the metabolic bone disease specialist reviews clinical risk factors for osteoporosis, previous laboratory results, and prior medical treatments.

After the chart review is completed, the metabolic bone disease specialist provides a consult note to the primary care provider suggesting recommendations for osteoporosis screenings and potential treatment options. The consult note is sent to the Veteran's primary care provider through the electronic health record. If the primary care provider agrees with the recommendations, a bone health nurse coordinates the evaluation and management plans, including ordering and following up on additional testing, providing the Veteran with education over the telephone, and then monitoring the Veteran for medication adherence. In addition, to address potential barriers for rural Veterans with complex bone issues requiring a specialty consultation, a metabolic Bone Disease CVT Clinic is provided at their local Community-Based Outpatient Clinic (CBOC).

To increase awareness among Veterans, the ROPES program provides educational materials (e.g., brochures and posters) to local VA medical facility waiting rooms. In addition, the program also conducts outreach to Veterans with recent fractures who receive care at rural CBOCs but may also receive care in their local community. Provider education is also provided through video teleconferences regarding the importance of osteoporosis treatment after a fracture and an update on current treatment guidelines. The provider education component occurs at least once or twice a year through formal conference calls and webinars.

Promising Results

Since its establishment in 2012, the ROPES program has had a significant impact on increasing osteoporosis screening and treatment rates.⁹ In Fiscal Year (FY) 2014, the ROPES program provided services to 400 Veterans, of which 212 Veterans lived in rural communities, and 189 providers received education and other assistance from the program team. The ROPES program demonstrates each of the criteria necessary to be a Promising Practice.

Impact on Access: Metabolic bone expert consultation via CVT is now available in nine CBOCs that did not have prior access to this specialty care service. All five participating VAMCs have signed standing orders for automatic bone e-consult for Veterans after a fracture. In October 2016, this program was expanded to a sixth facility within VISN 6. This expansion continues to improve access to standardized osteoporosis assessment and evaluation for Veterans who have experience fractures.

Evidence of Clinical Impact: Prior to the implementation of the ROPES program, the testing and treatment rate for osteoporosis at participating facilities was less than 20 percent.⁹ After the implementation of the ROPES program, for Veterans who received an e-consult from the metabolic bone disease specialist, osteoporosis medications were ordered for 61 percent of recommended patients and bone density testing was ordered for 70 percent of recommended patients.

In addition, for the 113 patients followed by the bone nurse, medications were ordered in 91 percent of recommended patients, compared to 43 percent of those with e-consult only. Bone mass density testing was ordered in 92 percent of those followed by the bone nurse, compared to 61 percent of those with e-consult only.

Customer Satisfaction: Veterans have largely welcomed the involvement of the bone health nurse with only one refusal for education and follow-up. Ninety-six percent of Veterans surveyed between 2012 and 2015 were satisfied with the service and believe other Veterans would benefit from it. Most primary care providers have also been grateful for the service with less than three percent opting out of the program. At the providers' request, the ROPES program team is accepting limited referrals for high-risk patients to enroll in the program without a prior fracture. Future evaluations of the ROPES programs should include provider and Veteran satisfaction surveys.

Office of Rural Health Rural Promising Practice Criteria

Increased Access: Measurable improvements in access to care and/or services. Examples include reduction in distance traveled to care, reduction in wait times, improved care coordination, and reduction in missed appointments.

Evidence of Clinical Impact: Positive results on outcomes of importance to rural Veterans based on evaluations conducted during the implementation of the program and at the end of the pilot period.

Customer Satisfaction: Increased patient, provider, partner, and/or caregiver satisfaction.

Return on Investment: Improvement in health system performance by 1) reducing the per capita costs of health care, and 2) improving or at least maintaining health outcomes, and/ or 3) positively impact the health care delivery system.

Operational Feasibility: Implementation is feasible and known barriers and facilitators of success could easily be shared across implementation sites.

Strong Partnerships and/or Working Relationships: Inclusion of VA and/or non-VA partners to maximize the efficacy of the intervention.

Return on Investment: The developmental cost for the program has been minimal despite the wide reach within VISN 6. In FY14, total miles saved for rural Veterans was 14,698. The program costs approximately \$180,000 annually to cover six to eight VA health care facilities, with an estimated \$273,500 in direct fracture costs saved through improved treatment rates.

Operational feasibility: The program team developed a mechanism to scan electronic medical records and identify eligible Veterans. E-consult and fracture liaison nurse protocols are established and exportable. Program and patient education materials are also available for dissemination.

Strong Partnerships and Working Relationships: One of the main criteria of the ROPES program is the development of strong partnerships. For the Durham VAMC's ROPES program, the essential partners include VISN 6 CDW (information technology), Ambulatory Care leadership throughout the VISN, and the GRECC for endocrinology services. Through these partnerships, the ROPES program is able to support a fracture prevention

program across the entire VISN and improve access to care for Veterans.

Adoption Considerations

To successfully implement the ROPES program, facilities will need the support of local facility leadership and strong partnerships across multiple departments, including radiology, information technology, and nursing. This program may potentially be implemented on average within six months based on facility's policy, credentialing, and staffing needs. Key considerations of the ROPES program include: 1) policy, 2) credentialing, 3) budget, and 4) clinical impact.

Policy: For VA facilities considering implementing the ROPES program, VISN legal counsel required that because there is no order generated for an e-consult by the patient's primary care provider as per VA Central Office guidance, each facility should document a formal standing order for osteoporosis e-consult for their patients following fracture, with an opt-out option for both patients and providers.

Credentialing: As a result of the bone nurse and metabolic bone specialist ordering and writing consult notes across facilities, credentialing and access to medical records will need to be obtained and maintained at each participating facility. The bone nurse and metabolic bone physician must maintain clinical privileges at each VA facility. In addition, non-VA facilities may have to establish share agreements or other contractual documents to support the sharing of information across facilities or with a VA medical facility.

Budget: Participating facilities must determine and arrange funding for clinical services provided through another facility prior to implementing the program.

Clinical Impact: In VISN 6, many Veterans were identified as having a fracture; however, they were not assigned to a VA primary care provider, making them ineligible for the program. Possible approaches to address this challenge include providing Veterans with education over the phone, mailing written information for them to provide to their non-VA primary care provider, or inviting the Veteran to enroll in VA primary care as per local availability and leadership discretion.

Conclusion and Next Steps

The ROPES program demonstrates the ability to effectively identify Veterans with undiagnosed osteoporosis and improve their access to and quality of osteoporosis care after a low trauma fracture. In addition, this program is responsive to the 2010 OIG report and subsequent Undersecretary mandates and policy directives.

To further refine the ROPES program, implementing facilities should conduct additional research regarding secondary fracture rates for participating and non-participating centers, collection of data to support economic analysis, and incorporation of evidence-based fall prevention into the program. The establishment of the ROPES program is feasible within the VA system and improves care for both rural and non-rural Veterans after a fracture.

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To Learn More

The Rural Promising Practices initiative is overseen by the U.S. Department of Veterans Affairs (VA) Office of Rural Health (ORH) as part of its targeted, solution-driven approach to improving care for the 3 million Veterans living in rural communities who rely on VA for health care. As VA's lead advocate for rural Veterans, ORH works to see that America's Veterans thrive in rural communities. To accomplish this, ORH leverages its resources to increase rural Veterans' access to care and services. To discuss implementing a Rural Promising Practice at your facility or to learn more, visit

www.ruralhealth.va.gov or email
rural.health.inquiry@va.gov

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