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Secondary fracture prevention: global approaches

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Abstract

Osteoporotic fractures, a major cause of disability and associated medical care expenditures, are expected to continue to increase worldwide. Adults who sustain primary osteoporotic fractures are more likely to sustain additional subsequent fractures, but few receive interventions to prevent those secondary fractures. Fracture liaison service models have been developed to systematically streamline preventative care for patients who have sustained a primary fragility fracture, proving cost-effective and efficacious. These programs have been developed in many countries, with varying degrees of success. There continues to be a need to better understand the various approaches to fracture liaison service programs in different regions enabling best practices to be adopted, successful approaches to be shared, and common obstacles to be addressed. The reports in this supplement address the status of fracture liaison service programs in different countries, focusing on national standards and guidelines, successes and barriers, and future directions. This work represents a collaborative effort of member societies of the International Orthopaedic Trauma Association (IOTA), an international association of orthopaedic societies dedicated to the promotion of musculoskeletal trauma care through advancements in patient care, research, and education. The expectation is that the information in these reports will aid efforts to address the growing need for fragility fracture programs.

Keywords: fracture liaison service, fragility fractures, international, osteoporosis, prevention

Osteoporosis is an age-associated condition and the most prevalent metabolic bone disease worldwide.[1] The condition causes bone loss due to an imbalance between bone formation and resorption, resulting in an increased risk of fractures, particularly of the hip, vertebra, and wrist, as well as other sites,[2,3] with rates of different types of fragility fractures varying widely regionally.[4] Fractures of the proximal femur, the most physiologically and socioeconomically consequential of these fragility fractures, carry 1-year mortality rates between 15% and 30%[5] and have increased by 1% to 3% per year.[4] With the elderly population growing rapidly globally, the estimated number of hip fractures is expected to continue to increase; assuming a 1% annual rise in age-adjusted incidence, these fractures could total 8.2 million by 2050.[4]

Osteoporotic fractures, a major cause of disability and associated medical care expenditures, are expected to continue to rise worldwide.[3,4] These fractures are associated with reduced function, mobility, and independence, as well as continued discomfort and reduced quality of life, after healing.[6] Significantly, adults who sustain an osteoporotic fracture have been noted to be 50% to 100% more likely to sustain a subsequent fracture.[4,7,8] However, despite this increased prevalence of future secondary fractures, only limited proportions of those who sustain a first-time fragility fracture receive pharmacological therapy for their osteoporosis and, of those who have received therapy, only a fraction of them remain compliant with their medication.[2,9,10]

Recognized throughout medical communities as a gap in care, secondary fracture prevention programs have been developed and realized in many countries. These programs have included essential programmatic functions: patient identification and assessment, initiation of osteoporosis pharmacotherapy, risk mitigation, and counseling. The fracture liaison service (FLS) model, initially described in 2003,[11] has since proven to be an efficacious, cost-effective multidisciplinary approach to systematically streamline preventative care for patients who have sustained a primary fragility fracture.[12]

The degree to which FLS models have been implemented varies across countries. The models require significant organization, support, and funding. Guidelines and recommendations have been published by international and national organizations to aid in programmatic development.[13–15] Fundamental barriers, such as costs, have played a role in the full implementation of programs. The costs of and reimbursement for pharmacological therapy alone, for example, may themselves be as costly as the treatment of the fractures themselves, potentially limiting full program implementation to a greater population, depending on the resources available.

There continues to be a need for and benefit to fully understanding the various approaches to the management of FLS programs throughout the global medical community; best practices can be adopted, successful approaches may be shared, and common obstacles can be addressed. The reports in this supplement address the status of FLS programs in various countries throughout the world, focusing on national standards

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