Building Bridges to Address the Osteoporosis Crisis

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“We are only as strong as we are united and as weak as we are divided” J.K.Rowling

Osteoporosis disease burden by far exceeds that incurred by many Non-Communicable Diseases (NCDs), yet the care gap from this debilitating and deadly disease, is staggering, and keeps widening\(^{(1,2)}\).

This year marks 50 years since the seminal discovery of bisphosphonates (BPs), a potent class of osteoporosis therapies, and cornerstone therapy to-date. DXA machines became available 35 years ago, the densitometry-based operational definition of osteoporosis was coined 25 years ago, the first anabolic therapy approved 18 years ago, FRAX launched 11 years ago, and several efficacious anti-resorptive and anabolic drugs are now available \(^{(3,4)}\). Despite such major advances, many initiatives and calls for action, a major crisis in osteoporosis diagnosis and treatment alarmingly persists. It originates at three levels: 1) patients, 2) care providers, and 3) healthcare systems and payers. Patients and the public often have a poor understanding of osteoporosis, fracture risk, and therapies available. They have major reservations about drug safety fueled by sensationalism \(^{(5)}\). Medical care is fragmented, muddied by differing approaches to fracture risk stratification, conflicting guidelines/care pathways, and contradicting recommendations from organizations and caregivers \(^{(6)}\). It is further crippled by competing health priorities, national policies for other NCDs, polypharmacy, staggering drug costs, and restrictions for reimbursement.

The American Society of Bone and Mineral Research (ASBMR)-led Coalition is the latest of a series of worthy initiatives. Importantly, it addresses several challenges raised above \(^{(7)}\). The Coalition made the critical decision to target the elderly above age 65 years, with the classical osteoporotic spine or hip fractures, a group where the evidence is unequivocal, benefits of therapy clearly outweigh risks, yet a high risk group that remains largely untreated \(^{(1,2,3)}\). The authors identified thirteen clinical recommendations for secondary fracture prevention, seven as fundamental (primary) \(^{(7)}\). They strategically place patients, families, and caregivers, front and center. The first recommendation highlights the pressing need for education regarding consequences of these fractures, and measures to treat them. Other primary recommendations underscore the importance of communication with the usual health care provider at the time of fracture; regular fall risk assessment and management; the efficacy and timing, without any delays post-fractures, for initiation of therapies, strategies to prevent or minimize their side effects; periodic re-evaluation for education, fracture and fall risk assessment, and the monitoring of adverse events and adherence. Additional recommendations pertain to lifestyle measures such as muscle strengthening, balance and posture exercises; education about risk-benefit ratio of therapies; and identification of a hierarchy for osteoporosis drug selection. It is however unclear why these were considered secondary. The authors also highlight the lack of data on optimal duration of long-term therapy, the need to consolidate treatment post-cessation of denosumab and anabolic
therapies, and referral of patients with major co-morbidities and who fracture on therapy, to an endocrinologist or osteoporosis expert.

Few considerations not mentioned are worth noting. A single age-adjusted BMD can predict fracture risk 25 years later. Serial height measurements in clinic, and lateral spine X-rays or vertebral fracture assessment at the time of DXA, increase the identification and use of pharmacologic therapy in patients with asymptomatic vertebral fractures. Observation of gait, balance, and timed up and go test, refine fall risk assessment, and identify additional high-risk patients who benefit from may physiotherapy. Moreover, care of this complex disease can only evolve through a tight coupling to research addressing knowledge gaps. Defining periods of high risk post-sentinel fracture, predictors of imminent fractures, on and off therapy, and predictors of AFF and ONJ are pressing needs.

Implementation strategies are best derived from research taking into account peculiarities of local healthcare systems, tailored to primary, secondary, or tertiary care settings. Identification of determinants of patient response to specific osteoporosis therapies, single or in combination, would refine recommendations from a one size fits all to a personalized approach. Observation of gait, balance, and timed up and go test, refine fall risk assessment, and identify additional high-risk patients who benefit from may physiotherapy. Moreover, care of this complex disease can only evolve through a tight coupling to research addressing knowledge gaps. Defining periods of high risk post-sentinel fracture, predictors of imminent fractures, on and off therapy, and predictors of AFF and ONJ are pressing needs.

Will the Coalition succeed when others where met with limited success? Building bridges when obstacles are met, reaching consensus on recommendations, and a follow-up action plan that includes dissemination and implementation, are solid pillars the Coalition plans to capitalize on. Highlights include: expansion of secondary fracture registries, fracture liaison services, dissemination of educational materials, improvement in diagnosing vertebral fractures, development of quantifiable goals, identification of quality measures, potential use of new technologies, exploration of use of reimbursement and financial incentives. To build relationships with other key organizations is mentioned, but they are not specified. The American Nurses Association, the American Dental Association, and the American Association of Oral and Maxillofacial Surgeons, are relevant stakeholders. Endorsement and adoption by the various organizations represented in the Coalition are also essential to successful implementation. Although the recommendations provide guidance to clinical situations in the United States, involvement of major international organizations in the Coalition, namely the International Osteoporosis Foundation (IOF), Osteoporosis Canada, Osteoporosis Australia, are important to convey a consistent message worldwide. The World Health Organization (WHO), is a major stakeholder for tackling NCDs in developing countries, where care gap is even wider. It identifies health priorities adopted as national agendas by ministries of health in such countries. To-date, osteoporosis is not on the WHO NCD agenda. Most importantly, successful implementation also requires engagement of policy makers and payers. Tying the recommendations and implementation to accreditation and reimbursement are crucial.

The approach adopted by the ASBMR with its assembled multi-disciplinary Coalition is indeed ambitious, as recognized by the authors, but most laudable. The Clinical Recommendations aim to prevent missed opportunities, optimize adherence through patient and physician education, and streamline the health care process through continuity in
care. They constitute a solid step forward in a laborious and complex path. Much more is to be done, and we simply cannot fail. Success can only be achieved through a global and unified approach.

References