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The Fracture Liaison Service. A standardized order set towards efficient management of fragility fractures with minor expenses

Over more than a decade, the secondary fracture prevention strategy has been the heart of osteoporosis-related fracture management studies. Management programs have oscillated between low and high levels of intensity of intervention(s); sensitization through letters or pamphlets, education, identification of cases, follow-up calls, investigation for bone fragility, referral to specialist, etc. Any of such services were bestowed different names, until one emerged recurrently through independent studies; the Fracture Liaison Service (FLS). Numerous papers report the benefits of the FLS for the management of fragility fractures in terms of patient identification, rate of investigation and rate of treatment initiation. Some authors even report it as cost-effective. Nonetheless, the reason as for why a majority of you has never seen a secondary fracture prevention service inside your healthcare institution is usually because of an administrative barrier. FLSs are costly right away and it seems that the demonstration of its long-term cost-effectiveness is not enough to build a strong business case for decision makers. Thus, we decided to evaluate a strategy involving minor expenses to the hospital or clinic. After demonstrating that nurses had the clinical skills to independently manage a FLS, we empowered the nursing staff of a community-dwelling hospital to undertake this role. After a period of 9 months, we assessed their performance in terms of patient identification and management.

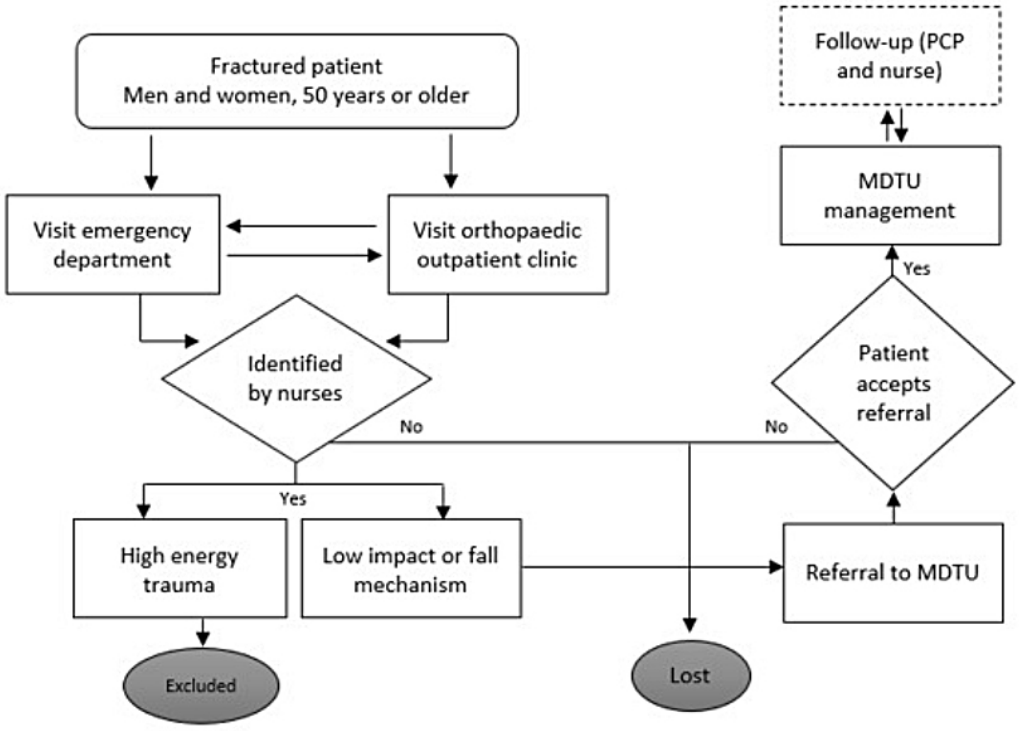

Fig. 1. Identification and management process of the standardized order set empowering nursing staff to manage fragility fractures in a community-dwelling hospital in Montreal, Quebec, Canada. (MDTU) medical day treatment unit, (PCP) primary care physician.

In February 2014, an order set for the management of osteoporosis-related fractures by the nursing staff was instituted in a tertiary care hospital in Montreal, Quebec, Canada. A clinical nurse specialist with FLS experience was positioned as the program trainer and manager. Nurses followed a theoretical training on osteoporosis disease and fragility fracture management. Their tasks were divided through the hospital departments; emergency and orthopaedic outpatient clinic nurses were allocated the identification of cases role, and medical day treatment unit nurses were appointed the management part with 1) investigation for bone fragility, 2) initiation of treatment, and 3) integration to a one-year follow-up by telephone in collaboration with the primary care physician. More specifically, nurses were legally allowed to prescribe standardized medical tests (blood and bone mineral density), and anti-osteoporosis pharmacological therapy (bisphosphonates, calcium and vitamin D supplements). After implementation procedures and field training, the service was officially started in November 2014. Patients' clinical data were collected in a file. In August 2015, data was extracted in a database by a research assistant. Descriptive statistics were yield in order to assess longitudinal FLS performance. During 9 months, 346 patients of 50 years old and older were seen for a fracture. After the exclusion of traumas (n=50) and hip fractures (n=106) because the FLS was not yet implemented on wards, 190 (55%) met fragility criteria. Identification rates per month ranged from 24% to its lowest to 68% to its highest. Almost 60% of cases referred for management agreed to be followed in the FLS.

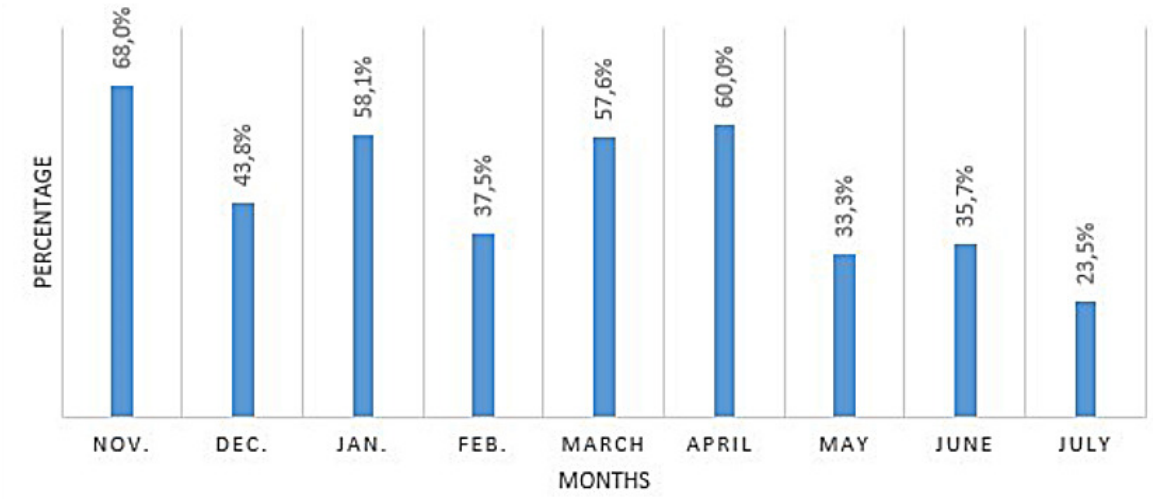

Fig. 2. Rates of fragility fracture patients' identification by the nursing staff in a community-dwelling hospital in Montreal, Quebec, Canada, over a 9-month period (2014-2015). This intervention was performed through a standardized order set approved by the Council of physicians, dentists and pharmacists of the hospital. Rates ranged between 23.5% and 68%.

Our results show that the standardized order set strategy for a FLS using already instated hospital staff can work. Indeed, real-world identification rates average 20-30%. Our service exceeded standard of care two-third of the time (6/9 months). The timeline showed that the most performing months coincided with the post-training period and a retroactive action from the FLS coordinator (Feb. 2015). This agrees with an in-house questionnaire distributed to nurses on the identification of patients' process. Of the 14 respondents, a remark was almost unanimous; they wanted more training and more feedback. Our results show that an efficient alternative to the fully dedicated FLS can be adopted. Thereafter, its functionality could be

improved with clear hospital policies, adequate training, pre-printed or electronic algorithms and/or periodical feedback.

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Publication

The impact of a standardized order set for the management of non-hip fragility fractures in a Fracture Liaison Service.
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