

## World Congress on Osteoporosis, Osteoarthritis and Musculoskeletal Diseases (WCO-IOF-ESCEO 2021): SICOT-ESCEO-IOF Symposium Abstracts

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### SICOT-ESCEO-IOF1

#### SUCCESS STORY OF COLLABORATION BETWEEN ORTHOPAEDICS AND REST OF THE WORLD IN FLS! HOW CAN I WORK WITH MY ORTHOPAEDIC SURGEON?

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**Introduction:** We implemented an FLS called *Lucky Bone*<sup>TM</sup> (FLS 4i) for fragility fractures (FF) managed by nursing staff in a community hospital. This included an order set for Identification (1st ‘i’), Investigation (2nd ‘i’), Initiation of treatment for osteoporosis (3rd ‘i’) and Integration to follow up (4th ‘i’). The 1st ‘i’ is the most important step for a FLS to be successful. The goal of our program is to monitor the referral rate and barriers of FF patients from the emergency room (ER), the orthopaedic surgery wards (OS) and out-patient clinic (OPC) nurses to our FLS.

**Methods:** We identified 1011 patients with a fracture from the orthopaedic referrals. 249 patients (24.6%) were not identified because of non-referral by surgeons or staff. Of the remaining 762, we excluded 288. A second study then retrieved the administrative list of patients 40 years and older seen at the hospital with a primary code typical of FF from Mai 2018 to September 2018 and the referrals to our FLS. Out of 474 fragility fracture patients, 295 patients (62.2%) joined the FLS (178 refusals (37.6%)). FLS managers only accessed 46.9% (474/1011) of eligible patients.

**Results:** Out of the first study which identified 474 fragility fracture patients, 295 patients (62.2%) joined the FLS (178 refusals—37.6%). On our second study, we identified 227 patients with a primary code typical of FF. One hundred forty-five patients (64%) were referred to the FLS. Forty (17.6%) had sustained high energy fractures, 67 hip fractures (46.2%) and 38 non-hip non-vertebral fractures (26.2%). FLS managers only accessed 46.9% (474/1011) of eligible patients.

**Conclusion:** We successfully trained and empowered nurses, administrative personnel and surgeons to manage FF in a real-world scenario in a community hospital. The success rate of the program was 62%, with a potential to attain 90%, since only 46.9% (474/1011) of eligible patients were referred to FLS managers. Major barriers were non-referral from orthopaedic surgeons and staff and patient’s refusal. Challenges to success reside in implementing an institutional policy for optimal screening, standardized algorithms of care and order sets.

### SICOT-ESCEO-IOF2

#### GETTING FLSS SUSTAINABLE- KEY STEPS

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Fracture liaison services (FLSs) are healthcare systems that identify, investigate, recommend treatment and monitor adults age 50 and over presenting with a recent fragility fracture diagnosis. To be sustainable, an FLS needs to demonstrate that it is effective, efficient and delivering a good patient experience. Through effective and efficient delivery of each step of the patient pathway, the FLS can reach their optimal performance and provide their expected benefit to patient’s healthcare systems and wider society. The patient pathway is complex. Patients often cross multiple clinical departments within the hospital, such as the emergency room orthopaedics and trauma geriatrics internal medicine and rehabilitation, as well as cross between secondary, primary and community care. The challenge is therefore implementing the FLS model within the local healthcare setting. The first step is adequate resourcing in terms of staff, information technology infrastructure and access to laboratory tests, imaging and a range of anti-osteoporosis treatments, so an FLS has the potential to deliver its expected benefits.

The next step is to ensure the FLS is performing. Patient-level key performance indicators have been developed to track the patient journey from diagnosis to adherence at 12 months. These indicators measure the current performance of an FLS, inform prioritisation for quality improvement and measure the impact of any service change. A reasonable target for an FLS is to identify 80% of its expected caseload, recommend treatment in approximately 50% of identified patients, and ensure 80% of patients are started within 16 weeks of fracture and continue to adhere for at least a year. Advances in digital technologies to improve case finding, including opportunistic vertebral fractures, and a range of anti-osteoporosis treatments if patients are at very high imminent risk of fracture or fail standard oral therapy, make these targets achievable.

Quality Improvement presents a systematic approach for FLS is to become more effective. At its heart is the PDSA cycle, where we Plan the change to be tested, Do the change, Study its impact on outcomes and then Act to plan the next change. The first step is to identify the quality improvement team. The team should be multi-professional and include at least two patients and senior members of the healthcare system that can empower

the team to change practice. The next step is to check the current FLS delivery for patients with hip fractures, other inpatients, outpatients and patients with spine fractures across identification investigation, treatment recommendation, early and late monitoring. This then leads to a list of gaps in the pathway that need to be improved. The next step is to prioritise which gaps to address first by comparing the expected benefit for the FLS with the expected effort needed to improve performance. Once the area of improvement has been identified, the next step is to develop a SMART aim. A SMART aim is specific, measurable achievable/ assignable, relevant and timely. This includes setting the boundaries for any change. The next step is to list the process, outcome and balancing measures to evaluate any service change. To develop the intervention, one first needs to understand why the current care gap exists. This can be done using a fishbone diagram that defines the critical process is leading to the care gap. Themes include equipment, process, people, material, environment and management. Once potential causes have been identified, a driver diagram is used to understand the primary and secondary drivers and the possible change ideas. The change ideas then go through another round of prioritisation comparing expected effort versus reward. The proposed service change is then refined to a scalable unit for early testing and evaluation before scaling up across the service. There is a period of evaluation using the process, outcome and balancing measures to inform the next improvement cycle.

Improving the capability and capacity of FLSs to deliver quality improvement requires integrating data, resources and expertise from peer and mentors in platforms either remotely, face-to-face or using hybrid models within a community of practice.

### SICOT-ESCEO-IOF3

#### TEAMS AND EMPOWERMENT! HOW TO CREATE SYNERGY BETWEEN THE NURSE, DOCTOR, FAMILY AND THE PATIENT?

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**Objective:** Fracture Liaison Service (FLS) is an efficient way to follow patients and improve management of fragility fracture (FF) patients from multiple medical disciplines. We demonstrated 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 to create synergy between the nurses, doctors, family and patients in the management of FF. This discussion is based on the assessment of the performance of the *Lucky Bone*<sup>TM</sup> FLS. New directions are leaning towards patient empowerment in his care management and in shared decision making.

**Method:** In 2010, a FLS managed by clinical nurses was implemented in two outpatient orthopedic clinics in Montreal, Canada. Patients were followed over 2 years. Medical services, hospitalizations and pharmacy claims data were retrieved for the cohort from administrative databases. Key indicators of effectiveness were measured as proportions of patients with BMD testing, treatment initiation, follow up attendance and subsequent FF rate.

**Results:** A total of 532 subjects were recruited (mean age 63.4 years, 85.7% female). Bone mineral density results were collected for 472 subjects (88.7%) and a prescription for anti-osteoporosis medication was handed to 86.6% of patients. Over two years, 83.6% of patients attended at least one visit. The subsequent fracture incidence rate was 2.6 per 100 person-years ( $n=23$ ).

**Conclusion:** Our FLS improved care for osteoporotic FF with rates of investigation and treatment initiation above 80%, and persistence above 55% after two years of follow-up. The rate of subsequent fractures was low compared with the 12% incidence rate in non-FLS population. This demonstrate that multidisciplinary nurse-led FLS was able to deliver an effective patient-centered service. Our next phase will introduce patient empowerment and shared decision-making strategies that could close the care gaps in areas where FLS could be not optimal.