Helping to Make Fracture Prevention a Reality

NATIONAL CLINICAL PROGRAMME FOR TRAUMA AND ORTHOPAEDIC SURGERY



Irish Fracture Liaison Service Database Annual Report 2024 Including Audit of Facilities









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Irish Fracture Liaison Service Database

Annual Report 2024 Including Audit of Facilities

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with contributions from the FLS steering group (page 39)

Abbreviations and Acronyms

HOSPITALS

BH	Beaumont Hospital
СН	Connolly Hospital Blanchardstown
LUH	Letterkenny University Hospital
MMUH	Mater Misericordiae University Hospital
OLOL	Our Lady of Lourdes Hospital Drogheda
SUH	Sligo University Hospital
SJH	St James's Hospital
SVUH	St Vincent's University Hospital
тин	Tallaght University Hospital
UHG	University Hospital Galway

ACRONYMS

ANP	Advanced Nurse Practitioner
cANP	Candidate Advanced Nurse Practitioner
CNM	Clinical Nurse Manager
CNS	Clinical Nurse Specialist
DXA	Dual-energy X-ray absorptiometry
ED	Emergency Department
FLS	Fracture Liaison Service
FLS-DB	Fracture Liaison Service Database
FRAX	Fracture Risk Assessment Tool
GP	General Practitioner
HSE	Health Service Executive
ICT	Information & Communication Technology
IOF	International Osteoporosis Foundation
iPMS	Integrated Patient Management System
KPI	Key Performance Indicator
NIMIS	National Integrated Medical Imaging System
NCPTOS	National Clinical Programme for Trauma and Orthopaedic Surgery
NOGG	National Osteoporosis Guidelines Group
RCSI	Royal College of Surgeons in Ireland
SN	Staff Nurse

Acknowledgements



The **National Clinical Programme for Trauma and Orthopaedic Surgery** (NCPTOS) was established in 2011 as a collaboration between the HSE and RCSI to improve and standardise the quality of care nationally for all patients requiring trauma and orthopaedic services. The delivery of cost-effective, evidence-based healthcare is in the best interests of all stakeholders.

The **Irish Institute of Trauma and Orthopaedic Surgery** (IITOS) is the clinical advisory body to the programme. In 2015, the programme published its model of care which highlighted the need for the establishment of a national fracture liaison service.

In 2018, NCPTOS were members of the trauma steering and working groups which developed "A Trauma System for Ireland". Recommendation 15 under prevention, urges the HSE to develop a comprehensive national fracture liaison service. This has led to the establishment of the current steering group under the governance of the programme and with the support of the National Clinical Advisor and Group Lead for access and integration.

The programme continues to work with all stakeholders to ensure optimal utilisation of all available resources and to advocate for additional resources as required to ensure that patients requiring orthopaedic care receive this in a safe, effective and timely manner.



The **National Office for Trauma Services** has responsibility for implementing the recommendations of the Report of the Trauma Steering Group; A Trauma System for Ireland (2018).

The strategy recommends that the **HSE** develop a comprehensive **Fracture Liaison Service** to provide high quality, evidence-based care to those who suffer a fragility fracture with a focus on achieving the best outcomes for recovery, rehabilitation and secondary prevention of further fracture. The National Office for Trauma Services continues to work collaboratively with NCPTOS and other stakeholders to implement this recommendation.



During 2023, **Amgen** and **UCB** supported the **National Fracture Liaison Service Database** (FLSDB) and participating sites by providing financial support to RCSI to facilitate the sustainability of the FLS Database.

FLS in Ireland



Executive Summary

Osteoporosis is one of the most common non-communicable diseases worldwide today and bone fractures resulting from osteoporosis (termed 'fragility' or osteoporotic fractures) represent an enormous worldwide public health problem. In Europe there were more than four million osteoporotic fractures resulting in approximately 0.25 million deaths and costing almost €60 billion in direct medical costs.¹ This report highlighted Ireland as having one the highest numbers, the greatest increase in incidence and cost, and one of the lowest investments in fracture prevention.



The International Osteoporosis Foundation (IOF) is championing global access to Fracture Liaison Services (FLS) to mitigate the effects of the increase in fracture numbers globally on patients, society, healthcare services and economies.²³ This is particularly pertinent in Ireland which had the highest growth rate in the EU of people over 65 years (22% rise vs. 10% mean EU).⁴ While this is reflective of the improved health and wellbeing of our nation, it is critical that our population is enabled to age well and for longer without sustaining a disabling injury.

Falls and fractures are a leading threat to a person's independence and the economic burden of fractures in Ireland in 2020 was estimated to be > €1 billion. This is expected to reach €2 billion by 2030.⁵ High quality FLS are needed across the country to help combat the imminent rise in fragility fractures.

In 2018, a National Fracture Liaison Service Steering Group was established in Ireland under the clinical governance of the National Clinical Programme for Trauma and Orthopaedic Surgery. This builds on the recommendations of the *2015 Model of Care* and the *2018 Report - A Trauma System for Ireland* to develop some well-recognised standards for the secondary prevention of osteoporotic fractures and care of patients, in order to compare them to international data. An initial facilities audit of services was completed in 2019 and published in 2022. The 3rd Annual FLS Database Report summarises what has been achieved over the past year with established FLS and contains an updated facilities audit of services.

In 2023, 10 hospitals submitted 3,770 (non-hip) fragility fracture patient records for inclusion in this report. Almost all standards improved compared to the two previous years, though it remains the case that this figure represents just one third of the expected fragility fracture numbers identified and managed by the FLS in the 10 hospitals. There is much work to be done to extend the service to all patients at risk of repeat fractures.

There has been a welcome investment in FLS by the HSE with a number of new posts created. The FLS Steering Group would like to acknowledge the hard work of each service that has participated in this year's audit, whose commitment to delivering high quality care has made an important difference to many patients' lives.

Key Findings

- 1. This report period covers the period 1st January 31st December 2023 and includes data from 10 hospitals totalling 3,770 patient records; an increase of 18% when compared to the 2022 report.
- 2. One third of the reported patient cases required required admission to hospital for management of their fracture.
- 3. 30% of reported patient cases had already sustained a previous fragility fracture and just a quarter of these were on osteoporosis medications, suggesting a therapeutic gap.
- 4. The percentage of patients assessed by a FLS within 90 days of their fracture improved to 79% from 74% in the previous report.
- 5. 29% of patients who were referred for a DXA scan had this completed within 90 days of their fracture. This represents a more than doubling of those meeting this target in 2022.
- 6. Of those patients referred for, or advised to self-refer to strength & balance exercise programmes, 21% had started this within 16 weeks of their fracture, compared to only 5% in 2022.
- 7. 46% were recommended an osteoporosis medication, of whom 42% had this prescribed by the FLS practitioner, reflecting the potential benefit of resourcing autonomous practitioners to manage an FLS.
- 8. There was an increase in monitoring contact at 16 weeks post fracture of patients for whom medication had been prescribed. This important metric helps ensure adherence. This activity was conducted in 56% of all patients which is an improvement of 16% when compared with the 2022 data.
- 9. The 12-month follow up of 2022 patients post-fracture demonstrates the importance of follow up, 26% of the cohort who were contacted were taking their recommended osteoporosis medications.
- 10. The facilities audit continues to highlight resource deficits nationally in terms of staffing, IT systems, access to DXA scanning and access to primary care networks, to streamline processes for case finding, assessment and treatment pathways.

Key Highlights 2023 **3,770** Fragility Fractures 18% Increase on 2022

only 35% of expected from sites involved





71 years average age

70 years average age



have had a falls risk assessment Increase from 29% in 2022



10 of the 16 adult trauma accepting sites contributed data to this years report





Increase from 74% in 2022

022 **3%**

of patients required ADMISSION for fracture management

21% attended a strength & balance class by 16 weeks

Key Recommendations

RECOMMENDATIONS FOR PATIENTS AND CARERS

Patients and their relatives and/or carers who have sustained a fracture following a simple fall ('fragility fracture') or are worried that they are at risk of osteoporosis should discuss this with their doctor, practice nurse or other appropriate healthcare professional.

RECOMMENDATIONS FOR INDIVIDUAL FLS

- 1. For an FLS to be effective it should be identifying a minimum of 80% of their expected fragility fracture numbers as per international standards. Each FLS should have a 3-5 year plan on incremental increases in targets to achieve this, through a review of their case finding methodology and resources.
- 2. Each FLS practitioner should familiarise themselves fully with treatment recommendations for patients with osteoporosis through attendance at relevant education seminars & liaising with the lead consultant for the local FLS service.
- 3. Follow up of patients to enable surveillance of treatment concordance is an important outcome that each FLS must incorporate into service planning.
- 4. Each FLS should review barriers to high quality DXA access and its impact on treatment decisions by liaising with their local service providers on pathways and standards.
- 5. Collaborative working with integrated care teams and social prescribing services in the community should be encouraged to assist patients in accessing strength & balance exercise classes.
- 6. All FLS teams should regularly review their own local data quality through audit and quality improvement projects and present their findings to local FLS governance group and the national FLS Service improvement manager at quarterly intervals.

RECOMMENDATION FOR SENIOR DECISION-MAKERS

- 1. The establishment of a comprehensive Fracture Liaison Service to provide high quality, evidence-based care to those who suffer a fragility fracture with a focus on achieving the best outcomes for recovery, rehabilitation and secondary prevention of further fractures is Recommendation 15 in the 2018 Report of the Trauma Steering Group *"A Trauma System for Ireland"*.
- 2. All 16 sites with an Irish Hip Fracture Database Governance Group should include FLS as a standing agenda item to increase awareness of the importance of early detection and management of fragility fractures.
- Senior decision-makers should commit to meeting with local FLS leads to ensure the implementation of appropriate governance structures along with the inclusion of quality improvement projects and audit into their service.

Patient Experience

To better understand patient needs, it is crucial to include the patient's voice. Below is an account of Aileen's experiences of Fracture Liaison Services.



Aileen Rafter Patient of the Fracture Liaison Service

In December 2017 Aileen suffered her first facture

"I was 55 years old at the time of my first fracture in December 2017. I was very active enjoying regular hiking and planning my skiing holiday. On one of my first lessons at the artificial slope, I lost my balance and landed on my right shoulder. It wasn't a big fall and didn't feel initially that there would have been anything significantly wrong. But when I tried to get up, I couldn't use my arm, and I realised that something wasn't right. I made my way to the local private clinic, where they told me that I had broken my humerus bone (shoulder), and referred me to a shoulder specialist in another private hospital. The shoulder specialist told me that because I was young, fit and healthy I would not need an operation only rest and rehabilitation. Thankfully I recovered well with physiotherapy in spite of needing to take 3 months off work.

When I asked the consultant, about having a DXA he didn't seem that concerned. I also mentioned it to my GP about needing a referral for DXA, and she said that it wasn't needed as it was a trauma."

Four years later in early 2022, while out hiking Aileen slipped, and to break her fall landed on her hands. The next morning, she attended the local private clinic where the surgeon this time felt that she would need an operation, and they admitted her to Tallaght University Hospital where the surgeon put a plate in her right wrist to help it heal. This recovered well.

"So, I said it to my GP again, I've had two fractures in what is less than 5 years should I be referred for a DXA scan? Again, the answer was that this was a trauma. My GP did in the end agree to refer me to the public waiting list for a DXA, although I was informed that I could be waiting a time to be seen."

Six months after her right wrist fracture, Aileen was out walking in the hills and tripped over a branch and landed this time on her left arm, **resulting in another break meaning a third fracture in less than 5 years**:

"While I wasn't in pain at the time, I knew something wasn't right, back to the private clinic. I was shocked that having only just got over the broken wrist I had now fractured my left shoulder. I returned to the same shoulder surgeon for a review, and I was again able to recover thankfully without the need for shoulder surgery.

I did ask the specialist why I kept breaking my bones and I returned to my GP and asked what about a DXA scan? This time she agreed and referred me for a private scan. When the results came back, I was on the line of osteoporosis, but my GP was reluctant to put me on treatment and continued to describe my fractures as 'traumas'.

Then to my surprise, I got a call from David the FLS nurse in Tallaght, he was following up on the older wrist injury from January. He explained to me that he was following up because he had noticed my age, and my fracture and the way I injured my wrist from hospital notes, and that he wanted to know how I had been since my wrist fracture. I said to him that I had broken my shoulder since, and he said "Oh!!

He was very prompt in arranging an appointment for me where they reviewed my DXA results and performed blood tests. Following this, they advised that I start taking Calcium and Vitamin D supplements, as well as a weekly tablet to manage the osteoporosis. They have been great in following up and have redone my tests and thankfully there has been no further bone loss, and importantly no further fracture.

While I was surprised to have a diagnosis of Osteoporosis, I was delighted that I was having this managed. I do feel if my GP had listened to me, it would be different. I felt at last somebody was taking me seriously, I feel if the other medical people I met understood the condition more, maybe I could have avoided some of the heartache of breaking three bones.

I feel so lucky that I got onto a list to be contacted by the Fracture Liaison Service team, six months after I broke my wrist, because I was 55 when I had my first fracture. I feel very informed now, as I am copied on all correspondence regarding my osteoporosis. I wish that this could have been the case from the beginning.

I am now 62. I really enjoy going hiking most weekends, and I want to continue to this, and I feel with the current treatment I am healing all my bones and just maybe preventing another break, and I can continue to enjoy doing this for long more.".

FLS Teams



FLS Team, Tallaght University Hospital, Dublin

(I-r) Miread Flanagan Clerical Officer, Suzanne O Donnell Clerical Officer, Louise Brennan CNS, Prof David Kane FLS Clinical Lead, Dr Colm Kirby Consultant Rheumatologist, Darvid Askin CANP FLS, and Dr. Catherine Hughes Consultant Rheumatologist.





FLS Team, Letterkenny University Hospital, Donegal

FLS Clinical Lead and Carole McFadden CNM2 FLS.

Consultant Orthopaedic Surgeon,

Mr. Syed Nadeem



Ciara Meehan Candidate Advanced Nurse Practitioner and Kevin Joy FLS Admin Support.

FLS Team, St Vincent's University Hospital, Dublin (I-r - front row) Joan Killeen Directorate Nurse Manager, Dr Rachael Doyle FLS Clinical Lead, Leena Rodrigues Candidate Advanced Nurse Practitioner, Dr Claire Murphy FLS Clinical Lead, Dr Kristina Jusmanova Consultant Geriatrician. (I-r - back row) Mary Clarke Assistant Director of Nursing,



FLS Team, St James's Hospital, Dublin

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FLS Team, Galway University Hospital (I-r) Professor John Carey FLS Clinical Lead, Aoife Dempsey ANP FLS, Fiona Heaney CNS Bone Health, Rebecca Egan DXA Unit Nurse, Kelly Gorham DXA Unit Nurse and Catherine Armstrong CNS Bone Health





FLS Team, Mater Misericordiae University Hospital Mr Michael Mara FLS Clinical Lead and Nicola Shorten FLS ANP.



FLS Team, Sligo University Hospital (I-r) Aoife McParland FLS cANP, Bridie Mooney CNM2 and Dr Grainne O' Malley FLS Clinical Lead

FLS Team, Beaumont Hospital

(I-r) Suzie Mellon DXA admin, Maria Byrne CNM2 DXA, Josy Josey CNM2 DXA, Professor Frances Dockery FLS Clinical Lead, Elaine Butler ANP and Eleanor Hogan cANP. not pictured Jackie Fitzpatrick FLS Admin. CONTENTS

Introduction

WHAT IS OSTEOPOROSIS?

Osteoporosis is characterised by a reduction in bone mineral density and bone quality. This leads to disruption of the normal bone architecture, increased bone fragility and a greater propensity to fracture.⁷ The prevalence of osteoporosis increases with age but people of any age, gender and ethnicity may be affected. Fractures are the clinical events of this disease, often termed *fragility fractures*, and most people do not know that they have osteoporosis until they sustain a fracture, i.e. it is a 'silent' disease until that point. The diagnosis can be made through a DXA scan, which compares a person's bone density to that of a healthy, younger female, or can be made clinically when someone has sustained a low trauma fracture.

The risk of a fragility fracture in the remaining lifetime of women over 50 years is 1 in 3, and for men over 50 years, it is 1 in 5.⁸ In Ireland, it is estimated that between 300,000 and 500,000 adults aged 50 years and older have osteoporosis.⁹ This means that a high proportion of our population are at risk of experiencing a fracture at some point in their lifetime.

Whilst low bone mineral density in the osteoporosis range confers a much higher risk of fracture, most older women and men who fracture do not in fact have bone density readings in the osteoporosis range. When a low trauma fracture of the hip or vertebra (spine) occurs, these fractures are diagnostic of osteoporosis regardless of bone mineral density reading.⁷ Osteoporosis medications still have clear benefits in such patients who do not have low bone density on scanning, and there are many additional fracture risk factors that a FLS addresses, including falls risk.¹⁰

In 2022, the Irish Hip Fracture Database Report recorded 3,909 hip fractures in those aged 60 years and older across the country's 16 trauma hospitals.¹¹ Using the ratio of the UK FLS-DB, adapted for Ireland of 5:1 (non-hip to hip fragility fractures), this correlates to a prevalence of approximately 19,000 fragility fractures occurring annually in Ireland. This is thought to be a conservative estimate given that only those fractures admitted to public hospitals are captured in national data systems and does not account for those aged under 60 years. Avoiding a first fracture through increased public awareness, education and screening of those at risk would seem to be the most effective policy, but the role of national screening programmes for osteoporosis remains unclear and this needs to be assessed in an Irish population.¹²

One of the biggest risk factors for future fractures is having had a prior fracture, therefore identifying and treating those 19,000 patients with an initial fragility fracture would be of significant benefit in reducing subsequent fracture numbers. Properly resourced FLS are the means by which to achieve this objective.

WHAT IS A FRACTURE LIAISON SERVICE?

A FLS is a co-ordinated model of care for secondary fracture prevention. A FLS ensures that all patients aged 50 years or over, who present to urgent care services with a fragility fracture undergo fracture risk assessment and receive treatment in accordance with prevailing national clinical guidelines for osteoporosis.³

Such a programme must have seamless interactions between teams of professionals caring for such patients including primary care, acute hospital staff such as physicians, surgeons, nurses, physiotherapists, radiographers as well as the patients' families and social care network. For a sustainable national FLS to be implemented in all 16 trauma-receiving hospitals, a dedicated clinical lead needs to be identified in each site to collaborate with all relevant stakeholders to establish and run a FLS and ensure patients have timely access to this service when required.

In 2013, the International Osteoporosis Foundation established a global network - **Capture the Fracture**, to educate and promote standards for the establishment and maintenance of such services.² In 2024 more than 1,000 such services have been registered in 59 countries.¹³

Although FLS is a globally recognised service with demonstrated value in terms of economic and social benefits and avoiding patent harm, Ireland is only the second country since 2021 to produce a national annual FLS database report (FLS DB) after the UK.^{14, 15} The Glasgow FLS was the first network FLS in existence and showed clear evidence of fracture risk reduction and cost savings in their region, even in the earlier days when less effective osteoporosis treatments were available.¹⁶ New Zealand has joined as the third country to produce a national report after Ireland and the UK, covering almost the entire country.¹⁷ There are also many large-scale FLS in existence in Canada, the US and many European countries, as per the Capture the Fracture map of services globally, but they do not yet report nationally.

As of September 2024, 10 of the 16 adult hospitals that manage trauma in Ireland have an FLS that submits data to the national database. An eleventh hospital has restarted their FLS in 2024 (the service was paused following the pandemic due to staff redeployment) and will shortly commence participation in the national FLS-DB. A twelfth hospital commenced their FLS in 2022 and contributed to last year's FLS-DB but suspended their service in 2023 due to staffing issues, as a result five hospitals do not have any FLS at this time.



WHAT IS A FRACTURE LIAISON SERVICE DATABASE? (FLS-DB)

The Fracture Liaison Service Database (FLS-DB), collects, measures and reports on the care provided by FLS's nationally. The International Osteoporosis Foundation (IOF) have devised a best practice framework **"Capture the Fracture"**¹³, comprising 11 key performance indicators, adopted by most FLS and by which services can be benchmarked.

The FLS-DB for Ireland is a cloud-based software system, managed by **Crown Informatics Limited**, who also manage the FLS and Hip Fracture databases for the NHS in England and Wales. The **inclusion and exclusion criteria** for this report, and the **data quality statement** are available for download on <u>www.rcsi.</u> <u>com/fls</u>. The database is hosted by the Royal College of Surgeons in Ireland (RCSI) under the governance of the National Clinical Programme for Trauma and Orthopaedic Surgery (NCPTOS).

The data is collected in hospitals by FLS practitioners, Clinical Nurse Specialists (CNS) or Advanced Nurse Practitioners (ANP) who enter the data from patient's healthcare records. Pseudonymised data is either entered into the database directly or uploaded as a csv file from an existing hospital system.

The purpose of a national database is to monitor adherence to best practice guidance for the care of patients and to use the results to reduce variation in the care that these patients receive. The FLS-DB captures data in real time and enables patient-level data to be monitored by each site. From October 2024, the FLS-DB has been able to provide dashboards for all participating sites which can be used to guide and direct data driven improvements and benchmark their own services.



01 Demographics





Figure 02 Site of Fracture

AGE AND GENDER DISTRIBUTION

There were 3,770 non-hip fragility fracture patient records submitted to the FLS-DB from the 10 hospitals included in this report. The 2022 IHFD database report with a data coverage of 92% reports on 3,909 patients sustaining hip fractures. The 10 hospitals included in this report were responsible for the care of 2,154 (55%) hip fractures in 2022. This equates to a projected number of approximately 10,770 fragility fractures in 2023. Data was captured on approximately 35% of these fractures. The majority of these fractures (80%) occurred in females, which is in line with the known prevalence and incidence of osteoporosis. (Figure 01)

PATIENTS ADMITTED TO HOSPITAL

1,235 patients identified as having a fragility fracture (33% of total) required a hospital admission. This may represent different case finding methods of fracture patients in each FLS, nevertheless, patients with fragility fractures consume a significant proportion of healthcare resources including occupying acute hospital inpatient beds. Due to variation in case ascertainment, inpatient fall-related fractures (1.3% of reported total) may be greatly unrepresented in this report.

SITE OF FRACTURE

The majority of reported fractures occurred in the forearm (although this may relate to case finding methods employed by reporting hospitals) e.g. through both face to face and via virtual Fracture Assessment Clinics). Vertebral fractures have been described as occurring at the same frequency as hip fractures in susceptible patients. Given that there were 2,363 hip fractures reported by these10 hospitals in 2022, this would suggest that only 30% of expected vertebral fractures have been ascertained. (Figure 02)

CURRENT OSTEOPOROSIS TREATMENT IN PATIENTS PRESENTING WITH FRAGILITY FRACTURES

Thirty percent of patients included in this report had sustained a previous fragility fracture. Of these just 26% were on osteoporosis therapy at the time of the incident fracture. This should be at least 50% and shows that a large treatment gap still exists for patients at risk of recurrent fractures.

02 Data Analysis

This section focuses on the individual hospital performance as per the International Osteoporosis Foundations (IOF) Key Performance Indicators (KPIs) as set out in their 'Capture the Fracture' campaign. These 11 KPI's were adapted from the existing metrics of the UK-based Fracture Liaison Service Database and the IOF's Fragility Fracture Network and the National Osteoporosis Foundation. These standards have been made available globally to measure service impact and to standardise patient care in a FLS.¹⁸ By comparing performance to international standards, the database is central to identifying service gaps and guiding service developments.

Table 01 KPI summary vs previous years							
Indicator	Description	2021 (%)	2022 (%)	2023 (%)			
KPI 1 - Data Completeness	FLS with a good level of data completeness (≥80% of fields complete)	-	-	-			
**KPI 2 - Identification (all fragility fractures)	The percentage of patient records submitted compared with the local estimated caseload	26	33	35			
[†] KPI 3 - Identification vertebral (spinal) fractures	The percentage of patients with a vertebral (spine) fracture as their index fracture site compared with local estimated caseload	31	26	33			
KPI 4 - Time to FLS assessment	The percentage of patients who were assessed by the FLS within 90 days of their fracture	69	74	79			
KPI 5 - Time to DXA	The percentage of patients who had a DXA ordered or recommended and were scanned within 90 days of fracture	20	13	29			
KPI 6 - Falls Assessment	The percentage of patients who received a falls assessment or were referred or recommended for a fall's assessment	40	29	51			
KPI 7 - Bone therapy recommended	The percentage of patients who were recommended osteoporosis medication	53	35	46			
KPI 8 - Strength & Balance exercises within 16 weeks	The percentage of patients who had attended a strength & balance class within 16 weeks of fracture	1	5	21			
KPI 9 – Monitoring contact 12-16 weeks post fracture	The percentage of patients who were followed up within 16 weeks of their fracture	35	40	56			
KPI 10 - Commenced bone therapy within 16 weeks	The percentage of patients who had commenced (or were continuing) osteoporosis medication within 16 weeks of their fracture	18	31	42			
[†] KPI 11 - Adherence to prescribed osteoporosis medication at 12 months	The percentage of patients from the preceding calendar year who had confirmed adherence to a prescribed osteoporosis medication at 12 months post fracture	NA	4	26			

* Not yet reported on FLSDB Ireland. **Defined as five times the number of hip fractures per hospital, extrapolated from UK estimates, as local audit data suggests the number of non-hip fragility fractures in Ireland to be at least 5-8 times that of hip fracture numbers.

⁺ Defined as equal to the number of hip fractures per hospital

FRACTURE IDENTIFICATION

Figure 03 Identification rate of expected fragility fracture numbers (%) - KPI 2



There were 3,770 (non-hip) fragility fracture patient records submitted from 10 hospitals. The denominator i.e. expected fracture numbers, is five times the number of hip fractures for the preceding year per hospital, in line with international estimates. This is reliant however on hospitals ensuring that data on all their hip fractures has been submitted to the last published IHFD report (2022 data).¹⁰ Based on this the FLS case ascertainment rate is a third of the expected load, a slight improvement on the previous year.



Figure 04 Identification rates of expected vertebral fracture numbers (%)-KPI 3

Vertebral (spine) fractures have a very high re-fracture rate (up to 20% within one year) and show greatest fracture risk reduction from osteoporosis medications vs other index fracture types. Only two-thirds present clinically at the time of fracture, the remainder being incidental findings on imaging.¹⁹

The agreed number of estimated vertebral fractures is equal to the number of hip fractures presenting to a hospital in the previous year. These patients can be managed by various different specialties and may not all appear in fracture clinics. A FLS that use fracture clinics as a main case finding strategy will miss these.

At 35%, this is an improvement on what has been reported in previous reports (2021 & 2022) and suggests systems to capture these patients are improving. One site appears to have a robust screening process in place, whereas three other sites have a negligible number picked up.

TIMING OF FLS ASSESSMENT

Figure 05 The percentage assessed by the FLS within 90 days of their fracture - KPI 4



The likelihood of a repeat fracture is highest in the first 1-2 years after an initial fracture, termed the *'imminent fracture risk.*²⁰ Timely FLS assessment is critical to ensure patients are assessed and treated early.

This must be balanced against the fracture numbers the services are assessing, as some are delivering this service to far too few patients, as per *Figure 06* below which adds the expected number of fractures to the picture.



Figure 06 The percentage assessed by the FLS within 90 days of their fractures vs. estimate of expected fracture numbers

When the estimated numbers of missed fractures are incorporated into performance, as in this example of time to assessment, it enables a better overall perspective of service performance.

Capturing too few patients and leaving them too long to be assessed benefits only a small number of individuals.

For an FLS to have the optimal capture rates and timely assessments, adequate resourcing and robust clinical governance is essential.

DXA SCAN REFERRALS

Figure 07 DXA scan conducted within 90 days of fracture (%) - KPI 5



The denominator is the number of patients who had a DXA scan ordered or recommended by the FLS, which was 2,453 of the 3,770 cases (65%).

Many patients can be treated without a DXA such as those with vertebral fragility fractures or those of advanced age in which the incidence of osteoporosis is highly prevalent. DXA is very important however in assessing the likelihood of future fractures, choice of drug treatment and for treatment monitoring. Evidently some sites do not seem to use DXA scanning in their FLS, with very low numbers ordered or advised in the first place, as per *Figure 08* below.



Figure 08 Use of and timing of DXA scan as percentage of total cohort assessed by FLS

The graph incorporates those who did not have a DXA requested, enabling closer review of service practice. Reasons for this are often lack of DXA availability or excess waiting lists but FLS Practitioners must work closely with local DXA services to build such pathways. It is essential however that all facilities providing DXA scanning adhere to national and international best practice standards.²¹



OSTEOPOROSIS DRUG TREATMENT



Figure 09 Percentage of patients who were recommended osteoporosis medication - KPI 7

Osteoporosis drug treatment is a cornerstone of fracture risk reduction but is not needed by all fracture patients.¹⁰ The IOF suggests the standard that 50% of patients would be expected to commence or continue osteoporosis treatment in a FLS that captures close to all expected fractures.³

This figure is very close to what has been observed in Ireland, though with wide variance. Review of current practice to gain a better understanding of this variance nationally is required.

Prescription of osteoporosis medications:

Of the 1,745 patients recommended for an osteoporosis drug treatment, the FLS practitioner prescribed medication for 733 of cases (42%). The remainder of patients were referred to either their GP or a bone health specialist.

Monitoring contact 12-16 weeks post fracture – KPI 9:

Monitoring for treatment initiation and concordance is a key function of a FLS, otherwise efforts may have been wasted if treatment adherence isn't assured. As mentioned, not all FLS prescribe treatment, many patients may not get to their GP to initiate recommended medications, or they are intolerant of medications so this all needs to be assessed. The monitoring call to these patients who were advised treatment took place in 56%, which was a big improvement from the preceding year of just 40%. It is reassuring to see teams prioritising this important outcome.



Figure 10 The percentage of those patients recommended osteoporosis treatment who confirmed treatment start by 16 weeks from fracture date – KPI 10

When osteoporosis treatment is deemed necessary it should be started early, with imminent fracture risk in mind. It is possible that this figure of 42% having confirmed treatment start is an underestimation given that only 56% had monitoring contact.

This is such an important measure that teams must make efforts to ensure time to conduct follow up is factored into service planning.



Figure 11 The percentage of patients who had confirmed adherence to a prescribed osteoporosis medication at 12 months post fracture – KPI 11.

This data shows the 12 month follow up of the 2022 fragility fracture patient cohort. It includes only those who were recommended osteoporosis drug treatment following their initial assessment by the FLS following their fracture in 2022.

Only 26% of the patients contacted at 12 months post fracture were still receiving osteoporosis treatment, although this monitoring call only took place in a minority so true figures still adherent are unknown.



FALLS RISK ASSESSMENT & INTERVENTIONS

Figure 12 Percentage of patients who received, were referred for, or were recommended to have a falls risk assessment - KPI 6

Best practice guidelines advise a multifactorial falls risk assessment following an injury in an older person.²² Even when a fracture occurs without a fall e.g. many vertebral fractures, a falls risk assessment is warranted as these patients are at much higher fracture risk if they do fall. No FLS can overlook the importance of addressing falls risk. A fragility fracture at any age is an opportunity for a brief assessment of falls risk so we included all ages (50+ years) in the denominator.

It is reassuring that over half of patients had some form of assessment; improved from 29% in 2022.



Figure 13 Percentage of patients who received, were referred for, or were recommended to have a falls risk assessment vs estimate of expected fracture numbers

Incorporating the estimated numbers of missed fractures shows that some high performing hospitals were probably able to achieve high falls assessment rates because of low fracture capture rates. As will be seen in the facilities audit within the next chapter, there are many reasons for this. Education on the importance of this assessment is necessary amongst FLS.

Figure 14 The percentage of patients who had started strength and balance training within 16 weeks of their fracture- KPI 8



There were 674 of 3,770 patients (18%) who either had a referral to or were advised to self-refer to strength & balance exercise programmes.

As a 16 week follow up is mandated only in those advised to start an osteoporosis drug treatment as per *Figure 11, page 25* there is follow up data for that subset only.

Only 21% of this subset of patients confirmed that they had started a strength and balance exercise programme, and only 56% of patients had a monitoring contact so this may be an underestimation for this KPI. In the facilities audit, there appears to be a lack of awareness amongst FLS of the existence of such programmes. Considerable work needs to be done to educate patients and staff on this as it is the leading evidence-based intervention in falls risk reduction.



O3 Facilities Audit

BACKGROUND

The first facilities audit examining the organisation of Fracture Liaison Services in Ireland took place in 2019 under the governance of the FLS Steering group and the National Clinical Programme for Trauma and Orthopaedic Surgery. This was published in 2022.⁶ The agreed standards for the audit were based on the International Osteoporosis Foundation's (IOF)'s best practice framework '*Capture the Fracture*' (Table 02).

The 'facilities audit' data can be used to identify service gaps and improve the quality and coverage of secondary fracture prevention. The first national FLS Facilities Audit was completed in 2019⁶ to explore service infrastructure and processes in all trauma receiving hospitals in Ireland. A repeat facilities audit is outlined below which includes the hospitals that are currently participating in the national database.

Since this initial audit, there has been a welcome investment by the HSE in FLS. In 2022, eight Advanced Nurse Practitioner roles were funded and the FLS pathway was approved by the Chief Clinical Officer's Clinical Advisory Group. In 2023, additional funding for a further five Advanced Nurse Practitioners and four clerical administrative roles was secured through the HSE Modernised Care Pathways Programme. Much of the 2023 investment was not realised however, due to cost containment measures that were introduced in May 2023. Currently four of sixteen hospitals that manage adult trauma are unable to provide an FLS for their patients in their areas.

This facilities audit aims to examine the current status of FLS nationally including staffing, governance, operational challenges and barriers that sites are identifying which is preventing a sustainable and optimal FLS being implemented.



METHODOLOGY

The facilities audit questionnaire was based on the original 2019 facilities audit, which addresses all thirteen IOF Capture the Fracture standards as outlined below in *Table 02*.

Table 02 IOF Capture the Fracture – Best Practice Framework for Fracture Li	iaison Service
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1.	Patient Identification	Fracture patients within the scope of the institution (inpatient and/or outpatient facility or health-care system) are identified to enable delivery of secondary fracture prevention.
2.	Patient Evaluation	Identified fracture patients within the scope of the institution are assessed for future fracture risk.
3.	Post-fracture Assessment Timing	Post-fracture assessment for secondary fracture prevention is conducted in a timely fashion after fracture presentation.
4.	Vertebral Fracture	Institution has a system whereby patients with previously unrecognised vertebral fractures are identified and undergo secondary fracture prevention evaluation.
5.	Guidelines	The institution's secondary fracture prevention assessment, to determine the need for intervention, is consistent with local/regional/national guidelines.
6.	Secondary Causes of Osteoporosis	Institution can demonstrate what proportion of patients who require treatment for prevention of secondary fractures undergo further investigation (typically blood testing) to assess for underlying causes of low BMD).
7.	Falls Prevention Services	Patients presenting with a fragility fracture, and who are perceived to be at risk of further falls, are evaluated to determine whether or not falls prevention intervention services are needed, and if so are subsequently referred to an established falls prevention service.
8.	Multifaceted health and lifestyle risk- factor Assessment	Patients presenting with a fragility fracture, and who are perceived to be at risk of further falls, are evaluated to determine whether or not falls prevention intervention services are needed, and if so, are subsequently referred to an established falls prevention service.
9.	Medication Initiation	All fracture patients over 50 years, not on treatment at the time of fracture presentation, are initiated or are referred to their primary care physician/provider for initiation, where required, on osteoporosis treatment in accordance with evidence-based local/regional/ national guidelines.
10.	Medication Review	For patients already receiving osteoporosis medications when they present with a fracture, reassessment is offered which includes review of medication compliance, consideration of alternative osteoporosis medications and optimisation of non-pharmacological interventions.
11.	Communication Strategy	Institution's FLS management plan is communicated to primary and secondary care clinicians and contains information required by and approved by local stakeholders.
12.	Long-term Management	Institution has a protocol in place for long-term follow up of evidence based initial interventions and a long-term adherence plan.
13.	Database	All identified fragility fracture patients are recorded in a database which feeds into a central national database.

In June 2024, Hospital Managers/CEO's were invited to circulate the audit to the FLS clinical teams in their hospital to complete. Surveys were returned via email or through a Microsoft forms survey link. The final response date was the 15th of August 2024. All hospitals involved in the live database (10) responded by this time. Four other sites responded to the survey, but their responses are not reported here as they are not currently participating in the FLS database.

RESULTS

Outlined below in *Table 03* is a visual comparison of responses to the standards (see *Table 02*) in both facilities audit. Overall there have been notable improvements reported in the facilities aligned to FLS within those sites who currently run a service, albeit with some deficits.

IOF	LUH	SUH	ВН	UHG	SJH	SVUH	OLOL	тин	ммин	СН
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Table 03 Facilities audit results against IOF standard

FLS co-ordinator staff:

Prior to the 2019 facilities audit, there were 13 dedicated nursing resources of which two were ANP's working in FLS nationally.

From the current audit of facilities, there are now 14 WTE dedicated nursing resources for FLS. The composition of these nursing roles is outlined below (*Figure 15*).

There has been a considerable change in the profile of staff working in FLS, where 78% of the national staffing reported upon within this audit are of ANP/ cANP grades. This is compared to 15% of staff working at this level within the service in 2019. This demonstrates the positive impact the investment in FLS over the past two years by the HSE is having on delivering care to this patient group.

To support the work of the FLS co-ordinators, clerical administrative support is essential, and while there has been an improvement in the number of clerical administrative staff supporting FLS practitioners there is still a significant deficit in administrative support nationally.

From the Figure 15 below it is evident that while there has no doubt been a positive change in the composition of the FLS workforce nationally, it appears that some of the approved roles in both nursing and administration have not been fully implemented locally.

Figure 15



FLS Teams participating in the FLS DB* Contractioner Advanced Nurse Practitioner 🛃 Clinical Nurse Manager 4 Clinical Nurse Specialist DONEGAL 😰 Admin Υß SLIGO ***** MAYO LOUTH MEATH ŊŲ Un GALWAY Ur. Ո , KILDARE KILKENN LIMERICK CORK

* per the Facilities audit results

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GOVERNANCE

All hospitals with an FLS should have a defined governance structure, however this audit identifies the need to formalise this moving forward.

Five hospitals (50%) reported that they have an FLS Steering Group/Committee. Governance meetings are essential for delivering service improvement and encouraging stakeholder engagement. Details of standing agenda items and frequency of meetings were not sought in the audit.

The report demonstrates a variance in terms of clinical leadership and governance for the service nationally. All 10 hospitals within this facilities audit report being under the clinical governance of at least one

consultant in one of the following specialties:

- Trauma & Orthopaedic Surgery
- Geriatric Medicine
- Rheumatology
- Endocrinology.

Three hospitals (30%) operate under the clinical governance of more than one specialty as outlined in *Table* 04 below.

Four Hospital (40%) report that they have local processes in place to monitor and review the FLS data quality and to review and evaluate the services performance.

Table 04 Outlines current governance structures							
Hospital	Governance Clinically by Consultant in	Frequency of meeting Consultant re FLS - Weekly	FLS Steering Group/ Committee	Process to review data quality and Performance			
LUH	Trauma & Orthopaedic Surgery	\checkmark					
SUH	Geriatric Medicine	\checkmark					
GUH	Rheumatology	\checkmark	\checkmark	\checkmark			
BH	Geriatrics	\checkmark		\checkmark			
OLOLD	Geriatric Medicine, Endocrinology	\checkmark	\checkmark				
СН	Geriatric Medicine, Rheumatology, Trauma & Orthopaedic Surgery	\checkmark	\checkmark				
MMUH	Trauma & Orthopaedic Surgery, Geriatric Medicine	\checkmark		\checkmark			
SVUH	Geriatric Medicine	\checkmark	\checkmark				
SJH	Geriatric Medicine	\checkmark	\checkmark	\checkmark			
TUH	Rheumatology	\checkmark					

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SCOPE

All sites accept a broad range of patient groups to their FLS, however three FLS were seeing hip fracture patients, whereas the remit of FLS practitioners is to case find and manage secondary prevention of non-hip fragility fracture patients in those aged 50 years and older.

Only one FLS site currently does not accept any referrals from outpatients. One site at the time of audit currently excludes all patients under the age of 65.

Most sites excluded fractures of the skull, digits, ribs and patella as well as fractures resulting from high trauma.

FRACTURE CASE FINDING

Hospitals use a broad range of case finding strategies. This variety is partially because there is a diversity of available IT systems reported. IT systems available were reported to include NIMIS, iPMS, and Pathpoint e-Trauma on one site. In most cases these IT systems are not automated and require a significant proportion of time to work through. There is a high reliance on inpatient team referral to FLS services (70%) in identifying patients on the ward, and this is then supplemented through manual review of admission lists (50%), as well as physical visits by the FLS clinician to ED and wards (20%) to case find.

With the ability to case find vertebral fractures, most sites (80%) rely heavily on referrals from other specialties to identify this cohort of patients, rather than screening. Only two sites describe screening radiology reports for these.

ASSESSMENT & INTERVENTION

All but one site participating in this audit using a fracture risk assessment tool in the process of the FLS assessment. The preferred tool is the Fracture Risk Assessment Tool (FRAX) used in 67% of sites (6/9), half also used National Osteoporosis Guideline Group (NOGG) (5/9). Three sites reported using the tool to inform clinicians on the need for DXA and/or for treatment.

DXA scanning is available on all hospital sites apart from one, which refers their patients to an off-site DXA provider.

Reported waiting times for DXA scanning varied nationally, with two sites reporting a likelihood of DXA within four weeks, and four stating the waiting time was greater than 16 weeks.

MEDICATION

A variety of models exist nationally on how the patient receives treatment if deemed appropriate for same. All but one FLS said they take responsibility for this in part, and one site delegates this fully to the GP. Seven FLS practitioners said they prescribe medications, enhancing the possibility that patients may start it in a timely manner. This may be reflected in next year's data report, as current prescribing status of FLS nurses will be improved as the candidate ANPs complete their training and become Registered ANP's..

All sites provide written material on lifestyle, exercise and nutrition to FLS patients.

FALLS

Eight services (80%) reported that they evaluate patients for falls risk. The two remaining sites, while not assessing their patients for falls risk, reported that they do have access to refer to a dedicated falls service. Despite 80% stating that they do conduct a falls risk assessment, it is notable that in the patient-level data reported in KPI 8, only 46% of FLS patients nationally had a falls risk assessment.

A multifactorial falls risk assessment contains several assessment standards in line with world falls guidelines.²² These address vision, polypharmacy and other falls risk factors. Three sites reported that they completed 100% of the recommended assessments - half of the sites stated that they complete greater than 70% of these. We have not yet reported on completion of these assessment standards from the 'real world' patient-level audit, to compare.

Half of the sites i.e. five, stated that they can refer directly to physiotherapy services locally and five sites stated that they can refer directly to strength & balance exercise classes. All other sites, while not directly referring, stated that they advise patients to self-refer or advise the GP to refer.

None of the sites outside Dublin stated that they had access to refer to or were aware of strength & balance exercise programmes in their areas, vs. five of the six Dublin hospitals being able to do so. This is despite exercise programmes being available around the country via numerous organisations including some provided by local councils. Knowledge of and/or access to these in rural areas in particular needs further work. A major barrier to access can also be lack of transport to get to such facilities.

COMMUNICATION:

All sites send a letter to the GP but only five sites send a copy of the assessment to the patient, however this is a notable improvement from the last audit where only two sites sent a copy to the patient.

In the letter of communication, all sites stated that they report on fracture/ osteoporosis risk factors, 90% report on DXA T scores and drug treatment recommendation (if applicable) and 80% of sites report on falls risk factors, lifestyle/health risk-factor assessment, and a follow up plan.

LONG TERM MANAGEMENT:

Half of FLS stated that they delegate some of this monitoring to the GPs, though it is unclear how the sites were to obtain the resultant information, as 80% of sites said that they initiate first follow up at four months post fracture.

One site stated that they did not conduct first follow up until one-year post fracture.

In the follow up calls, all sites stated that they asked patients about medication concordance, however all but two FLS said they enquired about falls at the follow up assessment.

Key Highlights from Facilities Audit 2024



of the 16 adult trauma accepting sites were included this years facilities audit

FERMANAGH

ARMAGE

MONAGHAN

Changing Profile of FLS Clinical Staff 2024 = 11 Advanced (Nurse Practitioners Vs. 2 in 2019

50% of surveyed sites reported having a FLS governance group/committe

Staffing and ICT systems are significant barriers to Fragility Fracture case finding

Urban and rural divide exists when gaining access to strength & balance intervention

of FLS PRACTITIONERS PRESCRIBE MEDICATIONS DIRECTLY TO PATIENTS

Conclusion

In this the third report of the Irish Fracture Liaison Service Database, we present data from January – December 2023, for all low-trauma fractures excluding hip fractures captured and assessed by FLS in ten hospitals in Ireland. As outlined in this report, sites' performances are improving year on year in almost all key performance indices. It is positive to see two additional hospitals commencing a service during this reporting period, but disappointing to see that one site who participated in last year's FLS-DB was unable to continue activity during 2023 due to staffing constraints, and therefore could not participate in this year's report. It is anticipated however, that this hospital and one other hospital managing adult trauma will participate in next year's FLS-DB report.

When compared to previous reports there is an upward trend of awareness amongst FLS staff in relation to the importance of early assessment of the patient with a fragility fracture. Early assessment and intervention must remain key priorities for FLS practitioners, as 50% of patients sustaining a recurrent fracture will do so within the subsequent two years. Earlier interventions will have the greatest impact, through identifying those at high fracture and falls risk.

Access to DXA scanning, to specialist bone health clinics, to falls clinics, to strength & balance exercise programmes are all part of this armamentarium and nationally, remains a challenge in most hospitals, as per the facilities audit.

Though a monitoring contact took place by 16 weeks post fracture in just over half the reported cases, the importance of this is increasingly understood by teams. This later assessment is critical in ensuring that appropriate medication has been commenced and is tolerated, and that falls risk interventions are in hand, as necessary. Even injectable osteoporosis therapies need monitoring, as biannual injectable treatment requires certainty of administration to avoid a rebound increase in fracture risk. Cognitive impairment and memory difficulties are common in older age and these injections need coordination with GP services for advance appointment scheduling.

The FLS Steering Group would like to acknowledge the continuing support of the HSE to fund the service improvement manager role and the FLS database from January 2024. The HSE has also invested in advanced nurse practitioner roles and administrative staff for FLS during the past two years. The true impact of the ANP staff who are still in training will only be realised once their training is completed, ongoing commitment to ensure sustainable resourcing for FLS from the HSE is critical. Inequity remains in sites with no or less well-resourced services. Patients who present to these hospitals receive no structured assessment or intervention, though many might get this at a later date from their GP. Research demonstrates that osteoporosis treatment rates in Ireland are very low, even in those at highest risk.²³

We hope FLS can continue to develop so that all sixteen sites that manage adult trauma, have a fully staffed service in the very near future. This is a critical service as our population ages at a growth rate higher than any other European country. Avoidance of painful, debilitating, repeat fractures is an important part of healthy ageing, and is critical to address the rising costs of fracture care.

References

1. Willers C, Norton N, Harvey NC et al. SCOPE review panel of the IOF.

Osteoporosis in Europe: a compendium of country-specific reports.

- Arch Osteoporos. 2022;17:23. doi: 10.1007/s11657-021-00969-8.
- 2. Akesson K, Marsh D, Mitchell PJ et al. IOF Fracture Working Group.

Capture the Fracture: a Best Practice Framework and global campaign to break the fragility fracture cycle.

Osteoporos Int. 2013;24:2135-52. doi: 10.1007/s00198-013-2348-z. 3. Javaid MK, Pinedo-Villanueva R, Shah A et al.

The Capture the Fracture® Partnership: an overview of a global initiative to increase the secondary fracture prevention care for patient benefit.

Osteoporos Int. 2023;34:1827-1835. doi: 10.1007/s00198-023-06759-x.

 Department of Health: Health in Ireland, Key Trends. Dublin, 2022. https://www.gov.ie/en/publication/fdc2a-health-in-ireland-key- trends-2022/ Accessed Curtasther 2024

Accessed September 2024

 HSE (2008) Strategy to Prevent Falls and Fractures in Ireland's Ageing Population.

https://www.hse.ie/eng/services/publications/olderpeople/ strategy-toprevent-falls-and-fractures-in-irelands-ageingpopulation.html.

- Dockery F, Glynn A, Franks K et al. Fracture liaison services in Ireland-how do we compare to international standards? Osteoporos Int. 2022;33:1089-1096. doi: 10.1007/s00198-021-06251-4.
- LeBoff MS, Greenspan SL, Insogna KL et al. The clinician's guide to prevention and treatment of osteoporosis.

Osteoporos Int. 2022;33:2049-2102. Doi: 10.1007/s00198-021-05900-y.

8. Curtis E.M., van der Velde R, Moon RJ, et al Epidemiology of fractures in the United Kingdom 1988-2012: Variation with age, sex, geography, ethnicity and socioeconomic status.

Bone, 2016. 87: p. 19-26.

- Ebrahimiarjestan M, Yang L, E E, Wang T, et al. Bone mineral density and fractures in patients with rheumatoid arthritis: the DXA-HIP project. Rheumatol Adv Pract. 2023;7:rkad091. doi: 10.1093/rap/rkad091
- 10. Kanis JA, Harvey NC, McCloskey E, et al. Algorithm for the management of patients at low, high and very high risk of osteoporotic fractures. Osteoporos Int. 2020;31:1-12. doi: 10.1007/s00198-019-05176-3
- 11. https://www.noca.ie/documents/irish-hip-fracture-databasenational-report-2022/.

Accessed September 2024.

- Petersen TG, Abrahamsen B, Høiberg M et al. *Ten-year follow-up of fracture risk in a systematic populationbased screening program: the risk-stratified osteoporosis strategy evaluation (ROSE) randomised trial.* EClinical Medicine. 2024 Apr 11;71:102584. doi: 10.1016/j. eclinm.2024.102584.
- 13. <u>https://www.capturethefracture.org</u> Accessed September 2024.
- 14. <u>https://www.fffap.org.uk/fls/flsweb.nsf</u> Accessed September 2024.
- Danazumi MS, Lightbody N, Dermody G.
 Effectiveness of fracture liaison service in reducing the risk of secondary fragility fractures in adults aged 50 and older: a systematic review and meta-analysis.
 Osteoporos Int. 2024;35:1133-1151. doi: 10.1007/s00198-024-07052-1
- 16. McLellan AR, Wolowacz SE, Zimovetz EA et al. Fracture liaison services for the evaluation and management of patients with osteoporotic fracture: a cost-effectiveness evaluation based on data collected over 8 years of service provision.

Osteoporos Int. 2011;22:2083-98. doi: 10.1007/s00198-011-1534-0.

- 17. <u>https://fragilityfracture.co.nz/2024-annual-report/.</u> Accessed September 2024.
- 18. Javaid MK, Sami A, Lems W, et al A patient-level key performance indicator set to measure the effectiveness of fracture liaison services and guide quality improvement: a position paper of the IOF Capture the Fracture Working nGroup, National Osteoporosis Foundation and Fragility Fracture Network.

Osteoporos Int. 2020 Jul;31(7):1193-1204. doi: 10.1007/s00198-020-05377-1.

19. Balasubramanian, A., Zhang, J., Chen, L. et al. *Risk of subsequent fracture after prior fracture among older women.*

Osteoporos Int 30, 79-92 (2019). https://doi.org/10.1007/s00198-018-4732-1

- 20. Kanis JA, Johansson H, Odén A et al.
 Characteristics of recurrent fractures.
 Osteoporos Int. 2018;29:1747-1757. doi: 10.1007/s00198-018-4502-0.
- Slart RHJA, Punda M, Ali DS, et al., *Updated practice guideline for dual-energy X-ray absorptiometry (DXA)*. Eur J Nucl Med Mol Imaging. 2024. doi: 10.1007/s00259-024-06912-6.].
- 22.Montero-Odasso M, van der Velde M, Martin FC et al. World guidelines for falls prevention and management for older adults: a global initiative.

Age and Ageing, 51;9, afac205, <u>https://doi.org/10.1093/ageing/afac205</u>

23.Walsh ME, Nerdrum M, Fahey T et al. Factors associated with initiation of bone-health medication among older adults in primary care in Ireland. Age Ageing. 2021;50:1649-1656. doi: 10.1093/ageing/afab033.

Appendix

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