



# **Fracture Liaison Implementation Toolkit**

A practical guide to planning, developing and sustaining a high-quality Fracture Liaison Service

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# FLS Implementation Toolkit



The Royal Osteoporosis Society's Fracture Liaison Service (FLS) Implementation Toolkit provides practical guidance and resources to help health systems plan, develop and sustain a high-quality FLS.

Whether you're exploring the need for an FLS or preparing a full business case, the toolkit brings together the key evidence, practical steps and resources needed to support effective service development.

Establishing a high-quality FLS is one of the most impactful ways to prevent further fragility fractures and improve outcomes for people living with osteoporosis. A return on investment is often achieved in the first 18 – 24 months. This toolkit supports you through each stage of that journey.

## What the toolkit includes

### 1. Understanding local need

Insight into the impact of fragility fractures in your area, including scale, costs and system pressures.

Local forecasts of fracture demand over the next five years (available on request from [fls@theros.org.uk](mailto:fls@theros.org.uk)).

### 2. Building a strong case for change

A robust, evidence-based business case demonstrating the clinical and cost-effectiveness of an FLS.

Guidance for commissioning a high-quality, integrated service aligned with system-wide fracture-prevention goals.

### 3. Designing and implementing your service

Practical tools to support service design, pathway development and sustainability. Resources to make implementation more efficient and cost-effective, whatever your starting point.

Support to help you measure, evaluate and improve patient outcomes.

## Support from the Royal Osteoporosis Society

Alongside the toolkit, the ROS provides free end-to-end support for organisations developing or enhancing an FLS – from shaping the business case to interpreting outcome data and evaluating service performance.

This tailored support has already helped numerous health systems deliver measurable improvements in fracture prevention.

### **Who is this toolkit for?**

The toolkit is for healthcare professionals, clinicians, service managers, commissioners, finance teams, project leads and others involved in establishing, improving or expanding an FLS across any healthcare setting.

# Getting Started: Building Your Case for a Fracture Liaison Service



Establishing or improving an FLS requires a clear plan, strong leadership and engagement across the health system. This section outlines the early steps needed to build a credible, well-structured case for investment.

## 1. Funding Feasibility

Understanding your funding environment early will help you shape a realistic and timely proposal.

Consider:

- Which funding routes are available locally, regionally or nationally
- Commissioning priorities within your local health system or commissioning structure
- Key financial planning and budget cycles
- Submission deadlines for business cases

Why this matters:

- Clarity on feasibility allows you to build your timeline, set expectations, and ensure your proposal lands at the right moment.

## 2. Identify a Clinical Champion

A successful FLS needs clear clinical leadership. This may be you or another clinician committed to driving the project forward.

A strong clinical champion:

- Provides expert leadership and credibility
- Advocates for the service with colleagues and senior leaders
- Keeps momentum through planning and approvals

Why this matters:

- Clinical champions play a critical role in shaping the vision and maintaining engagement.

### 3. Secure Senior Buy-In

Executive support is essential for prioritisation, resourcing and successful decision-making.

Actions to take:

- Identify the appropriate executive sponsor or senior responsible owner for your health system
- Initiate early conversations about the benefits of FLS
- Align your case with local, regional and national priorities
- Highlight quality improvements, safety gains and cost savings

Why this matters:

- Senior sponsorship helps accelerate progress and reinforces organisational commitment.

### 4. Establish the Project Team

Building a strong project team ensures your business case is comprehensive, evidence-based and deliverable.

Your team should include:

- A named lead responsible for drafting the business case
- Clinical representatives across fracture, falls and osteoporosis pathways
- Operational and managerial colleagues
- Administrative or project management support
- Finance and business planning expertise
- Data, information and IT or digital expertise
- Primary Care
- Patient or lived experience representation; Patient and Public Involvement and Engagement (PPIE)

Why this matters:

- Clear roles and responsibilities will ensure smooth progress throughout development
- Patient or lived experience presence will authentically bring to life the impact on a personal level. The patient is the purpose, and their story is important

### 5. Build Your Project Plan

A structured project plan helps you stay on track and communicate progress.

Include:

- A target submission date for the business case
- Key milestones for drafting, consultation and approval
- Alignment with your organisation's financial and planning cycles
- Key risks
- Dependencies and governance arrangements
- Regular review dates

Why this matters:

- Demonstrating a clear pathway from idea to decision strengthens confidence in the proposal.

## 6. Create a Stakeholder Reference Group

Engaging a broad range of voices ensures your service is grounded in real-world needs and experiences. The reference group should complement the core project team, provide structured feedback at agreed intervals and support key design decisions.

Include:

- People with lived experience of fractures or osteoporosis
- Clinicians working in fracture care, falls prevention and bone health
- Operational teams involved across the pathway
- Primary, secondary and community care partners

Why this matters:

- Involving people with lived experience and colleagues across the fracture-prevention pathway helps identify gaps, opportunities and dependencies, and strengthens system-wide alignment.

### Resources:

[Stakeholder Map](#)

[Project Plan Template](#)



# Making the Case for FLS



This section sets out the steps needed to build an evidence-based case for establishing or improving an FLS. You will assess the current position, define what needs to change and gather evidence of the benefits for your local population.

By the end of this stage, you should have a clear and compelling case for change, supported by data, patient insight, stakeholder engagement and recognised clinical standards.

## 1. Collect the evidence

Map your current services

- Understand how patients currently move through the system from first fracture to assessment, treatment and follow-up.
- Identify gaps, delays, variations and missed opportunities.

Define your future service

- Use the ROS Clinical Standards for FLS to inform what a high-quality pathway should look like.
- Begin outlining the benefits that a well-designed FLS will bring to your local population.

Use national and local evidence

- Use the Evidence from the FLS resource to access research and outcomes data demonstrating the value of FLS models.
- Contact the ROS for an FLS cost-benefit calculation to strengthen the financial and operational case for an FLS.

## 2. Engage stakeholders early

### Engagement events

Consider holding an engagement event to:

- Raise awareness of the case for change
- Build support across clinical, managerial and commissioning teams
- Test early ideas and gather insight from across the system
- Agree next steps, named owners and timescales following the event.

You can also connect with the ROS regional FLS forums to learn from other areas and share best practice.

## **Include people with lived experience**

Speak to patients and patient representatives to understand their experience, priorities and unmet needs. Their insight is central to designing a service that improves outcomes and supports person-centred care.

## **How the ROS can support your engagement**

The Royal Osteoporosis Society can raise service gaps with health-system leaders and use its national voice to communicate the value and impact of high-quality FLS provision. This can reinforce the local case for change and align it with wider system priorities.

## **3. Understand your current Patient Pathway**

To make a strong case for change, build a clear baseline understanding of:

- The current patient pathway
- Problems, delays and inefficiencies
- Variations across sites or specialities
- Local data on fracture incidence, activity or waiting times
- Referral sources
- Eligible patient groups
- Case-finding processes
- Waiting times
- Treatment Initiation
- Follow-up and monitoring
- Data collection responsibilities

This baseline will help you quantify unmet need, define the future pathway and measure improvement.

## **4. Cost-Benefit Tool**

Contact the ROS for a locally tailored FLS cost-benefit calculation. This can estimate fractures prevented, bed days saved, potential cost savings and the workforce required for a fully resourced FLS. Contact us at: [FLS@theros.org.uk](mailto:FLS@theros.org.uk)

## **5. Start developing your PID (Project Initiation Document)**

Not all health systems will require a PID, but it is a good step to complete before working on your business case. Begin shaping the foundations of your PID, including:

- The problem you are seeking to address
- Aims and objectives for the project
- Scope and boundaries of the service redesign
- Governance and key stakeholders
- Expected benefits for patients, staff and the wider system
- Deliverables and milestones
- Risks and dependencies

- Decision-making arrangements
- Resource assumptions
- Patient Identification routes
- Measures of success

Your PID will evolve as further data and insight are gathered.

## Outcomes of this stage

By completing this stage, you should have:

- A clear understanding of the current patient pathway
- A defined future pathway aligned with the ROS Clinical Standards
- A set of project objectives and a clear case for change
- An outline service model
- A list of information gaps to address as you move into planning

### Resources:

[Evidence for FLS](#)

[Example Project Initiation Document](#)



# Designing the Fracture Liaison Service



This section explains how to design a future FLS based on your baseline assessment, local needs and stakeholder priorities. You will develop a practical model aligned with best practice and ready for implementation planning.

This is a collaborative stage. Engage widely across your project team, clinical colleagues, managers, commissioners and patient representatives. A facilitated workshop can be particularly helpful for mapping the clinical pathway and developing your service specification together.

## 1. Set Objectives

Clarify the objectives your new or improved FLS will work towards. These should reflect:

- The gaps and needs identified in earlier stages
- Expected improvements for patients and the health system
- Alignment with the ROS Clinical Standards for FLS

Wherever possible, define objectives that are specific, measurable, achievable, relevant and time-bound.

## 2. Agree the Service Model

Work with your stakeholders to define the overall shape of the service, including:

- Scope and core functions
- How patients will be identified, assessed, treated and followed up
- Multidisciplinary roles and responsibilities
- Integration with orthopaedics, radiology, primary care and community services
- Inclusion and exclusion criteria
- Referral and case-finding routes
- Interfaces with falls services and pharmacy
- Treatment initiation (when needed) and monitoring
- Support from a prescribing service
- Escalation and clinical-governance processes
- Long-term care 52 weeks post FLS

The service model forms the foundation for your detailed specification.

### **3. Estimate Capacity Required**

Begin to quantify the resources your service will need, such as:

- Staffing levels
- Diagnostic capacity (e.g., DXA)
- Administrative and IT support

In addition to the ROS Cost-Benefit Tool, you can use our staffing table tool, which allows you to adjust capacity estimates to reflect your local activity, workforce mix and service design.

### **4. Draft the Service Specification**

Bring all elements together into a clear, shared document outlining how your service will operate. This could include:

#### **Clinical pathway**

- The full journey from fracture to assessment, treatment and follow-up
- Key processes, quality standards and timelines
- How the service will meet the ROS Clinical Standards for FLS, the 11 FLS-DB key performance indicators and relevant NICE guidance.

#### **Service delivery**

- Who will deliver the service
- Roles and responsibilities across the team
- Any required training, equipment or systems
- Operating hours and locations
- Referral acceptance
- Documentation and communication requirements
- Data collection and reporting
- Clinical governance and review arrangements

The specification should give stakeholders a shared understanding of how the service will operate, what it will deliver and how performance will be measured.

### **Outcomes from this stage**

By the end of this stage, you should have:

- A clear set of objectives for your new FLS (aligned with the FLS-DB)
- An agreed service model shaped by stakeholders
- An estimate of the capacity and staffing required
- A detailed service specification describing standards, pathways and delivery
- Plans in place to move towards implementation and pilot activity

**Resources:**

[Example Patient Pathways](#)

[Example Service Specification](#)



# Securing the Funding for the FLS



This section sets out how to translate your agreed service model, objectives and service specification into a compelling funding proposal. The proposal should align with local priorities, use robust evidence and demonstrate clinical, operational and financial value.

## 1. Understand the funding landscape

Each health system has its own structures, templates and approval routes for investment decisions. Take time to understand:

- Local financial priorities and pressures
- Who the key decision-makers are
- Required documentation and approval timelines

Consider a phased approach only where it remains clinically safe, operationally viable and supported by clear criteria for expansion.

## 2. Draw up a business case

Your business case should set out:

- The problem you are addressing
- The case for change
- Your proposed FLS model and objectives
- Expected benefits for patients and the wider system
- Resource requirements (workforce, diagnostics, IT and operational support)
- Strategic fit
- Appraisal of options
- Financial and workforce assumptions
- Risks and mitigations
- Implementation place

Include all options, including the option of doing nothing, and clearly highlight the consequences for patient outcomes and system costs.

Your local system will have its own business case template — and it is best to use this. The ROS Business Case resource is designed to help you quickly drop evidence and information into your local format.

The ROS can also share examples of successful business cases and connect you with peers who have secured funding, helping you learn from their approaches and strengthen your proposal.

### **3. Use evidence and tools to support your proposal**

#### **Cost-benefit calculations**

The ROS can provide cost-benefit calculations predicting the benefits of a fully resourced FLS over five years, including:

- Bed days saved
- Fractures prevented
- Associated cost savings

The calculator also predicts the resources and staffing your service will require, based on the population you serve.

#### **Additional tools and evidence**

Strengthen your case further by using:

- Local fracture and pathway data
- Workforce and capacity modelling through the ROS staffing table tool
- National research from the Evidence for FLS resource
- Alignment to the ROS Clinical Standards for FLS

Together, these sources will help create a robust, locally relevant proposal aligned with recognised standards and audit measures.

### **4. Engage colleagues who support delivery**

As you develop your business case, engage early with:

- IT teams — to confirm system requirements and data flows
- Data, audit and information teams — to support activity modelling and validate assumptions
- Operational and finance leads — to check feasibility, costs and implementation considerations

Early involvement helps avoid delays and ensures your proposal is deliverable.

### **5. Raising the profile of your case**

Alongside this toolkit, the ROS provides free support for NHS teams developing or improving an FLS, from strengthening a business case to interpreting outcomes data and evaluating service performance.

The ROS can also highlight service gaps directly with health system leaders and use our national and local voice to champion the importance and impact of high-quality

FLS provision. This advocacy strengthens your local case for change and ensures it aligns with wider system priorities.

## Outcomes from this stage

By the end of this stage, you should have:

- A clear understanding of the local funding environment
- A completed business case aligned to local templates
- Evidence-based resource and capacity estimates
- Feasible phasing options, if required
- Engagement and support from key system decision-makers

### Resources:

[Business Case Resource](#)



# Implementation



This section covers the practical steps required after funding is secured and before the FLS launches. The focus is on ensuring that people, systems, training and operational processes are ready for safe and effective delivery.

## 1. Draw up plans to pilot and implement

Develop a clear plan outlining how you will move from preparation to delivery. This should include:

- Pilot scope and objectives
- Key milestones, timelines and responsibilities
- Risks, mitigations and dependencies
- Processes for testing and refining your pathway ahead of full launch
- Readiness criteria
- Testing and sign-off arrangements
- Evaluation measures

Your implementation plan should reflect your agreed service model and support a smooth transition into the live phase.

## 2. Recruitment

Recruit the staff required to deliver your new FLS.

- Job descriptions and adverts are available to download from the toolkit.
- Engage HR early to confirm recruitment processes and timelines.
- Consider phased or interim staffing approaches to support early delivery.
- Confirm job evaluation
- Professional registration
- Clinical supervision
- Induction

### 3. Training

Ensure your team is equipped with the skills and knowledge needed for high-quality delivery.

Training may include:

- Clinical training aligned to the ROS Clinical Standards for FLS
- Use of digital systems and data entry tools
- Understanding referral routes and internal processes
- Communication skills for patient-facing roles
- Audit requirements

Early preparation builds confidence ahead of go-live.

### 4. Communication

Clear communication will support awareness, engagement and smooth operational readiness.

#### Internal communication

Ensure staff across relevant departments understand:

- The purpose and benefits of the FLS
- How patients will move through the pathway
- Their role within the service

#### External communication

Engage:

- Primary care teams
- Radiology and orthopaedics
- Community providers
- Patients and the public

For each audience, identify the message, channel, owner and timing, and provide clear referral information before launch.

External communication supports referrals, awareness and stakeholder buy-in.

### 5. Go Live

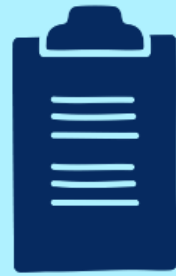
As you approach go-live:

- Confirm staffing and pathway readiness
- Ensure IT systems, referral routes and diagnostics are in place
- Test data collection processes and upload to the FLS-DB
- Communicate launch timelines to all partners

Use the pilot period to refine workflows and embed learning quickly.

**Resources:****Job Descriptions**

- [DXA Practitioner](#)
- [Band 3 Admin Support Officer](#)
- [Band 4 Admin](#)
- [Band 6 Nurse](#)
- [Band 7 Nurse](#)
- [Band 7 Pharmacist](#)



# Sustainability



This section explains how to sustain the FLS after launch by maintaining quality, monitoring performance and embedding continuous improvement so the service continues to meet patient needs and demonstrate value.

## 1. Capture, record and evaluate data

High-quality data collection is essential for demonstrating the impact of your FLS and supporting ongoing improvement and investment.

### Register with the FLS-DB

Confirm current FLS-DB participation and submission requirements before launch, and assign clear responsibility for data quality, validation and timely submission.

The FLS-DB reports performance through 11 key performance indicators covering data completeness, case identification, timely assessment and DXA, falls assessment, treatment, strength and balance training, monitoring and medicine adherence.

- NICE technology assessments
- NICE osteoporosis guidance
- The ROS Clinical Standards for FLS

Your service should aim to deliver these KPIs as part of routine practice.

## 2. Ongoing monitoring and evaluation

Build structured monitoring and evaluation processes into your service from day one. This could include:

- Reviewing performance against the 11 KPIs
- Identifying what is working well and what needs improvement
- Using data to drive continuous quality improvement
- Taking part in national audits to benchmark your performance

Regular evaluation strengthens the consistency, safety and impact of your FLS.

### **3. Refining your pathway and resources**

Based on your evaluation findings and stakeholder feedback:

- Refine your clinical pathways
- Update clinical templates, documentation and patient-facing resources
- Adapt staffing levels, workflows or processes where needed

These changes help ensure your FLS continues to meet best practice standards and respond to patient needs.

### **4. Take part in formal improvement programmes**

Structured improvement programmes can help embed learning and sustain high performance.

These may include international networks such as IOF-endorsed communities, national audit and improvement resources from FLS-DB, and ROS regional forums or peer-support groups.

- Peer support and shared learning
- Opportunities to compare approaches
- Access to expert input and good practice

Participating in these groups and programmes strengthens local delivery and fosters continuous improvement.

### **5. Continuous improvement**

Sustainability depends on regularly capturing and reviewing:

- Activity levels
- Patient outcomes
- Staff feedback
- Operational challenges

Provide a clearly labelled resources area with current links to FLS-DB guidance, audit reports and improvement tools.

### **6. Celebrating success**

Recognising achievements is an important part of sustaining motivation and engagement.

- Share examples of good practice within your organisation
- Celebrate progress against KPIs
- Highlight improvements in patient experience or outcomes

The ROS would also welcome hearing about your success — contact us to share your achievements, innovations or learning.

## **New developments and new funding**

Keep evidence of activity, outcomes, unmet need and patient experience up to date so that future service-development proposals and funding bids are timely and well supported.

## Support from our Health Services Team



The ROS Health Services Development Team provides tailored support for planning, developing and improving an FLS. Contact the team to arrange an initial discussion about your goals, local context and the most useful support.



Email: [FLS@theros.org.uk](mailto:FLS@theros.org.uk)

### What we offer:

#### **FLS Cost-Benefit Calculations**

We can provide a locally tailored five-year FLS cost-benefit calculation to support an evidence-based case for investment, including estimated fractures prevented, bed days saved, cost savings and workforce requirements.

These projections include:

- Bed days saved
- Fractures prevented
- Associated cost savings
- Estimated workforce and resource requirements aligned to your local population

These insights help you make an evidence-based case for investment and service improvement.

#### **Peer Support**

We can connect you with an FLS that has experience relevant to your priorities, enabling practical discussion of service models, challenges, implementation and improvement.

- Practical learning from those who have overcome similar challenges
- Real-world examples of what works
- Supportive discussions to build confidence and momentum

This complements the guidance you receive from the ROS team and strengthens your improvement network.

## **FLS Regional Forums**

FLS regional forums bring teams together to share practice, explore common challenges, review performance and build supportive professional networks.

These forums provide opportunities to:

- Share best practice
- Explore common challenges
- Review service performance
- Build supportive professional networks

They are a valuable way to stay connected and keep improvements moving.

## **Connecting with ROS Support Groups**

We can connect you with local ROS Support Groups so that patient and lived-experience insight informs service design, priorities and improvement activity.

These groups can:

- Share perspectives on patient experience
- Help identify unmet needs
- Strengthen co-production
- Add a powerful patient voice to your improvement work

This helps ensure your FLS is shaped around what matters most to people living with osteoporosis.

## **Practical Resources and Examples**

The team can share practical examples and templates, including job descriptions, case studies, service specifications and other materials to support planning, implementation and improvement.

- Sample job descriptions for key FLS roles
- Case studies showcasing innovative and high-performing FLS models
- Service specifications outlining core components of effective FLS provision

These examples offer a real-world foundation to help you shape, justify, or refine your service.

## **Letters of Support**

Where appropriate, the team can provide a letter of support with senior management that summarises the evidence base, the benefits of high-quality FLS provision and the case for improving care for people with osteoporosis.

**Resources:**

[Understanding the Cost Benefit Tool](#)



# Examples of FLS Service Improvement and models of care



Fracture Liaison Services can be organised and delivered in different ways. The case studies and examples in this section illustrate a range of approaches shaped by local populations, healthcare structures, workforce, resources and priorities. They are not presented as a ranking or as a single model to replicate; each offers practical learning that may be useful in a different context.

Use these examples to explore the options available when establishing, developing or improving your own FLS. Consider which features could be adapted to address your local needs rather than copied in full. Drawing learning from several services may help you design an approach that is practical, sustainable and aligned with recognised clinical standards.

As you read each case study, consider:

- Which elements of the model respond to its local context
- How patients are identified, assessed, treated and followed up
- How roles, responsibilities and partnerships are organised
- What enabled the service to develop or improve
- Which ideas could be adapted, tested or combined within your own service
- The potential funding opportunities available for your service

## **A Community and Primary Care Setting Approach to Osteoporosis**

Croydon Health Services NHS Trust

### **Summary**

Croydon has developed a borough-wide approach to identifying people at risk of osteoporosis before they fracture. Starting as a clinician-led quality improvement project, the programme now uses community pathways, primary care systems and digital case-finding to support earlier diagnosis, improve treatment initiation and reduce missed opportunities for prevention.

## **At a glance**

A clinician-led quality improvement programme in Croydon has developed into a borough-wide locally commissioned service, helping identify people at risk of osteoporosis earlier and reduce avoidable fractures.

Led by Adam Gregory, Advanced Practitioner Physiotherapist at Croydon Health Services NHS Trust, the programme brings together primary care, community services and fracture prevention pathways to support earlier diagnosis and more proactive care.

## **Why change was needed**

Fragility fractures linked to osteoporosis have a major impact on patients, families and NHS services, yet many people are still diagnosed only after they break a bone.

## **How the programme supports national priorities**

The Croydon model complements Fracture Liaison Services by extending case-finding beyond acute fracture pathways and into community and primary care settings. This supports earlier diagnosis, particularly for women aged 50 and over, and reflects NHS priorities around prevention, community-based care and digital transformation.

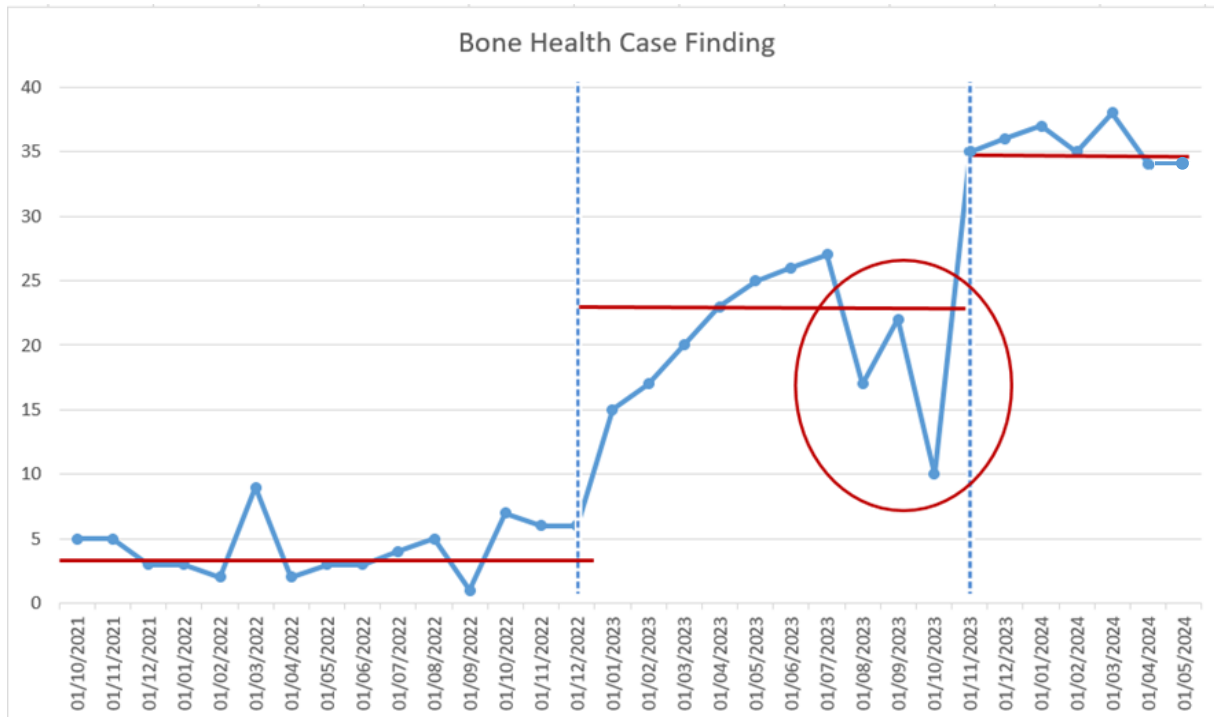
## **What the programme set out to do**

The programme set out to embed proactive bone health risk identification across Croydon by:

- Identifying osteoporosis and fracture risk earlier
- Building bone health into routine community and RESTART triage workflows
- Using primary care systems to support repeatable case-finding
- Enabling a sustainable GP-led locally commissioned service. How the programme developed

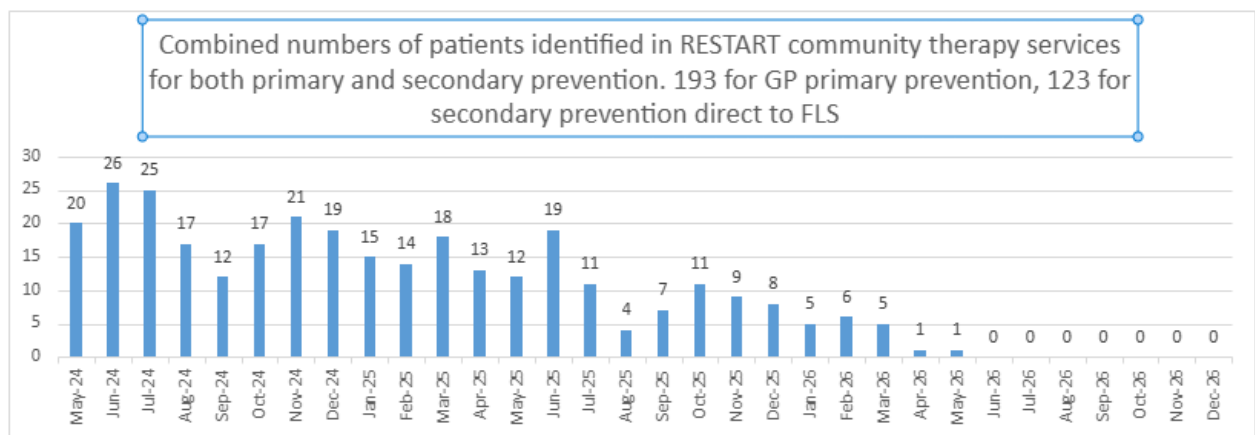
## **Phase 1: building capability in community services**

- Introduced FRAX-based risk assessment across community and therapy teams
- Delivered targeted education to improve clinician confidence
- Identified more than 500 at-risk patients, with over 60% progressing to diagnosis or treatment. At this stage, however, I started to understand the need for more systematic approaches to identification.



## Phase 2: embedding bone health into RESTART triage

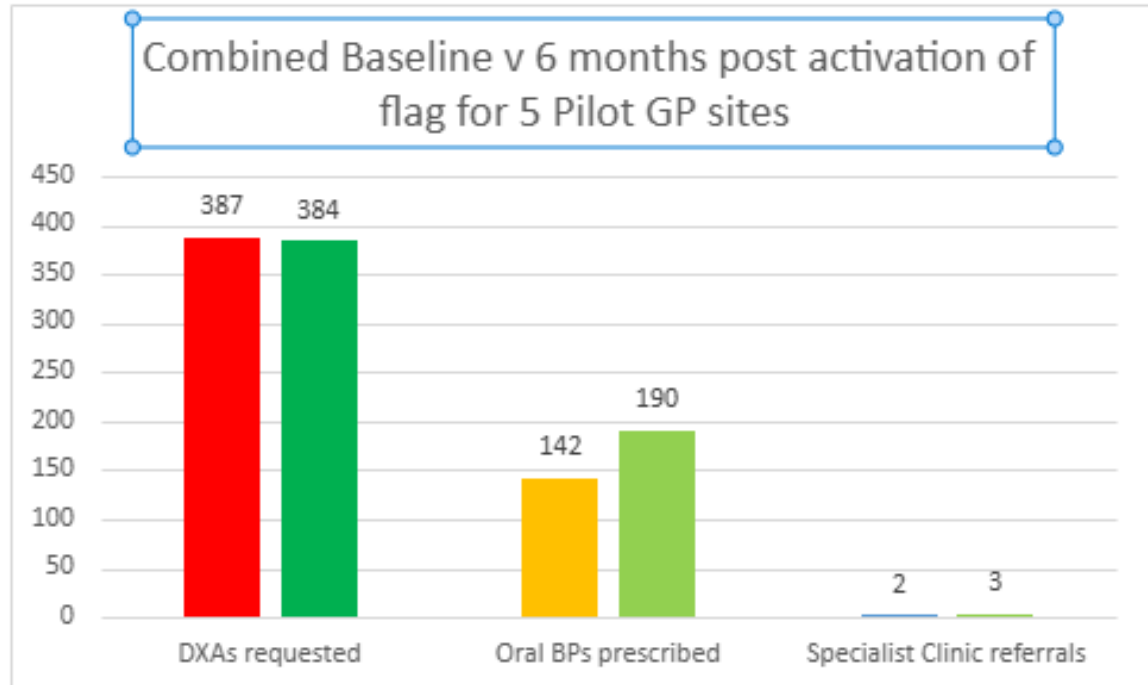
- Embedded bone health into RESTART triage templates and workflows
- Identified 316 patients through direct FLS referral and GP-led primary prevention routes. Interestingly, as internal pathways around identification within acute areas improved, this led to a reduction in identification at point-of-therapy triage, suggesting improved acute case finding



## Phase 3: using digital tools in primary care

- Worked in collaboration with EMIS to implement clinical alerts across five GP pilot practices, data accumulation period January 2024 to April 2026

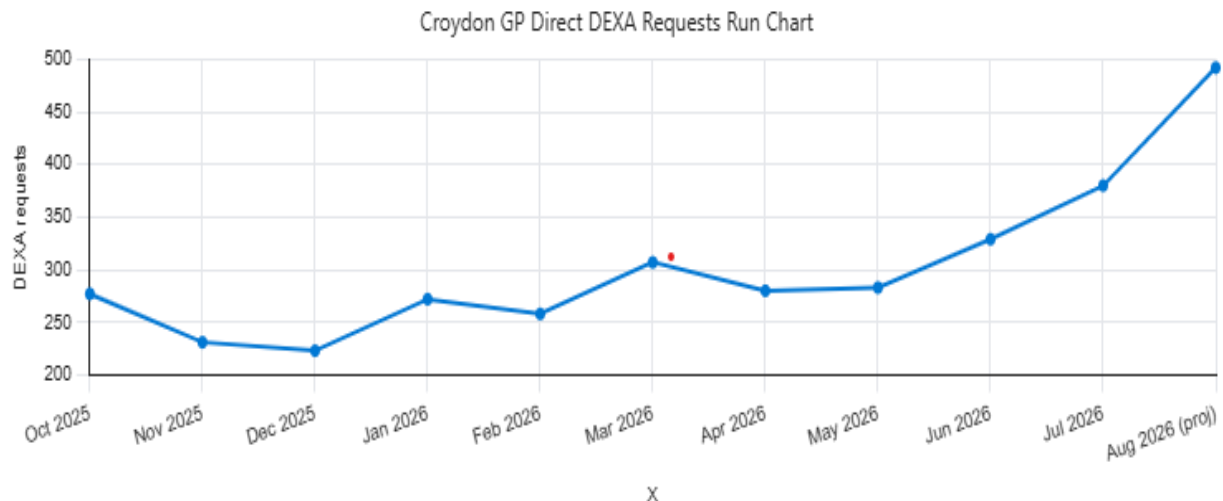
- Increased oral bone-protective prescribing from 142 to 190 in a 6 months pre and 6-month post-alert activation period. Representing a 34% increase across pilot sites.
- Improved consistency of DXA requesting across sites



#### Phase 4: moving to a borough-wide commissioned service

- Moved from pilot innovation to a borough-wide locally commissioned service from April 2026 as the first of two parts of the locally commissioned service, working in tandem within plans for shared care around aspects of parenteral treatments.
- As part of the locally commissioned service, all GP practices are expected to run quarterly searches for people aged 50 and over and meeting the agreed criteria. They then follow the South West London Bone Health pathway.
- Shifted identification from clinician-led activity to embedded, repeatable system processes with potential, further to demonstrable success to expand beyond Croydon place.

Early indications are that there is already impact with the locally commissioned service, with 32% of patients screened using the agreed search going on to require DXA scan investigation. The chart below shows the wider impact across all Croydon GP sites, with a clear increase since June 2026 after an initial lag post commencement of LCS in April. This will inevitably, we expect lead to early identification and diagnosis of more patients, a good proportion of which would be expected to be primary prevention cases.



## What has changed

- More than 500 at-risk patients were identified in the early phases, with over 60% progressing to diagnosis or treatment, establishing a proof of concept of the local unmet need.
- A further 315 patients were identified through RESTART community therapy teams from streamlined triage processes.
- Bone-protective prescribing, DXA requesting and auditability improved across pilot settings.
- The model has demonstrated potential economic value, with projected savings of around £442k through secondary prevention and up to £1.2m when primary prevention is included. This was based on the Phase 1 findings alone, which helped demonstrate the vast potential that can result from the growth within phases 2-4.

## What helped make it work

- Strong clinical leadership and frontline engagement
- Integration into existing triage and digital systems
- Clear clinical and economic value
- Alignment with commissioning priorities
- Robust audit, data and reporting infrastructure.

## Challenges to manage

- Variable GP engagement and uptake
- Workforce turnover and competing operational pressures
- The need for sufficient data, diagnostic capacity and pathway support at scale.

## Learning for other areas

- Prevention is more sustainable when built into everyday systems and digital workflows.
- Primary care has a vital role in identifying people before they fracture.
- Quality improvement helps teams test, refine and build confidence before wider commissioning.

## Next steps

Over the next three years, the programme will focus on engaging all Croydon GP practices, increasing identification and treatment initiation, strengthening outcome tracking and exploring wider spread across South West London. In the short term, there will be a focus on training delivery and engagement within GP surgeries/PCN level. This will include the aim for collaborative work with ROS around the role of potential resources such as BoneMed Online to aid the onward journey for patients, to match the expected increase in identification.

## Conclusion

The Croydon programme shows how local teams can move from small-scale quality improvement to a sustainable, borough-wide approach to osteoporosis identification.

By bringing together primary care, community services, digital case-finding and fracture prevention pathways, it offers a practical model for embedding prevention into everyday care from end to end of the pathway.

## A Community-Based Model for Secondary Fracture Prevention

### West Suffolk Community Fracture Liaison Service

## Population Context

The West Suffolk Community FLS serves a population of approximately 257,000, including 102,800 people aged over 50 and 53,970 aged over 65. The area is predominantly rural and semi-rural, comprising 6 Integrated Neighbourhood Teams, 26 GP practices, and 49 care homes, within Suffolk and North East Essex ICB. The service is nurse-led.

## Background

In 2012, fracture prevention services across Suffolk were inequitable. While East Suffolk had an established Fracture Liaison Service (FLS), West Suffolk had no provision despite repeated failed hospital-based business cases. The local Clinical Commissioning Group therefore secured time-limited innovation funding to establish a community-based FLS, deliberately positioned outside the acute trust.

Two Band 7 nurses designed and implemented the service, with a focus on system integration, digital working, and equity of access, rather than physical location within a hospital.

## **Service Model**

From inception, the West Suffolk FLS adopted an IT-enabled, remote-first model. Monthly fracture data for patients aged over 50 years attending West Suffolk NHS Foundation Trust are received via a data-sharing agreement with the hospital information team. These fracture lists are digitally triaged using hospital and GP records to identify fragility fractures, without reliance on ward trawls.

Assessment is undertaken by telephone where appropriate, with home visits offered to older, frailer, housebound patients and care home residents. This ensures equitable access across a geographically dispersed population. Each patient receives a comprehensive fracture risk, bone health, and falls assessment, including lying and standing blood pressure. Follow-up continues until treatment is initiated, tolerated, and stable.

The service operates a long-term, open-access model, allowing patients (and where appropriate carers and families) to re-contact the FLS at any point in the future.

## **Case Finding and Referral**

Eligibility criteria include age  $\geq 50$  years with a fragility fracture, with prioritisation of fractures most strongly associated with osteoporosis (hip, spine including vertebral and incidental findings, wrist, humerus, pelvis). Ankle fractures are considered on a case-by-case basis. Ribs, feet, skull, digits, and high-energy trauma are excluded.

In addition to hospital fracture data, referrals are received from:

- General Practice
- DXA services (all reports sent monthly to FLS)
- Trauma practitioners
- Orthogeriatric MDTs
- Respiratory services, including the lung cancer screening programme (incidental vertebral fractures)
- Self-referral

The team has worked closely with radiology colleagues to improve wording and coding of reports, significantly improving identification of incidental vertebral fractures.

## **Community Denosumab Service**

In 2022, the FLS assumed responsibility for delivering the entire community denosumab pathway for West Suffolk, developed during the COVID-19 pandemic when hospital delivery became unviable.

The pathway includes prescribing, monitoring, administration, and six-monthly follow-up, delivered across multiple community health centres. Approximately 700 patients are currently managed, including those with renal impairment or intolerance to bisphosphonates. Some patients have now been maintained on denosumab for over ten years, demonstrating a high level of continuity and specialist expertise.

## **Workforce**

The service operates with a lean, predominantly part-time workforce, led by an Advanced Clinical Practitioner prescriber, supported by nursing and administrative staff. Clinicians work remotely except for community clinics and home visits, enabled by full digital access to GP, hospital, and community records.

## **Patient-Centred Care**

All patients, and where appropriate carers and families, receive verbal and written education covering:

- Bone health
- Lifestyle and nutrition
- Medication
- Falls prevention
- Strength and balance exercise

Longer initial appointments support shared decision-making and long-term adherence. Care is tailored using a biopsychosocial model, combining pharmacological and non-pharmacological interventions. Referrals are made as appropriate to strength and balance services, exercise on referral, occupational therapy, vision and hearing services, social prescribing, medication review, frailty assessment, and falls services.

## **Follow-Up and Digital Integration**

The service is fully digital, with shared records across General Practice, community services, and the acute trust. Long-term management plans are shared with both patients and GPs. Patients are followed up as often as required, with:

- A 12-month follow-up questionnaire for most patients
- Six-monthly FLS follow-up for denosumab patients
- Proactive follow-up for anyone not on treatment

Patients are discharged only when treatment is established, declined with informed decision-making, or no longer clinically appropriate, with Patient-Initiated Follow-Up (PIFU) thereafter.

## Outcomes, Strengths and Learning

Key strengths include:

- A robust secondary fracture prevention safety net
- Home visiting capacity reducing health inequalities
- Long-term treatment continuity
- Strong informal integration with orthopaedics, orthogeriatrics, rheumatology, radiology, DXA, and General Practice
- High patient satisfaction, particularly regarding access, continuity, and avoidance of hospital attendance

Challenges include geographical boundaries, cross-border populations, hospital coding delays, and historic DXA capacity issues, all of which have impacted FLS-DB metrics. These reflect system and data definition issues rather than service quality. DXA services are now in recovery under consultant rheumatology leadership, with improving waiting times.

## Conclusion

The West Suffolk Community FLS demonstrates that a fully digital, nurse-led, community-based model can deliver effective, equitable secondary fracture prevention across a rural population. With appropriate data alignment, digital access, and commissioning boundaries, this model is scalable, sustainable, and transferable, offering a credible alternative to traditional hospital-based FLS delivery.

## The Role of Administration and Digital Systems

Portsmouth Hospitals NHS Trust

### Executive Summary

This case study shares learning from the Portsmouth Fracture Liaison Service (FLS) on how effective administrative leadership and purposeful use of a digital FLS system can enable a high-volume service to function safely and efficiently.

A key message is that digital systems do not replace administration; they work together to service effectiveness. In Portsmouth, a clearly defined, embedded administrator role provides pathway oversight, patient tracking, data quality assurance, and coordination across teams, allowing clinicians to focus on assessment and treatment.

Administrative ownership of workflows and the digital system has improved referral capture, reduced missed patients, strengthened collaboration, and increased confidence in national reporting. The case study also highlights common challenges shared by many FLS teams, including capturing refracture rates and identifying vertebral fractures, and demonstrates the value of collective working between services to influence digital system development. The learning is intended to support

other FLS teams in designing, protecting, and strengthening administrative roles as a core component of sustainable FLS delivery.

## Background and Service Set-Up

The Portsmouth Fracture Liaison Service (FLS) was established in 2014 following a successful business case led by a consultant clinician. Initially funded for two years, the service began with one consultant and one nurse, focusing primarily on bone health referrals from rheumatology.

Administrative support was introduced early, recognising that patient tracking and coordination would be essential as the service expanded. Over time, the FLS evolved into a comprehensive secondary fracture prevention service, identifying patients through fracture clinics, wards, and outpatient pathways.

Amy Jacobs joined the service as a full-time administrator in 2022, building on early admin systems developed by a predecessor. The current team includes:

- 2 consultants
- 5 nurses
- 1 full-time administrator
- 2 part-time administrators (18 and 16 hours per week)

## Strengths of the FLS: Collaboration enabled by administration

A defining strength of the Portsmouth FLS is **effective collaboration across multiple teams**, including:

- DEXA services
- Orthogeriatric ward teams
- Fracture clinics and virtual fracture clinics
- Peripheral services such as St Mary's, Gosport

This collaboration is not informal or ad hoc. It is enabled by **clear administrative infrastructure**: group mailboxes for 'bone health admin', orthogeriatric referral templates, agreed information standards, and defined routes into the service.

*"The collaboration is the best part of it all, but that does stem down to admin processes that have been put in place."*

The administrator role has brought clarity and helped reduce missed referrals, incomplete information, and duplication of effort.

## The Administrator Role: Operational Oversight and Clinical Enablement

The administrator role sits at the centre of the service, providing:

- Oversight of high referral volumes

- Daily worklist creation (e.g. allocating 10 new patients per day for nurse screening)
- Tracking patients through complex pathways
- Chasing DXA and blood test investigations and follow-ups
- Ensuring data completeness and audit readiness

This role allows clinicians to focus on assessment and treatment, rather than coordination and data management.

Colleagues describe the administrator as “the glue” of the service because:

- Patients are always visible within the pathway
- There is a system for managing uncertainty
- Risks of patients being missed are identified early
- Data quality issues are addressed proactively

*“As clinicians, their goal is to treat the patient. As admin, my goal is to make sure the patient is on the system and tracked properly – but for the same reason.”*

## Digital FLS: Administration as the Interface Between People and Systems

One of the most significant service changes was the introduction of the **digital FLS module within e-Trauma in 2024**. Originally designed for orthopaedics, the system focuses on national data capture rather than patient pathways.

Administrative leadership was essential to making the system clinically usable:

- Creating tags and filters to show where patients sit in the pathway
- Developing worklists for DEXA attendance, follow-ups, and treatment stages
- Manually reconciling data where systems do not integrate
- Ensuring data reported nationally accurately reflects clinical activity

Rather than reducing workload, the digital system **expanded visibility and case capture**, increasing referrals from:

- GPs
- Virtual fracture clinics
- Minor injury units
- Peripheral services previously unfamiliar with FLS

*“It’s not the system on its own – it’s how the team uses it.”*

## Data Quality, Refracture Measurement, and National Reporting

Improved administrative oversight has led to an approximately **20% increase in recorded activity** since 2022. This increase reflects better data capture rather than a sudden rise in workload.

Amy highlights a critical distinction:

*“The patients weren’t new – they just weren’t being recorded as well previously.”*

The digital system has improved:

- Confidence that data is not being lost
- Consistency in reporting to the national FLS database
- Visibility of the true scale of FLS activity

However, limitations remain.

## Refracture Rates

Currently, neither the digital system nor the national database adequately captures **refracture rates** for patients already under FLS care. This is widely recognised as a missed opportunity:

*“Refracture data would be really useful for measuring the effectiveness of what’s gone on before.”*

The Portsmouth team is actively collaborating with other FLS services - including teams in London - to collectively request system changes. These discussions aim to present a unified case to digital suppliers and IT teams.

## Vertebral (Spinal) Fractures: Future Opportunity

Another identified gap is the systematic identification of vertebral fractures. At present:

- Vertebral fractures are not routinely captured by the service
- There is no dedicated pathway or system capacity to manage the volume

*“With the sheer amount of patients that come through, we haven’t got a dedicated system to be able to pick those patients up.”*

While this is not currently deliverable, it is seen as a clear opportunity for future service development if capacity and systems allow.

## Service Improvements Driven by Administration

Examples of admin-led or admin-enabled improvements include:

- A central orthogeriatric referral mailbox
- Structured referral templates specifying infusion dates and fracture details
- Earlier follow-up and reduced delays to DEXA and treatment
- More accurate and timely national reporting

These changes reduced back-and-forth communication and ensured patients were not lost post-discharge.

## Patient Experience and Outcomes

Patient feedback consistently highlights:

- Feeling listened to

- Having sufficient time with clinicians
- Easy access to advice via helplines and follow-up contact

This experience is directly linked to administrative preparation:

*“Everything is prepared for the nurses before clinic – they can just be with the patient.”*

## **Skills required for effective FLS administration**

Key skills identified include:

- Proactivity and anticipation of problems
- Confidence in decision-making
- Strong cross-disciplinary communication
- Adaptability to different working styles
- Systems thinking and attention to detail

Being embedded within the clinical team – rather than operating peripherally – is critical.

## **Advice for new or developing FLS**

- Do not underestimate the administrative workload
- Build systems around people, not just software
- Invest in admin roles early – they prevent downstream inefficiency
- Data quality and patient safety depend on administrative leadership

## **Future development**

Looking ahead, anticipated developments include:

- Expansion of nursing and clinical capacity
- Corresponding expansion of administrative support
- Potential for admin leadership across multiple sites
- Further refinement of digital systems to support refracture and vertebral fracture identification

*“Effective administration makes the service efficient and nationally recognised – and that’s what all services aim for.”*

## **Key Learning Points**

- The digital FLS system in Portsmouth did not replace administration – they rely on it.
- Administrative leadership underpins data quality, safety, and sustainability.
- Measuring refracture rates is a valuable next step for demonstrating impact.

# Digitally Enabled Fracture Liaison Service

NHS Greater Glasgow and Clyde (South Sector)

## Executive summary

NHS Greater Glasgow and Clyde (NHSGGC) South Sector implemented a digitally enabled Fracture Liaison Service (FLS) using the *Red Star FLS* platform to address long delays, workforce pressure, and inequitable case finding within osteoporosis care.

The intervention transformed fracture identification from a largely manual process taking 15–24 months into a near-real-time digital pathway, identifying eligible patients within an average of three days.

Without increasing staffing, the service doubled annual FLS enrolment (from 3,000 to 6,000 patients), freed up around 50% of specialist nurse time, and enabled more consistent prioritisation of high-risk patients, particularly those with vertebral fractures.

Following full implementation, the South Sector observed a 10% reduction in hip fractures compared with baseline, during a period when rates elsewhere were rising. While causation cannot be definitively proven, no other major service changes occurred during this period.

## The challenge

Like many FLSs across the NHS, NHSGGC faced multiple, compounding pressures:

- Manual case finding reliant on ward visits, trauma lists, virtual fracture clinics, and duplicated reviews
- Significant workforce constraints, particularly specialist nursing capacity
- Delayed identification of fragility fractures, especially vertebral fractures often found incidentally on CT
- Lack of electronic patient management, limiting audit, accountability, and service improvement
- Missed opportunity for early treatment within the high-risk 12–24 month post-fracture window

Before digitalisation, it could take 15–24 months for some patients—particularly those with vertebral fractures—to be identified by the FLS, undermining the clinical effectiveness of secondary fracture prevention.

## The intervention

NHSGGC South Sector partnered with Red Star through an Innovate UK (SBRI) process to design a locally tailored digital FLS, embedded within existing NHS data infrastructure.

## Key features

- Automated radiology case finding using text-based analysis of imaging reports
- Near-real-time surfacing of eligible patients onto a clinician dashboard
- Single-screen clinical decision support, integrating:
  - Radiology findings
  - Biochemistry (eGFR, calcium, vitamin D, etc.)
  - Historic DXA results
  - Prescribing history (including glucocorticoids and bone-active drugs)
- Workflow and task management, ensuring patients are visible, tracked, and actioned
- Audit-ready data, enabling performance monitoring and reporting

The system was introduced in phases between November 2022 and March 2023 across four acute sites feeding into the South Sector.

## Implementation approach

- Phased rollout by hospital site to manage risk and workload
- Clear clinical ownership led by consultant leadership and osteoporosis nurse specialists
- No increase in staffing during or after implementation
- Defined prioritisation rules, particularly for vertebral fractures
- Daily digital worklists, replacing large manual backlogs

This approach ensured staff confidence, operational stability, and rapid adoption.

## Impact

1. Productivity and workforce
  - FLS enrolment doubled:
    - 3,000 patients/year (pre-digital)
    - 6,000 patients/year (post-digital)
    - Achieved with no increase in nurse staffing
    - 50% reduction in nurse time spent on case finding
  - Clinical time redirected to:
    - Patient assessment
    - Treatment decisions
    - Follow-up and prioritisation
2. Timeliness of care
  - Average time from fracture imaging to FLS identification reduced from months to 3 days
  - Patients identified within the high-risk fracture window, enabling earlier intervention
  - Vertebral fractures systematically prioritised rather than incidentally managed

3. Quality and consistency
  - Reduced duplication and missed patients
  - Standardised decision-making using integrated clinical data
  - Clear accountability: patients are visible until actioned
4. Patient outcomes so far
  - Following full implementation, the South Sector has recorded a 10% reduction in hip fractures
  - No other major changes to FLS structure or treatment pathways occurred during this period
  - While multifactorial and not definitively attributable, the timing and contrast with other sectors are notable

## Financial and system value

Although precise cost-effectiveness modelling is challenging in real-world services:

- The intervention did not require additional clinical staff
- It increased throughput without increasing fixed workforce costs
- Earlier identification and treatment are expected to:
  - Reduce future fracture admissions
  - Avoid high-cost hip fracture care
  - Improve patient quality of life and independence

The system also creates the data foundation required for audit, assurance, and continuous improvement, which manual services do not reliably provide.

## Key learning from the Glasgow team

1. Digital case finding is not about creating demand  
It reveals unmet need that already exists and shifts care upstream.
2. Workforce efficiency gains are substantial  
Digital tools can release large amounts of specialist clinical time without reducing care quality.
3. Equity depends on infrastructure  
Without digital systems, patients' access to secondary fracture prevention varies by geography.
4. Perfect evidence should not block necessary change  
Randomised trials are impractical for service infrastructure; decision makers should consider plausibility, scale of benefit, and opportunity cost.
5. Case finding is only the first step  
Digital FLS enables—but must be matched by—DEXA capacity, alternative risk stratification, and flexible prescribing models.

## Next steps and opportunities

- Scale digital FLS across remaining NHSGGC sectors to address internal inequity
- Integrate DXA and explore CT-based bone assessment to relieve diagnostic bottlenecks
- Expand pharmacist- and nurse-led treatment pathways
- Enhance digital patient communication and adherence support
- Align digital FLS data with national audit and commissioning frameworks

## Conclusion

The NHSGGC South Sector experience demonstrates that digital enablement of FLS is feasible, scalable, and impactful, even in a constrained workforce environment.

For decision makers seeking to improve secondary fracture prevention, reduce unwarranted variation, and maximise existing clinical capacity, digital FLS represents a high-value system intervention rather than an optional add-on.