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Royal  
Osteoporosis  
Society

Better bone health for everybody

# APPG ON OSTEOPOROSIS AND BONE HEALTH

INQUIRY REPORT:

HOW TO END THE  
POSTCODE LOTTERY  
FOR ACCESS TO A  
QUALITY FRACTURE  
LIAISON SERVICE

# ACKNOWLEDGEMENTS

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This report would not have been possible without the oral and written submissions of individuals and organisations.

Thanks go to the 79 clinicians and private individuals who submitted written evidence to the Inquiry. Written submissions were received from the following organisations:

Bradford Teaching Hospitals NHS Foundation Trust

British Geriatrics Society

British Society of Skeletal Radiology

Chartered Society of Physiotherapy (CSP)

International Osteoporosis Foundation

Keele University

Manchester South Support Group

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# CONTENTS

Foreword by Judith Cummins MP and Lord Black of Brentwood	4
About the Royal Osteoporosis Society	5
Patient foreword	6
Executive summary	8
Summary recommendations	11
Introduction	12
What we did	22
How does the patient experience differ between those who have access to an FLS and those who do not?	24
What factors have led to unequal coverage of FLS?	32
What actions should the Government, policy makers and health care systems take to improve access to FLS?	37
What inter-relationships are needed locally for FLS to be truly effective, and how consistently are they in place?	42
What action should be taken to assure the quality of all FLS in the UK?	47
Glossary of terms	54
References	55

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## FOREWORD FROM THE CO-CHAIRS

We're fortunate to live in a country where each generation lives longer than the last, but there's work to do in ensuring everyone has the best chance of achieving a good quality of life in their later years.

Osteoporosis (weak bones) has been called the 'silent disease' because there are no symptoms until one breaks a bone. Furthermore, there are startling levels of under-diagnosis and under-treatment, and low public awareness, meaning that this preventable disease demands urgent attention.

The uneven patchwork of fracture prevention services across England and Wales means that every year around 90,000 people with a new fracture, for whom treatment is warranted, are not being treated with the bone strengthening medication they need. Problems which needn't become acute are routinely being left to escalate, with numerous missed opportunities for prevention.

This postcode lottery in access to fracture prevention services has led to entrenched health inequalities. People who live the wrong side of a catchment line are being left to suffer life-changing spinal and hip fractures which, with modest investment and better planning, could have been avoided. These are people who are falling through the cracks in the system every day.

We relaunched the All Party Parliamentary Group (APPG) on Osteoporosis and Bone Health because we could see a major role for Parliament in raising the level of public debate about osteoporosis, and acting as a catalyst for change. We wanted the APPG to take action, rather than just talk, so its first act was to launch a pacy, solutions-focused Inquiry into the inequalities in secondary fracture prevention services across the UK.

While the variation in services and outcomes shown herein is sobering, this report also shows how relatively straightforward the process of change can be. There's no need for any 'discovery phase' for solutions: the British-born Fracture Liaison Service (FLS) model has been shown, the world over, to be a game-changer for dramatically reducing the risk of further fractures. But a repeated theme has been the doggedness it takes amongst a few individuals to get an FLS set up.

This is where the leadership role of Government can transform the picture through a clear strategic direction from the top, backed with modest funding and sensible incentives. We're calling on the four Governments across the UK to issue such a mandate, thereby driving 100% population coverage of FLS and ending the postcode lottery.

If we get this right, we can disrupt the pathway from first fracture through to the devastating hip fracture, preserving people's independence and making Britain a safer place to grow old. Thank you to all who contributed to this impactful Inquiry, which we intend to replicate next year for osteoporosis services in primary care.

**Judith Cummins MP**  
**Lord Black of Brentwood**



## ABOUT THE ROYAL OSTEOPOROSIS SOCIETY

It's been a privilege to support the new All Party Parliamentary Group (APPG) on Osteoporosis and Bone Health during its energetic first year.

We helped re-assemble the group because we saw that osteoporosis had flown under the radar in Parliament for many years. Given that 3.5 million people live with the condition – many of whom are undiagnosed – and that osteoporosis costs the NHS £4.5 billion per annum, the search for solutions looks neglected. And, under the leadership of Judith Cummins MP and Lord Black of Brentwood, we wanted to change that.

The Royal Osteoporosis Society (ROS) is the UK's only national charity dedicated to bone health and osteoporosis. We work to improve the bone health of the nation and support everyone with osteoporosis to live well through our support services and advice. This year alone, we're on course to provide over 300,000 pieces of health information and support to the public.

The low profile of osteoporosis has got in the way of addressing what is, in reality, an urgent and escalating public health crisis. As many people die of fracture-related causes as from lung cancer and diabetes. It doesn't need to be like this: with a prompt diagnosis and the right support, people with osteoporosis can live a perfectly ordinary life, helped by medication which is safe, effective and highly affordable for the NHS.

Yet the health and independence of tens of thousands of people depends on a postcode lottery, with wide variations in the quality of

services across both primary and secondary care. Far too many people are having to suffer multiple fractures before they're finally given the diagnosis they need, leading to unnecessary pain and disability for thousands and spiralling costs for the health service. This report sets out the scale of missed opportunities, but in doing so offers hope to those who want to make a difference.

On behalf of the ROS's trustees and employees, I'd like to thank the Parliamentarians who have provided such advocacy this year. We're looking forward to reaching out to legislators across the devolved nations in 2022. I'd also like to thank the excellent witnesses and contributors to this Inquiry, particularly the patient representatives who spoke so powerfully.

The challenge of helping people live well – and pain-free – in later life will become more and more urgent as we all live longer. Putting a fraction of the £2 billion hip fracture spend into prevention can break the cycle and end the suffering. Next year we'll campaign to raise awareness of the important recommendations in this report, influencing decision-makers at all levels to implement this roadmap to preventing fractures and helping people live better.

**Craig Jones**  
**Chief Executive**  
**Royal Osteoporosis Society**

## PATIENT FOREWORD

In 2011, I retired from an academic life. At 60 I felt fit, healthy and eager to embrace my newly found freedom. I undertook some long-distance walks, I joined a gym. For me this was a whole new chapter...



Nine months later I fell, tripping on an uneven Edinburgh pavement.

Breaking a bone in Scotland was my first stroke of luck. Fractured ribs were quickly identified in an orthopaedic department which had close links with a Fracture Liaison Service and immediately questions were raised. A couple of weeks later having returned to my home in England, I slipped backwards on a wet floor resulting in further broken ribs.

Next stroke of luck. These fragility fractures triggered a referral to another FLS. And so, following discharge I was contacted by an FLS Specialist Nurse and offered a Dual Energy X-ray Absorptiometry (DXA) scan and a fracture risk assessment. Just routine after breaking a bone, I assumed.

Within days, I received an appointment with an FLS Nurse. My bone density scores were, to my utmost disbelief, extremely low. I was diagnosed with severe osteoporosis and treatment was immediately prescribed to prevent further, more serious fractures.

This all came as a complete shock. However, the FLS nurse was quick to advise regarding lifestyle measures and falls prevention and signposted me to the ROS website. Here, I learned about the importance of diet and appropriate exercise. I also discovered the free nurse helpline, staffed by specialist nurses experienced in responding to the questions and anxieties of the newly-diagnosed. This expertise was not available within my local GP practice.

Initially, on diagnosis, with winter approaching and icy pavements increasingly slippery I 'aged' significantly. I became anxious about

falls, cancelled my gym membership and was over-cautious regarding mobility. This of course probably increased the risk of falling. Paradoxically though, I was guilty of not adhering to my prescribed treatment.

However, with timely monitoring from the FLS nurse who relayed my queries to the consultant, the problems I was experiencing with medication were addressed until I was adhering to a safe treatment plan.

I was fortunate to be under the care of an FLS. I am sure that this has contributed to my confidence, understanding and ability to manage my condition safely without sustaining further fragility fractures. I believe that the trust I have in this FLS is fundamental to my psychological approach to living with osteoporosis

**“I was diagnosed with severe osteoporosis and treatment was immediately prescribed to prevent further, more serious fractures.”**

I, perhaps naively, assumed that my experience of treatment following a fragility fracture was universal. It was not until I heard the stories of others' suffering across the country, that I began to appreciate the extent of my fortune. I believe passionately that this should not be a matter of 'fortune', but that all patients who have suffered fragility fractures should have access to, and benefit from, an effective FLS.

**Alison Smith**



## EXECUTIVE SUMMARY

3.5 million people have osteoporosis in the UK, and a fracture is often the first sign of their condition. If the fracture is picked up and the underlying osteoporosis treated, then further fractures can be prevented. Fracture prevention is clearly beneficial to the patient, but also cost-effective for the NHS.

‘Fragility’ fractures caused by osteoporosis currently cost the NHS

£4.5 BILLION EACH YEAR

Currently however, access to services (Fracture Liaison Services or FLS) that can identify people at increased risk of fragility fractures and then prevent future fractures is a postcode lottery in England and Wales. People will often have several fractures and no treatment before their underlying osteoporosis is identified. As a result, in the next year there will be at least 7,000 avoidable fractures. Even in Scotland and Northern Ireland, where ostensibly there is 100% FLS provision, we know anecdotally that there is major variability in the quality of those services.

The APPG on Osteoporosis and Bone Health launched the Inquiry into FLS provision in March 2021, to understand the scale of the problem, the factors behind it, and what is required to ensure that everyone who breaks a bone due to osteoporosis receives the best care.

Through a Freedom of Information request in 2021, the Inquiry learned how in England, only 51% of NHS Trusts provided a Fracture Liaison Service.

The Inquiry heard directly from people with osteoporosis about the difference in patient experience between those with access to an FLS and those without. It looked at the difference that early identification, assessment, treatment, support and monitoring made to people's lives.

“I was fortunate to be under the care of an FLS... I am sure that this has contributed to my confidence, understanding and ability to manage my condition safely without sustaining further fragility fractures.”<sup>1</sup>

The Inquiry also heard how patients fell through the cracks when an FLS was not available in their area.

### Factors behind the postcode lottery of provision

The Inquiry heard how achieving sustainable funding was a key barrier to services being commissioned. This was due to the lack of clinical priority given to osteoporosis, lack of financial incentives and the absence of a central mandate.

28% <sup>(34/123)</sup> of NHS Trusts reported that they had attempted or were attempting to establish a FLS, but that funding was the main barrier.

In areas not served by a Fracture Liaison Service, the lack of awareness of osteoporosis by clinicians and patients alike has resulted in low expectations of service provision.

The Inquiry heard directly from people with osteoporosis about the difference in patient experience between those with access to an FLS and those without.



## Addressing the challenge of fracture prevention

The APPG took evidence from clinicians, voluntary organisations and the Royal Colleges on how to address the challenge. The consensus was for a national top-down mandate for FLS provision to make a step-change in provision for patients.

“We need a 5 year plan and funding incentives. We need a top-down mandate to comply with FLS standards.”<sup>3</sup>

Clinicians felt that Integrated Care Systems present a good opportunity to address the need, and level-up provision. This would be best backed up by a comprehensive National Institute for Health and Care Excellence (NICE) guideline to educate clinicians and empower patients as to the care they are entitled to expect.

In primary care, it was felt that an uplift in the Quality Outcomes Framework award for osteoporosis identification was required to reflect the clinical importance of identifying, assessing, treating and monitoring all patients with osteoporosis.

“Low primary care prioritisation is a massive problem...Many patients feel ignored by their primary care team and perceive a major lack of knowledge around osteoporosis, DXA and treatments.”<sup>4</sup>

The Inquiry heard evidence of a lack of ‘ownership’ of osteoporosis and fracture prevention due to the fact that it straddles several medical specialities. There was a consensus that national clinical leadership was now needed to overcome the fragmentation of efforts to meet the needs of patients with osteoporosis.

The Inquiry evidence also addressed the variability in quality of existing FLS across the UK, including in Scotland and Northern Ireland where nominally there is 100% FLS provision.

“Fragility fractures are a global healthcare emergency. We know that we need 80% of fractures to be identified and to lead to treatment being recommended in 50% of cases. Then if 80% of these patients start and stay on treatment, we can achieve an optimal number of fractures avoided. Currently, we’re on 33% x 52% x 20%”<sup>4</sup>

Clinicians gave evidence around the need for FLS to be resourced to meet existing quality standards. Submission of service data to a national audit (not currently available in Scotland) was described as essential for quality improvement in services by sharing best practice.

Further evidence was heard regarding difficulties accessing vital diagnostic services (and specifically DXA scanning), required to assess patients for osteoporosis, including significant waiting lists and staff vacancies. Evidence was also heard regarding variation in eligibility for DXA scans, as well as variability in the quality of the reporting of these essential diagnostic assessments.

# ONLY 51%

## of NHS Trusts provided a Fracture Liaison Service

# APPG INQUIRY SUMMARY RECOMMENDATIONS

## 1 Universal access to an FLS

Ensure that all patients have equitable access to a quality assured FLS, to deliver on the mantra that the first fracture should be the last fracture.

## 2 FLS should be part of the mandated NHS core contract, alongside a new Commissioning for Quality and Innovation (CQUIN) target for fracture prevention

Make fracture prevention and FLS part of the mandated NHS core contract and establish a new CQUIN to support the establishment of FLS across England.

## 3 Introduce a NICE guideline on osteoporosis, fragility fractures and bone health

Develop a new unifying NICE guideline to address osteoporosis, fragility fractures and bone health. This will serve to inform clinicians and empower patients.

## 4 Ensure the right primary care incentives

Make a significant increase in the contribution of Quality and Outcomes Framework (QOF) points attributed to treatment and monitoring of patients to reduce fracture risk.

## 5 Leadership

Establish a new National Specialty Adviser for Fracture Prevention and Osteoporosis within the NHS England and NHS Improvement clinical advisory structure.

## 6 Ensure quality improvement across all FLS

Invest in diagnostic services – more DXA scanners, and more trained staff to operate them and provide high quality reporting. Additional resource is needed urgently to ensure patients are assessed promptly to target treatment appropriately and reduce the risk of further fractures.

Establish a national audit of FLS in Scotland, to replicate the benefits of comparison with other services and best practice sharing (already available to services in England, Wales and Northern Ireland).

Mandate that all FLS actively participate in, and deliver on the recommendations of, the FLS-Database (or equivalent in Scotland) to drive up quality of services.

# INTRODUCTION

Osteoporosis is common; one in two women and one in five men will break a bone after the age of 50 years.<sup>5</sup> However many people do not realise they are at risk of osteoporosis and avoidable bone fractures.

## What is osteoporosis?

Osteoporosis is a condition that causes bones to lose strength. Bones have a thick outer shell with a strong honeycomb-like structure inside. Osteoporosis causes this structure to become less dense, weakening the bone and making it more likely to break (fracture). As bones lose strength, they can fracture during normal daily activities as well as after a minor bump or fall. These fractures are most common in the wrists, hips and vertebrae, and are known as **fragility fractures**.

Vertebral (spinal) fractures are the most common fragility fracture. More than 1 in 10 women over the age of 50 have one or more vertebral fractures, rising to one in five in the over 70s.<sup>7-10</sup> Fragility fractures are associated with considerable increases in morbidity and mortality.<sup>11,12</sup>

In the 2020 league table of disability, fragility fractures were placed as the fourth most burdensome condition, outranked only by ischemic heart disease, dementia and lung cancer.<sup>13</sup>

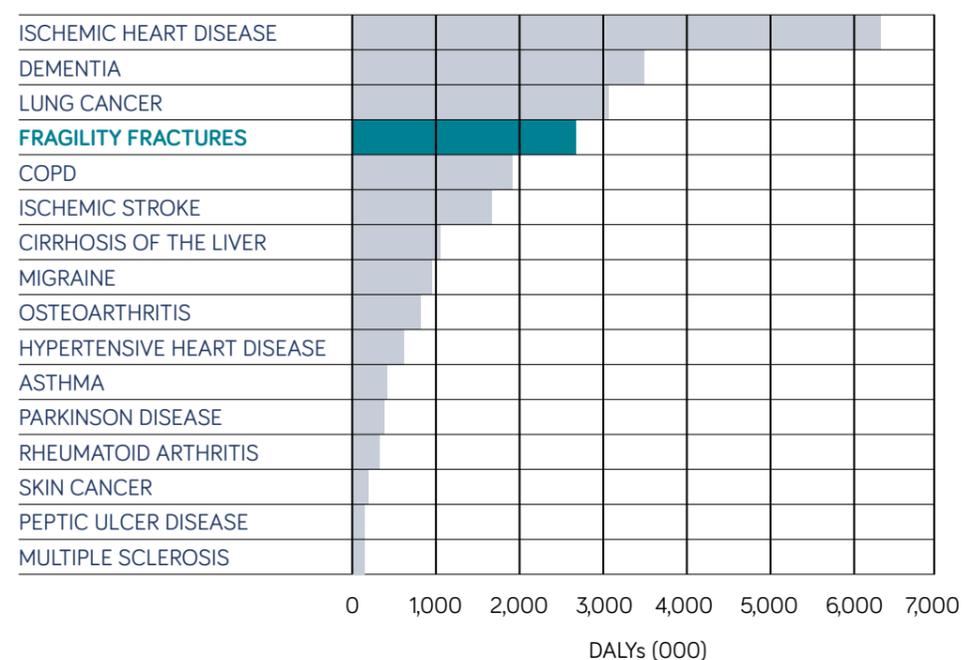
It is important to highlight that **osteoporosis is treatable**. There are several drug treatments for osteoporosis that are both affordable and clinically effective.<sup>14</sup> Currently however only a minority of patients at high risk of fracture receive treatment even after their first fracture. The proportion of people at high risk of fracture who should be on treatment, but who have not been appropriately assessed and treated, is the 'treatment gap'.<sup>15</sup>

The 'treatment gap' is currently increasing against a backdrop of an ageing population and a predicted increase in fractures of 25-30% by 2034.<sup>15</sup>



**“I am a 55-year-old woman who was diagnosed with osteoporosis two and a half years ago. At the time I was unaware of the risks of getting osteoporosis. I just thought it was associated with old age that affected people in later life from their 80s.”<sup>6</sup>**

DALYs by disease in EU6 in 17 selected non-communicable diseases<sup>13</sup>



**66% of people in the UK are high risk of fragility fractures are not on treatment**

## Personal impact of osteoporosis

The impact of osteoporosis on individuals can be devastating. Fragility fractures can lead to loss of independence, mobility and the capacity to carry out everyday tasks.

“I don’t think the general population understand that osteoporosis can affect so many aspects of life: work and thus income, social life; no more full day outings. It affects relationships, emotional and mental wellbeing, self-esteem, physical wellbeing, even my spirituality has been tested. Being in pain, even with pain relieving medication, is exhausting and the fear of going out and being knocked has lowered my confidence completely.”<sup>16</sup>

The ROS conducted a survey in 2021 of over 3,000 people living with osteoporosis.<sup>17</sup> Three in five respondents said that their osteoporosis affected them physically; 55% have suffered height loss or change in body shape, 22% have digestive difficulties, 19% experienced breathlessness, 10% experienced incontinence.

“Due to my loss of height [approximately three to four inches] my abdomen has protruded and it’s uncomfortable to eat, adding to the loss of appetite and also causing heartburn, mainly during the night that wakes me...The change in my body shape and loss of height due to the spinal fractures and compression have affected how I feel daily in myself.”<sup>16</sup>

Many people expressed anger, frustration, resentment, sadness or grief over the activities that they could no longer do. Osteoporosis impacts people’s self-confidence, independence and self-esteem.

36% of people reported that osteoporosis had impacted their relationship with their partner, 31% with their family.

Fragility fractures can cause pain, both acute at the time of fracture and longer term. The survey found that over one in four people experienced long-term pain and, of these, over one in three people experience their pain constantly and say it is either severe or unbearable.

“I cannot lead a normal life because I am in continuous pain in my lower back. This causes me problems standing for any length of time, walking a long distance, lying in bed and sleeping at night and I have to sit on a dining room upright chair instead of an easy chair or sofa.”

Pain from fractures caused by osteoporosis affects people’s wellbeing, with many experiencing low mood, tiredness and frustration as a result.

## Fracture Prevention

A fragility fracture is a red flag that predicts further fractures. This is particularly the case with vertebral fractures, which are powerful predictors of future vertebral, hip and other fractures. Without identification and treatment, a person with a vertebral fracture is nearly three times more likely to have a hip fracture, and five times more likely to have another vertebral fracture.<sup>18</sup>

The first indicator of osteoporosis for many people is a fracture. If picked up effectively, and if the person is then assessed and treated appropriately, subsequent fractures can be prevented – this is known as **secondary fracture prevention**. Early intervention is vital because in women aged over 50, re-fractures occur early; 23% happen within the first year after their first fracture.<sup>19</sup>

Hip fractures are the most costly fragility fractures to treat. The average length of stay in hospital is 20 days.<sup>20</sup> Hip fractures account for £2 billion of the c.£4.5 billion cost per annum to the NHS of fragility fractures (including £1.1bn for social care).<sup>21</sup> When you consider that 50% of people with a hip fracture have broken a bone in the past, it is clear that investment in secondary fracture prevention makes both clinical and financial sense.<sup>22</sup>

33%  
of people with  
osteoporosis feel  
socially isolated

Hip fractures cost the NHS  
**£2 BILLION**  
per annum

### What is a Fracture Liaison Service?

Secondary prevention is a well-established concept in clinical practice. After a heart attack, emergency treatment can be life-saving but it is the package of rehabilitation and treatment on discharge from hospital that supports a full recovery, and reduces the chance of a further heart attack. Similarly, orthopaedic treatment to fix the fracture is essential for the 1300 people who break a bone every day in the UK. However, for people with underlying osteoporosis, a seamless package of identification, assessment and treatment is critical to support a full recovery and reduce the chance of further fractures. Without this, their risk of fracture remains high. This is what a Fracture Liaison Service or FLS is designed to provide. An FLS identifies and treats people aged 50 or older who have had a fragility fracture, to reduce their risk of further fractures.

Research has shown that an FLS improves rates of DXA scanning and the uptake of treatment. An FLS also reduces rates of new fractures and mortality among patients.<sup>23</sup> A quality FLS delivers assessments to 95-97% of at-risk patients within the local population as opposed to only 25% of patients under other service models.<sup>24</sup> It reduces the risk of re-fracture by between 30-40%.<sup>25</sup>

The FLS model is an evidence-based, cost effective, preventative intervention that can help to improve the health of the population and reduce health and care service demand.<sup>26</sup>

### What does a good FLS look like?

In order to effectively prevent fractures, an FLS must deliver the quality standards outlined in the ROS Clinical Standards for FLS.<sup>27</sup> This clinical pathway outlines the care each person should receive at each stage of their journey following a fragility fracture.

By adopting these standards, evidence-based best practice can be implemented and replicated effectively across the UK to reduce the future burden of fractures, improving outcomes for patients, and ensuring efficient and appropriate use of NHS resources.

We know that patients who access an FLS rate them highly. Both patients and their GPs report that they value the specialist knowledge and guidance that FLS clinicians provide.<sup>28</sup>

“My experience of FLS is very positive. I have a strong family history of osteoporosis... A routine DXA scan in 2016 revealed a collapsed vertebra and I was referred (to FLS) by my GP. The collaboration between my medical centre and the FLS has meant that I can be treated (with IV zoledronic acid) within a community setting...”<sup>29</sup>

For every £1 spent on Fracture Liaison Services, the tax payer can expect **£3.28 BACK**

A quality-assured FLS actively participates in the Fracture Liaison Service Database (FLS-Database) by submitting data on all their patients for benchmarking, and working to deliver on the FLS-Database's annual recommendations for improvement. This is a continuous mandatory national audit of FLS available to services in England, Wales and Northern Ireland. It is commissioned by the Healthcare Quality Improvement Partnership as part of the Falls and Fragility Fracture Audit Programme (FFFAP). The FLS-Database measures service performance primarily against NICE guidelines and the ROS clinical standards for FLS. It is nominally mandatory but NHS services that do not participate are only required to report their non-participation with few consequences. Many under-resourced FLSs do not have the clerical support to enable participation. Participation, however, is an essential first step for quality improvement. While on the face of it, Scotland has 100% FLS provision, Scottish FLSs do not currently feed into the FLS-Database. The ROS is advocating for the establishment of a comparable Scottish audit to address variation in quality of services.

**1 IN 5**

people who have broken a bone break three or more before being diagnosed

## QUALITY-ASSURED FLS: THE PATIENT JOURNEY

Day 1

The broken bone is identified by the dedicated FLS Co-ordinator as a 'fragility fracture'.

By 12 weeks

The patient is assessed by the FLS, and, if necessary, has a DXA scan to measure their bone density as part of the assessment. If they are diagnosed with osteoporosis, drug treatment will be arranged (often via their GP) to reduce the risk of further fractures.

By 16 weeks

If prescribed a drug treatment to protect them from broken bones, the patient is contacted to ensure that they have started treatment and have no side effects.

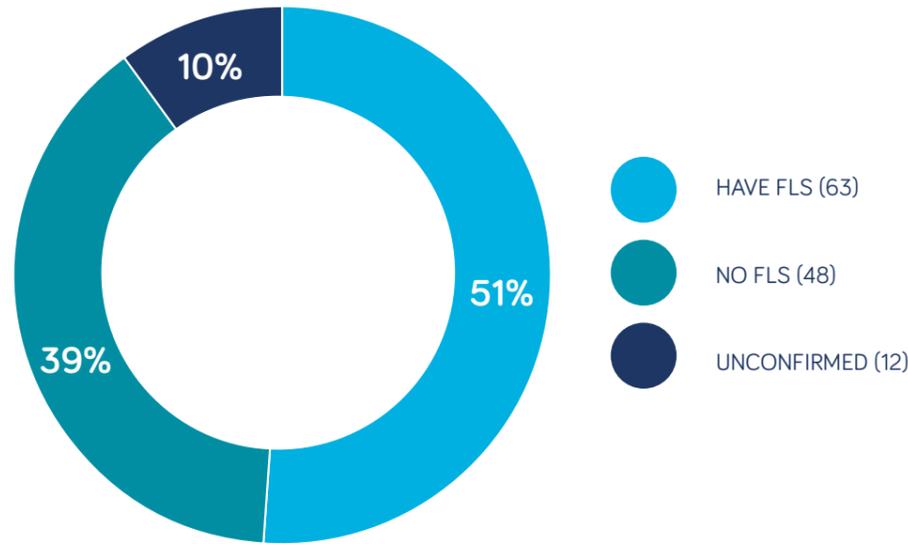
The patient is asked if they have started strength and balance exercise classes if referred to one. Information and self help advice on beneficial changes to lifestyle will be provided.

By 12 months

If prescribed an osteoporosis drug treatment, the patient is contacted to find out how they are, and ensure that they are continuing to take the drug treatment.

By 3-5 years

Most osteoporosis treatments need three to five years to protect bones. The patient's doctor will then review their bone health and discuss next steps such as continuing with treatment, pausing treatment or switching to another treatment.



**Why did the APPG launch this Inquiry?**  
**Postcode lottery for FLS**

Patients with a fracture tend to present directly to a hospital where their fracture is treated. If the hospital is served by a quality FLS, fragility fracture patients will be identified, undergo investigations to detect underlying osteoporosis, and have their fracture risk managed appropriately. The FLS will either prescribe treatment directly or contact their GP recommending appropriate treatment for bone protection and subsequent monitoring. In areas where there is no access to an FLS, people have their fracture treated and are discharged with no consideration of underlying causes, and crucially no treatment to prevent another fracture in future.

The APPG launched this Inquiry to understand how and why many areas of the UK do not have access to high-quality FLS provision, leading to inequality and unfairness for patients. This report focuses on evidence from England and Wales where the postcode lottery is most evident. Currently 100% of the population of Scotland and Northern

Ireland have access to an FLS. However, this statistic masks a variation in quality of those services which, in Scotland, are not currently subject to audit by the FLS-Database or equivalent. The Inquiry therefore also addresses the quality of existing FLS provision across the UK.

In 2021, the ROS completed a Freedom of Information (FOI) request on behalf of the APPG to 123 NHS Trusts in England.<sup>30</sup>

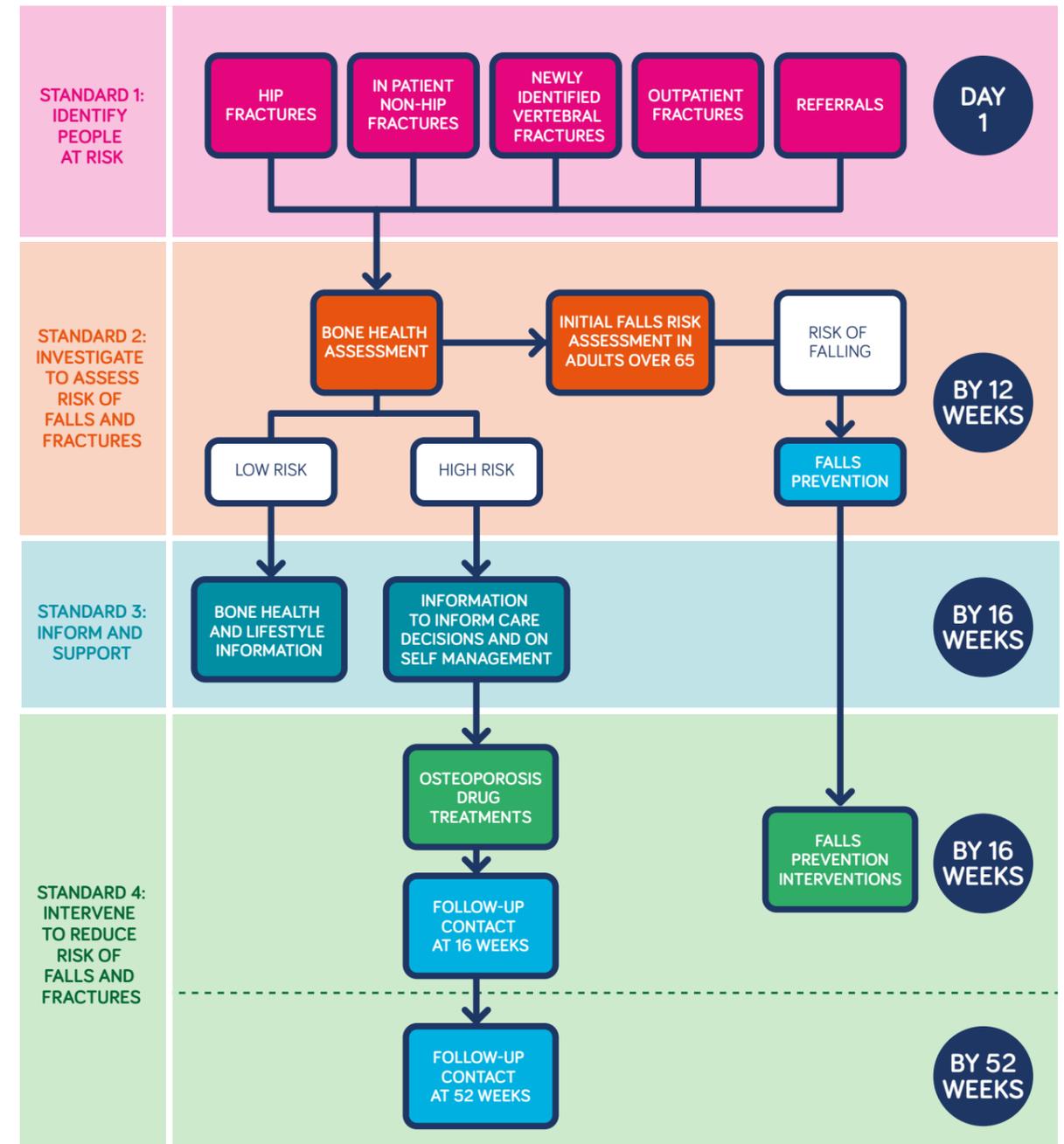
Just over half of NHS Trusts had an FLS. However, 39% (48) had no FLS. 20 of these respondents drew attention to some other form of bone health pathway for the management of fracture patients. 10% (12) were unable to confirm either way. In terms of population, the ROS estimates that this equates to 38% of the population of the UK having **no access** to an FLS.<sup>31</sup>

These figures were brought into sharp focus during the Inquiry by the oral evidence of Dr. Kassim Javaid of the NIHR Oxford Biomedical Centre, University of Oxford:

**83%** of people with osteoporosis worry about losing their independence

“Every year in England and Wales, there are at least 90,000 people [with new fractures] who are not receiving treatment for osteoporosis who should be. Heart attacks have 95% medication rates – secondary prevention works.

A top-down mandate is required to ensure access to an FLS that complies with ROS FLS standards for every patient with a fragility fracture.”<sup>3</sup>



## CASE STUDY: PROVISION IN BIRMINGHAM

We heard how the postcode lottery is demonstrated in the provision across Birmingham.<sup>2</sup> Which side of a street you live on can determine whether you receive high quality FLS care or whether you attend a healthcare setting that has no FLS.

South Birmingham has a well-established FLS. However, the central and eastern parts of the city, which are the areas with the highest degrees of deprivation, have no FLS provision. Whether the ambulance turns right instead of left can determine whether an FLS is accessed, and whether the opportunity is taken to prevent the next fracture.

Deprivation in those areas of Birmingham with no FLS is pertinent. Research has shown that:

- deprivation is a strong predictor of hip fracture, particularly in men.<sup>32</sup>
- the costs of hip fracture in people living in deprived areas are higher (due to factors such as pre-existing conditions).<sup>33</sup>
- deprivation is associated with reduced survival in the year following hip fracture, longer hospital stay, and an increased re-admission risk.<sup>34</sup>

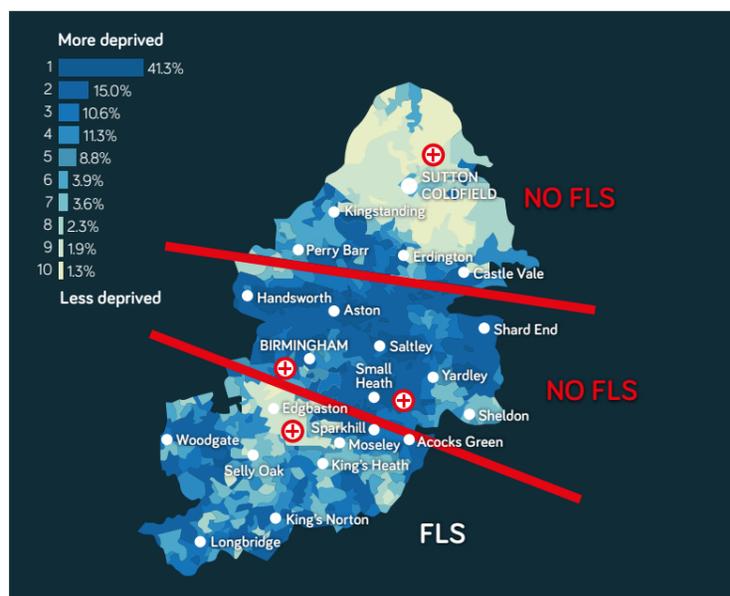
- The case for interventions such as FLS to reduce fractures in deprived areas is therefore greater.

The Life with Osteoporosis survey 2021 found that respondents from lower-income households were more likely:

- to live with five or more fractures
- to be living with long-term pain, and feel they need more support managing pain
- to feel socially isolated
- to feel they don't have enough information to help them to cope.

The APPG launched this Inquiry because the current picture of FLS provision across the UK constitutes a **postcode lottery**.

Map of deprivation in Birmingham based on English Indices of Deprivation 2019



## The Impact of COVID-19

COVID-19 has had an enormous impact on all healthcare services since March 2020. The FLS-Database took a snapshot survey of FLS in 2020 and found that:

- More than 40% of FLS had ceased operations.
- 58% of services were experiencing low capacity mainly due to redeployment
- 13% of DXA services were suspended. Some services referred to a 'vast' reduction in patients due to self-isolation. Similarly, a ROS survey of health professionals found that of 89% of DXA services had closed, with 31% remaining closed for longer than three months.<sup>35</sup>
- Nearly half of services had a way of tracking 'missed' patients including: telephone consultations; virtual assessments using FRAX; using Emergency Department dashboards to monitor the number of fracture patients; using e-trauma for virtual fracture clinics.
- However, 21% of services (19 responses) did not have any way to track 'missed' patients, and 30% (28 responses) either did not provide an answer or were in the process of developing a system.<sup>36</sup>

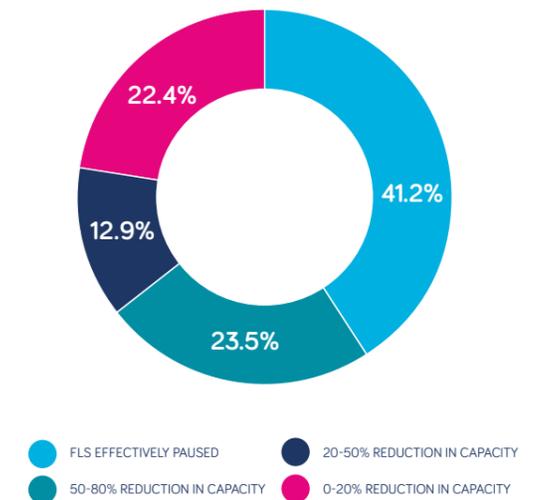
The COVID-19 pandemic has also impacted directly on individuals. Two in five people with osteoporosis surveyed by the ROS in 2021 felt that COVID-19 has had a negative impact on the healthcare for their osteoporosis.<sup>17</sup> The proportion was higher among economically disadvantaged groups.

“Due to COVID restrictions I was told my diagnosis over the phone, I was referred to a specialist but this was also cancelled due to COVID restrictions. Later I was told there was no point referring me as there was nothing they could do for me.”

# 45%

of people felt that COVID-19 has had a negative impact on their ability to discuss their medication with a healthcare professional.<sup>17</sup>

Current impact of pandemic on FLS performance (reproduced with permission from the FLS-Database)



Many felt that they have been unable to talk to healthcare professionals either due to lack of appointments or lack of time in appointments. This was evidenced by the experience of a 46-year-old woman diagnosed in 2020.

“In the space of seven months, I had seven fractures and spent 40 nights in hospital and three and a half weeks in a nursing home. During this time I was also diagnosed with osteoporosis... After my first fractures, I did start to go to physiotherapy sessions... which helped me to feel more confident. However, these sessions were cancelled when the pandemic hit. I haven't been offered any help since. I have tried to go to a gym, but this was also reduced due to COVID, and I struggle to find exercise that I can do myself.”

Of those who had fractured, almost a third felt that they did not have enough information to manage their pain. COVID-19 has exacerbated difficulties accessing information from a specialist – 45% of people felt that COVID-19 has had a negative impact on their ability to discuss their medication with a healthcare professional.<sup>17</sup>

Lifestyle changes during the pandemic have also impacted on people's bone health. Lower levels of physical activity have resulted in deconditioning, especially in older people. Reduced physical activity is associated with poorer bone health, decreased muscle mass, increased frailty and higher rates of falls.<sup>37</sup>

## WHAT WE DID

- On 25th March 2021 at the APPG's inaugural meeting, we launched our Inquiry into the postcode lottery of quality FLS provision.
- In June, we put out a call for written evidence which received over 80 responses from individuals, clinicians and interested organisations.
- From July to October, we held three oral evidence sessions in Parliament where we heard directly from people living with osteoporosis, as well as leading clinicians and policy officials.
- We submitted a Freedom of Information request to 123 NHS Trusts in England, asking for details on their provision of FLS.
- The ROS commissioned social research into the experiences of people living with osteoporosis in their 2021 Life with Osteoporosis study. These testimonies helped to shape the report and our understanding of the situation for patients today.
- The ROS published a report showing that two-thirds of vertebral fractures go undiagnosed, which has been used to help inform this Inquiry's report.
- We also conducted an external literature review to ensure our findings and recommendations were informed by the wider evidence and thinking in this area.
- A full list of those who contributed to this Inquiry, including those who provided written and oral evidence can be found on page two.



The ROS commissioned social research into the experiences of people living with osteoporosis

## HOW DOES THE PATIENT EXPERIENCE DIFFER BETWEEN THOSE WHO HAVE ACCESS TO AN FLS AND THOSE WHO DO NOT?

The Inquiry heard evidence from clinicians which demonstrated the stark reality of the postcode lottery of provision for patients.

“In the area in which I work as an example one CCG funds a FLS for its patients whilst another doesn't. This seems grossly unfair for those patients residing in those postcodes not catered for”<sup>38</sup>

This postcode lottery determines whether a patient has their fragility fracture picked up, assessed and their underlying osteoporosis treated or whether a patient simply has their fracture fixed in isolation, to be forgotten until the next one.

### Patient experience

We heard directly from people who have been treated via an FLS and what difference it made to them to:

- Be advised at the time of their fracture that this could be an indication of underlying osteoporosis.
- Meet the fracture liaison nurse in the fracture clinic.
- Have a detailed assessment within weeks of the fracture and for the results to be explained in language they understand.
- Be given the information they need to make informed decisions about their holistic management plan and treatment choices.

- Receive clear verbal and written information about the correct way to take medication, what side effects to look out for and who to contact if they encounter problems.
- Receive practical advice about lifestyle measures to improve bone health and, if needed, onward referral to the falls prevention service or other relevant support such as smoking cessation services.
- Be put in contact with other sources of support such as the ROS.
- Be followed-up to check how they are getting along with treatment and make changes if needed.
- Know that the FLS is working closely with their GP surgery so they have all the information and support they need to continue supervising management after discharge from the FLS.

“I was fortunate to be under the care of an FLS.... I am sure that this has contributed to my confidence, understanding and ability to manage my condition safely without sustaining further fragility fractures and the trust I have in this FLS, I believe to be fundamental to my psychological approach to living with osteoporosis.”<sup>1</sup>

This postcode lottery determines whether a patient has their fragility fracture picked up or not.

“I think I am lucky to live in an area where the hospital provides a Fracture Liaison Service (FLS) and my GP was able to get advice from the osteoporosis care team at the hospital and refer me for treatment. I think this level of service should be available to all nationally.”<sup>39</sup>

“If the FLS had not been available, I would have been none the wiser... I feel my story shows that all men and women should have access to a FLS, which would reduce morbidity and premature deaths. I am supporting a disabled partner and having been diagnosed and treated “early” I hope to be able to continue in that role.”<sup>40</sup>

Without an FLS the chance of any of these elements happening was largely down to luck as their case could not reliably be picked up in primary care. We know that in the absence of effective outpatient coding, a GP may be unaware their patient has even sustained a fracture.

“I am full of praise for Dorothy, the Fracture Liaison Practitioner who rang me, following up the spinal compression fractures I suffered last December... she was friendly but professional. She arranged a DXA scan; put me onto the ROS physio videos; gave me some sensible do-able advice - like getting sunshine on my legs, eating more oily fish. After the scan, Dorothy rang again to follow it up. At a time when I felt very vulnerable and unsure what I could do to help myself, she was a reassuring friendly voice and I was truly grateful.”<sup>41</sup>

Sadly, we heard from many people without access to FLS and others who were managed by an FLS that did not meet the quality standards. Their experiences were very different to the earlier examples:

“On reflection I strongly believe that my present situation would be different, and maybe, at the very least, I would have avoided spinal compression fractures. If there had been further investigations, a DXA scan, and so forth, into why such serious fractures occurred maybe osteoporosis could have been identified early and spinal fractures avoided”<sup>16</sup>

“I was not offered any FLS follow up so assume there is no such service in my area. My treatment was mostly in a “virtual” fracture clinic with one follow up appointment. When I spoke to the hospital staff they told me to go to my GP. This is not easy as our GP practice is not easily accessible due to the COVID pandemic. Getting an appointment or getting through to the surgery has proved difficult. I will try again in a few weeks’ time”<sup>42</sup>

The Inquiry heard from people who knew that their fracture could indicate osteoporosis and that they needed an assessment but who struggled to access scans and treatment. Nearly one in three people who provided evidence to our Inquiry (29%)<sup>17</sup> had to prompt their own investigations. This suggests that many people who are less informed about bone health will be unaware that they are at risk.

“At each appointment after this I requested to have a bone density scan to check if I had osteoporosis or not and was told that I didn’t need it due to the nature of my fall, even though I informed them that I had had an early menopause in my forties. It was only at my last follow up appointment after three months in March 2020, that I asked the consultant who saw me if I could have a bone density scan as I was most concerned to check my bone density, the consultant agreed to book one for me”<sup>43</sup>

“I have recently been diagnosed with osteoporosis in the last five weeks after a fractured wrist in November. I had to ask for a bone density scan myself (I had a broken wrist three years ago also). No one mentioned any type of follow up once diagnosed.”<sup>44</sup>

Nearly

1 IN 3

people who provided evidence to our Inquiry (29%) had to prompt their own health investigation

## CASE STUDY: SANDRA FROM CHESTER



My mother and maternal grandmother both had pronounced “Dowagers’ Humps” so I have been aware of osteoporosis most of my life. I took HRT for a couple of years during my menopause, and around that time, in my late 40s, I had a DXA scan that showed osteoporosis. I took alendronic acid for a short time but stopped when I suffered side effects.

I remained fit and well until early 2020 when I developed persistent lower back pain which became so severe in June 2020 that I was unable to walk, bend, stretch, climb stairs, even lift a kettle. I couldn’t get out of bed, screaming with pain if I tried to pull myself up. I was prescribed painkillers and eventually had a telephone consultation with an NHS physiotherapist who suggested simple exercises.

In July 2020 I asked my GP to refer me for an MRI scan and it was confirmed in October that I had a number of osteoporotic fragility fractures of the vertebrae. In March 2021 I was planting seeds in the garden when there was a sound like a pistol shot, a flash of pain and this I believe was the fifth fractured vertebrae. I was referred by my GP for a DXA scan which confirmed five fractured vertebrae and osteoporosis in my hip. I was prescribed weekly alendronic acid and vitamin D & calcium tablets. In May this year the pain was so severe my husband called an ambulance and I was taken to A&E where they failed to find the cause of the pain. I have been passed from pillar to post and, despite several expediting letters from my female GP, I was told this week that the musculoskeletal department in my local hospital had no idea when I would receive an appointment.

As there is no FLS or osteoporosis clinic in Chester I was told in April 2020 by a GP that he would refer me to the clinic at Gobowen or Arrowe Park. Neither materialised and I later discovered the referrals were never made. I am still waiting to see an osteoporosis specialist eighteen months after I first developed severe back pain. I have curvature of the spine and lost an inch in height. I desperately want to talk to an expert in the field who can explain to me the results of my DXA scan and tell me what I should or should not be doing to lessen the likelihood of further painful fractures.

“I was referred by my GP for a DXA scan which confirmed five fractured vertebrae and osteoporosis in my hip.”

## CASE STUDY: LESLEY IS 63 YEARS OLD AND FROM WARWICKSHIRE

In September 2013 I fell off my bike whilst travelling at a very low speed and badly broke my right wrist. I was aged 55 and despite going through an early menopause, thought I was healthy. I led a happy active life, had a good academic career, ate a good healthy diet, and practiced yoga daily.

Then in December, I stumbled whilst running across a road and fell onto my left hand, severely fracturing the humerus. I had a surgical rod and screws inserted. There were no further investigations apart from a sheet of exercises and physio for a few weeks.

Over the next five years, I lost a lot of weight, and sustained several injuries including undiagnosed rib fractures and numerous pulled muscles in my back. I sought medical attention from my GP and had a range of blood tests to try and determine what was wrong. The results were okay except for raised alkaline phosphatase [that I later learned is in line with having fragility fractures].

In Spring 2019 I had what appeared to be pulled back muscles. This resulted in me not being able to walk, sit and lift my arms and collapsing quite unexpectedly at times. That was quite scary. I don't know how I got through it all, I really don't. The only thing I wanted to do was lay down; I couldn't even fill the kettle to make a cup of tea. I thought I was in a bad dream...I remember trying to sit comfortably and watch Wimbledon for distraction, but it was impossible. I just sat and cried inconsolably.

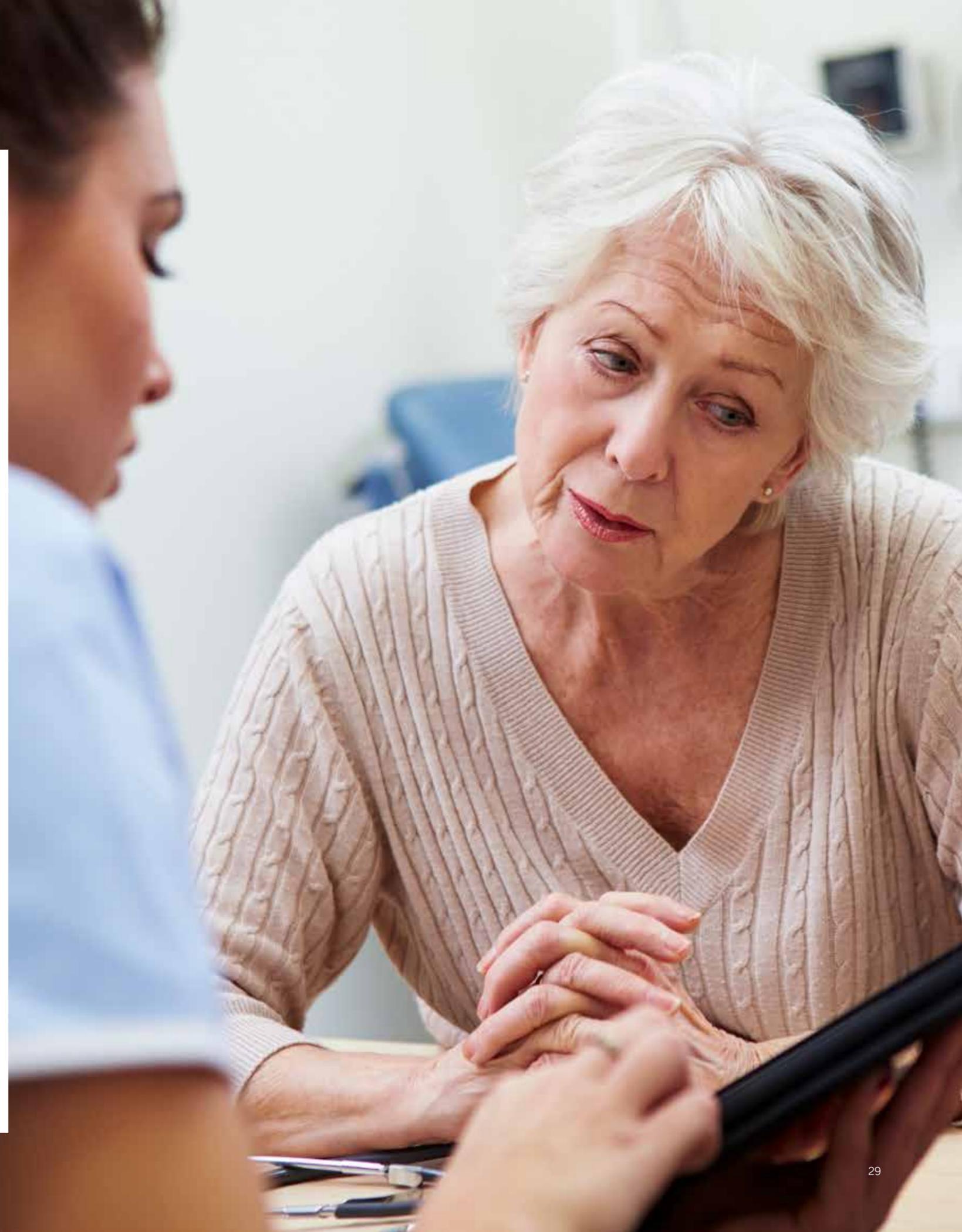
In June 2019, the GP referred me to a consultant who booked me for a DXA scan and an MRI scan. Following the DXA scan results, I was diagnosed with severe osteoporosis. I was shocked to be honest, as I didn't think I was at high risk. The bigger shock was the results from the MRI scan which showed that I had several spinal fractures. This was a relief as it explained how much pain I was in, but I found it really hard to accept.

It was an awful time for me as I live alone and had to make so many changes to find ways to overcome the activities of daily life. The children next door came and vacuumed downstairs after school and opened the washing machine door. Thank goodness for online shopping. My whole day, life, became survival.

I became withdrawn...I didn't have the energy or resources left for anything else at the time. It took me a long time to really come to terms with it.

I've just finished two years on teriparatide and am waiting for a DXA scan to see if my bone density has improved. I do feel slightly stronger and continue to build on the yoga and exercises as I can. I love to walk although I can't do this without pain relief first, and more recently I've taken to Nordic walking. I don't do things like swimming anymore for fear of being knocked or slipping on the wet floor. I fear I'll just crumble away. I don't go out much in the winter if the weather is icy and avoid busy shopping areas and have not ventured onto public transport as this scares me now.

The saying that osteoporosis is a silent disease is certainly true. It never occurred to me that I could get osteoporosis...To some extent I feel frustrated and cross with myself for allowing this to happen and regret not doing more to push for a diagnosis and a DXA scan earlier...I do believe that if there had been some follow-up investigations at the time of the initial fractures in my wrist and humerus, that things could be different and at the least, I could have avoided spinal fractures.





Our FOI request documented variability in the quality of services provided to patients where there was an FLS.

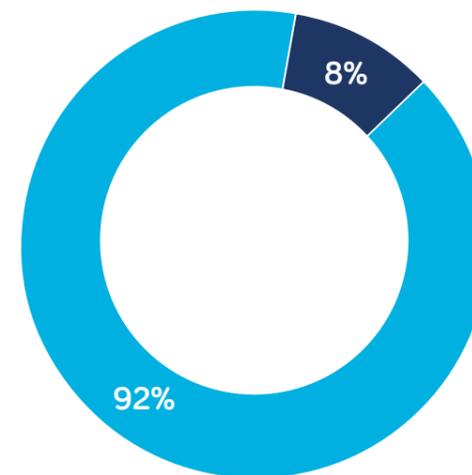
Only 15% (19/123) of NHS Trusts with an FLS in England confirmed that they met the benchmark of identifying 80% or more of their patients aged 50 or over with a recently diagnosed fragility fracture. Similarly, only 25% of NHS Trusts with an FLS confirmed they were able to see over 80% of patients referred for an assessment within 12 weeks of their fracture. Although vertebral fractures are one of the most serious manifestations of osteoporosis, only 25% of the expected number were identified by FLS.<sup>45</sup>

It is particularly concerning that only 8% or 10 out of 123 NHS Trusts could confirm that they had followed-up 80% or more of patients a year after commencing drug treatment.

Adherence to long-term treatment for osteoporosis is known to be particularly challenging for patients – on average 50% of people stop taking their medication within a few months.<sup>46-50</sup>

“It took a few weeks to sink in but I had questions, so I booked a GP appointment to discuss and was told that it was nothing to worry about and carry on as normal. So I thought why take these drugs if there was nothing to worry about. I was eating healthy and liked to exercise”<sup>51</sup>

FOI Request: Follow-up of patients



● TRUSTS THAT FOLLOWED-UP 80% PLUS OF PATIENTS    ● TRUSTS THAT DID NOT MEET THE STANDARD

Follow-up, usually by a nurse, is critical in supporting people to continue treatment, and to identify the one in four with side-effects or not responding well and who would benefit from a change to another treatment.

“I then received a text from my doctor telling me that I had been prescribed alendronic acid tablets and calcium supplements, I have to say I was shocked that my treatment was prescribed in a text and I had to phone him to discuss my treatment. He was quite offhand about it”<sup>43</sup>

“This is my experience to date, basically my GP told me I’d be on the meds for five years, no annual assessment, no follow up, no monitoring, just to contact him if I needed more pain killers. It’s very hard not to feel pessimistic at times!”<sup>52</sup>

## OUR ANALYSIS

A fragility fracture is a red flag highlighting a major risk factor for further fractures. This risk is highest in the first months after fracture, which is when the patient is most motivated to do whatever they can to prevent a recurrence. An FLS provides the best systematic opportunity to work with the patient and put those measures in place. Without an FLS that opportunity is missed and once the bones have healed, the fracture is forgotten – until the next one occurs.

The way to address current inequalities in patient experience is through universal provision of FLS. This way we can begin to ensure that everyone receives the same high standard of care to prevent fractures, while reducing pressure on emergency departments. This must be adequately resourced, embedded across Integrated Care Systems (ICS) in England and report into the FLS-Database or equivalent audit (in Scotland), to continue to drive up standards.

# WHAT FACTORS HAVE LED TO UNEQUAL COVERAGE OF FLS?

## Funding and Commissioning

In response to our FOI request – only 41% (50/123) of NHS Trusts confirmed that they had permanent and sustainable funding in place for their FLS. The remainder were either unable to confirm permanent funding or had no funding in place to deliver a FLS.

28% (34/123) of NHS Trusts reported that they had attempted or were attempting to establish a FLS. The vast majority cited funding as the main barrier to this.

The Inquiry heard evidence about the system-wide difficulties around budgetary decision-making. This has contributed to huge variation in provision, resources, and quality of FLS across the UK. Some of the reasons given for this were:

- A lack of awareness of the impact of fragility fractures on patients, and the cost-benefit of secondary fracture prevention.

“[FLS should be] a high priority when the cost benefits of identification and treatment are compared with other long-term conditions.”<sup>4</sup>

- Different disease areas competing for NHS resources.

“In some [NHS Trusts] FLS are perceived as a high priority and the business case receives a favourable assessment, in other Trusts other service developments may be perceived as having a higher priority.”<sup>53</sup>

- Short term-ism in business planning – the cost benefits of FLS may take longer to realise than commissioners are prepared to budget for.
- Lack of a central directive, through the standard NHS contract, for instance.
- The provider/purchaser split has made decision-making difficult.<sup>54</sup> For example, setting up an FLS may involve approaching and negotiating with several CCGs to cover a locality. This may be ameliorated by the merger of CCGs under a smaller number of ICSs by April 2022.

“There may be three CCGs but they may not all agree to funding the FLS.”<sup>55</sup>

Clinicians reported insufficient support from business teams within NHS Trusts when dealing with commissioners, writing business plans and service specifications.<sup>28</sup>

## OUR ANALYSIS

**Currently there are no financial incentives to implement FLS and the health service is not mandated to deliver FLS, resulting in low policy and commissioning prioritisation. This in turn results in significant costs to health and social care that could be avoided.**

ONLY  
41%

of NHS Trusts confirmed that they had permanent and sustainable funding in place for their FLS

## CASE STUDY: THE CHALLENGE OF SETTING UP AN FLS

We have never had a Fracture Liaison Service (FLS) in our hospital. In around 2013 a group of interested parties compiled an overview of what the service would need to look like for this locality. However, it seemed there was a lack of time and resources to enable anything concrete to be put forward at the time.

In 2015, a Rheumatology Consultant was appointed who had previously been involved in setting up a successful FLS at another hospital together with their CCG. Following this appointment, the momentum increased to fully flesh out a business proposal for an FLS. A group re-formed, the ‘core’ comprising of a Rheumatology Consultant; an Orthogeriatrician Consultant; a Senior Radiographer; and often a Finance Manager. There was regular communication with the CCG during the development of the business case to ensure it was in line with key pathways and outcomes, but engagement from the CCG was at times poor and the completed business proposal was declined.

In 2018, the ‘core’ team in the hospital looked at whether we could set up an FLS, funded within secondary care. We have an established GP who is also on the Senior Management Team at the Trust. We met with them to ask advice on development of services such as FLS, who to approach, and providing the link to ensure it harmonised with GPs, primary care services and patients.

Unlike previous efforts to generate appetite for a local FLS, in 2019 we were contacted by the CCG asking “who has an interest in osteoporosis and Fracture Liaison Services in the area?” This was funny given that we had been in communication with them for years by this point to try and get something going!

The county had been identified as one of the regions suitable for the Sustainability and Transformation Programme. Leaders were required to identify key priorities in their area. One of the areas identified locally was addressing falls, frailty and fragility fractures. This harmonised with the development of NHS England’s Rightcare pathways, designed to “identify opportunities to reduce unwarranted variation and improve population healthcare”. One of NHS Rightcare’s pathways was the Falls and Fragility Fractures Pathway.

With these initiatives and significant associated funding, meetings began again between the hospital team and the CCG to develop the case for an FLS. This was supported by the ROS and, crucially, the appointment of a Project Manager. One of the major hurdles we had encountered over the years had been the inability to devote time to the business case due to overwhelming clinical priorities.

Engagement between commissioners, a GP representative and the hospital team began again in full swing in 2019. A business case was developed and progress continued up to the point where job descriptions were being designed. In March 2020, with the COVID pandemic, everything stopped. NHS priorities have been revised, and this continues to be the case for the last 18 months. To date, no further work has restarted to develop an FLS, and it is not clear if the initiatives and funding that generated the impetus remain.

## Clinical Leadership

The Inquiry heard that no single medical specialty has overall responsibility for implementing and delivering a FLS, with osteoporosis care being delivered across many different specialties such as rheumatology, endocrinology and geriatrics.

“FLS may be delivered by different departments (geriatricians, rheumatologists, etc.), which leads to a lack of ‘ownership’ of FLS both nationally and locally.”<sup>56</sup>

This presents a real problem for professional leadership, commissioning, training and succession planning. It dilutes the focus on metabolic bone disease, osteoporosis and FLS.

Even within rheumatology where the majority of outpatient osteoporosis care sits, there is no standard definition of rheumatology services that stipulates that osteoporosis should be regarded as a core area of work.<sup>57</sup>

“This causes a real problem for professional leadership, commissioning and focus for metabolic bone disease and fracture liaison services (FLS). Ownership is lacking, even within rheumatology.”<sup>58</sup>

The Inquiry heard that incompatible IT systems did not support information sharing between primary and secondary care resulting in fragmentation and poor intelligence-sharing and integration.

### OUR ANALYSIS

There is a need for collaborative clinical leadership of osteoporosis pathways, to address the problem of ‘ownership’ of provision and outcomes for patients with fragility fractures.

FLS provision to cover the population would cost around **£27 MILLION** in England, and **£2 MILLION** in Wales.

## Clinician awareness and training

Several clinicians and organisations who provided evidence to the Inquiry described the lack of reference to osteoporosis and its care in basic medical training, and the need “To include osteoporosis in multidisciplinary training across healthcare and community providers.”<sup>4</sup>

The Inquiry heard how lack of formal education for clinicians in osteoporosis leads to poor understanding of the people at risk, interpretation of DXA measurements and the treatments available. Clinicians often had unbalanced concerns about rare treatment side effects such as jaw complications and atypical fractures.<sup>4</sup>

### OUR ANALYSIS

Lack of training needs to be addressed across both primary and secondary care.

The Royal Osteoporosis Society plays an important role in this area, providing training, best-practice guidance and support to clinicians. The ROS has convened experts from across different specialties to form a multidisciplinary national forum directing this guidance and education.<sup>59</sup>

**52%**  
of osteoporosis patients were worried about side-effects



## Patient awareness and perception

Low public understanding around what osteoporosis and fragility fractures are, and who they may affect, results in modest to no expectations of services. The word 'osteoporosis' is obscure and poorly-understood, compared to stroke, heart disease and cancer, with which the public are much more familiar.

"My GP just said I have osteoporosis and she will get a prescription ready for collection. There was no information, no guidance and all information I received was through my own research via the Royal Osteoporosis Society and a support group on the internet... I felt very scared and abandoned at the time."<sup>17</sup>

There is also a common perception that consequences of osteoporosis – for example, height loss, back pain, and a curved spine due to vertebral fractures – are just part of the 'wear and tear' of ageing.<sup>60</sup> Therefore, these symptoms are dismissed by patients and GPs alike.

"...To my complete horror she told me over the phone that the scan results showed that I have osteoporosis in my spine... I remember just sitting on the bathroom floor in tears and feeling extremely old as I thought that only people much older than me had osteoporosis."<sup>61</sup>

Of patients with a diagnosis of osteoporosis, the ROS survey found that:

- 46% were not confident about managing their osteoporosis
- 44% felt that they did not have enough information to manage their osteoporosis
- Only 17% reported that their doctor had signposted useful sources of information.<sup>17</sup>

Critically, there is also lack of awareness around how treatable osteoporosis is, what medication and drugs are available and how safe and effective they are. The ROS survey in 2021 found low levels of confidence in the treatments people had been prescribed:

- Only 48% of people felt confident that they were on the right medication, a 10% drop since 2014.
- 52% were worried about side-effects
- 57% were worried about the risks of prolonged periods of taking medication.<sup>17</sup>

Effective communication and collaboration between prescriber and patient is essential to understand the risk of further fracture, the risk of the medication side-effects and the risk of not taking action to prevent further fractures.

"We need to integrate bone health awareness into all stages of the patient journey...[clinicians] should highlight early that a fragility fracture can recur, and the patient should have an early assessment of bone health."<sup>62</sup>

## OUR ANALYSIS

Patients would benefit from access to an FLS that meets quality standards, which through its monitoring of patients, can provide them with timely information, advice and support.



## WHAT ACTIONS SHOULD THE GOVERNMENT, POLICY MAKERS AND HEALTH CARE SYSTEMS TAKE TO IMPROVE ACCESS TO FLS?

"We firmly believe that broad, equitable access to FLS programmes across the country would have a major impact in reducing the significant treatment gap, particularly among those at highest risk."<sup>63</sup>

There are many examples in preventative healthcare where focused interventions have dramatically improved outcomes for patients. Raising awareness, supporting education for health care providers and aggressive treatment of risk factors has led to dramatic improvements in cardiovascular outcomes over the last two decades. Similarly, more proactive treatment of diabetes is bearing fruit in terms of reduction in complications from this long-term condition. Osteoporosis is also a long-term condition, and a spinal or hip fracture is equivalent to a heart attack or stroke in terms of its clinical implications. Fractures are preventable through use of pharmacological treatments, supported by lifestyle modifications (exercise, smoking cessation) and nutritional supplements such as calcium and vitamin D. However, unlike cardiovascular and diabetes care, the Inquiry heard evidence of the lack of sustained investment in awareness-raising and education of health care providers and the general population in how to maintain or improve bone health, particularly for the most at-risk populations.

There was a consensus in the evidence taken by the Inquiry that a top-down mandate was necessary to see a step-change in provision and an improvement in outcomes for patients:

"I fervently hope that [the ROS and the APPG] can put pressure on the Government to expand FLS across the UK for the benefit of patients with osteoporosis, and ultimately save money by not having to depend upon scarce hospital and GP resources."<sup>29</sup>

"For fracture care specifically, we would like to see a commitment from the Government to support the development of a national plan to recover and develop Fracture Liaison Services, that supports the development of an FLS network covering 100% of the UK population and includes clear quality standards that support FLS develop in agreed key areas."<sup>54</sup>

"Mandating FLS for all – our commissioners need a further incentive to prioritise this activity."<sup>28</sup>

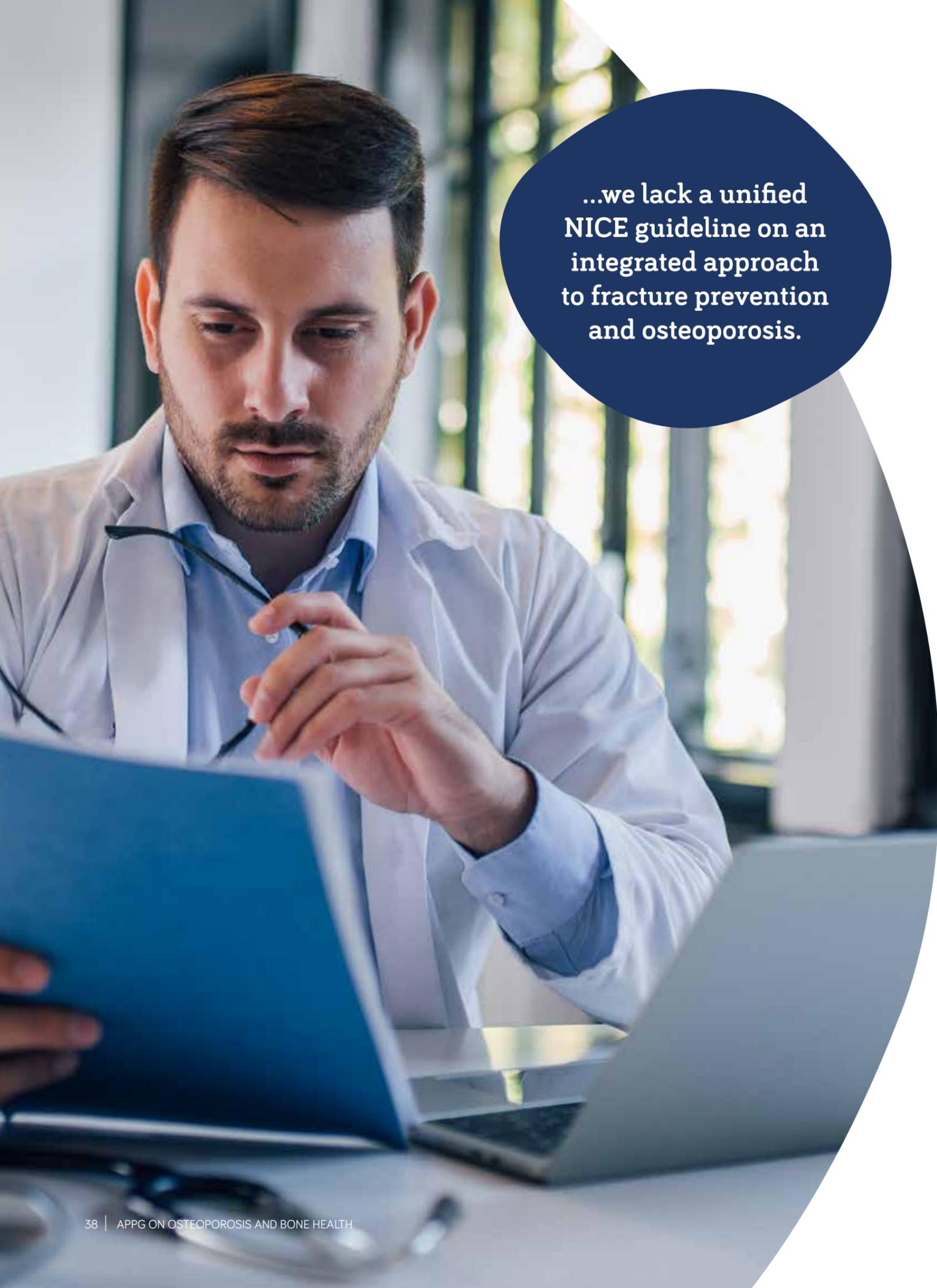
The ROS has given practical advice and support for the commissioning of FLS across the UK since 2015. This includes the development of a benefits calculator to inform the business case for services. The ROS estimates that extending FLS provision to cover the population would cost around £27 million in England, and £2 million in Wales.

"[Need to ensure that] FLS is a basic NHS delivery and make it part of basic care to have effective bone health management for treatment."<sup>4</sup>

"We need a five year plan and funding incentives. We need a top-down mandate to comply with FLS standards."<sup>3</sup>

## OUR RECOMMENDATION

The APPG calls on the Secretary of State and the Government to ensure that all patients have equitable access to a quality-assured FLS, to successfully deliver on the mantra that the first fracture should be the last fracture.



**...we lack a unified NICE guideline on an integrated approach to fracture prevention and osteoporosis.**

### **Integrated Care Systems – an opportunity**

The Inquiry heard of the potential opportunities afforded through the evolution of the White Paper and the merger of CCGs and provider organisations into ICSs.<sup>64</sup> The introduction of ICSs affords the opportunity to better coordinate and integrate fracture prevention and osteoporosis care which is currently dispersed in different parts of the system. Negotiating commissioning with 42 ICSs, rather than 191 CCGs may prove to be less complex.

Within the new structures of ICSs, there is also the opportunity to embed a core fracture prevention clinical champion to conceive and coordinate joined-up fracture prevention and falls prevention care.

**“We need local champions within the ICS to lead with a co-production approach”<sup>65</sup>**

**OUR RECOMMENDATION**

We propose that fracture prevention and FLS should become part of the mandated NHS core contract and a new CQUIN goal. CQUIN targets should be introduced to support the establishment of FLS across England. This will serve to level up the provision of FLS so that all patients in all geographical areas can benefit from the proven and cost-effective fracture prevention offered by introduction of such services.

We recommend that each ICS measures their progress against the new Best MSK Health pathways, and FLS-Database performance indicators.

Commissioners of healthcare must be informed of the value of FLS and made aware that the blueprint for FLS models of care are available off the shelf and that benchmarking and standardisation tools are already in existence through the FLS Database and the ROS FLS Standards.

### **National Institute for Health and Care Excellence (NICE) guidelines**

NICE guidelines have served to drive high quality care in many disease areas nationally. While NICE guidance is available for some components of fracture prevention, and technology appraisals have helped define the position of some of the drugs used in fracture prevention, there is inconsistency across some of the recommendations, and we lack a unified NICE guideline on an integrated approach to fracture prevention and osteoporosis.

**OUR RECOMMENDATION**

We call for a unifying NICE guideline that addresses all aspects of osteoporosis and serves to educate clinicians in community, primary and secondary care. Furthermore, such a guideline would empower patients, making it clear to them what they are entitled to in terms of fracture prevention and ageing well.

Integral to the proposed NICE guideline would be strong, evidence-based advice to patients on self-management of bone health across the life course to address the current lack of awareness around osteoporosis.

## Primary Care incentives

The Inquiry heard evidence of good practice in primary care such as a local GP practice that had invested in software to identify people with a potential fragility fracture, for the GP to follow-up. However, the failure of osteoporosis to compete for priority with other conditions was a common refrain in the Inquiry evidence.

“This sort of work is not well funded in Primary Care but is very important – [it] competes with many other priorities.”<sup>65</sup>

The ROS Life with Osteoporosis survey found that a significant minority of patients were dissatisfied with the care they received from their doctor. 26% did not feel that their doctor took their osteoporosis seriously while 46% were dissatisfied with the current level of monitoring of their condition.

A number of disease areas have benefitted enormously from strong representation in the Quality Outcomes Framework (QOF) for GPs. Incentivising and resourcing GPs to focus on different disease areas has a major impact on outcomes for patients.

However, there is no parity between the QOF award for osteoporosis identification, and awards for other conditions, even though the catastrophic outcomes which treatment can prevent are comparable. For example, management of patients with hypertension by a GP practice receives a QOF award of up to £8,000 annually. In contrast, funding for osteoporosis care through QOF does not currently provide sufficient resources for GP practices to deliver care effectively. Indeed, incentives to keep a register of patients with osteoporosis on treatment have recently been removed. In 2021 QOF awards GP practices just three ‘points’ equating to £584.49 annually per GP practice for maintaining a register of patients:

- aged 50-75 with a fragility fracture and a DXA diagnosis of osteoporosis
- aged >75 with fragility fracture and an osteoporosis diagnosis

There is no threshold for achieving payment for this or requirement for these patients to be on an osteoporosis drug treatment.

“Low primary care prioritisation is a massive problem...Many patients feel ignored by their primary care team and a major lack of knowledge around osteoporosis, DXA and treatments.”<sup>4</sup>

Figures from QOF show the current contractual regime for GPs has contributed to a back-slide, with fewer people receiving treatment in 2019 than in 2015/16.<sup>66</sup> In 2018/19 only 56% of eligible patients over the age of 75 in England were recorded as receiving osteoporosis drug treatment.

## OUR RECOMMENDATION

**We call upon the Government to address the disparity between osteoporosis and other chronic conditions and make a significant increase in the contribution of QOF points attributed to treatment and monitoring of patients to reduce fracture risk.**

**This will introduce the necessary resource into GP surgeries to identify and treat people at risk of osteoporosis and prevent further fractures.**

It is important to highlight that osteoporosis is treatable. There are several drug treatments for osteoporosis that are both affordable and clinically effective.



# WHAT INTER-RELATIONSHIPS ARE NEEDED LOCALLY FOR FLS TO BE TRULY EFFECTIVE, AND HOW CONSISTENTLY ARE THEY IN PLACE?

People who sustain fragility fractures are cared for by a range of healthcare professionals who use a variety of different clinical pathways.<sup>15,67-8</sup> Furthermore, the prevention of further fracture is usually undertaken by a different specialty from that treating the fracture itself. Consequently, there is a lack of 'ownership' and standardisation of FLS both locally and nationally (see Clinical Leadership p.27).<sup>56</sup>

FLS may be based in-hospital or out-of-hospital and requires support from, typically, a hospital doctor or a GP with expertise in osteoporosis and fracture prevention to lead the service. The presence of this 'champion' who is able to support the service development and obtain investment from key organisational decision-makers is more important than the specialty providing the osteoporosis care.

There needs to be a strong link with community and social care to support the business case for services where risk can be shared. An effective fracture prevention pathway needs good joint working between osteoporosis services, FLS, diagnostic imaging, falls prevention services, primary care and pharmacy.<sup>27</sup> Currently this is not robustly in place.<sup>56</sup>

“Take multi-disciplinary teamwork between trauma and orthopaedic, ortho geriatrics, metabolic bone team and GPs; the way that these inter-relationships work is almost undoubtedly variable.”<sup>53</sup>

The Inquiry learned about the key stakeholders required locally, and the importance of their involvement in the development of an FLS. These included:

## FLS Coordinator

A successful FLS requires an individual to coordinate all FLS activity.<sup>69</sup> The scope of the coordination will depend upon the scale of the FLS and its structure – for example, whether medications are directly recommended by the service or if a patient is simply flagged up to the GP for further assessment.

## Emergency department (ED)

Most fragility fractures will first be assessed in the ED. Others may be assessed in community walk-in centres and general practices. The ED staff assess the fracture, refer to radiology for imaging and either discharge home or refer to orthopaedics. The FLS Coordinator will often reside in ED or link closely with them using computer systems to identify fracture patients.

## Orthopaedic department

Orthopaedic input is routinely needed to assess whether non-operative or operative management of fractures is required but rarely addresses measures to reduce the risk of further fractures. Orthogeriatricians specialise in fragility fractures, and in particular inpatient hip fracture care. Their input optimises care of older patients.

## Pharmacy

Pharmacy practitioners are key contributors to the care of the patient with a fragility fracture, in terms of pain relief for the fracture itself and osteoporosis drug treatments to reduce the risk of further fracture. In September 2021, osteoporosis was added to the list of long-term conditions supported by the New Medicines Service in England. Pharmacists will now be able to give patients with osteoporosis three free appointments to discuss their osteoporosis medicine, how to take it to best effect, and therein support their adherence to treatment.

“Every time you see a community pharmacist you should be asked about your bones.”<sup>70</sup>

## Specialist hospital care (such as rheumatology, endocrinology, geriatric medicine)

An FLS champion can be from a range of specialities. It is important when designing an FLS to get input from whichever specialty manages osteoporosis locally or regionally. The majority of patients passing through an FLS can be given advice and treatment via the service itself, but referral to a specialist osteoporosis clinic is required for more complex cases.

## Medical imaging

An X-Ray is the most common investigation to diagnose an acute fracture. However, sometimes further imaging, for example a CT scan, will be required to evaluate more complex injuries. Medical imaging has a key role in the identification of patients with fractures for the FLS.

“Appointment of a radiology osteoporosis lead is desirable to support development, delivery and audit of policy and protocol in the identification and reporting of fragility fractures and to act as part of the multi-disciplinary team.”<sup>71</sup>

DXA scanning often sits within the Medical Imaging department so close links are required between the FLS and Medical Imaging to ensure a suitable pathway is developed for fragility fracture patients.

“It is important that the necessary funding and staff are in place to ensure optimal services throughout the UK. Factors such as workforce shortages will certainly contribute to unequal coverage both in scan (DXA) acquisition and reporting.”<sup>72</sup>

There needs to be a strong link with community and social care to support the business case for services.

## Primary care

A comprehensive FLS will undertake a fracture risk assessment, arrange the DXA and then provide a final treatment recommendation, which would then be prescribed by the GP, who is usually the final conduit to treatment to prevent a further fragility fracture. A less well-resourced FLS may simply write to the GP informing them that their patient has had a fragility fracture and would benefit from a fracture risk assessment, referral for DXA and osteoporosis drug treatment if appropriate.

The GP team and community pharmacists are often key contributors to ongoing risk assessment and encouragement of medication adherence, with more complex patients remaining under the care of the hospital specialist service. It is absolutely vital that the GP and pharmacy services are integral to FLS management and service design.

“Good interrelations with primary care are essential.”<sup>28</sup>

## Falls services

Close links with falls services are important. Most fragility fractures will happen as the result of a fall. A two-way referral between osteoporosis and falls prevention services is an integral part of the pathway. An FLS will work closely with local falls services to ensure early falls risk assessment and intervention post fracture.<sup>27</sup>

“Clinically there need to be strong links across primary and secondary care including falls services. Currently this is not robustly in place nationally.”<sup>56</sup>

## The Royal Osteoporosis Society

The charity supports FLS development with the ROS FLS Implementation Toolkit (free to download on the ROS website). The ROS highlights the importance of the patient voice in the development of services and provides bespoke data and resources to support the establishment of a new FLS. In addition, the ROS provides clinical guidance, training and education to all FLS practitioners and DXA operators to support the quality provision of these services.

Integration with all of these departments, services and care settings enables an FLS to maximise case finding, refer to appropriate services to meet a patient’s needs, and ensure transfer of care to facilitate long term management of osteoporosis.<sup>27</sup>

“You need liaison between the FLS and the local hospital for fracture identification including radiology, A & E, fracture clinic and trauma wards. There needs to be close links with the falls team to refer between each other. There needs to be a clinical lead and this lead needs to meet regularly with the FLS team to discuss cases, develop pathways of care and allow direct referral to secondary care metabolic bone services for more complex/severe cases. Not all of these are in place in all centres and data for this are available from the national audit database.”<sup>55</sup>

The ROS highlights the importance of the patient voice in the development of services and provides bespoke data and resources to support the establishment of a new FLS.



## OUR RECOMMENDATION

To address the real challenge of working across specialties and disciplines, the APPG calls on the Government to establish a leadership role within the NHS England and NHS Improvement clinical advisory structure – a National Specialty Adviser for Fracture Prevention and Osteoporosis.

This role will address the lack of ‘ownership’ of osteoporosis and fracture prevention. It will cut across historical boundaries between specialities and be responsible for monitoring the standardisation of high-quality fracture prevention and osteoporosis services. Having a national figure representing this area will promote and facilitate the development of quality assured and universally applicable fracture prevention services.



## WHAT ACTION SHOULD BE TAKEN TO ASSURE THE QUALITY OF ALL FLS IN THE UK?

Avoidable fractures occur in the UK every day due to patients not being identified, not being assessed for osteoporosis, and not being treated.

We know that outcomes for patients are likely to be poor where there is no FLS. We also know that established FLS struggle to meet the quality standards due to under-resourcing, lack of leadership, training and awareness, and barriers to working across specialties and disciplines, as described in previous chapters.

### FLS performance and quality

The Inquiry understands that FLS represents the best means to improve secondary prevention of fragility fractures. However, across all existing FLS, including in Scotland and Northern Ireland where there is apparent 100% coverage, there is great variability in quality.

In England and Wales, services vary both in quality and in how much of the local population they cover. Shortcomings are often due to services not being resourced adequately, particularly in terms of staff time. The last complete FLS-Database report in 2019 showed that, on average, most FLS in England and Wales fell short of the standards:

- FLS were seeing only 49% of their estimated caseload
- FLS were identifying just 24% of vertebral fractures
- Over 30% of patients were not seen within 12 weeks for assessment. Only 49% of patients requiring DXA were scanned within 90 days of fracture
- Only 19% of patients confirmed adherence to treatment one year post fracture.

These data highlight the value of this approach to quality assurance and provide an invaluable benchmark from which services can improve their services using a data driven approach.

“The Fracture Liaison Service Database (FLS-DB) in England and Wales is an excellent resource that allow FLSs to record and compare their performance and outcomes versus other centres. The annual reports make a series of recommendations to help FLS coordinators focus on specific areas for improvement.”<sup>54</sup>

As mentioned previously, there is also no national audit of FLS in Scotland. Therefore, while there is 100% provision, services vary in quality and do not benefit from an audit to drive service improvement.

**In England and Wales, services vary both in quality and in how much of the local population they cover.**

## Areas for improvement

Improvement of FLS presents a challenge to clinicians for all the reasons outlined in previous chapters – such as lack of leadership, under-resourcing of services, lack of awareness and competing clinical priorities.

### Access to diagnostic services

DXA scanning to establish an individual's bone mineral density is an essential tool to diagnose osteoporosis.<sup>73</sup> There was evidence from the Inquiry of significant issues with access to diagnostics. Lack of capacity of DXA services was highlighted as an issue across the UK, with waiting lists of several months in some areas. This was exacerbated by COVID-19 which led to closure of 89% of DXA services.<sup>74</sup>

“Our local GP practice did not help and I was eventually seen at a local minor injuries unit where I was X Rayed and the fracture discovered. I saw a doctor there but he would not refer me for a DXA scan and it was only after the metatarsal broke again some weeks later that, after we requested a DXA scan again, I eventually had one. This showed that I was in very poor bone health with all the readings in the red zone. At no stage was there any mention of FLS at this time in our area. That was some time ago however but I doubt that things have changed. Sadly the support for osteoporosis is poor here!”<sup>75</sup>

Furthermore, some DXA services restrict access to younger patients, and some will not provide follow-up scans.

## Equipment shortage

A 2019 Europe-wide study described provision of DXA units in the UK as ‘very inadequate’.<sup>15</sup> The UK has well below the number of DXA units required for the population, ranking 23rd out of 29 European countries in this regard. The UK had 7.5 DXA scanners per million of general population compared to Austria for example, which have nearly 30 per million of population. Prior to the COVID-19 pandemic the average waiting time in the UK was 42 days, with 21 European countries reporting shorter waiting times. We know anecdotally that these waits have increased considerably as a result of the pandemic and vary across the UK.

“The COVID effect has meant that NHS objectives in the short term are to maintain urgent emergency pathways and support capacity within the NHS and reduce transmission. An unwanted outcome of this has been increased waiting time for elective care which impacts right across primary, community and secondary care, including diagnostic services.”<sup>70</sup>

The Richards report, commissioned by NHS England, recommended significant investment in critical diagnostic services.<sup>76</sup> This included DXA scanning equipment, which it recommended should, as a minimum, be expanded in line with demand growth rates of 4% per annum (prior to COVID-19), and all imaging equipment older than 10 years should be replaced. This equated to a modest 25 extra scanners and the replacement of 80 older scanners over five years. The recent Government announcement of plans to create Community Diagnostic Centres in readily accessible venues such as shopping centres may provide part of the solution for extending access to both FLS and DXA. If nationally mandated, these could provide a suitable setting for FLS, and allow for the co-location of assessment, DXA, X-ray and laboratory testing for osteoporosis.

## Trained staff shortages

Community Diagnostic Centres can only be part of the answer however due to the shortages of, and high vacancy rates among, diagnostic radiographers. A 2021 report by the Society of Radiographers found 92% of services reporting vacant posts in the diagnostic radiography workforce.<sup>77</sup> This is against a backdrop of short-staffing across all of clinical radiology and radiography.<sup>78</sup>

### Reporting quality

The Inquiry heard evidence of variability in the quality of reporting due to lack of mandatory specialist training for DXA operators and reporters.

“I don't understand the results of my last DXA scan and seeing a GP is impossible.”<sup>79</sup>

Some referrers and patients were simply sent a printout from the scanner with no interpretation, while others receive comprehensive individualised reports including detailed management advice. The ROS produced quality standards for DXA reporting, but these are not yet widely observed as there is no mandatory specialist training and education for operators and reporters of DXA.<sup>80</sup>

## OUR RECOMMENDATION

**The Government invests in vital diagnostic services that support the whole fracture prevention pathway. They must increase the number of DXA scanners to close the gap between the UK and our European neighbours and meet the ongoing increase in demand.**

**Community Diagnostic Centres should be considered both for the expansion of DXA scanning and as a possible setting for new FLS.**

**Investment in more DXA operators and reporters, with specialist training, is urgent. The Government must work with the professional bodies to address current staff shortages. This is vital to allow patients to have a DXA scan promptly, reported clearly, treatment targeted where necessary, and thereby prevent further fractures.**

**The UK has well below the number of DXA units required for the population, ranking 23rd out of 29 European countries in this regard.**



2.2 MILLION  
people have undiagnosed  
vertebral fractures

### Vertebral fracture identification

Vertebral fracture identification was highlighted in the Inquiry evidence as a particularly difficult area for FLS.

“If a person with a vertebral fracture is fortunate enough to live in an area served by a Fracture Liaison Service (FLS), then their fracture may be picked up by this service. However in 2019, only 25% of the expected number of people with vertebral fractures were identified by FLS services in England and Wales. FLS services in Scotland and Northern Ireland reported an average 22% of vertebral fractures identified through their services.

There are stark regional differences for the identification of these fractures with the South West and Yorkshire and Humber reporting more than 50% and London and Eastern England reporting less than 1% of vertebral fractures identified through FLS.”<sup>45</sup>

Vertebral fractures are the most common fragility fracture, yet only 20-30% of these come to medical attention.<sup>14,81</sup> This is due in part to GPs being discouraged from referring patients for imaging for back pain, but also because of poor standards of reporting.<sup>60</sup>

In 2019 a national vertebral fracture identification audit was undertaken by the Royal College of Radiologists in collaboration with the ROS and the Royal College of Physicians.<sup>45</sup> The audit found great variation in the number of vertebral fractures identified and the terminology used on the report. Even when identified, the terminology often did not include the word ‘fracture’ resulting in confusion and lack of action on receipt of the report by the referring clinician.<sup>45</sup> Vertebral fracture identification can be greatly improved by standardised terminology and alerting the finding to appropriate services.

- Multidisciplinary collaboration occurred in only 19% of NHS Trusts even though 95% had access to a bone health service.
- Only 26% of NHS Trusts included vertebral fractures in their alerts policy.
- Only 50% of NHS Trusts routinely made available, or scrutinised, the full spine images (sagittal reformat) on CT scans that covered the chest and abdomen – which is best practice if vertebral fractures are to be identified.

The Inquiry heard from a number of clinicians working on service improvement in this area:

“In Bradford we have had a FLS now for the last four and a half years. As the DXA team manager, I work closely with the FLS team to ensure the patients receive a high level of service... The FLS ensures that all patients are assessed regardless of which GP practice they are under to give equal coverage across the area... We have a short code added to radiology reports when a vertebral fracture is identified which acts as a direct referral to the FLS and DXA.

This eliminates the third party having to refer, and ensures patients are assessed in a timely manner and don't get missed. However having undertaken a vertebral fracture identification on CT-scans pilot study back in 2018 we know that despite currently performing well compared to the rest of the UK, we are still missing patients.

Our hope is that we can improve on this with permanent use of Artificial Intelligence and believe that this approach would benefit inclusion in all FLS services (with input from DXA/radiology teams).”<sup>82</sup>

ONLY  
20-30%  
of vertebral fractures  
come to medical  
attention

## CASE STUDY: MIDDLESBROUGH FLS DR STEPHEN TUCK, RHEUMATOLOGY CONSULTANT, SOUTH TEES NHS TRUST

The Middlesbrough FLS at James Cook University Hospital was established in 2011. A 2010 audit found that in the over-65s only 37% of hip fractures and 12% of non-hip fractures received appropriate therapy. In the over-75s with hip fractures only 25% of women and 8% of men were started on bisphosphonates. After the introduction of the FLS, 97.7% of all fractures over the age of 50 years were identified with 43% requiring treatment. The FLS now identifies over 1000 people with fractures per annum.

Using the PAC system, all radiology reports which mention vertebral fractures, compression or deformity are coded for highlighting to the FLS. The FLS then reviews the images and, if confirmed, arranges for the patient to be seen. Identification of vertebral fractures has increased from 11% to 47.7% of expected vertebral fractures predicted for the area by the FLS-Database. This equates to 95% of the predicted numbers for which our FLS service is commissioned (the FLS only covers half of the area's population).

For FLS fracture identification you need:

- Close liaison between the FLS and the local hospital including radiology, ED, fracture clinic and trauma wards; as well as good links with the falls team to refer between each other.
- A coordinated approach to fracture identification including vertebral fracture identification, such as use of codes to automatically flag to FLS potential vertebral fractures.
- A clinical lead who meets with the FLS team regularly to discuss cases, develop care pathways and refers complex cases to metabolic bone services.
- DXA capacity is important. Ideally each FLS should have its own DXA, but access to DXA is not always sufficient to meet demand.

Despite our successes the FLS was only commissioned for the Middlesbrough area, which is 50% of the catchment population of the Trust. There have been several attempts to establish an FLS for the remaining 50% catchment population, mostly in North Yorkshire. We have submitted several business cases to the relevant CCGs to provide an FLS, all of which have been unsuccessful. The North Yorkshire CCG for example, covers a large geographical area. The area of this CCG in the catchment of the Trust, houses a small proportion of the overall CCG population so the CCG has been reluctant to consider supporting an FLS for the area.

Other barriers we have encountered include:

- Initial startup costs. Commissioners are more focused on short-term organisational budgeting than long term savings.
- The need for increased DXA capacity which increases the initial outlay required to set up the service.
- Lack of lead clinicians to support the development of FLS.
- The sheer number of CCGs involved in commissioning. Each one has to be approached but they may not all agree to fund the FLS.
- The need for primary care involvement means that trying to get an FLS established through the secondary care route can be difficult.
- Funding for sufficient DXA capacity can also be a problem. Access to DXA scanning can limit services as well as adequate training in interpretation and reporting.

We need a means of encouraging local CCGs or the ICS to fund FLS development. National guidance and access to a separate funding stream making it necessary for FLS to be introduced would incentivise commissioners to fund FLS provision adequately.

## OUR ANALYSIS

Evidence has been presented showing the effectiveness of high quality FLS with the best able to:

- Identify at least 80% of fragility fractures in people over 50 years of age.
- See 80% of patients within 12 weeks of their fracture.
- Recommend treatment to 50% of patients due to high fracture risk.
- Review 80% of patients at 52 weeks post fracture to ensure treatment is still being taken and tolerated.

This service is only possible with prompt access to high quality diagnostic services.

The mechanisms to support quality improvement of existing FLS already exist. Good quality FLSs adhere to the key performance indicators laid down by the FLS-Database. Services can use this audit to compare their performance with others and their data will inform the FLS-Database's annual recommendations.

Clinicians are using these tools to address some of the most challenging barriers they face, such as vertebral fracture identification. The ROS and the Royal Colleges are also supporting clinicians to perform at the highest level.

## OUR RECOMMENDATIONS

The Scottish Government should establish a national audit of FLS. This audit will allow FLS in Scotland to compare their performance with others, share best practice and drive improvement.

Standardisation of all FLS means all services meeting the standards proposed by the FLS-Database and the ROS Clinical Standards. FLS should be mandated to participate in, and deliver on the recommendations of, the FLS-Database (or equivalent in Scotland) to continue to drive up quality of services and share best practice.

# GLOSSARY OF TERMS

<b>All Party Parliamentary Group</b>	Cross party group formed by MPs and Peers who share a common interest in a particular subject or issue
<b>Commissioning for Quality and Innovation (CQUIN)</b>	A payment framework which enables commissioners to link a proportion of providers' income to the achievement of quality improvement goals.
<b>Dual energy X-ray absorptiometry (DXA)</b>	The technique used to measure bone density and diagnose osteoporosis
<b>Endocrinology</b>	The study of medicine that relates to the endocrine system, which is the system that controls endocrine glands and hormones.
<b>Freedom of Information (FOI)</b>	A concept that refers to the principle that individuals and the public at-large have the right to access information that is pertinent to their interests.
<b>Fracture Liaison Service (FLS)</b>	A service which systematically identifies, treats and refers to appropriate services all eligible patients aged 50 and older within a local population who have suffered fragility fractures, with the aim of reducing their risk of subsequent fractures.
<b>Fracture Liaison Service Database (FLS-Database)</b>	The Fracture Liaison Service Database (FLS-DATABASE) is a clinically led web-based national audit of secondary fracture prevention.
<b>Fragility Fracture</b>	A broken bone (fracture) resulting from a low impact, such as a fall from standing height or less.
<b>Integrated Care Systems (ICS)</b>	New partnerships between the organisations that meet health and care needs across an area, to coordinate services and to plan in a way that improves population health and reduces inequalities between different groups.
<b>In-hospital services</b>	Healthcare provided in a hospital setting.
<b>National Institute for Health and Care Excellence (NICE)</b>	A public body which provides national guidance and advice to improve health and social care.
<b>NHS England and NHS Improvement (NHSEI)</b>	NHS Improvement and NHS England work together to help improve care for patients and provide leadership and support to the wider NHS.
<b>NHS Trust</b>	Public sector body which provides healthcare services to specific geographical areas.
<b>Orthogeriatrician</b>	A doctor qualified to care for elderly orthopaedic inpatients, most often following a fractured hip.
<b>Osteoporosis</b>	A condition where bones lose strength, making someone more likely to break a bone than the average adult.
<b>Out-of-hospital services</b>	Any healthcare provided in a setting other than a hospital.
<b>Rheumatology</b>	The specialty covers many conditions and includes the diagnosis and treatment of arthritis and other diseases of the joints, muscles, and bones.
<b>Royal Osteoporosis Society</b>	The only UK-wide charity dedicated to improving the prevention, diagnosis and treatment of osteoporosis.
<b>Quality Outcomes Framework (QOF)</b>	A system for the performance management and payment of General Practitioners in the NHS across the UK.
<b>Vertebral Fracture Assessment (VFA)</b>	The technique used to assess for the presence of prevalent vertebral fractures as performed as part of a DXA assessment.

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