

## Delivering core NHS and care services during the pandemic and beyond

### EVIDENCE FOR HEALTH AND SOCIAL CARE SELECT COMMITTEE INQUIRY: OSTEOPOROSIS AND FRACTURE PREVENTION SERVICES

Issued by the Royal Osteoporosis Society Clinical Committee | V1.1 June 2020

#### Executive summary

Given the immense pressures placed on the NHS and care sector by the COVID-19 pandemic, it is imperative to reduce demand on these services by minimising the impact of other preventable diseases.

Osteoporosis causes over half a million broken bones (fractures) in the UK every year, costing £4 billion annually, and leading to substantial ill health and premature deaths. With our ageing demographic, osteoporotic fractures will place an ever-increasing burden on the NHS and care sector. Indeed, osteoporosis was recognised by the UK Chief Medical Officer, Professor Chris Whitty, as one of six key health priorities for the over 65s during the COVID-19 pandemic.

Rapid resumption of osteoporosis and fracture prevention services is vital to mitigate an otherwise inevitable increase in broken bones and hospital admissions resulting from hip and other fractures over the coming months and years.

This paper is informed by the recent NHS confederation document ([www.nhsconfed.org/NHSReset](http://www.nhsconfed.org/NHSReset)) and proposes a blueprint to Restore, Rebuild and Reset osteoporosis and fracture prevention services. It acknowledges the challenges and constraints posed by COVID-19 in the short term but also identifies innovative opportunities to deliver fracture prevention for the NHS of the future that is:

- **Highly effective** – applying the best evidence-based research
- **Integrated** – delivered seamlessly between primary, secondary and social care sectors
- **Equitable** – accessible to all, regardless of age, gender, ethnicity or socioeconomic status

## Introduction to the Royal Osteoporosis Society and reason for submitting evidence

### Background

The Royal Osteoporosis Society (ROS) is the only UK-wide charity dedicated to improving the prevention, diagnosis, and treatment of osteoporosis. The charity supports people with osteoporosis through a network of local and regional support groups, a telephone helpline staffed by experienced specialist nurses, and an extensive portfolio of online and printed information and guidance.

The ROS is unusual among patient-facing charities in the additional role it plays in the training and direct support of healthcare professionals (HCP). Osteoporosis services are delivered by many different professional disciplines, working within several clinical specialties. The ROS is uniquely placed to work across these boundaries and provide national leadership and coordination of HCP training and advocacy in the osteoporosis field.

Critically, over the past decade, the ROS' service delivery team has developed the UK Fracture Liaison Service (FLS) network, achieving 61% coverage overall and 100% coverage in Scotland. FLSs identify older individuals who have experienced an osteoporotic fracture in order to ensure that they receive appropriate assessment and effective treatment to reduce the otherwise high risk of a further fracture, with its consequent ill-health, loss of independent living and increased risk of death. These services successfully increase uptake of highly effective anti-osteoporosis medications and prevent subsequent fractures and deaths. They are highly cost-effective, and their NHS implementation is supported by government policy.

The ROS has a strong track record for supporting research and in 2019, launched the Osteoporosis and Bone Research Academy. Working collaboratively with world-leading researchers, clinicians and academics in the field, the charity aspires to achieve a step change in the scientific understanding of osteoporosis and bring about a cure for osteoporosis.

### Relevance of the ROS during the COVID-19 pandemic

With the majority of NHS osteoporosis and bone health services suspended due to the COVID-19 pandemic, the ROS nurses' helpline is currently the only active source of help for many people living with the disease.

Over 13,500 people called the Helpline in 2019. Between January and March 2020, the helpline had its busiest first quarter ever in the decade since its launch. 45% of recent calls in March and April were about COVID-19. Concerns about how to safely access osteoporosis medication renewals and cancelled appointments featured consistently. Questions about vitamin D and how to get bone health exercise while in lockdown have also been frequent. 51% of callers said they have nowhere else to go with their query during the pandemic period.

The ROS has been agile in its response, coordinating and disseminating critical information to maintain osteoporosis care during the pandemic (<https://theros.org.uk/information-and-support/coronavirus-and-osteoporosis>; <https://theros.org.uk/healthcare-professionals>).

Given this central role to both patients and healthcare professionals, the ROS is ideally placed to lead a national agenda of recovery and development of fracture prevention services, aiming to consolidate the universal provision of excellent quality clinical care for the peri- and post-COVID-19 environment.

## Definition and impact of osteoporosis

Osteoporosis, which becomes more common in older age, is characterised by weakening of the bones, leading to a decrease in bone strength and an increased risk of fracture (broken bones).

In the UK, it is estimated that around 3 million people have osteoporosis, resulting in over 500,000 new fragility fractures per year. These fractures occur as a result of minor injuries such as a simple fall. Even a cough or a sneeze can trigger an acute painful spinal fracture in a person with osteoporosis.

Whilst many may consider a fracture to be a minor injury, this is far from true. People with osteoporotic fractures experience not only physical, but also emotional and financial impacts. Particular problems include intractable pain, height loss and altered body shape, and the condition is associated with loss of independence, increased anxiety and social isolation.

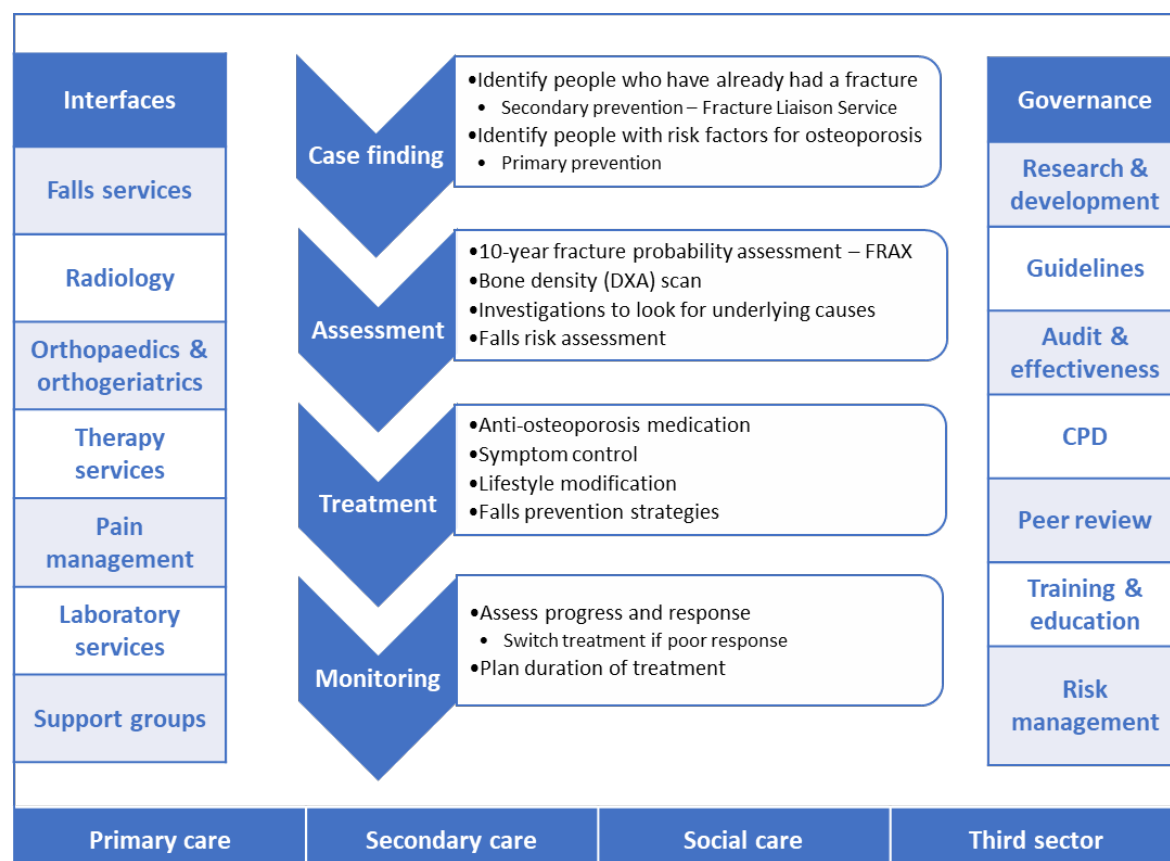
In addition to severe pain and suffering, major osteoporotic fractures lead to a 20% excess risk of premature death. Fractures can impair mobility or the ability to self-care, and are often the event triggering the need for long-term institutional care. For example, after a hip fracture, only about 50% of people previously living at home are discharged back to their own home with up to 20% losing independence to the extent they require full time social care

([https://www.nhfd.co.uk/files/2019ReportFiles/NHFD\\_2019\\_Annual\\_Report\\_v101.pdf](https://www.nhfd.co.uk/files/2019ReportFiles/NHFD_2019_Annual_Report_v101.pdf)).

Osteoporotic fractures cost the NHS around £4 billion annually and hip fractures account for the occupancy of around 4000 hospital beds in the NHS at any one time across England, Wales and Northern Ireland ([https://www.nhfd.co.uk/files/2019ReportFiles/NHFD\\_2019\\_Annual\\_Report\\_v101.pdf](https://www.nhfd.co.uk/files/2019ReportFiles/NHFD_2019_Annual_Report_v101.pdf)).

As the population becomes older, with increasing numbers of frail elderly, the number of fractures is projected to increase dramatically over coming decades - but this is not inevitable. High quality, highly effective osteoporosis treatments prevent fractures and reduce personal, healthcare, and societal costs.

## Key components of an effective osteoporosis pathway



Further information about these key components, including detailed guidelines and quality standards can be found at <https://theros.org.uk/clinical-publications-and-resources>

**Despite the morbidity and mortality caused by osteoporosis, there remains worrying inequity in availability and access to osteoporosis services and FLS across the UK.**

**For example, 40% of the population in England and Wales still have no access to FLS** (<https://www.rcplondon.ac.uk/projects/outputs/fls-database-annual-report-2020>) **and in England, there is an almost 60-fold variation in rates of DXA scans between CCGs** (<https://fingertips.phe.org.uk/profile/atlas-of-variation>).

### The COVID-19 pandemic has severely affected osteoporosis services

The majority of osteoporosis services ceased activity on or before lockdown commenced on 23 March 2020 with many staff being redeployed to acute services.

The “stay at home” message appears to have temporarily reduced the incidence of injuries and some types of fracture but has anecdotally led to delays in presentation and diagnosis of broken bones due to reluctance of the public to seek medical help.

Hip fractures typically result from falls within the home and a decrease in incidence during lockdown has not been reported and is not anticipated.

- Closure of most FLS means that people presenting with their first fracture are not being evaluated and treated at a time when their risk of further fracture is markedly increased
- Closure of other NHS clinical specialties and reduced activity in general practice is limiting identification of people with other risk factors for osteoporosis
- Patients cannot access diagnostic assessment including DXA bone density scans and investigation for underlying causes, meaning differential diagnoses, including cancer, are being missed
- Few people are initiating appropriate anti-osteoporosis treatment and those already taking treatment are not being monitored to assess efficacy or to detect adverse effects
- Most patients who are unable to take oral treatment (approximately 25%) are not currently receiving their alternative injectable treatments
  - Delay in one of the most effective treatments, denosumab, by just a few weeks leads to a rebound with rapid bone loss which can result in multiple spinal fractures
- Increasing numbers of calls to the ROS helpline indicate that many people are unable to access support and advice from their usual clinical teams and cannot access online resources, this is disproportionately affecting the elderly and ethnic minority groups
- Advice to stay at home and, in the case of the most vulnerable to shield, is preventing people from undertaking their usual exercise. Deconditioning occurs extremely rapidly, with dramatic consequences in those who are already frail. There is a real danger that with easing of restrictions and as these people start to resume their normal activities, their loss of muscle strength will result in increased falls and increased fractures.

**The combined impact of these factors will be a cumulative increase in:**

- **Fracture incidence** - with consequent personal, healthcare and societal cost
- **Backlogs** of postponed assessments, treatment and monitoring appointments
- **Numbers of falls** and resulting injuries as a consequence of deconditioning during lockdown and shielding

**A coordinated and rapid reintroduction of osteoporosis and fracture prevention services as lockdown measures ease is therefore absolutely essential.**

## **ROS proposal for UK osteoporosis care: Restore, Rebuild and Reset**

This proposal outlines three phases for the delivery of osteoporosis services during and beyond the pandemic and sets out ambitious goals for the future vision of fracture prevention.

### **Phase 1. Restore – holding measures while lockdown remains in place**

Use available staff to deliver clinically urgent management and maintain activity that can be delivered remotely, for example by telephone or video call. Non-redeployed staff may also have capacity to plan towards the next phases.

- Deliver urgent clinical activity (e.g. denosumab injections) using safest approach available (<https://theros.org.uk/healthcare-professionals/denosumab-prolia-treatment-and-the-covid-19-pandemic>)
- Where orthogeriatricians have been redeployed to COVID-19 work, liaise directly with orthopaedic colleagues to initiate pragmatic management for patients admitted to hospital with fragility fracture.
- Ensure safe delivery of clinical care minimising risk of exposure to COVID-19, e.g. through:
  - Telephone/video consultations
  - Use of algorithm-based FRAX® fracture risk assessment in place of face-to-face appointments for DXA scans (<https://www.sheffield.ac.uk/FRAX/>)
  - Electronic prescription with delivery of medication direct to patient's home
  - Off-site blood tests using domiciliary, GP surgery or drive-through models
  - Provision of "clean" areas, ideally with separate access, for work which must be carried out face-to-face
  - Appropriate use of PPE
- Provide accessible information for patients including clear details about reorganisation of clinic arrangements, safety precautions being introduced and support available locally and through the ROS helpline and online material, e.g.
  - Obtaining adequate vitamin D during lockdown
  - Safe ways to exercise indoors to avoid deconditioning
  - Pain management
- Ensure that all patients with delayed appointments are identified for rescheduling as soon as possible, according to individual clinical priority
  - Identify patients presenting with new fractures to trauma services for FLS follow-up as soon as feasible. If staff are available, FLS may be operated virtually
- Maintain and enhance communication channels with referrers to provide specialist advice and guidance. Aim to avoid need for secondary care appointment

## **Phase 2. Rebuild – early weeks after lockdown starts to ease**

This phase will involve a staged increase in activity dependent on staffing levels and willingness of patients to attend hospital appointments. The aim will be to reintroduce the main components of routine clinical activity and for this to be delivered at minimum risk. Stringent measures to protect staff and patients will need to be in place.

It is recognised that maintenance of social distancing measures will impact on capacity for the foreseeable future. Face-to-face activity will be targeted initially to those at the highest imminent fracture risk and only used if a remote consultation is impracticable.

The safety principles outlined above should be maintained.

- Phased reintroduction of Fracture Liaison Services, prioritising those with hip and vertebral fractures as they are at greatest risk.

- Initial assessment using FRAX® will enable treatment decisions to be made confidently in many patients and identify a proportion of people in whom the decision requires later evaluation with DXA. A pragmatic decision to recommend anti-osteoporosis treatment initiation in the interim will be appropriate in many of these.
- Target DXA bone density scans to people in whom the results are most likely to alter management
- Administration of injectable treatment
- Specialist outpatient clinics for complex case management, delivered virtually

In the expectation that many redeployed staff will return to their usual place of work during this phase, an increase in non-face-to-face activity is anticipated, together with a period of active planning to manage the next steps.

Scrutiny of outstanding follow-up and new patient appointments will enable prioritisation for reappointment but also allow consideration of a more integrated approach with primary care with an emphasis on a model of ‘confer before refer’ to deliver more management in the community.

### **Phase 3. Reset – longer term changes**

This final phase recognises the changed environment in which we expect to be working and the exciting opportunities it offers for different ways of interacting with our patients and clinical colleagues. Experience during the pandemic has already demonstrated that non-face-to-face working can be highly successful from the perspective of both patients and HCP and that intervals between review appointments can be safely extended providing a safety net is in place.

Creative thought is now required to build on this early experience to optimise high quality service delivery after the pandemic. In doing this, we must ensure equity of access to healthcare regardless of age, gender, ethnicity or socioeconomic status.

Key elements as we move forward will inevitably include greater use of remote consultations but will also exploit innovative developments such as automated systems embedded in NHS IT infrastructure to identify patients at high risk of fracture and IT solutions to coordinate the subsequent patient journey through assessment, treatment and monitoring. Indeed, a project evaluating automation of the care journey already forms a key objective of the ROS Osteoporosis and Bone Research Academy. We envisage pathways in which largely automated case-finding triggers a detailed one-stop assessment to quantify fracture risk, identify underlying causes and leading to development of a personalised care plan. Pathways will be led by specialist clinicians who will work with primary and social care colleagues to deliver care in the community. We anticipate that this model will enable non-specialists to deliver expert management to the majority with only the most complex patients needing to access hospital outpatient clinics.



## Goals for osteoporosis service delivery post COVID-19

Planning for the future will begin during the first two phases. The ROS will continue to work with people who have osteoporosis as well as a full range of other stakeholders, to refine and develop goals for future service delivery. Importantly, we will reach out to “hard to reach” individuals during this planning phase e.g. ethnic minority groups, those in care homes and their carers to achieve equitable access to excellent bone health care.

Alongside the clinical components, attention will be given to the infrastructure requirements to enable a robust framework of governance and identification of meaningful and measurable key performance indicators.

The goals can be mapped to the key components of the patient pathway.

### Case finding

- Universal access to quality assured FLS for every adult aged 50+ years presenting with a new fracture
- Mandatory participation in FLS-DB to identify service development needs (<https://www.rcplondon.ac.uk/projects/fracture-liaison-service-database-fls-db>)
- Implement IT methodology to identify spinal fractures and low bone density from imaging performed for other clinical indications
- Enhance primary prevention by increasing awareness among referrers of risk factors for fracture, combined with use of IT-based identification of people at risk

### Assessment

- Embed IT-based fracture risk assessment algorithms into primary care digital systems
- Access to timely fracture risk assessment, including targeted DXA scans, in accordance with NICE CG146
- Enhanced one-stop assessment at time of DXA scan, including laboratory tests and x-rays where clinically indicated

### Treatment

- Individual care plans for implementation in the community, encompassing recommendations about pharmacological intervention, lifestyle modification and management of reversible underlying causes
- Use of personalised medicine approach to ensure holistic management and to set goals and manage expectations
  - Use anabolic (bone building) treatments first line in patients at very high fracture risk
  - Escalation to second and third-line treatment as required
  - Link to relevant services and organisations, e.g. - falls prevention, social care and therapy services as soon as these are needed
- Reserve specialist hospital outpatient management for complex cases
- Use direct-access referrals for delivery of injectable treatment



## Monitoring

First-line treatments for osteoporosis are difficult to take correctly and are ineffective if the dosing instructions are not followed closely. Monitoring is essential to identify those people who are not obtaining a good response, to consider change to a second-line treatment.

- Early conversation to check compliance and assess for adverse effects that may otherwise lead the patient to abandon treatment
- Use of blood tests (bone turnover markers) at baseline and after few months to confirm good treatment response
- Periodic reassessment including DXA at least every 5 years
  - To plan duration of treatment and the timing of “drug holidays” to minimise risk of rare but serious adverse effects

## Support

- Education and empowerment of patient and carers to support self-management
- Easy access to specialist advice for patients and referrers to avoid need for regular hospital outpatient review
  - Helpline – local and ROS
  - Digital resources
- Education and support for HCP building on the existing ROS portfolio
- Links into care homes and care services

## Resources, infrastructure and technology required to support new ways of working

- Improved IT access to facilitate remote consultations
  - Universal access to broadband coverage
  - Interpretation services
- Validation of automated approaches to fracture identification and fracture risk assessment
- Support for integrated pathways spanning primary, secondary and social care sectors:
  - Funding following the patient
  - IT systems facilitating secure sharing of clinical data
- Governance to ensure quality and safety
- Clinical leadership

## Call to action

In submitting this proposal, we seek urgent recognition of the importance of osteoporosis services and support for the ROS to develop and implement the innovative care pathways needed for our patients in the aftermath of the COVID-19 pandemic that are:

- **Highly effective** – applying the best evidence-based research
- **Integrated** – delivered seamlessly between primary, secondary and social care sectors
- **Equitable** – accessible to all, regardless of age, gender, ethnicity or socioeconomic status