



2024 Research and Innovation Grants Round Summary

Building the case for the world's first screening programme for high fracture risk

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1. Background

Osteoporosis is one of the most urgent public health crises of the modern era. Broken bones (fractures) caused by the condition are one of the most serious threats to living well in later life. Broken hips are heart-attack level events, as more than a quarter of people who break a hip, die within a year¹. Late diagnosis and low public awareness mean at least two-thirds of people with osteoporosis are missing out on life-changing drugs². And in the case of broken hips, they are life-saving drugs. This costs the NHS a staggering £4.6 billion a year³, which due to our ageing population will be increased further. As it is predicted there will be a 25-30% rise in fractures by 2034⁴.

In the UK, unfortunately the current clinical guidance (CG146) from the National Institute for Health and Care Excellence (NICE) isn't mandated. The guidance states that the following people should be assessed for their risk of fragility fractures: all women aged 65 years; all men aged 75 years and over; women aged under 65 years with risk factors; and men aged under 75 years with risk factors⁵. Currently, decisions are being made by individual clinicians on a case-by-case basis, this is leaving thousands without the care they need and resulting in failure to prevent life-changing pain and disability. This is because, unlike other health conditions, there is no formal systematic national approach (i.e. screening programme) to identifying people at risk of osteoporosis and fractures. Screening aims to identify a condition when it's at an early stage where treatment can be effective to alter its course.

In 2022, the All Party Parliamentary Group (APPG) for Osteoporosis and Bone Health, which the Royal Osteoporosis Society (ROS) convenes, released the results of its [Inquiry into under-diagnosis of osteoporosis](#)⁶. The report revealed that 61% of people with one of the three major risk factors requiring a bone health assessment had not received one. It also showed that a targeted screening programme to identify high fracture risk could be both clinically effective and cost-effective, especially in reducing hip fractures. The recommendation from the APPG is in line with Government's own focus on prevention in the NHS Long Term. The Chief Medical Officer, Professor Chris Whitty, commented in his 2023 Health in an Ageing Society report that a screening programme aiming for "a reduction in hip fractures may warrant further investigation". Professor Whitty went on to say "This highlights an area of ongoing research which will inform future reviews regarding national screening programmes for targeted populations"⁷. We also know that identification of the condition early, continues to be one of the top priorities from a patient perspective.

2. Specific requirements of this call

The aim of this research call is to help obtain the robust evidence to build the case for the world's first targeted screening programme for high fracture risk (**Figure 1**).

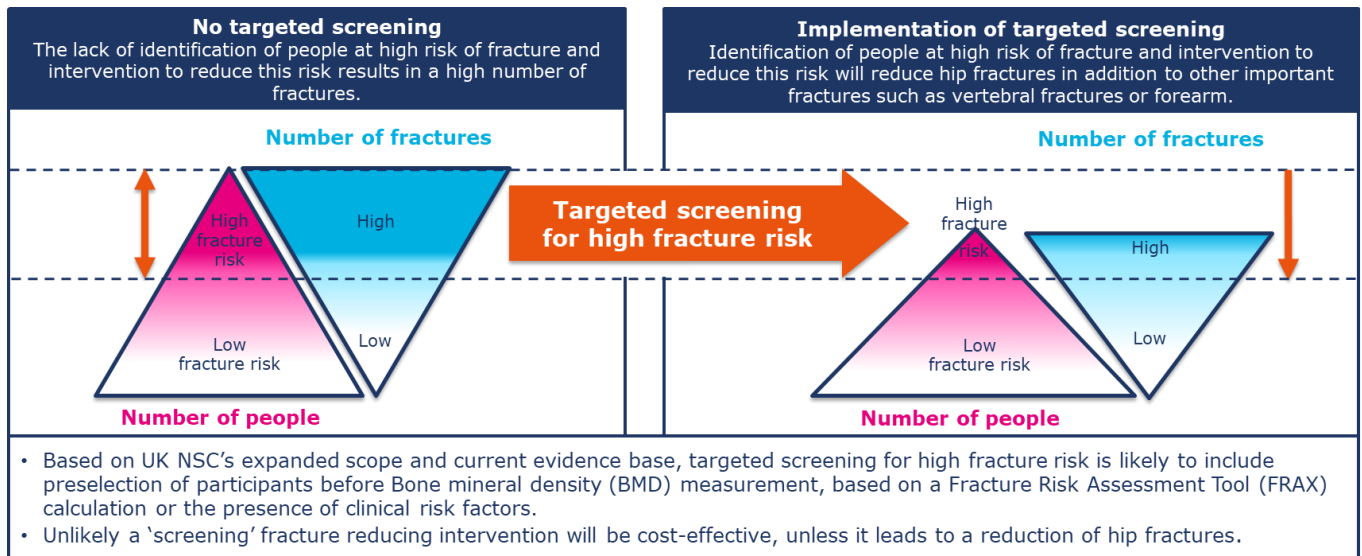


Figure 1: Overall principle of a potential targeted high fracture risk screening programme

The [UK National Screening Committee \(UK NSC\)](#) has been making evidence-based recommendations on screening programmes for the past 28 years. The committee sets a high bar in assessing evidence against criteria which cover the condition, the proposed test(s), intervention, screening programme and implementation. In 2019, a UK NSC review concluded to not recommend (population) screening for osteoporosis in postmenopausal women⁸. The UK NSC recognised there was some evidence that hip fractures may be reduced by screening. But more research was needed to understand if this is correct. They stated that the direction of future research and reviews may benefit from focusing on a specific target sub-group (e.g. specific osteoporotic fracture). This was followed in 2022, by the UK NSC's functions expanding so it can now also actively consider targeted screening for high-risk groups⁹.

Previous published studies propose that the focus for further research related to screening for high fracture risk should be:

- To address the lack of data and garner the robust evidence for the most efficient and acceptable systematic screening approach for fracture risk in real-life settings^{10,11} e.g. to enhance screening uptake, the use of digital detection tools¹¹.
- How implementing systematic screening in routine care can be optimally effective and practical (i.e. facilitated and maintained), considering access to bone density scans, information provision to participants and mode of administration^{12,13}.
- To make screening programmes even more effective, evidence ways to increase participation to the programme and adherence to medication¹⁰.

For the 2024 Research and Innovation Grants Round, the ROS is challenging researchers to develop innovative proposals aligned to addressing the [UK NSC appraisal criteria for a targeted screening programme](#)¹⁴, whilst also drawing on the UK NSC 'population' review feedback⁸ and available current evidence base.

Applications that can not explicitly justify how they address at least one of the UK NSC appraisal criteria for a targeted screening programme for high fracture risk will not be considered for ROS funding.

3. What is offered

Up to £100,000 over a maximum of three years

The purpose of the grant is to support a UK osteoporosis researcher to lead a strong research team to undertake a ground-breaking and innovative project that is designed to deliver against the call's aim.

- A proposal can cover one or both: **Research** - a process of investigation with the aim of identifying generalisable new knowledge that could lead to changes to treatments, policies or care. **Innovation** - activity leading to the development and delivery of something new (e.g. processes, products, services or methods of delivery) for patient benefit with potential for impact on a national scale.
- As well as mainstream research, the charity will consider smaller scale grants towards securing further larger scale funding. Including proposal development, pilot or pump priming studies.
- The charity will only fund direct costs in line with the [Association of Medical Research Charities \(AMRC\)](#) policy. This may include: salaries (applicants, scientific/technical assistant but excluding PhD students), material and consumables, collaborative travel and essential equipment. All costs must be fully justified within the application.
- The charity will consider "top up" funding, when a grant is awarded to supplement funds that have already been secured by another funder in order to support ambitious projects.
- This scheme is not designed to cover phase II/III clinical trials and drug discovery or development.
- The charity does not fund animal research.

4. Eligibility

- Principal Applicants must be based at a university, postgraduate institute, medical school, NHS trust or Health Board in the UK or other British Islands. However, co-applicants and collaborators may be based at institutions outside the UK.
- Principal Applicants must hold an employment contract at the institution that they are applying from, which covers the proposed duration of the grant.
- Applications for any one grant round will be restricted to one per principal applicant.
- If the project requires ethical approval, the award is dependent upon the requisite approvals being granted.

Applications are encouraged from researchers at every career stage. Early Career Researchers (i.e. normally no more than five years post PhD or have not previously led a grant before) will have the opportunity during the application process to highlight the impact the grant could have on their career development.

5. How to apply

The application process consists of two stages. In the first stage an expression of interest is submitted, in the form of a short outline application. Successful applicants at this stage will be invited to Stage 2 and asked to complete a more detailed application.

Please carefully read the following before completing a full Stage 1 application:

- ROS 2024 research and innovation grants round summary (this document)
- ROS research and innovation grants application overview
- ROS research code of conduct
- ROS animals in research policy
- ROS research and innovation grant terms and conditions
- [All Party Parliamentary Group \(APPG\) 2022 inquiry report](#)⁶
- [UK NSC appraisal criteria for a targeted screening programme](#)¹⁴

Considerations for applicants:

- **Public and patient involvement:** All our grants are reviewed by people affected by osteoporosis, so we recommend involving the perspective of people affected by the condition in developing the application. A proposal should also have a clear plan for public and patient involvement and engagement, for the best chance of success.
- **Pathway to impact:** We encourage development of clear plans demonstrating the pathway to patient benefit/impact and knowledge mobilisation.
- **Support and advice for researchers:** The [UK NSC research and methodology group \(RMG\)](#) provides advice to people or research bodies that are conducting or proposing screening studies. This covers a range of methodology and impact issues aimed at supporting good quality research that has the best chance of impacting screening policy. The next submission deadline is **13 January 2025**, with the UK NSC RMG aiming to provide feedback by 24 March 2025. We would encourage all applicants to approach the UK NSC RMG to help develop their proposal. To find out more on how to request advice, please see [here](#).
- **Costings:** The indicative costs section is intended to be an approximation and does not require institutional approval at this stage. However, please ensure that the costs are realistic as large differences between Stage 1 and 2 applications may reduce the likelihood of the Stage 2 application being funded.
- **Alignment to aim of the call essential:** Pre-submission we invite applicants to contact the charity on 01761 473125 or e-mail research@theros.org.uk if they have any questions relating to whether their research proposal is within scope.

Applications must be made on the official Stage 1 application form* and must be submitted electronically to research@theros.org.uk prior to the submission deadline.

** If any formatting issues with the application form occur, please e-mail research@theros.org.uk to request an alternative version.*

6. Deadlines and key dates

- **Project Grant scheme launch: November 2024**
- **Stage 1 application submission deadline: 3 February 2025**
Applicants will be notified of a Stage 1 decision in March 2025
- **Stage 2 application submission deadline: 11 May 2025**
Applicants will be notified of a final decision in September 2025

7. Contact information

Please contact the Royal Osteoporosis Society on 01761 473125 or e-mail the charity at research@theros.org.uk if you have any questions.

8. References

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