

NCRI Bone Metastases Group Priorities 2023 - 2026



NCRI Partners

NCRI is a UK-wide partnership between research funders working together to maximise the value and benefits of cancer research for the benefit of patients and the public. A key strength of NCRI is our broad membership with representation across both charity and government funders as well as across all four nations in the United Kingdom.



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Introduction

The NCRI Groups bring the cancer research community together to develop practice-changing research, from basic to clinical research and across all cancer types, supporting NCRI's strategy. The NCRI Bone Metastases Group is a multi-disciplinary community of researchers and consumers focused on developing research to improve outcomes for cancer patients and identify areas of unmet need.

Each NCRI Group engages in a prioritisation process to identify the priority areas in its area of research (Appendix A). This process dictates the work of the group as well as providing an assessment of the state of research for the wider research community.

The NCRI Bone Metastases Group (previously a project) identified its priorities working with members of the research community and NCRI Partners.

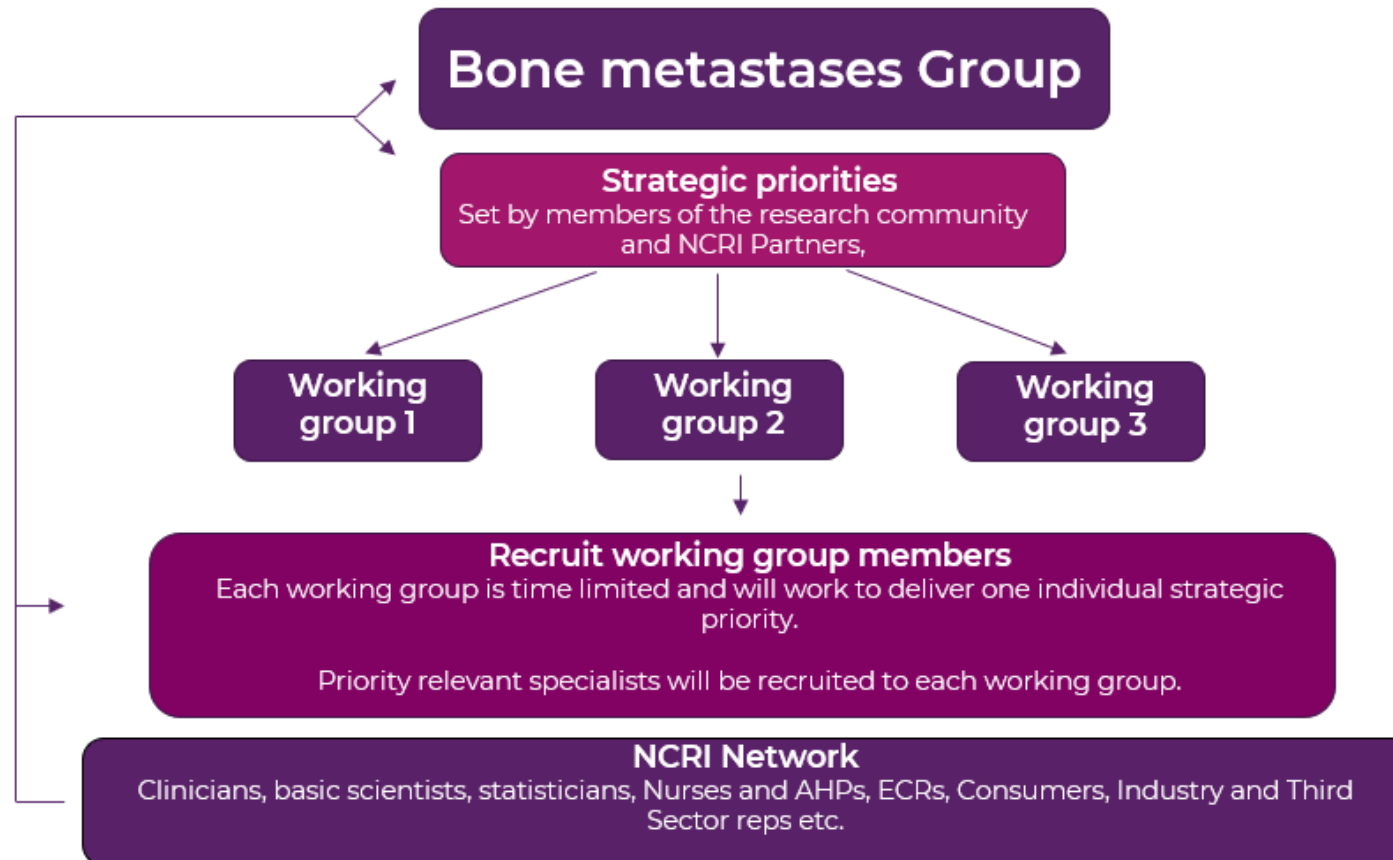
The NCRI Bone Metastases Group has identified three strategic priorities, an overview of which can be found below with full details on pages 7-8 of this document. The Bone Metastases Group will initially focus on these priorities, forming time-limited working groups to address these priorities. An overview of the NCRI Bone Metastases Group structure can be found on page 5.

The strategies of NCRI Groups will be refreshed every three years. In addition, the research landscape will continue to be routinely assessed by NCRI to ensure the most pressing questions in bone metastases research are addressed over the course of this three-year strategy.

NCRI Bone Metastases Group strategic priorities at a glance

1. Improve patient care in metastatic bone disease
2. Prevent tumour progression to bone metastases
3. Engineering support, preventing fracture and treating skeletally related events in metastatic bone disease

NCRI Bone Metastases Group structure at a glance



NCRI Bone Metastases Working Groups

Initial working groups in set up

The NCRI Bone Metastases Group has identified three strategic priorities, full details of which can be found on pages 7-8 of this document. Time-limited working groups will be set up to address the priorities for the NCRI Bone Metastases Group, each of which are outlined below.

Working group 1 - Improve patient care in metastatic bone disease.

Working group 2 - Exploiting the cellular interplay within the tumour microenvironment to prevent progression to bone metastasis.

Working group 3 - Seeking to develop new assessment tools and interventions that align with the current vision of early diagnosis and a minimally invasive approach that allows the patient to maintain a high quality of life.

NCRI Bone Metastases Group strategic priorities in full

Three priorities have been identified by the NCRI Bone Metastases Group as their focus areas.

Priority 1: Improve patient care in metastatic bone disease.

The clinical issues highlighted by specialists in metastatic bone disease (MBD) underline a lack of evidence, focus and resource. When should we intervene, how should we treat and in which sub-groups?

This clinically focused group has three priorities: Firstly, to refine the research questions for a clinically relevant and potentially practice changing trial conceivably examining novel combinations of therapies or interventions in MBD, how those therapies improve pain, function, and quality of life, or, how we screen for MBD and prevent SREs before emergency presentation.

Secondly, how should we evidence therapeutic protocols to minimise variation in clinical practice locally, regionally, and nationally. How prevalent and costly is this disease and how should we organise ourselves strategically to tackle the clinical and socioeconomic challenges the system faces.

Lastly, this clinical working group must have an awareness of the essential involvement with non-clinical scientists to develop new tools to screen, diagnose, investigate, and treat patients with MBD.

Priority 2: Prevent tumour progression to bone metastases.

One of the major challenges with bone metastasis is the difficulty in predicting which patients are at greatest risk and would benefit from early intervention. This priority aims to better understand the biology driving progression from primary tumour to bone metastasis, focusing on crosstalk between tumour cells and different cellular compartments (e.g. immune cells, bone marrow stromal cells, osteoblasts, osteoclasts, endothelial cells).

In this working group, we would seek to address several related key questions, including: how does the cellular crosstalk in the tumour microenvironment drive progression to bone metastasis, and can this be therapeutically targeted for prevention and/or utilised to identify patients at high risk of bone metastasis. This will include the development of basic science and translational studies to evaluate new approaches to detection and/or prevention of bone metastasis.

Priority 3: Seeking to develop new assessment tools and interventions that align with the current vision of early diagnosis and a minimally invasive approach that allows the patient to maintain a high quality of life.

The spine is a critical element of the human musculoskeletal system providing numerous mechanical functions that allow correct functioning of the human body across a range of activities. This mechanical focus is broadened when the interventions for reductions in bone quality consistent with bone metastases are considered and the risk of fracture becomes greater, with a significant chance of cord compression. Tools for overcoming

these challenges and the research that supports these advances depend critically on the underpinning engineering and physical sciences.

The priority for this working group is to seek to develop new assessment tools and interventions that align with the current vision of early diagnosis and a minimally invasive approach that allows the patient to maintain a high quality of life. The role of medical engineering is to work in unison with other interventions, such as radiotherapy, to deliver a holistic patient centre approach. Possible research areas include new modelling techniques to predict metastatic evolution, new mechanisms for the delivery of therapeutic agents locally in combination with other therapies and new approaches to exercise that counter the obvious risks of fracture.

NCRI Cross-cutting priority

Identify barriers resulting in a lack of diversity in clinical trials and propose solutions to improve equality, diversity, and inclusion.

Barriers resulting in a lack of diversity in clinical trials across cancer types has been raised as an issue in many of NCRI's discussions with researchers. For this reason, this priority will be addressed collaboratively in a working group comprising experts from across NCRI Groups. This priority aims to establish the reasons behind a lack of diversity in clinical trials and provide solutions to increase participation of a diverse cohort of patients in future studies. A working group will address the common issues across the board, as well as identifying cancer-type specific barriers, and produce guidelines on the steps to take to improve the inclusion of patients from a range of backgrounds into clinical trials from their inception. More details on this working group will be decided in due course.

Next steps

Working groups addressing the highlighted tasks have been formed. These groups are made up of the experts needed to address each research question.

Please [get in touch](#) if you have any questions or comments regarding this report.

Appendix A

NCRI Bone Metastases Group priority setting process



Appendix B

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