

3D digital anatomical modelling to increase patient's understanding of their diagnosis and treatment.

Project lead and organisation - Sharon Cavanagh, NCLCA

Partner organisation(s) involved – TBC

Funding requested (£) - £125,000 (estimated)

Proposed start and end dates - October 2026 – March 2029 (TBC)

Summary

This bid proposes developing and piloting interactive 3D digital anatomical models to improve cancer patients' understanding of their diagnosis and treatment. It addresses a key challenge in North Central London (NCL), where diverse populations, language barriers, and varying health literacy levels can make complex clinical information difficult to communicate effectively. Current approaches—verbal explanations, written materials, and 2D diagrams—are often insufficient, particularly for patients who prefer visual learning or do not speak English as a first language.

The project will involve co-design with patients, carers, clinicians, and a specialist software partner to create a 3D model within a selected cancer pathway. The model would help clinicians explain where a tumour is located. Activities include reviewing evidence, procuring a developer, designing and piloting the model in clinical settings, training staff, and evaluating its impact on patient understanding and experience.

Expected outcomes include improved patient comprehension, greater involvement in decision-making, increased confidence in care choices, and reduced communication barriers. The project aligns with strategic goals to reduce inequalities and improve patient experience across cancer services.

NCLCA Big Ideas Fund – Expression of Interest

Section 1 – Project Details			
Proposal title	3D digital anatomical modelling to increase patient’s understanding of their diagnosis and treatment.	Project lead and organisation	Sharon Cavanagh, NCLCA
Partner organisation(s) involved	TBC	Funding requested (£)*	£125,000 (estimated)
Proposed start and end dates*	October 2026 – March 2029 (TBC)		
Section 2 – The Idea			
1. What is the challenge you are seeking to address?*			
<p>NCL is one of the most diverse areas in England. Around one in four residents do not have English as their first language, and many patients require interpretation support during their cancer care. Health literacy levels also vary significantly across our population.</p> <p>Understanding a cancer diagnosis, where the cancer is located, how treatments work, and the potential effects of treatment is essential for informed decision-making. However, the anatomical, clinical and treatment related information can be complex. Patients, carers and interpreters frequently report difficulties in communicating and grasping this information, particularly when discussions involve medical terminology.</p> <p>Current approaches to information provision rely on verbal consultations and sharing/signposting to written materials or two-dimensional diagrams. These methods can be less effective for people with lower health literacy, those whose first language is not English, and individuals who prefer visual ways of learning. Feedback from NCLCA patients, carers and stakeholders consistently highlights the need for more accessible ways of explaining cancer and treatment options. One NCLCA Carer Partner described their experience: <i>"As a nursing student, I had to sit with my relative, who did not speak English, and use an anatomy textbook to translate information and show pictures so she could understand where her cancer was and what would be removed during surgery."</i></p> <p>A clear understanding of diagnosis and treatment options can help patients feel more informed and involved in their care, and confident in managing their health and wellbeing throughout the cancer pathway.</p>			
2. What is your proposed project and – at a high level – how would it be delivered?	<p>This project will work with patients, carers, clinicians and a specialist software development partner to develop and pilot interactive 3D digital models within an agreed cancer pathway. The models will help clinicians explain where a tumour is located, how it relates to surrounding anatomy, and the potential impact of different treatment options.</p> <p>The project will:</p> <ul style="list-style-type: none"> • Review relevant evidence, existing solutions and potential suppliers. • Procure a specialist software development partner. • Co-design and develop a 3D anatomical model within a selected tumour pathway. • Pilot the model in clinical practice and develop supporting training resources. • Evaluate feasibility, acceptability and impact on patient understanding, experience and involvement in decision-making. 		

Submit by 25 June 2026. Only NCLCA colleagues may submit.

- Produce recommendations and a scalable implementation framework for wider adoption across NCL, subject to successful evaluation and future investment.

Section 3 – Impact & Strategic Alignment

3. Which NCL strategic objectives and/or National Cancer Plan ambitions does your project align with?

SO4a. Continually reduce inequalities across the whole cancer pathway until services are on par across our population
SO2a. Continually improve our performance in the National Cancer Patient Experience Survey to be in the top quartile nationally.

4. What impact do you expect the project to have on NCL cancer outcomes and/or patient experience?

Expected impacts include:

- Improved patient understanding of their diagnosis and treatment options.
- Increased involvement in decisions about treatment and care.
- Greater confidence in treatment/care choices and self-managing health and wellbeing
- Improved understanding of what will happen during and after treatment.
- Reduced communication barriers for patients and carers.
- Improved experience of care for patients, carers and clinicians.

The project supports improvements in NCPES measures relating to involvement in decisions about treatment and care, understanding treatment options, understanding benefits and risks of treatment, and receiving information about what to expect during treatment.

Section 4 – Resources

5. What do you see as the likelihood of attracting external funding?

Potential of additional funding from Macmillan or digital modelling providers

6. High-level indication of how the budget would be used*

- Procurement and customisation of a digital 3D anatomical modelling solution.
- Partnership with a specialist software development company.
- Patient, carer and interpreter co-design activities.
- Clinical training and implementation support.
- Evaluation, impact measurement and business case development.
- Project management.

Section 5 – Anything Else

7. Is there anything else you would like to flag?

This Big Idea has been proposed by Kaynath Rahman, a member of NCLCA Patient and Carer Network.