



The H3 (home-hospital-home) study: a non-randomised feasibility intervention study investigating a digitally enabled colorectal cancer peri-operative pathway

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Public Summary:

There are currently 3 million people living with cancer, in 2040 this will have risen to 5.3 million people.

Cancer and cancer treatments reduce a person's physical health, an effect that has a critical impact on both their ability to recover from cancer and also and their ongoing wellbeing.

Maintaining physical activity whilst living with cancer is increasingly recognised as a crucial intervention to improve outcomes. Not only improving physical health, but also equipping individuals with a sense purpose and psychological resilience.

The "Home-to-Hospital-to-Home (H3) study, first explored the needs of patients preparing for and recovering from colorectal cancer surgery.

Using this information, we developed a digital resource using smartwatches and a website that supported patients to be more active before surgery and also assist with the rehabilitation process.

The effectiveness of this digital resource was assessed by monitoring usage of the smartwatch along with questionnaires and interviews.

The study revealed that patients valued receiving advice and support to become more physically active. Most, but not all, patients found the smartwatch a useful way to monitor and increase their daily physical activity.

The knowledge gained from this study is being used to develop further resources in a range of formats to support patients in preparing and recovering from surgery.



Public and Community Involvement:

Through the use of patient interviews as part of the study design we were able to incorporate patient feedback in to the design of the intervention and then gain detailed reports from patients on the experience of using the smartwatch and website.

We have subsequently submitted 2 grant applications to develop more prehabilitation and rehabilitation resources using the knowledge gained from the study. These grants were written in collaboration with our patient and public research champions.

Dissemination:

Preliminary results have been shared with our patient and public research champions to explore how this research can be developed further. In addition the results have been shared with local healthcare partners to promote the value of developing more support for surgical patients.

The work has been presented locally at the Sussex Clinical Academic Conference and Brighton and Sussex Health Research Partnership and presented internationally at the Enhanced Recovery After Surgery World Congress (2023).

Impact and Implementation:

These results demonstrate that many patients would benefit from increasing their physical activity prior to colorectal cancer surgery.

Work is now ongoing to support patients to be more physically active before surgery.

This will be achieved through developing resources to support patients to become more physically active. We are working with local hospitals to develop these resources.

In addition we have engaged with local public health teams to identify how we can effectively identify and signpost patients awaiting surgery to existing services that provide healthy lifestyle support.

Publications

Mundy J, Leckie T, Millard J, Colucci G, Hodgson L. "Feasibility of Integrating Physical Activity Prehabilitation into an Established Enhanced Recovery after Surgery (ERAS) Colorectal Cancer Pathway." *Clinical Nutrition ESPEN* 57 (Oct 2023): 811. DOI: <https://doi.org/10.1016/j.clnesp.2023.06.122>

What next?

Develop more resources to support patients to become more physically active to prepare for surgery and assess the effectiveness of these resources in future studies.