

Technology-Based Prehabilitation for Cancer Patients Before Elective Treatment: A Scoping Review

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DECLARATIONS OF INTEREST

The research shared today was conducted for a postgraduate clinical research degree dissertation project.

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**Please feel
free to take
pictures
during this
presentation.**

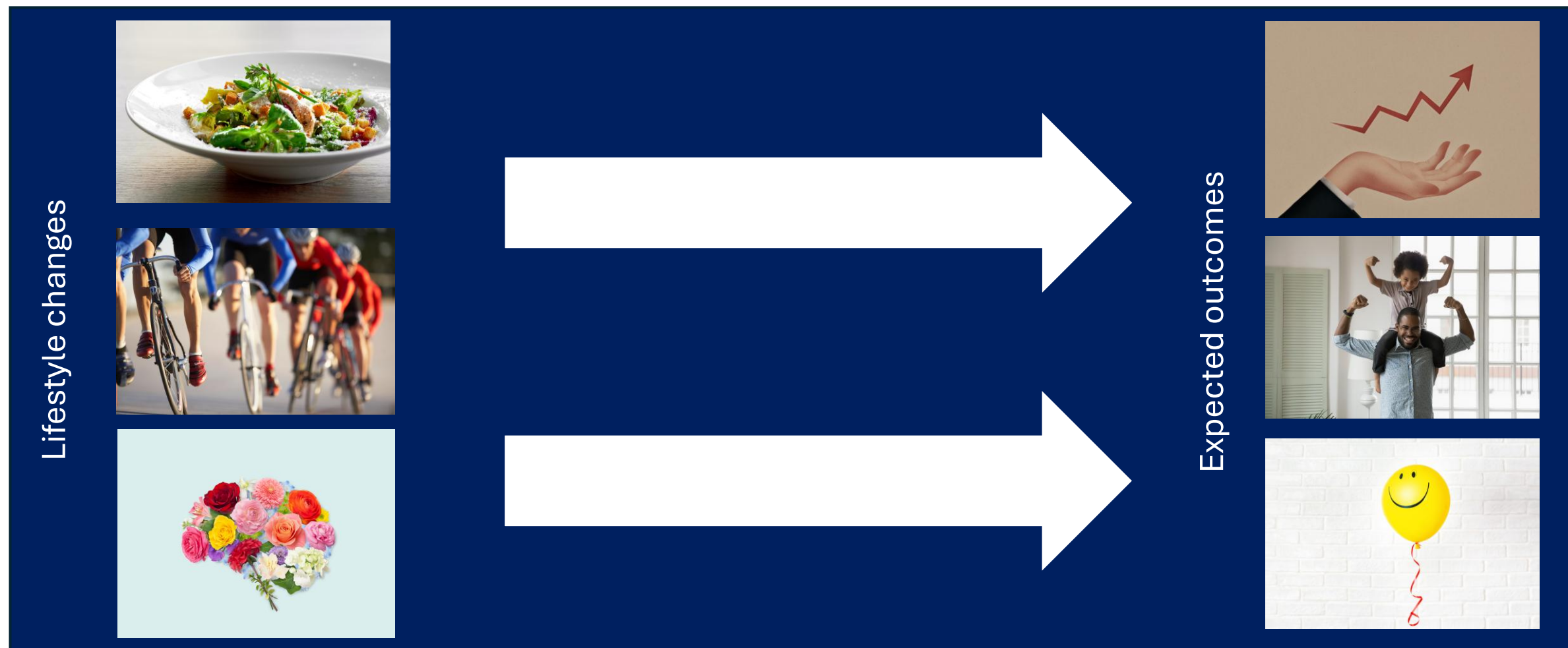


Who am I?

- My name is **Grace Woods**.
- I qualified as a **Therapeutic Radiographer** at the University of Liverpool in 2023 and have been working for Lancashire Teaching Hospitals in the Rosemere department.
- I recently completed my masters in Clinical Research at Lancaster University.
- **Fun fact:** I am a member of a brass band, and I play an instrument called a baritone.



What is Prehabilitation?



The JLA states that identifying lifestyle changes and support for cancer patients' recovery as a **research priority**.

Why use Technology?

Problem:

- Traditional prehab models require face-to-face appointments limiting accessibility and engagement due to costs and time.
- Socioeconomic, cultural, and health literacy inequalities massively impact patients' ability to complete prehab interventions.

Technology:

- The use of health technology is growing.
- It provides an alternative accessible prehab programme for patients and empowers them to monitor and improve their health.
- Current evidence is unclear in the effectiveness of technology-based prehab.



Aims

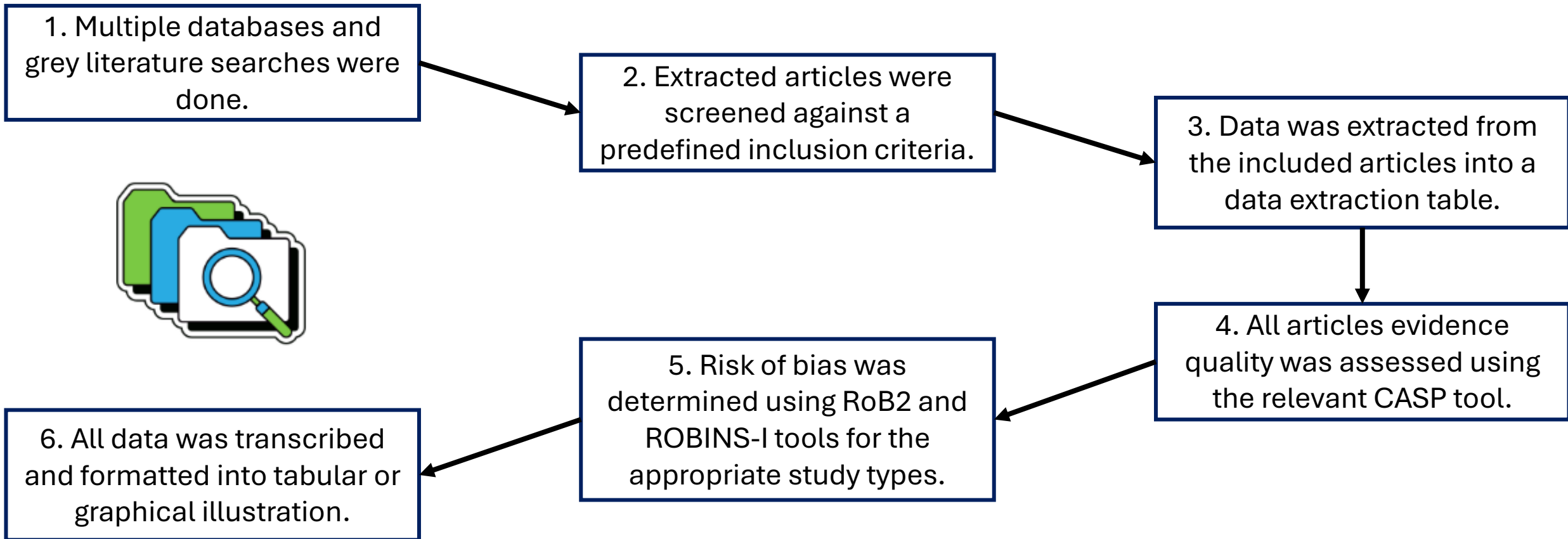
To map and synthesise the evidence on technology-based prehabilitation interventions for cancer patients, to identify the current key gaps in the evidence, the intervention designs, and determine the feasibility, acceptability, and accessibility based on patient outcomes.

Objectives:

- Identify current technology used (e.g., smartwatches, app, VR, etc).
- Identify the intervention characteristics (e.g., type of interventions used, timing in treatment pathway, patient population, etc).
- Assess feasibility and acceptability outcomes.
- Assess reported patient outcomes (e.g., quality of life, physical function, mortality, etc).
- Explore equity and accessibility factors.
- Identify knowledge gaps and future research priorities

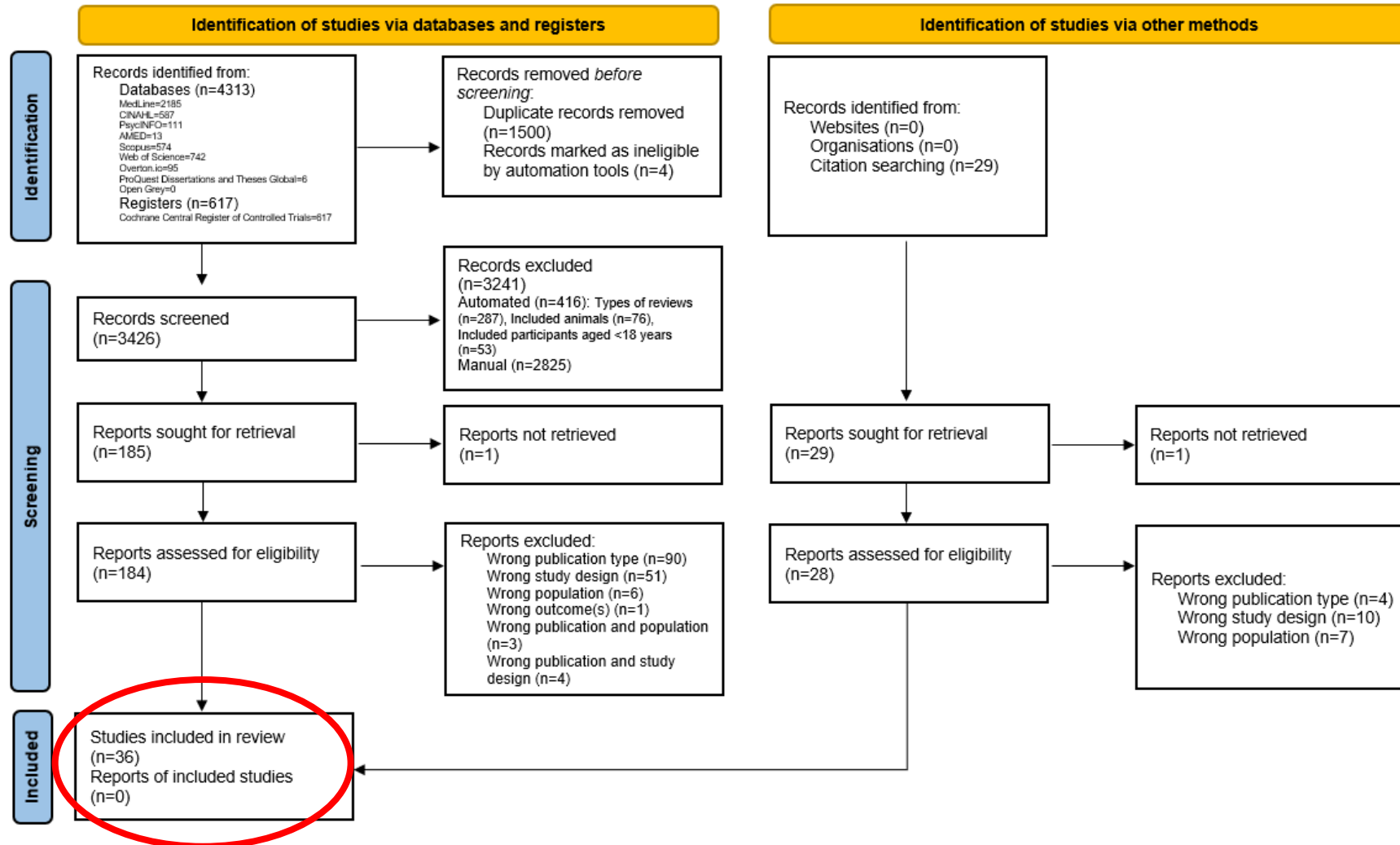
Methodology

A scoping review was conducted in accordance with JBI Manual for Evidence Synthesis in combination with the PRISMA-ScR guidelines.



Results

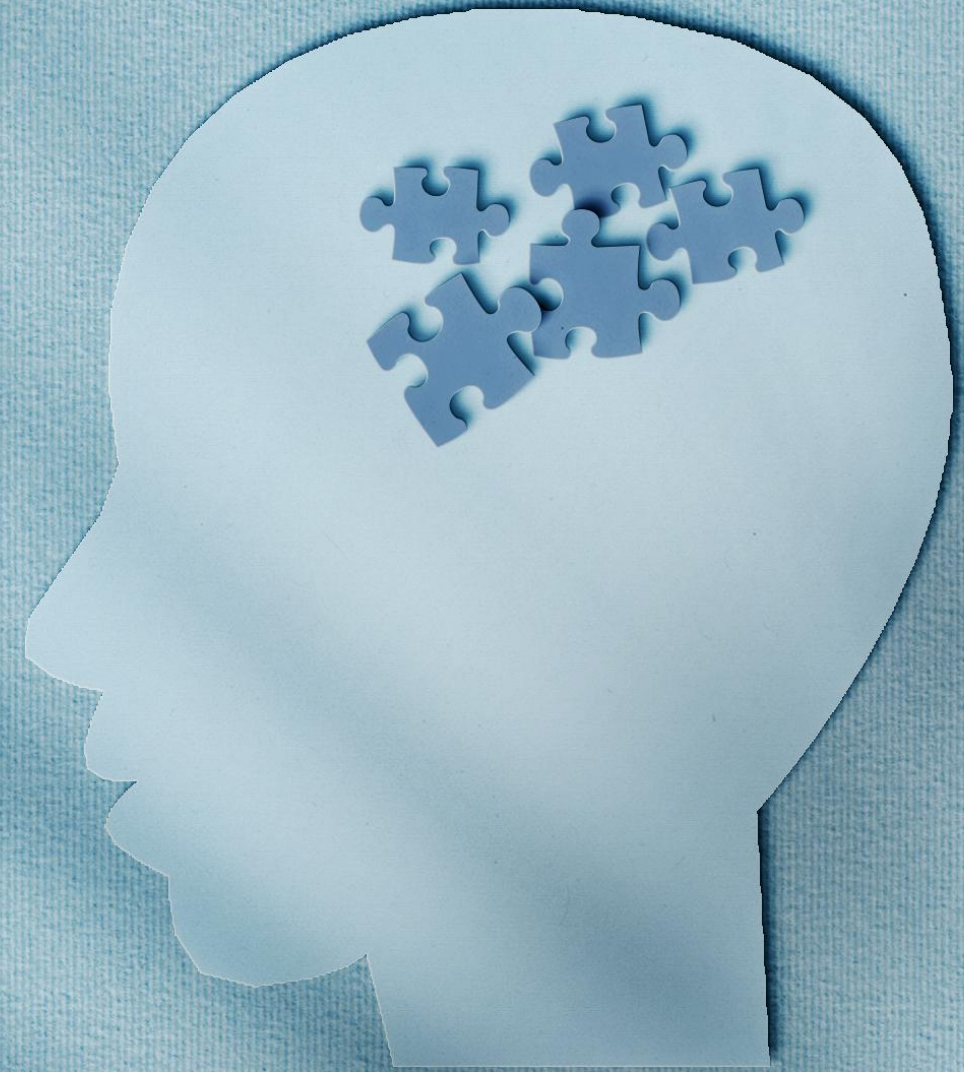
PRISMA 2020 flow diagram for new systematic reviews which included searches of databases, registers and other sources



A total of **36 articles** were included for analysis.

Results - key findings

- **No studies** discussed prehab for **radiotherapy** pathways or recruited **palliative** patients.
- **Most studies** were conducted in the **UK**. (19%).
- **High patient satisfaction** ratings (ranged between 60–100%).
- Statistically significant **improvements in physical function** reported.
- **Recruitment** rates varied (**range: 43–100%**), though most studies reported rates **above 70%**.
- **Reduced readmission** rates after treatment.



Results - current challenges

- **Serious-to-moderate quality RoB, and moderate methodological quality.**
- Many studies reported **limited demographic diversity**, with samples predominantly comprising white, educated participants and single-centre populations.
- **Outcomes measured** were **heterogenous**.
- **Most** studies and outcomes reported were **feasibility based**.

Implications to Practice

There is a **lack of current research** for **other cancer-related treatment pathways**. The lack of prehab research within these pathways **cannot be ignored** when **considering implementation**.

All studies **excluded palliative patients**, highlighting a massive gap in the current evidence base.

The **NHS 10-year plan** states that **wearables** will be **standardised care by 2035**. This highlights the importance of technology-based prehab research within oncology care.

The patient demographic of cancer patients within the UK is **predominately aged over 75 years**. Future research must ensure that it is **adaptable to older age groups**.

Summary

- Technology-based prehab has **the potential to improve** access to supportive cancer care and support patients before and during treatment.
- The evidence base **remains limited** by methodological quality, heterogeneity, limited diversity, and a lack of evidence around long-term implementation.
- There is a **need to conduct large scale, multicentered research**, and need to ensure future research addresses digital literacy, cultural, and socioeconomic barriers.



Thank you for listening!

Any questions?