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A study to test an exercise and self-management application for people living with lung cancer

Submission date 10/02/2026	**Recruitment status** No longer recruiting	[_] Prospectively registered [_] Protocol [_] Statistical analysis plan [_] Results [_] Individual participant data [X] Record updated in last year
Registration date 19/02/2026	**Overall study status** Completed	
Last Edited 16/02/2026	**Condition category** Cancer	

Plain English summary of protocol

Background and study aims

Lung cancer is one of the most common cancers worldwide and remains the leading cause of cancer-related death. Although treatments and early diagnosis have improved, many people living with lung cancer experience ongoing symptoms such as fatigue, breathlessness, and low mood. These symptoms can significantly affect physical function and quality of life.

Regular physical activity and exercise can help improve these symptoms and overall well-being. However, many people with lung cancer find it difficult to access or maintain exercise and rehabilitation programmes due to travel difficulties, health limitations, or other practical barriers. Digital health technologies, such as mobile and web-based applications, may offer a flexible and accessible way to support self-management and physical activity at home.

Researchers at Oxford Brookes University have co-developed a new digital self-management app specifically for people living with lung cancer, building on earlier pulmonary rehabilitation and exercise apps. The aim of this study is to test a beta version of the HandHeld Health Lung Cancer App to assess its acceptability and feasibility. The study will explore whether using the app can improve physical functioning, symptom management, health-related quality of life, and engagement in physical activity.

Who can participate?

Patients aged 18 years and over living with lung cancer who can use a smartphone, tablet, or computer, and are interested in using a digital app to support physical activity and self-management of symptoms. Additional eligibility criteria will be considered by the research team to ensure that participation is appropriate and safe.

What does the study involve?

Participants will be asked to use the HandHeld Health Lung Cancer App over a defined study period. The app enables users to record symptoms and physical activity, receive personalised exercise recommendations, and monitor changes in activity levels and symptoms over time. Participants will also be asked to complete questionnaires assessing health-related quality of

life, digital proficiency, and symptom burden, and to complete physical functioning assessments at study visits. Participants will be invited to semi-structured interviews to provide feedback on their experience of using the app to inform further development and optimisation.

What are the possible benefits and risks of participating?
Potential benefits include improved self-management of symptoms, increased engagement in physical activity, greater awareness of physical functioning and wellbeing, and contribution to the development of a digital self-management intervention tailored to people living with lung cancer.
The risks associated with participation are expected to be minimal. Engagement in exercise-based activities may cause mild fatigue or discomfort, similar to that experienced during routine physical activity. The app is designed to promote safe and appropriate activity, and participants are encouraged to exercise within their individual capabilities. Participants will be advised to seek support from their usual healthcare team should any concerns arise.

Where is the study run from?
The study is sponsored by Oxford Brookes University. Study visits will occur at the Headington Campus Oxford Brookes University, Oxford OR Southmead Hospital, North Bristol NHS Trust, Bristol.

When is the study starting and how long is it expected to run for?
September 2024 to July 2025

Who is funding the study?
1. Oxford Brookes University (UK)
2. North Bristol NHS Trust (UK)

Who is the main contact?
Suriya Kirkpatrick, 19228607@brookes.ac.uk

Contact information

Type(s)
Principal investigator, Public, Scientific

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Additional identifiers

Integrated Research Application System (IRAS)
333306

Research Registry
10619

Study information

Scientific Title
A study to assess the feasibility of an exercise-based digital self-management platform for people living with lung cancer

Acronym
LungFit

Study objectives
Primary objectives:
1. To measure participant uptake to a digital platform designed to empower them to self-manage their condition
2. To evaluate participant adherence to the exercise plan over an 8-week period
3. To assess acceptability and usefulness of the digital platform
4. To identify any barriers and facilitators to using an exercised based digital platform for people with lung cancer

Secondary objectives:
1. To identify any potential safety issues for patients in using the digital platform
2. To explore whether a structured exercise based digital intervention has the potential to support a person diagnosed with lung cancer to increase their level of physical activity, health related quality of life and common symptoms of lung cancer, breathlessness, fatigue, and depression
3. To evaluate the feasibility of the outcome measures for the population under study

Ethics approval required
Ethics approval required

Ethics approval(s)
Approved 29/08/2024, HRA Seasonal REC (2 Redman Place Stratford, London, E20 1JQ, United Kingdom; Not available; seasonal.rec@hra.nhs.uk), ref: 24/LO/0590

Primary study design
Interventional

Allocation
Non-randomized controlled trial

Masking
Open (masking not used)

Control
Uncontrolled

Assignment
Single

Purpose
Device feasibility, Health services research, Supportive care

Study type(s)

Health condition(s) or problem(s) studied
Lung cancer

Interventions
Participants in this study will receive access to the HandHeld Health (HHH) lung cancer app from weeks 1 to 8. The app includes a bespoke exercise recommendation, useful information on increasing physical activity and management of common symptoms of breathlessness, fatigue, and depression.

From week 0 to week 1 baseline activity data will be collected using the fitness tracker. During weeks 1-8 the participant will be encouraged to access the exercise prescription at least 3 times a week to complete the strength-based exercises and log any additional activity they might undertake. Patients will be followed up weekly (from baseline to week 9) by the lead researcher- to answer any questions/concerns, ensure the activity diary is being completed, troubleshoot any technology issues and undertake safety assessments. Baseline, end of weeks 4 and 9 follow up will be carried out face to face. In exceptional circumstances, where a participant is unable to attend the face-to-face visit at week 4 or 9, a remote visit will be conducted via telephone or Zoom. However, some functional assessments and vital signs will not be completed.

Intervention Type
Device

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
HandHeld Health Lung Cancer Application (HHH-LC App)

Primary outcome(s)
1. Participant uptake of the digital platform, including the number of participants approached, number of participants consented, screened, screen failed and the number that completed the study, measured using the screening log at throughout the study

2. Adherence to the recommended exercise program measured using in app data on compliance at weeks 1-8 on study

3. Acceptability of the HHH-LC App measured using qualitative interviews at week 12

4. Barriers and facilitators to using the platform measured using qualitative review at week 12

Key secondary outcome(s)
1. Potential safety issues for patients in using the digital platform measured using safety log for all participants recruited to the study and accessing the application at weeks 0-12

2. Physical functioning measured using functional assessment (sit to stand, 6-minute walk test, hang grip) at baseline, week 4 and week 9

3. Quality of life measured using European Organisation for Research and Treatment of Cancer Core Quality of Life Questionnaire (QLQ) C30 and LC13 at baseline, week 4 and week 9

4. Fatigue and anxiety symptoms measured using Hospital Anxiety and Depression Scale (HADS) and Functional Assessment of Chronic Illness Therapy (FACIT) at baseline, week 4 and week 9

5. Feasibility of the outcome measures measured using completion rates of all measures at baseline, week 4 and week 9

Completion date
31/07/2025

Eligibility

Key inclusion criteria
1. Aged ≥18 years
2. Confirmed diagnosis of primary lung cancer
3. English speaking to enable engagement with the app and completion of study questionnaires
4. Able to provide written informed consent
5. Eastern Cooperative Oncology Group (ECOG) performance status ≤1
6. Has access to a smart device with secure internet connection

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
18 Years

Upper age limit
99 Years

Sex
All

Total final enrolment
30

Key exclusion criteria
1. A medical reason for the patient not to take part (e.g. other comorbidities, cognitive impairment) or not recommended by their responsible clinician
2. Requiring oxygen at rest or on exertion
3. Enrolled in another interventional clinical trial
4. ≤6 weeks following surgery for lung cancer
5. ≤6 weeks since last radiotherapy
6. Presence of brain or bone metastases
7. Falls risk using Falls Risk Assessment Tool (FRAT) ≤11
8. Rockwood frailty score ≤5

9. Active fever or infection
10. New angina or new cardiac problems
11. New blood clotting issue like a DVT or pulmonary embolism
12. Refused next cycle of chemotherapy or immunotherapy due to a low blood count
13. New shortness of breath at rest
14. Presence of open wounds
15. Recent epilepsy, blackouts, fainting or change in normal blood pressure readings
16. Dizziness or unsteadiness at rest or when standing
17. Nausea or vomiting or diarrhoea in the past 48 hours
18. Unusual sudden weakness
19. A change in vision or hearing
20. New persistent or severe headaches/migraines
21. New pain (new or recent bone, back or neck pain)

Date of first enrolment
02/09/2024

Date of final enrolment
30/04/2025

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Oxford Brookes University
Gipsy Lane
Oxford
England
OX3 0BP

Study participating centre
North Bristol NHS Trust
Southmead Hospital
Southmead Road
Westbury-on-trym
Bristol
England
BS10 5NB

Study participating centre

Oxford University Hospitals
John Radcliffe Hospital
Headley Way
Headington
Oxford
England
OX3 9DU

Sponsor information

Organisation
Oxford Brookes University

ROR
https://ror.org/04v2twj65

Funder(s)

Funder type

Funder Name
Oxford Brookes University

Alternative Name(s)

Funding Body Type
Private sector organisation

Funding Body Subtype
Universities (academic only)

Location
United Kingdom

Funder Name
North Bristol NHS Trust

Alternative Name(s)
NBT

Funding Body Type
Government organisation

Funding Body Subtype
Local government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available