ISRCTN74752525 https://doi.org/10.1186/ISRCTN74752525

Will using a low-threshold faecal immunochemical test compared to the higher-threshold test used in the Bowel Cancer Screening Programme reduce the number of bowel cancer cases?

Submission date
02/10/2020

Recruitment status
Stopped

Registration date
09/10/2020

Overall study status
Stopped

Last Edited
13/02/2025

Condition category
Cancer

[X] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[ ] Results
[ ] Individual participant data
[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
The NHS Bowel Cancer Screening Programme (BCSP) offers a stool test every 2 years which checks for the presence of blood as this may indicate bowel cancer or something that may develop into cancer over time. From June 2019, the BCSP began using a new stool test called FIT, which quantifies how much blood, if any, is present. If the FIT result gives a level above a certain number or threshold, the patient is referred for a more invasive examination. This threshold can be set at any level, but in general, the lower the FIT threshold, the more sensitive the test, resulting in more bowel cancers being detected. Therefore, the optimal FIT threshold must balance the benefits of detecting potential cancers early versus the risk and costs of undergoing more invasive investigations.
The main aim of this study is to determine if using a low-threshold FIT compared to the higher-threshold FIT used in the BCSP will reduce the number of bowel cancer cases. This is important because if the study shows that low-threshold FIT reduces the number of bowel cancers and subsequent deaths, and is cost-effective, a strong case could be made to lower the FIT threshold used in the BCSP. This would mean that everyone taking part in screening would benefit from a more sensitive test.

Who can participate?
Men and women aged 60-66 who are eligible for FIT screening through the English BCSP

What does the study involve?
Participants will be recruited through the BCSP and randomly allocated to either a low- or the standard higher-threshold FIT used in the BCSP. Recruited participants will complete their bowel cancer screening as normal. Over a 10-year period, the researchers will examine data from up to five FITs per person to determine how much more effective low-threshold FIT is at reducing the number of bowel cancers and subsequent deaths from this disease.

What are the possible benefits and risks of participating?
For those participants allocated to a low-threshold FIT, there is the potential of detecting and treating a precancerous lesion or cancer at an earlier time due to the use of a more sensitive test. There are minimal risks for participants as they are not being exposed to novel or experimental products or procedures. Participants assigned to the low-threshold FIT are more likely to be referred for an invasive examination, such as a colonoscopy, as this threshold is more sensitive than the higher, usual-care, threshold. Colonoscopies are a safe examination performed routinely within the BCSP for a positive stool test by a registered screening specialist practitioner and the risks associated with colonoscopy are extremely low. Additionally, the low threshold for the FIT has been applied as standard in screening programmes in other countries. The Data Safety Monitoring Committee (DSMC) will regularly review and monitor reported adverse events throughout the duration of the study to assess and ensure the continued safety of participants.

Where is the study run from?
Imperial College London (UK)

When is the study starting and how long is it expected to run for?
April 2020 to April 2038

Who is funding the study?
Cancer Research UK

Who is the main contact?
Prof. Amanda Cross
amanda.cross@imperial.ac.uk

Contact information

Type(s)
Scientific

Contact name
Prof Amanda Cross

ORCID ID
http://orcid.org/0000-0002-0893-2377

Contact details
Imperial College London
St Mary's Campus
Norfolk Place
London
United Kingdom
W2 1PG
+44 (0)20 7594 3401
amanda.cross@imperial.ac.uk

Additional identifiers

EudraCT/CTIS number
Nil known

IRAS number
279464

ClinicalTrials.gov number
Nil known

Secondary identifying numbers
20SM5904, IRAS 279464

Study information

Scientific Title
Double-blind, population-based, randomized controlled trial of a low-threshold faecal immunochemical test versus the usual care test in reducing colorectal cancer incidence within the Bowel Cancer Screening Programme

Acronym
FIT for Screening

Study objectives
To determine whether screening with low threshold (20 µg/g) FIT can reduce incidence rates of colorectal cancer (CRC).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 13/11/2020, London - Surrey REC (Nottingham Centre, The Old Chapel, Royal Standard Place, Nottingham, NG1 6FS, UK; +44 (0)2071048088, (0)2071048102, (0)2071048388; surrey.rec@hra.nhs.uk), ref: 20/LO/1188

Study design
Double-blind population-based nationwide randomized controlled trial with a parallel-arm design

Primary study design
Interventional

Secondary study design
Randomised controlled trial

Study setting(s)
Other

Study type(s)
Screening

Participant information sheet

Not applicable

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

Interventions
Assignment to either the intervention or control group will occur at the invitation to screening. The BCSS programming will be modified so that one in every 40 invitations within the eligible age range will be allocated to the intervention arm in order to spread out the additional colonoscopies that will be required. As the order of invitations are not affected by subject demographics, and the protocol for the intervention and control arms is the same until after the return of the FIT, allocation to either arm will not be influenced by age, sex, screening history or index of deprivation and will effectively be random. Participants, screening centres, and endoscopists will be blinded to allocation. Five invites in each block of 40 invitations will be allocated to the trial, four to the control arm and one to the intervention arm. Only individuals who return a valid FIT kit at the first round will be enrolled in the trial.

All participants will receive the same FIT device as is sent out through the BCSP. The device will be sent inside a box, which also contains the screening invitation letter and instructions for using the device. BCSP invitees are asked to collect a single faecal sample using the FIT device, record the sample collection date on the kit and post it immediately to their designated screening hub, in prepaid, addressed envelopes.

For the intervention group, a FIT threshold of 20 µg/g will indicate positivity at the first and up to five subsequent rounds of FIT screening. For the control group, the FIT threshold that will be used as standard practice in the BCSP, currently 120 µg/g, will be applied. Participants with a faecal Hb concentration above their assigned threshold will be referred to an SSP for endoscopy; the referral process will be identical for each trial arm and is the standard process for the NHS BCSP.

The trial will be conducted over a 10-year period, running over five biennial screening rounds. The study period of 10 years will allow the researchers to examine the effects of multiple FIT screening rounds. Trial follow-up will continue for an additional 5-year period, to permit sufficient cases to accrue to examine the effect on CRC mortality.

Intervention Type
Other

Primary outcome measure
The number of new cases of CRC diagnosed in participants who underwent at least one round of FIT screening, measured using screening outcomes during 10 years of follow-up

Secondary outcome measures
1. The number of CRC deaths in participants who underwent at least one round of FIT screening, measured using screening outcomes during 15 years of follow-up
2. The number of participants who a) returned a valid FIT kit, b) tested FIT positive and c) attended a diagnostic endoscopy at five biennial screening rounds over a 10-year period
3. Faecal Hb concentration measured using FIT kit at five biennial screening rounds over a 10-year period
4. The number of lesions (polyps, all adenomas, AAs, CRC) detected and their diagnostic data including number, location, size, dysplasia, histology, and stage, measured using screening

outcomes at five biennial screening rounds over a 10-year period
5. The cumulative number of endoscopies carried out, including follow-up surveillance, measured using screening outcomes at five biennial screening rounds over a 10-year period
6. The predictive power of faecal Hb concentrations measured using FIT kit at earlier rounds on faecal Hb concentrations and colonoscopy outcomes at five biennial screening rounds over a 10-year period
7. The number of adverse events reported by the BCSP at five biennial screening rounds over a 10-year period
8. Costs and cost-effectiveness of low- versus higher-threshold FIT, measured using surveillance cost, Quality-Adjusted Life Years (QALYs) and cost per QALY at 15 years of follow-up

Overall study start date
01/04/2020

Completion date
01/04/2038

Reason abandoned (if study stopped)
Lack of staff/facilities/resources

Eligibility

Key inclusion criteria
Men and women aged 60-66 years at recruitment who are eligible for FIT screening through the English BCSP

Participant type(s)
All

Age group
Adult

Lower age limit
60 Years

Upper age limit
66 Years

Sex
Both

Target number of participants
190,566 (38,113 intervention: 152,453 control)

Key exclusion criteria
1. Any individual who has opted-out of their data being used for research purposes. These individuals would be included in our initial invited population; however, we would not receive any of their data as NHS Digital removes all personal confidential information on national data

opt-outs before datasets are shared
2. Individuals who were allocated to the intervention arm of the BCSP FIT pilot study
3. Individuals who are eligible to be screened but have opted-out of being invited to be screened

Date of first enrolment
01/01/2025

Date of final enrolment
01/03/2026

Locations

Countries of recruitment
England

United Kingdom

Study participating centre
Cancer Screening & Prevention Research Group
Imperial College London
St Mary's Campus
Norfolk Place
London
United Kingdom
W2 1PG

Sponsor information

Organisation
Imperial College London

Sponsor details
Clinical Research Governance Office
G02
Sir Alexander Fleming Building
South Kensington campus
London
England
United Kingdom
SW7 2AZ
-
becky.ward@imperial.ac.uk

Sponsor type
University/education

Website
http://www3.imperial.ac.uk/

ROR
https://ror.org/041kmwe10

Funder(s)

Funder type
Charity

Funder Name
Cancer Research UK

Alternative Name(s)
CR_UK, Cancer Research UK - London, CRUK

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
United Kingdom

Results and Publications

Publication and dissemination plan
Planned publication in a high-impact peer-reviewed journal. The study protocol is not yet published or available.

Intention to publish date
01/04/2037

Individual participant data (IPD) sharing plan
The data-sharing plans for the current study are unknown and will be made available at a later date.

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
HRA research summary			28/06/2023	No	No