Queen Mary
University of London
Medicine and Dentistry

Intention to have blood-based multi-cancer early detection (MCED) screening – a cross-sectional population-based survey in England

Ninian Schmeising-Barnes, Prof. Jo Waller, Dr Laura Marlow

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Disclosure

GRAIL, LLC, are funding the project, which includes all study costs.

The product discussed in this presentation has a CE and a UKCA mark and will be used within its intended use.

In the US, the Galleri test is an Investigational Device and limited by Federal (or US) law to investigational use. A description of this clinical trial is available on www.ClinicalTrials.gov as required by United States (US) Law.

Background

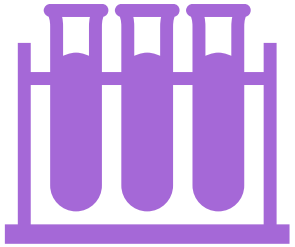
Trials are underway to assess the clinical utility of multi-cancer early detection (MCED) blood tests in asymptomatic individuals.[1]

MCED blood tests represent a new form of screening[2]. Understanding acceptability is key to predict engagement, uptake and success of any possible future screening programme.

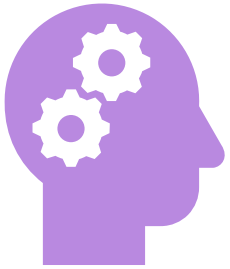
We sought to understand public acceptability of MCED blood test screening and potential barriers and facilitators to participation.

1. Neal et al. Cancers 2022;14(19):4818. doi: 10.3390/cancers14194818.
2. Marlow et al., Lancet Oncology 2022;23(7):837-839. doi: 10.1016/S1470-2045(22)00161-9.

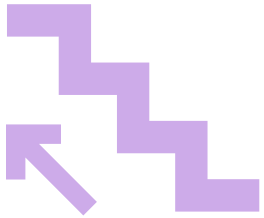
Objectives:



To estimate the proportion of people in a population-representative sample with positive hypothetical intentions to have an MCED test.

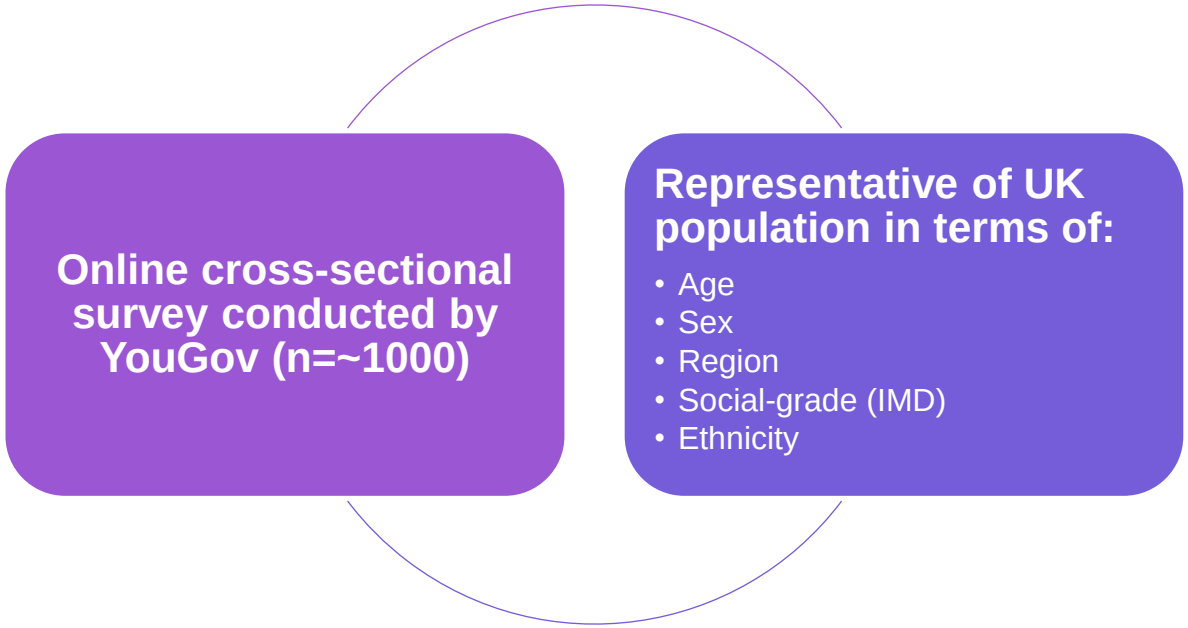


To explore socio-demographic and psychological predictors of hypothetical intention to have an MCED test



To identify the most common potential barriers and facilitators to MCED screening

Methods



Inclusion:

- Men and women
- Aged 50-77

Exclusion:

- Cancer diagnosis in last 3-years
- Participating in the NHS-Galleri trial (NCT05611632)

Please read the following:

This survey is about your thoughts on a new blood test that looks for a range of cancer. This type of test looks for cancer markers in a blood sample. This is called a Multi Cancer Early Detection (MCED) blood test.

This test would be a normal blood test. A health professional would take a small tube of blood and send this to a lab for testing.

This would be a screening test for health people without symptoms. The test would be used alongside existing cancer screening.

If cancer markers are found, you would need to have follow up tests at the local hospital to see if you have cancer. About half of the people who are sent for further tests are expected to have a cancer found.

The arrow will appear for the next page in 15 seconds.

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found.

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Please read the following:

If a cancer marker is found in your blood, you would need to have follow-up tests (e.g. scans) at a local hospital to see if you have cancer.

Imagine that 200 people have this test:

- 2 out of 200 people will have a cancer marker found in their blood.
- 1 of these would have cancer diagnosed after further tests and 1 would not.

(This is an estimate, we do not know exactly how these tests will perform yet).

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Outcomes and survey items

Primary outcome: hypothetical intention to have MCED screening

"If you were offered a blood test that looks for a range of cancers, would you have it?"

2 time points:

1. Initial intention – immediately after basic information

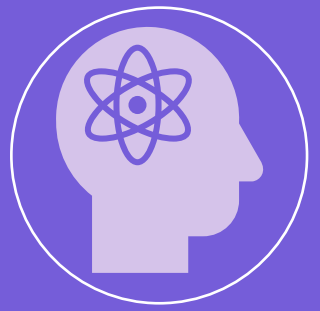
2. Considered intention – after having read some more detailed information and being asked to consider barriers and facilitators

Outcomes and survey items

Secondary outcomes

Socio-demographics

- Age
- Ethnicity
- Social grade
- Region
- Marital status
- Sex
- Education
- Employment status
- Previous screening behaviour



Cancer attitudes

- Cancer risk perception
- Attitudes to overdiagnosis
- Cancer fatalism
- Attitudes to screening

Barriers to MCED screening

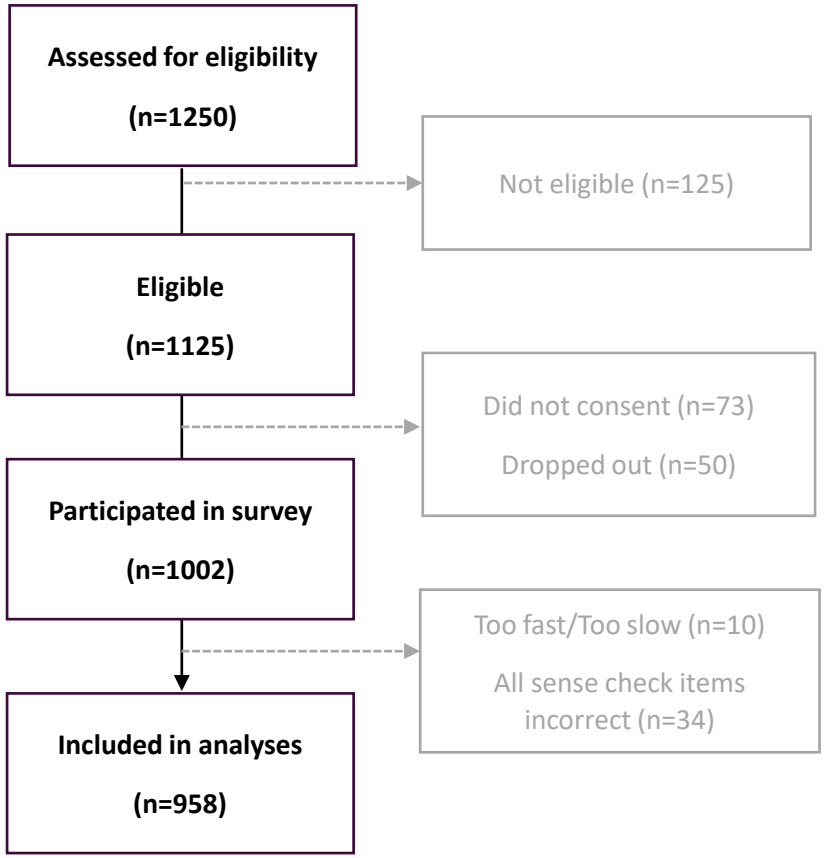
- Practical barriers e.g. time, booking appointments
- Problems with blood tests e.g. needle phobia, discomfort, pain
- Fear of outcome e.g fear of cancer, cancer worry
- Concerns about what happens next e.g. follow-up testing
- Trust in MCED screening
- Needing more information
- Competing interests

Facilitators to MCED screening

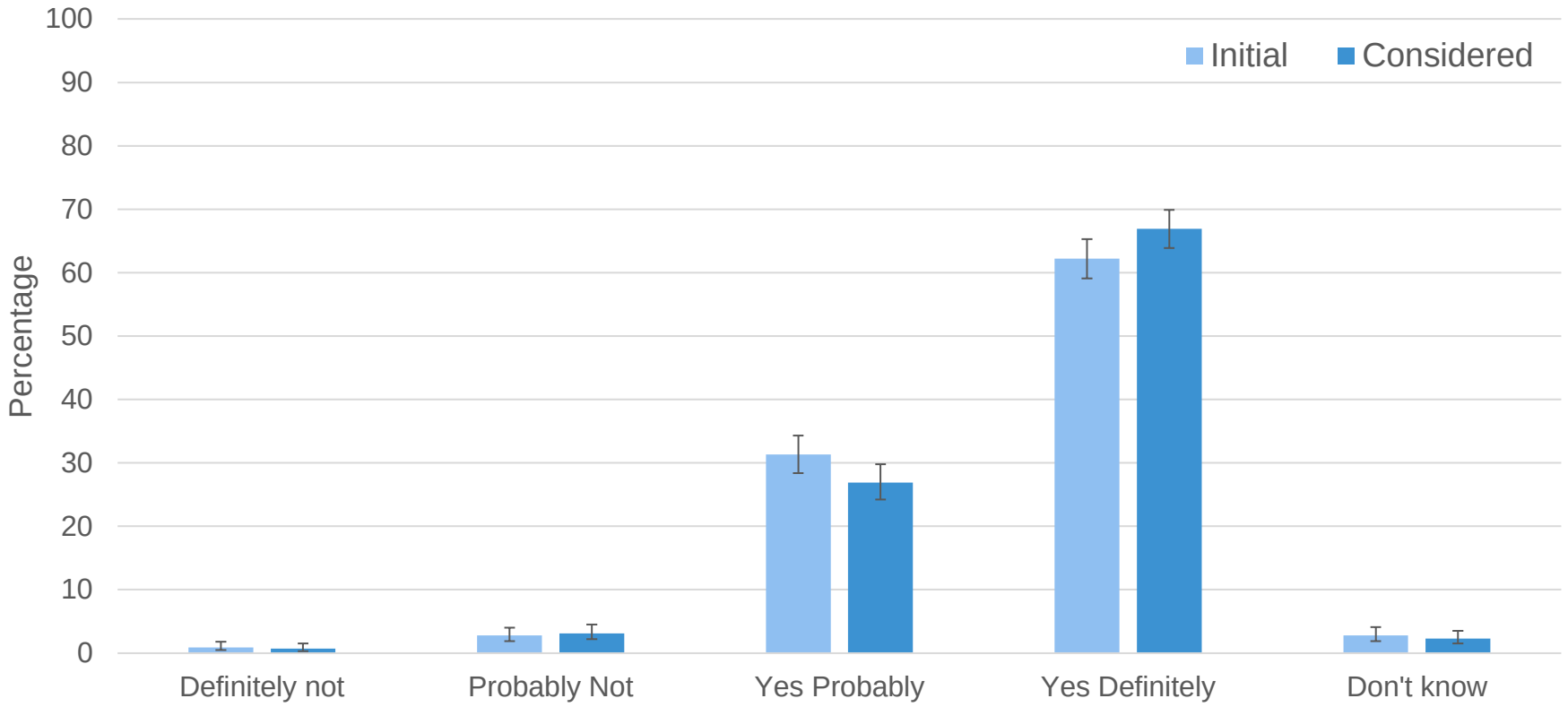
- Benefits of blood tests e.g. familiarity, speed, safety
- Health motivation e.g. *confirmation* of health, reassurance

Results: sample

Figure 1: Study Flow



Results: “If you were offered a blood test that looks for a range of cancers, would you have it?”



Percentages with 95% confidence intervals; n=958, weighted/unadjusted

>90% would probably/definitely have the test

Slight shift in intention strength after more information

Other research suggests 80% of intenders participate

Confidential - unpublished research

Results: Reasons for non-intention (n=35)

Test causing anxiety (n=12)

- “I would be worried that it would show positive, even if I didn’t have Cancer, and have to go through all kinds of tests.”

Not wanting to know about cancer (n=7)

- “… to be honest I'd rather not know”

Perceived need for the test (n=7)

- “I don't want to get on the treatment treadmill without any symptoms.”

Wanting to live life (n=5)

- “Prefer to live life without undue health worries”

Concerns about accuracy (n=4)

- “I don't have smear tests or other tests as they are unreliable. I can't imagine this test would be any more reliable.”

Not wanting treatment (n=4)

- “Because I am 71 and do not have any desire to have treatments at my age to guarantee that I could end up alive, old and waiting to die in an old peoples home”

Blood test specific concerns (n=3)

- “… fear of having blood taken.”

Personal experiences of cancer (n=2)

- “I know that I would not have chemotherapy after watching my Dad go through it so to be honest I'd rather not know”

Results: Socio-demographic correlates of intention to have a MCED blood test

	% intenders	OR (95% CI)	p-value
Age			
50-59	93.4	1.00	
60-69	92.8	0.91 (0.51-1.63)	p = .278
70+	96.1	1.72 (0.79-3.73)	
Sex			
Male	95.0	1.00	
Female	92.7	0.68 (0.39-1.16)	p = .154
Social Grade			
A-B (high)	95.8	1.00	
C1	95.3	0.89 (0.38-2.07)	p = .053
C2	94.0	0.70 (0.29-1.65)	
D-E (low)	90.2	0.41 (0.190-0.873)	
Ethnicity			
White	94.2	1.00	
Black	96.2	1.54 (0.20-11.71)	p = .919
Asian	94.5	1.06 (0.24-4.49)	
Mixed	92.1	0.71 (0.21-2.40)	

n=958, weighted/unadjusted

Results: Socio-demographic correlates of intention to have a MCED blood test

	% intenders	OR (95% CI)	p-value
Highest level of education			
No formal qualifications	91.0	0.60 (0.22-1.78)	
Level 2[1]	94.0	0.97 (0.46-2.08)	p = .353
Apprenticeships	96.7	1.81 (0.23-14.24)	
Level 3[2]	95.6	1.33 (0.59-3.00)	
Level 4[3]	94.2	1.00	
Other	89.9	0.55 (0.26-1.19)	
Marital status			
Married/Living as married	94.0	1.00	
In a relationship	94.2	0.87 (0.20-3.79)	p = .990
Single (never married)	94.0	0.89 (0.40-1.97)	
Separated/divorced/widowed	94.2	0.96 (0.48-1.92)	
Screening experience (if eligible)			
Attended all	96.6	1.00	
Attended some	84.7	0.19 (0.11-0.34)	**p <0.001**
Never attended	71.2	0.09 (0.02-0.47)	

[1] GCSE or equivalent
[2] A-Levels or equivalent
[3] Degree level and above or equivalent

n=958, weighted/unadjusted

Results: Psychological correlates of intention to have a MCED blood test

	% Intenders	OR (95% CI)	p-value
Perceived risk of cancer			
Below average	93.4	0.22 (0.11-0.46)	**p <.001**
Same as average	95.4	1.00	
Above average	82.2	0.68 (0.35-1.32)	
Cancer worry frequency			
Never/Rarely/Sometimes	94.4	1.00	**p = .024**
Often/Very often	88.4	0.45 (0.22-0.90)	
Cancer Fatalism			
Predetermination			
Yes	86.4	0.29 (0.17-0.50)	**p < .001**
No	95.7	1.00	
Incurability			
Yes	76.5	0.21 (0.04-1.03)	p = .054
No	94.0	1.00	

n=958, weighted/unadjusted

Results: Attitudes to screening and overdiagnosis as correlates of intention to have a MCED blood test

	% intenders	OR (95% CI)	p-value
"Cancer screening tests for healthy people are almost always a good idea"	Yes - 97.2 No - 74.7	11.84 (6.74-20.79)	**< .001**
"Finding cancer early almost always means that treatment saves lives"	Yes - 97.2 No - 74.7	5.66 (3.28-9.75)	**< .001**
"Finding cancer early almost always means that a person can have less treatment"	Yes - 96.7 No - 83.7	3.55 (2.03-6.21)	**< .001**
"If I had early-stage cancer, I would want to have the recommended treatment"	Yes - 96.4 No - 63.3	15.46 (8.53-28.01)	**< .001**
"If there was a kind of cancer for which nothing could be done, I would want to be tested to see if I had it"	Yes - 99.5 No - 83.9	38.77 (12.00-125.26)	**< .001**
"I would want to be tested to see if I had cancer even if it was slow-growing and would not cause me harm in my lifetime"	Yes - 98.3 No - 76.0	18.59 (9.78-35.33)	**< .001**

n=958, weighted/unadjusted

Results: Most frequently cited barriers and facilitators

Barriers:	% ‘Agree’ or ‘Strongly agree’
“I would be frightened of what the test might find”	45.0
“I would need to know more about how the test works”	39.6
“This test would make me worry about having cancer”	32.0
“Needing to have an endoscopy (where a small camera is put inside your body)”	29.2
“I would be afraid of having treatment if cancer was found”	29.2

Facilitators:	% ‘Agree’ or ‘Strongly agree’
“Blood tests are quick”	92.9
“Blood tests are safe”	92.7
“This test would make me feel I was doing something positive about my health”	86.5

Summary and implications

- Hypothetical intention to have MCED screening was high in our study and suggests motivation to have MCED screening if offered in the future could be high
- Intention does not always lead to behaviour (intention behaviour gap) and other factors such as opportunity and capability will need further consideration
- MCED screening intention does not seem to be associated with sociodemographic characteristics which is promising in terms of equity
- Since personal beliefs about cancer and screening are more predictive of intention, interventions could focus on cancer and screening attitudes
- Further work should consider uptake and factors influencing individuals' abilities to convert positive intentions into behaviour

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Thank you

n.schmeising-barnes@qmul.ac.uk