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Development and piloting of knowledge tests for people who provide primary clinical care in Nigeria and Kenya

Submission date 24/03/2025	**Recruitment status** No longer recruiting	[X] Prospectively registered [X] Protocol
Registration date 17/04/2025	**Overall study status** Completed	[_] Statistical analysis plan [_] Results
Last Edited 20/02/2026	**Condition category** Other	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol

Background and study aims

Cancer is a leading cause of death worldwide. Patients with cancer in sub-Saharan Africa have a higher death rate than patients with cancer in high-income countries. This is largely because the majority of patients in sub-Saharan Africa present with cancer late, when it has done a lot of damage to the body and the chances of a cure are low. It is therefore important that patients are diagnosed earlier so that they can receive treatment before the cancer spreads. Previous research has shown that a big part of the delay in cancer diagnoses in sub-Saharan Africa is due to delays within the health system, from the point when patients first present to the health care provider with symptoms to the point that they receive a diagnosis. This study is part of a wider study that seeks to reduce this delay. This sub-study aims to develop tests to check the knowledge of frontline primary care workers in order to understand gaps in knowledge. The study is focused on seven cancers: breast, uterus, colorectum, oesophagus and stomach, head-and-neck, urinary system, and lung. These cancers are treatable if diagnosed early, and often present with noticeable symptoms.

Who can participate?

The study will include frontline staff working in primary care facilities who are usually the first point of contact when a patient presents to the facility with symptoms. This includes:

- Doctors
- Nurses
- Clinical officers (in Kenya)
- Community Health Extension workers (CHEWs) (in Nigeria).

These healthcare workers play a key role in identifying and referring patients with potential cancer symptoms, and their insights are important in understanding delays in diagnosis and care.

What does the study involve?

The study will take place in three locations: Kano (Northern Nigeria), Ibadan (Southwest Nigeria) and Kiambu County (Kenya). At each location, a diverse sample will be selected of 25 clinics comprising 6 large public facilities, 6 small public facilities, 6 large private facilities, 6 small private facilities and 1 large hospital. Knowledge tests will be developed focused on symptoms

related to the cancers of interest (breast, uterus, colorectum, oesophagus and stomach, head-and-neck, urinary system, and lung). At each clinic, 4-5 eligible staff will be asked to complete the knowledge tests. This will include up to 113 participants at each site and 338 participants in total. Participants will take the test twice, with a five-month gap between the two tests. The tests will include two types of questions; the first type is called a vignettes, which present a patient scenario in one statement and is followed by questions such as what questions the clinician would ask, what examinations they would do, possible diagnoses and what action they would take. The second type of question is called a very short answer question (VSAQ), in which a scenario is presented, followed by a direct question about treatment and additional questions they would ask.

Four participants at each site will be selected to discuss their answers with a researcher. This will help us understand their thought processes and decision-making.

The tests will be scored and the results will be analysed to identify differences in responses by facility type, healthcare worker type and cancer type. This will help to identify the knowledge gaps among frontline healthcare workers. These findings will be used to develop a training package to address these gaps and improve early cancer detection and care.

What are the possible benefits and risks of participating?
There are no direct benefits or risks of participating in the study.

Where is the study run from?
The study is a collaboration between the University of Birmingham in the UK, the University of Ibadan in Nigeria, the Bayero Kano University in Nigeria and the African Health and Population Research Centre in Kenya.

When is the study starting and how long is it expected to run for?
April 2025 to October 2025

Who is funding the study?
The National Institute for Health and Care Research (NIHR) Global Health Programme

Who is the main contact?
Jen Knight, NIHR Reducing Cancer Delays in sub-Saharan Africa Project Manager, j.knight.2@bham.ac.uk

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National Institute for Health and Care Research (NIHR)
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Study information

Scientific Title
Development and piloting of knowledge tests for people who provide primary clinical care in Nigeria and Kenya

Study objectives
Work package to develop and psychometrically validate a knowledge test for primary care clinicians. Part of a larger programme of work that aims to reduce the time interval between

presentation to the formal health sector with a cancer symptom and receiving treatment for cancer.

Ethics approval required
Ethics approval required

Ethics approval(s)
1. Approved 22/01/2025, Amref Ethics and Scientific Review Committee (ESRC) (Amref Health Africa in Kenya, Nairobi, P O Box 30125-00100, Kenya; +254 (02)206994000; info.kenya@amref.org), ref: AMREF - ESRC P1807/2024

2. Approved 09/12/2024, Oyo State Ministry of Health Research Ethics Committee (HREC) (Ministry of Health, Department of Planning, Research and Statistics Division, Ibadan, Private Mail Bag No., Nigeria; +234 08038210122; info@oyostate.gov.ng), ref: NHREC/OYOSHRIEC/10/11/22

3. Approved 25/11/2024, University of Ibadan/University College Hospital Ethics Committee (UI/UCH EC) (Institute for Advanced Medical Research and Training (IAMRAT), Ibadan, 200285, Nigeria; +234 08023268431; ikeajayi2003@yahoo.com), ref: UI/EC/24/0798

4. Approved 17/10/2024, Health Research Ethics Committee of Kano State of Nigeria Ministry of Health (Kano State of Nigeria Ministry of Health, 2nds and 3rd Floor, Post Office Road, Kano, P. M.B 3066, Nigeria; +234 08033238779; smoh.kano2019@gmail.com), ref: NHREC/17/03/2018

5. Approved 19/12/2024, Bayero University, Kano - Health Research Ethics Committee (BUK-HREC) (Bayero University - Health Research Ethics Committee (BUK-HREC), Kano, P.M.B. 3011, Nigeria; +234-8032349387; provost.chs@buk.edu.ng), ref: NHREC/BUK-HREC/549/10/2311

6. Approved 02/12/2024, African Population Health Research Center (APHRC) (APHRC Campus, 2nd Floor, Manga Close, Off Kirawa Road, Nairobi, P.O. Box 10787-00100, Kenya; +254720098388; info@aphrc.org), ref: DOR/2024/063

7. Approved 21/02/2025, National Commission for Science, Technology and Innovation (NACOSTI) (Off Waiyaki Way, Upper Kabete, Nairobi, P. O. Box 30623 - 00100, Kenya; +2540204007000; dg@nacosti.go.ke), ref: NACOSTI/P/25/415968

Primary study design
Observational

Study design
Multicentre observational study

Study type(s)
Other

Health condition(s) or problem(s) studied
Reducing delays in cancer care in sub-Saharan Africa

Interventions
Participants will be asked to complete a knowledge test at baseline and 5 months. The knowledge tests will be implemented by direct interaction between the researcher and the

participant, either face-to-face or online. The researcher will record the responses onto a tablet. A sample of the participants will be asked to participate in a cognitive walkthrough after the second test to explore their reasoning and decision-making during the test. The cognitive walk-throughs will be conducted by a trained clinical researcher.

Intervention Type
Other

Primary outcome(s)
To evaluate the effectiveness of the intervention, the knowledge tests will be used to measure common gaps in knowledge to be addressed in the clinician education intervention at baseline and five months

Key secondary outcome(s)
The knowledge-to-practice gap, described in previous studies of the quality of primary health care, measured by calculating the discrimination of the questions in the tests at baseline and five months

Completion date
24/10/2025

Eligibility

Key inclusion criteria
Doctors, nurses and medical/clinical officers working at the participating sites.

Participant type(s)
Health professional

Healthy volunteers allowed
No

Age group
Adult

Sex
All

Total final enrolment
0

Key exclusion criteria
Not meeting the participant inclusion criteria

Date of first enrolment
23/04/2025

Date of final enrolment
24/10/2025

Locations

Countries of recruitment
Kenya

Nigeria

Study participating centre
University of Ibadan
Box 4078, University of Ibadan Post, Oyo
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Study participating centre
Bayero University
Bayero University, Kano PMB
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Study participating centre
African Population and Health Research Center Headquarters
Kenya Kitisuru, Manga Close, Kirawa road
Nairobi
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P.O. Box 10787-00100

Sponsor information

Organisation
University of Birmingham

ROR
https://ror.org/03angcq70

Funder(s)

Funder type

Government

Funder Name
National Institute for Health and Care Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan
Anonymised datasets will be made publicly available - link will be shared when this is done

IPD sharing plan summary
Stored in publicly available repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file	version 1.0	27/09/2024	21/10/2025	No	No
Protocol file	version 1.2	31/03/2025	21/10/2025	No	No