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A multi-component intervention to reduce unhealthy diets and physical inactivity among adolescents in Nairobi, Kenya, and Accra, Ghana: the Generation-H study

Submission date 08/09/2026	**Recruitment status** Not yet recruiting	[X] Prospectively registered [_] Protocol
Registration date 17/09/2026	**Overall study status** Ongoing	[_] Statistical analysis plan [_] Results
Last Edited 17/09/2026	**Condition category** Other	[_] Individual participant data [X] Record updated in last year

Plain English summary of protocol

Background and study aims

Diet and physical activity habits formed during adolescence can influence the risk of non-communicable diseases later in life. Generation-H is testing how a programme supporting healthier diets and physical activity can be delivered through schools and faith-based organisations in urban Kenya and Ghana. The study will examine how well the programme is implemented, whether adolescent behaviours and health measures change, and what the programme costs.

Who can participate?

Adolescents aged 10-19 years living in the selected study areas in Nairobi and Accra may be eligible. Participation requires consent or assent, with parent or caregiver consent for participants below the applicable national age of consent.

What does the study involve?

The programme combines education on healthy diet and physical activity, improved access to fruits, vegetables and safe drinking water, and opportunities and equipment for physical activity. It is delivered through participating schools and faith-based organisations over 18 months. Separate samples of adolescents are invited to complete surveys and physical measurements at baseline, 6 months and 18 months. The study also uses routine programme records, interviews and focus group discussions to understand how the programme is delivered and experienced.

What are the possible benefits and risks of participating?

Participants and their communities may benefit from improved access to information and opportunities that support healthy diet and physical activity. Direct individual benefit cannot be guaranteed. Survey questions and physical measurements involve minimal risk, although some questions may feel personal and participation may take time. Participation is voluntary, information is kept confidential, and participants may withdraw without consequence.

Where is the study run from?
The study is conducted in selected urban areas of Nairobi, Kenya, and Accra, Ghana, through participating schools and faith-based organisations.

When is the study starting and how long is it expected to run for?
The household listing and baseline evaluation were completed before intervention delivery. The intervention is planned for 18 months, with evaluation surveys at baseline, 6 months and 18 months.

Who is funding the study?
The European Union through the European Health and Digital Executive Agency (grant 101095375) and UK Research and Innovation (grant 10106976).

Who is the main contact?
Dr Peter Otieno, African Population and Health Research Center. Email:potieno@aphrc.org.

Contact information

Type(s)
Principal investigator, Scientific, Public

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Additional identifiers

UKRI grant number
10106976

HaDEA grant number
101095375

Study information

Scientific Title

A hybrid type III implementation-effectiveness study of a co-designed multicomponent intervention to improve dietary and physical activity behaviours among adolescents aged 10-19 years in socioeconomically diverse urban settings in Kenya and Ghana: the Generation-H project

Acronym
Generation-H

Study objectives
1. Evaluate the implementation of a co-designed multicomponent intervention promoting healthy diet and physical activity among adolescents in urban Kenya and Ghana
2. Assess changes in dietary behaviours, physical activity, sedentary behaviour, psychosocial measures, anthropometry and blood pressure at 6 and 18 months
3. Examine how context influences reach, adoption, fidelity, acceptability, appropriateness, feasibility, adaptation, penetration and sustainability across countries, socioeconomic settings and delivery settings
4. Estimate implementation costs and short- and long-term cost-effectiveness

Ethics approval required
Ethics approval required

Ethics approval(s)
1. Approved 08/09/2026, Amref Health Africa Ethics and Scientific Review Committee (Amref Health Africa in Kenya, P.O. Box 30125-00100, Nairobi, P.O. Box 30125-00100, Kenya; +254 20 699 4000; Esrc.Kenya@amref.org), ref: ESRC P1696/2024

2. Approved 08/06/2026, Ghana Health Service Ethics Review Committee (Research and Development Division, Ghana Health Service, P.O. Box MB 190, Accra, P.O. Box MB 190, Ghana; +233 50 3539896; ethics.research@ghs.gov.gh), ref: GHS-ERC 032/07/24

Primary study design
Interventional

Allocation
N/A: single arm study

Masking
Open (masking not used)

Control
Uncontrolled

Assignment
Single

Purpose
Prevention

Study type(s)

Health condition(s) or problem(s) studied

Prevention of non-communicable disease risk through healthy dietary and physical activity behaviours during adolescence

Interventions
Generation-H is an 18-month multicomponent intervention delivered through participating schools and faith-based organisations. Core components comprise: (1) education promoting healthy diet and physical activity; (2) provision and promotion of fruits, vegetables and safe drinking water, with reduced access to sugary foods and beverages; and (3) provision of physical activity equipment and structured physical activity sessions. Implementation strategies were developed through Implementation Mapping and include stakeholder engagement, training, implementation materials, technical assistance, monitoring, feedback, adaptation and sustainability planning. There is no concurrent control arm. Independent population-based cross-sectional samples will be surveyed at baseline, 6 months and 18 months. Routine monitoring, qualitative research and economic evaluation will complement the surveys

Intervention Type
Behavioural

Primary outcome(s)
1. Acceptability (perceived satisfaction with the intervention and its delivery) measured using Acceptability of Intervention Measure (AIM), structured questionnaires, interviews and focus group discussions at 6 months, 18 months

2. Adoption (initiation of planned intervention activities by participating schools and FBOs) measured using implementation-monitoring tools and adoption records at throughout intervention delivery

3. Appropriateness (perceived relevance and suitability of the intervention) measured using Intervention Appropriateness Measure (IAM), structured questionnaires, qualitative interviews and focus group discussions at 6 months, 18 months

4. Feasibility (perceived and observed ability to deliver the intervention) measured using Feasibility of Intervention Measure (FIM) and implementation-monitoring tools at 6 months, 18 months, throughout intervention delivery

5. Fidelity (extent to which intervention components are delivered as planned) measured using fidelity checklists, observation checklists, implementer monthly reports and supervision tools at throughout intervention delivery

6. Reach (proportion of the intended adolescent population exposed to intervention activities) measured using attendance registers and coverage/reach monitoring tools at throughout intervention delivery

7. Penetration (integration of intervention activities within participating schools and FBOs) measured using implementation-monitoring tools, stakeholder interviews and routine records at throughout intervention delivery, 18 months

8. Sustainability (potential for continued implementation beyond the study period) measured using stakeholder interviews, sustainability-monitoring tools and routine records at 18 months

Key secondary outcome(s)

1. Dietary behaviours including fruit and vegetable intake, sugar-sweetened beverage consumption, drinking-water intake and other prespecified dietary behaviours measured using the Generation-H adolescent questionnaire at baseline, 6 months and 18 months
2. Physical activity and sedentary behaviour including prespecified activity and sedentary-behaviour measures measured using the Generation-H adolescent questionnaire at baseline, 6 months and 18 months
3. Nutrition knowledge, self-efficacy, motivation, social support, social norms, psychosocial wellbeing, health literacy and quality of life measured using the Generation-H adolescent questionnaire and validated psychosocial scales at baseline, 6 months and 18 months
4. Height, weight, body mass index, waist circumference and hip circumference measured using the standardised Generation-H anthropometric protocol at baseline, 6 months and 18 months
5. Systolic blood pressure and diastolic blood pressure measured using the standardised Generation-H blood-pressure protocol at baseline, 6 months and 18 months
6. Food and physical activity environments including availability and accessibility of healthy food, drinking water and opportunities for physical activity measured using standardised environmental observation tools at baseline, 6 months and 18 months
7. Food expenditure, healthcare use, school/work absenteeism, implementation resource use and cost-effectiveness measured using the Generation-H adolescent questionnaire and prospective costing tools at 6 months and 18 months
8. Longer-term cost-effectiveness modelled over 5-years measured using Generation-H adolescent questionnaire, validated psychosocial scales, standardised anthropometric measurements, standardised automated blood-pressure measurements, environmental observation tools, participant cost questionnaires, administrative records, and standardised costing tools

Completion date
30/08/2028

Eligibility

Key inclusion criteria
1. Aged 10-19 years at the relevant data-collection round
2. Resident in one of the selected study areas in Nairobi, Kenya, or Accra, Ghana
3. Selected through the population-based sampling frame for an evaluation survey, where applicable
4. Able to provide informed assent/consent, with parent or caregiver consent where required
5. Meets the predefined eligibility criteria for the school or FBO intervention pathway, where applicable

Healthy volunteers allowed
No

Age group
Mixed

Lower age limit
10 Years

Upper age limit
19 Years

Sex
All

Total final enrolment
0

Key exclusion criteria
Required participant assent/consent or parental/caregiver consent cannot be obtained

Date of first enrolment
25/09/2026

Date of final enrolment
28/02/2027

Locations

Countries of recruitment
Ghana

Kenya

Study participating centre
participating schools and faith-based organisations in Kibera and Buruburu, Nairobi
Kenya

Study participating centre
participating schools and faith-based organisations in Ga East and Ayawaso West, Accra
Ghana

Sponsor information

Organisation
Amsterdam University Medical Centers

ROR
https://ror.org/05grdyy37

Funder(s)

Funder type

Funder Name
European Health and Digital Executive Agency

Alternative Name(s)
Health and Digital Executive Agency, Agencia Ejecutiva Europea en el Ámbito Sanitario y Digital, Europäische Exekutivagentur für Gesundheit und Digitales, Agence exécutive européenne pour la santé et le numérique, Agenzia esecutiva europea per la salute e il digitale, HaDEA

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location

Funder Name
UK Research and Innovation

Alternative Name(s)
UKRI

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available