

Engaging city communities in Bangladesh and Nepal for non-communicable disease prevention and control

Submission date 27/02/2026	Recruitment status Not yet recruiting	☒ Prospectively registered ☐ Protocol
Registration date 04/03/2026	Overall study status Ongoing	☐ Statistical analysis plan ☐ Results
Last Edited 04/03/2026	Condition category Other	☐ Individual participant data ☒ Record updated in last year

Plain English summary of protocol

Background and study aims

There is a high burden of non-communicable diseases (NCDs) in South Asian cities. Adults in Nepal and Bangladesh are estimated to have on average at least two NCD risk factors and this is expected to be more in the cities. Risk exposure is driven by individual, household, community and environmental-level factors, such as access to safe and supportive 'healthy spaces' for physical activity. These exposures are rarely a personal choice, rather they are determined by wider sociocultural, sociopolitical and economic factors (such as customs, gender norms, living conditions and housing, rural-urban migration, health service provision, market forces and regulation). Interventions are needed that raise individual and collective awareness and understanding of risk and that foster and facilitate broad community action to reduce risk. Such responses must go beyond individual behaviour change and single diseases or risks to also address structural, political and economic factors common to multiple risks and diseases. We have previously shown that community mobilisation using Participatory Learning and Action (PLA) tackles higher-level drivers of health by empowering individuals and enabling communities to understand and overcome barriers to health. This implementation research aims to provide a comparative case study on the adaptation, application and evaluation of PLA in urban cities in Nepal and Bangladesh to address NCD risk determinants and consequences.

Who can participate?

Adults aged 18 years and over who are permanent residents of the study areas in Faridpur, Bangladesh, and Kathmandu and Nagarjun in Nepal

What does the study involve?

We will focus our research on common NCDs and NCD risk factors. The PLA model will be complemented by co-developed, evidence-based strategies including group-based physical activity, digital health promotion, and creative engagement of NCD action groups. We will also focus specifically on physical activity outcomes among women aged 40 years and older. Physical activity has well-established and multifaceted benefits, including on blood pressure, diabetes

and cancer risk, and mental health. Combined, this specific population (older women) and this specific outcome (physical activity) is an example of a neglected group in NCD intervention research and an outcome that reflects social interactions, environment and gender norms.

What are the possible benefits and risks of participating?

All individuals participating in household surveys will be told their blood glucose and blood pressure results and will receive information on healthy levels and how to access appropriate care-seeking and further testing. The risks involved with taking part in the study are minimal.

Where is the study run from?

1. Centre for Health Research & Implementation, Diabetic Association of Bangladesh (CHRI-BADAS) (Bangladesh)
2. HERD International (Nepal)
3. UCL Institute for Global Health (UK)

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

November 2026 to February 2028

Who is funding the study?

UK Medical Research Council under the Global Alliance of Chronic Diseases cities initiative

Who is the main contact?

1. Prof. Edward Fottrell, e.fottrell@ucl.ac.uk
2. Dr Joanna Morrison, joanna.morrison@ucl.ac.uk

Contact information

Type(s)

Principal investigator, Public, Scientific

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Additional identifiers

Study information

Scientific Title

Participatory Engagement for City Communities Against Non-Communicable Disease (NCD) Risk in Bangladesh and Nepal (PECAN)

Acronym

PECAN

Study objectives

To implement and evaluate a Participatory Learning and Action (PLA) strategy, working with urban communities to co-develop evidence-based interventions for non-communicable disease (NCD) awareness raising, information sharing and collective community action to address the broad determinants of health and advance our understanding of how co-production can be used to tackle the drivers of NCD risk.

Ethics approval required

Ethics approval required

Ethics approval(s)

1. Approved 02/01/2025, University College London Life and Medical Sciences Research Ethics Committee (University College London 2 Taviton Street, London, WC1E 6BT, United Kingdom; +44 (0)20 7679 8717; ethics@ucl.ac.uk), ref: 4766/004
2. Approved 03/02/2025, Ethical Review Committee of the Diabetic Association of Bangladesh (122 Kazi Nazrul Islam Avenue Shahbagh, Dhaka-1000, n/a, Bangladesh; +880 (0)58616641-50; info@dab-bd.org), ref: BADAS-ERC/EC/25/39
3. Approved 24/12/2024, Nepal Health Research Council (NHRC) (Ramshah Path, Kathmandu, PO Box 7626, Nepal; +977 (1)5354220; nhrc@nhrc.org.up), ref: 1336

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

Non-communicable diseases (NCDs) and NCD risks in adults living in urban communities in Nepal and Bangladesh

Interventions

Community mobilisation through Participatory Learning and Action (PLA) is a specific approach to community interventions that has four phases: phase 1 focuses on problem identification, whereby participants themselves identify and prioritise factors that affect their health; phase 2 involves the collective design of strategies that communities can implement to address the problems and health threats identified in phase 1; during phase 3, the communities implement these strategies; in phase 4 communities reflect on and evaluate the success of the strategies they have implemented. This is done at a community grassroots level.

This research will work with co-production groups of citizen scientists from city communities in Faridpur, Bangladesh and Kathmandu and Nagarjun, Nepal, to adjust and expand existing theories of how PLA interventions create enabling contexts to reduce NCD risk in urban environments and hypothesise how the context and different components of context need to adapt favourably to the components of the intervention for it to be effective.

Based on this participatory analysis, we will develop the content and format of at least three evidence-based strategies with co-production groups.

1. NCD action groups:

There is potential to engage civil society organisations to address the challenge of NCDs. We will employ and train local facilitators to mobilise and build the capacity of community members who have been identified as having bridging social capital (those who have networks and ties with individuals, groups or corporate actors represented in public agencies, schools, business interests, legal institutions and religious/political groups) and linking social capital (relations between individuals and groups in different social strata to access power, social status and wealth) and who have political efficacy (i.e., influence over decisions affecting their local area). We expect these groups to meet and engage with powerful individuals and groups (such as politicians and religious leaders) throughout the implementation phase to facilitate action to address the structural drivers of NCDs.

2. Group-based physical activity:

We will develop and implement group-based physical activity to be implemented by skilled coaches recruited and paid locally. The form, content, venue and scheduling of this activity will be designed based on our collaboration with the co-production groups. It has been shown that women prefer exercising with those of similar age and gender; therefore, we anticipate running both mixed-gender and women-only activities. Group-based physical activity will be implemented for a duration of 12 months.

3. Digital health intervention:

PLA interventions usually contain a component which responds to community demands for more information. We will work with co-production group members to iteratively develop a digital health intervention to provide information about environmental, commercial, and behavioural risk factors of NCDs, how to prevent NCDs, and how to identify symptoms. The intervention will also model 'ideal' type behaviours such as care-seeking, healthy eating, and physical activity.

Information will be shared via participating households' mobile phones over a period of 12 months. Voluntary sign-up to receive this information will be encouraged by facilitators through household visits and intervention launch events in each city.

Co-production groups will be supported to implement other strategies beyond these if they decide to do so.

Intervention Type

Behavioural

Primary outcome(s)

1. The socio-contextual barriers and enablers to NCD risk minimisation, perceptions of NCD risk, lived experience of NCDs among the population, and prioritised risks and intervention responses, measured using qualitative methods at multiple times before (2025), during (2026) and after the intervention (2027)
2. Moderate or vigorous physical activity (MVPA) measured using wrist-worn accelerometers at multiple times before (-12, -8, -4 months) and during the intervention (0, 4, 8, 12 months) among a cohort of women aged 40 years+ living in the study area
3. Prevalence of diabetes measured using a point-of-care glucometer at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas
4. Prevalence of hypertension measured using digital BP monitor at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas
5. Overweight/obesity measured using a digital scale and measuring tape/stadiometer at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas
6. Depression measured using the Patient Health Questionnaire (PHQ-9) screening tool at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas
7. Anxiety measured using the Generalised Anxiety Disorder Assessment (GAD-7) screening tool at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas
8. Risk factor prevalence (incl. inadequate fruit and vegetable consumption; inadequate physical activity; tobacco use; sedentary behaviour; NCD protect/risk scores) measured using self-reports in the survey questionnaire at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas

9. Quality of life (QoL) measured using the EQ-5D tool at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas

10. Self-rated health measured using self-reports in the survey questionnaire at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas

11. Awareness of NCDs and the prevention/control of NCD risk and personal NCD status measured using self-reports in the survey questionnaire at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas

12. Population levels of physical activity measured using the WHO Global Physical Activity Questionnaire (GPAQ) at pre-intervention (2025) and post-intervention (2027) timepoints in random samples of adults aged 18 years and over living in the study areas

Key secondary outcome(s)

Completion date

01/02/2028

Eligibility

Key inclusion criteria

Population cross-sectional evaluation sample:

1. Aged 18 years and above
2. Permanent residents in one of the study areas during the study period

Adult female evaluation cohort:

1. Female
2. Aged 40 years and above
3. Permanent residents in one of the study areas during the study period

Healthy volunteers allowed

Yes

Age group

Mixed

Lower age limit

18 Years

Upper age limit

100 Years

Sex

All

Total final enrolment

0

Key exclusion criteria

Population cross-sectional evaluation sample:

1. Aged under 18 years
2. Temporary residents in the study areas
3. Individuals who decline to participate in the survey
4. Individuals who lack the capacity to consent to study participation

Adult female evaluation cohort:

1. Not female
2. Aged under 40 years
3. Temporary residents in the study areas
4. Individuals who decline to participate in the survey
5. Individuals who lack the capacity to consent to study participation

Date of first enrolment

01/11/2026

Date of final enrolment

31/10/2027

Locations**Countries of recruitment**

Bangladesh

Nepal

Study participating centre

Centre for Health Research & Implementation, Diabetic Association of Bangladesh (CHRI-BADAS)

122 Nazrul Islam
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Study participating centre

HERD International

Saibu Awas Cr-10 Magra
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Sponsor information

Organisation

University College London

ROR

<https://ror.org/02jx3x895>

Funder(s)

Funder type

Funder Name

Medical Research Council

Alternative Name(s)

Medical Research Council (United Kingdom), UK Medical Research Council, Medical Research Committee and Advisory Council, MRC

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