The Pholela^{PLUS} Study

An urban greening intervention to address community
Non-Communicable Diseases (NCDs), food security and agro-biodiversity

BACKGROUND

South Africa faces a quadruple burden of disease which includes Communicable Diseases (E.g. HIV/TB) and non-communical diseases (NCDS). The opportunity to improve access to good quality food within the community offers a primordial prevention potential to address these burdens locally.

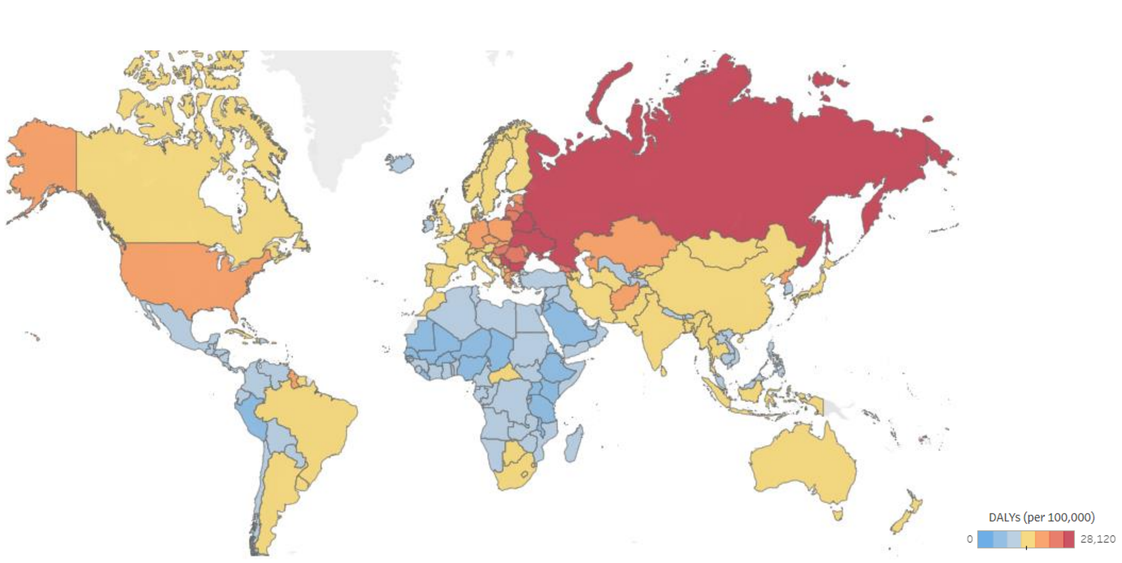

Figure 1. The Global burden of NCDs 2024

RESEARCH QUESTION

Can the introduction of an urban greening intervention in a low resourced community, reduce the burden of community NCDs?

PHOLELA ^{PLUS} MODEL

Utilizing transdisciplinary approaches including clinical medicine, bioinformatics, public health surveillance, plant genetics, horticulture and plant agro-biodiversity to develop an intervention that addresses community health, food security and climate change.

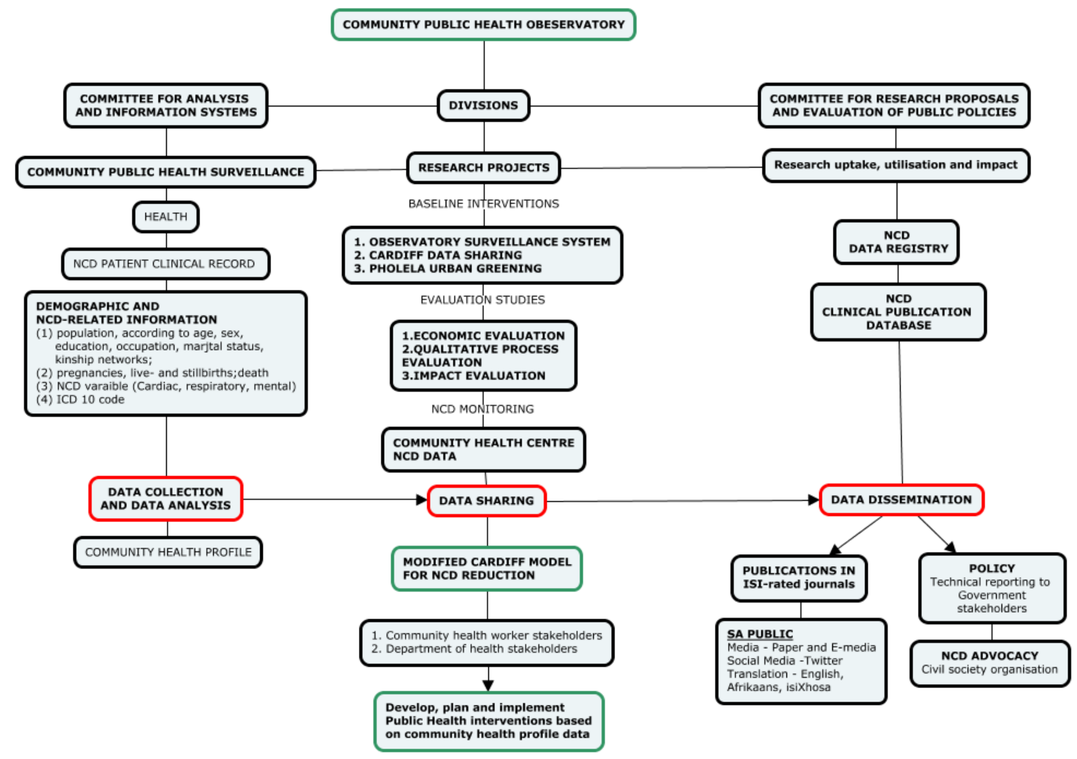

Figure 3. The Pholela PLUS model

The Pholela ^{PLUS} model is based on doctoral work completed by Dr Jabar in public health surveillance systems, specifically evidence-informed interventions to reduce community interpersonal violence. The three tiered model uses a combined top down (Colombian observatory surveillance model), middle out (Cardiff data sharing model) and ground up (Pholela greening model)

Two key objectives include the assessment of the relationship between urban greening and NCDs at the community level, and economic and qualitative process evaluations of the Pholela intervention. Another objective is to quantify the impact of the urban greening intervention on community air and soil pollution levels.

METHODS

Planting of community food gardens

Figure 1. Map of Langa with prospective sites for community food gardens KEY: G – Food garden, TR – taxi rank, SP – Police precinct

Monitoring and evaluation using local Health centre NCD data

NCD	MOTIVATION FOR COLLECTION
CARDIAC	Study priority
Heart failure	
Stroke	
Primary hypertension	
RESPIRATORY	Related to air pollution
Acute upper respiratory infection	
Pneumonia	
Asthma	
Pain	
GASTRIC	Related to food system
Gastritis	
MENTAL	Related to pollution
Headache	
Unspecified nonorganic psychosis	
INJURIES	Study priority
Non-accidental	

Table 1. Community NCD data to be extracted from the Hospital Emergency Centre Tracking Information System (HECTIS)

Data sharing between study stakeholders using a modified Cardiff model

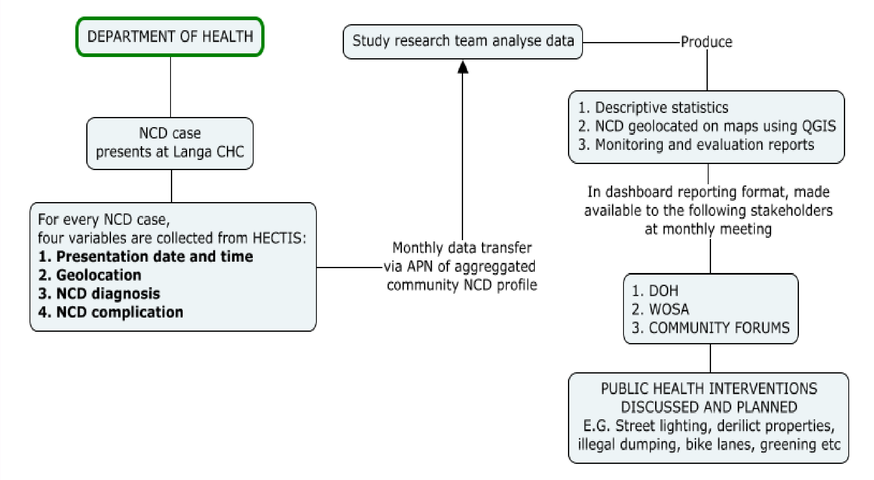

Figure 2. Modified Cardiff data sharing model for NCD use
KEY: DOH- Dept of Health, WOSA- Whole of Society Approach team

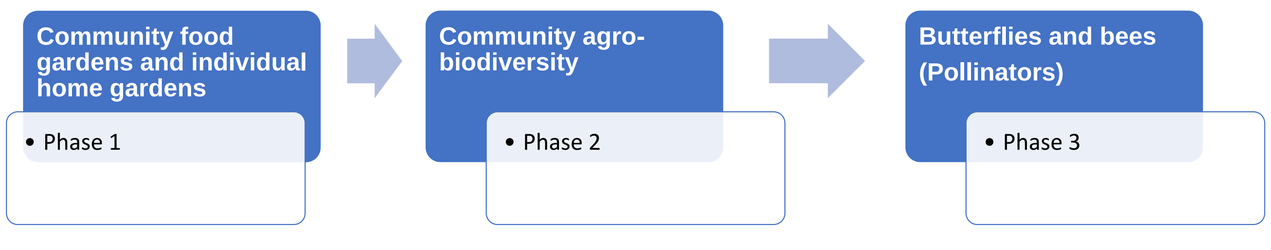

Figure 3. Phases 1 to 3 of implementation plan

DISCUSSION

The overwhelming global burden of NCDs confirm the need for improved and effective surveillance and control strategies. We advocate for a low cost intervention that has the additional potential to promote community food security and effect local climate change.

This study will help quantify the community level burden of NCDs; could inform the development and evaluation of NCD interventions; and policy development, all of which have the potential to improve the management and reduction of NCDs in the Western Cape.

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