GDAR
Global Diet and Activity Research

Making sense of the evidence at the intersection of cities, climate, and health

GDAR from 2017-2025

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Evolution of GDAR

The first phase of GDAR (2017-2021) was led by Professor Nigel Unwin and Professor Nick Wareham, and later also Professor Tolullah (Tolu) Oni, from the University of Cambridge. The goal was to lay the foundations for a well-functioning network to conduct innovative research in diet and physical activity in low- and middle-income settings. Member institutions included University of Yaoundé 1 in Cameroon, Université d'État d'Haïti (UEH) in Haiti, University of the West Indies (UWI) in Jamaica, Kenya Medical Research Institute (KEMRI) in Kenya, and University of the Witwatersrand (Wits) and University of Cape Town (UCT) in South Africa. Priorities for research were set jointly with partners and informed by consultation with local policy and community stakeholders (see Appendix).

The second phase of GDAR (2021-2025), called GDARSpaces, was led by Professor Tolu Oni, from the University of Cambridge, and Professor T. Alafia Samuels from the University of West Indies, as well as later Dr Louise Foley from the University of Cambridge. Partners no longer included Haiti in this phase but expanded to include Universidade Federal de Minas Gerais in Brazil, UN Habitat in Kenya, and the University of Lagos in Nigeria.

Acknowledgements

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Executive summary

This report summarises the key findings, messages, and lessons learned by the Global Diet and Activity Research (GDAR) Network. Since 2017, we have been producing and synthesising evidence on the sustainable prevention of non-communicable diseases through the creation of built and food environments that support optimal physical activity and diet across Global South cities.

This report provides a record of eight years of research, which we hope will be useful for all those who have contributed to GDAR, as well as for other researchers, decision makers, funders, and civil society. You can skip directly to a message that is relevant to you or follow through the full report. We have distilled our research into eight key messages with all GDAR outputs available in the bibliography.

In summary, the rapid and informal growth of cities in the Global South creates opportunities for transformative change, where local researchers, policy makers, and civil society can collaborate to address complex societal challenges. Meaningful global public health research should be grounded in transparency and inclusivity, recognising the distinct needs and experiences of diverse groups. Addressing dearth, quality, and access to data is critical to facilitate evidence-based decision-making. Effective policies must integrate intersectoral approaches and align global strategies with local realities. Researchers play a key role in civil society through contributing evidence to debate (particularly on challenging the influence of multinational corporations), through enabling advocacy, and through producing practice-based evidence that is useful to diverse audiences. For this, sustainable research networks are essential; they must reflect on their real-word impacts and invest in fostering the next generation of global public health researchers.

Sustainable research network

Sustainable research networks reflect on their real-world influence and nurture the next generation of global public health researchers.

Rapid urbanisation

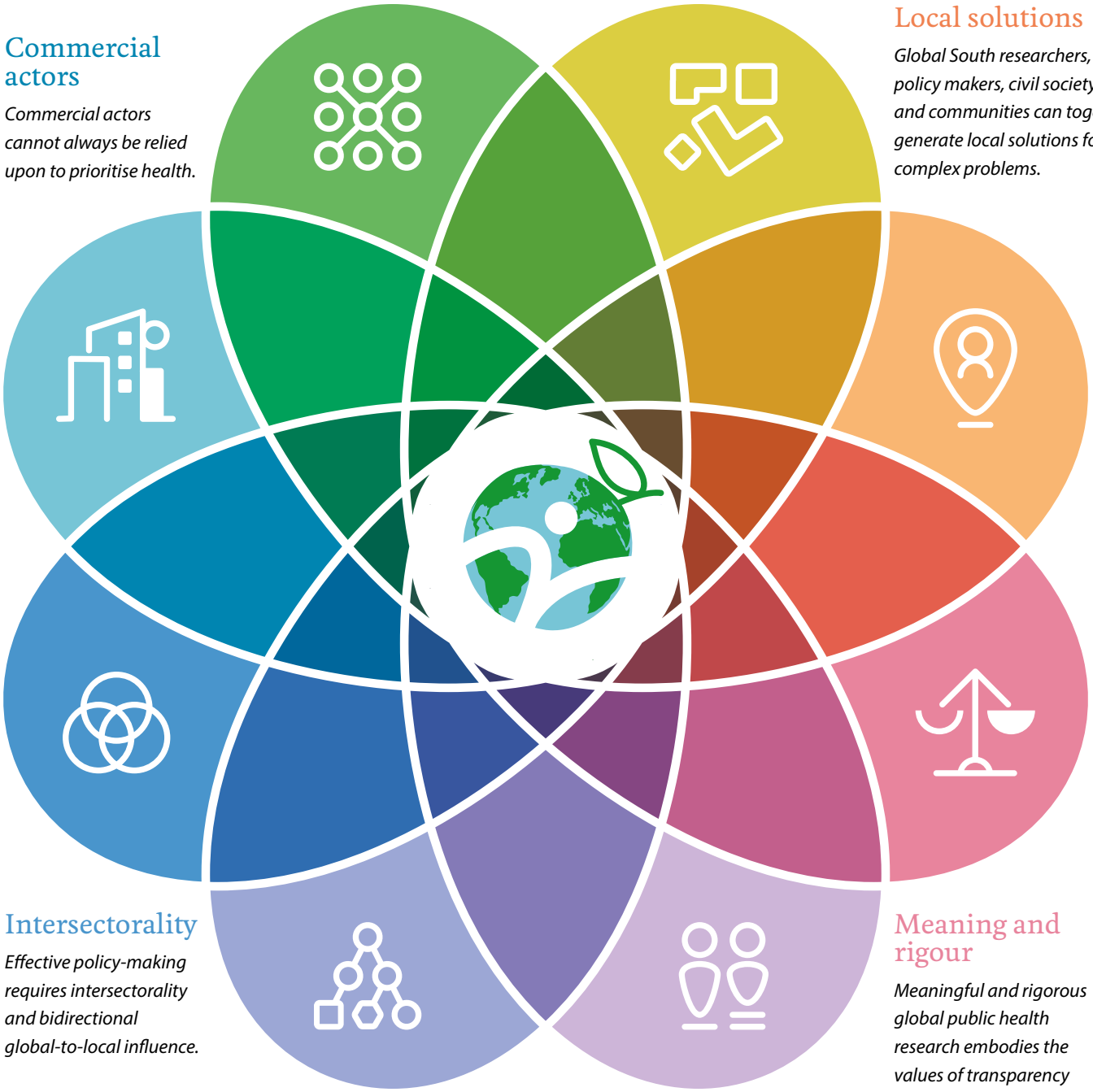
The rapid and informal growth of cities in the Global South presents opportunities for change.

Commercial actors

Commercial actors cannot always be relied upon to prioritise health.

Local solutions

Global South researchers, policy makers, civil society, and communities can together generate local solutions for complex problems.



Intersectorality

Effective policy-making requires intersectorality and bidirectional global-to-local influence.

Meaning and rigour

Meaningful and rigorous global public health research embodies the values of transparency and inclusivity.

Data quality

Tackling dearth and quality of data will support evidence-informed decision-making in the Global South.

Equity-focused

Equity-focused research should highlight the unique experiences and needs of different groups.

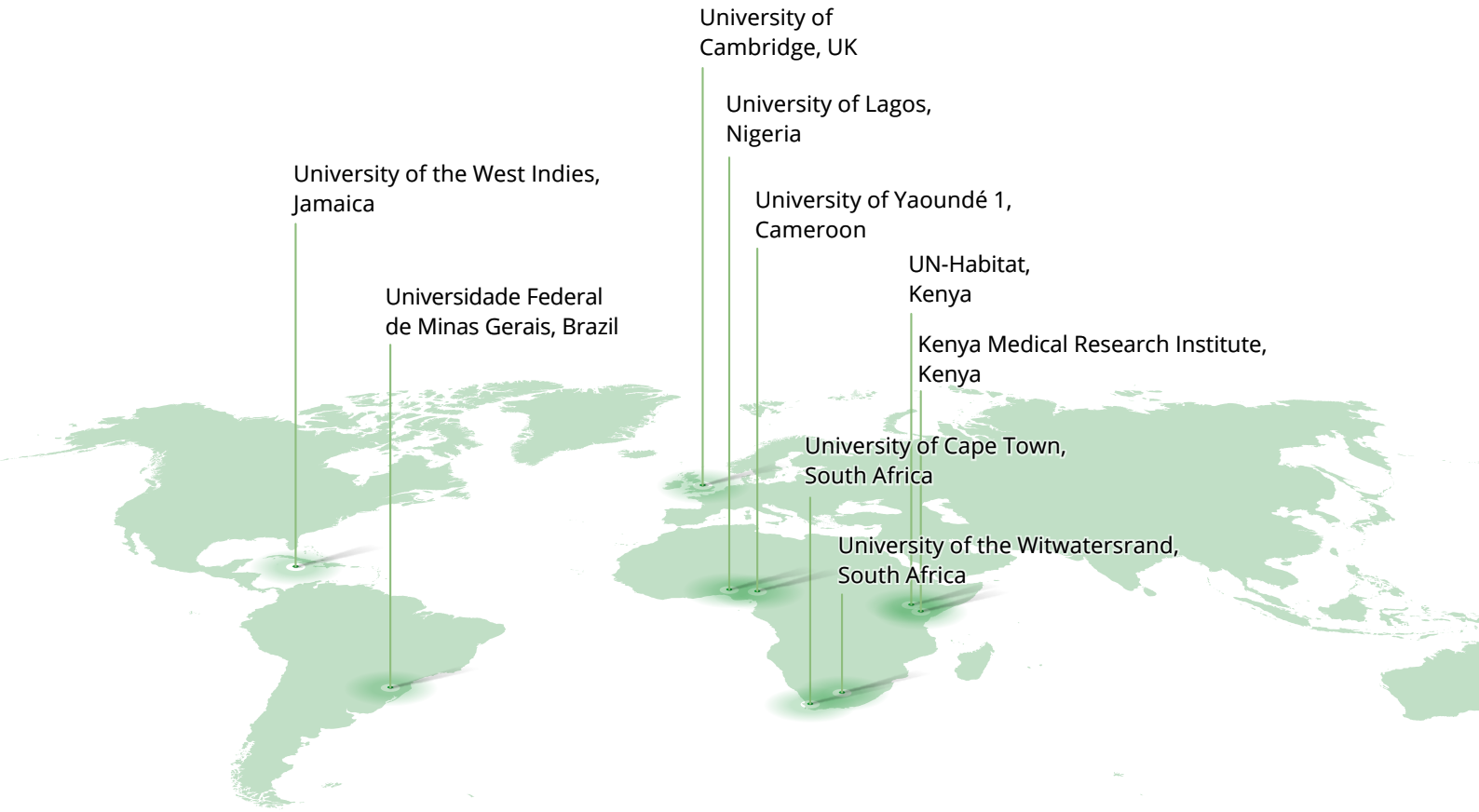
Introduction

We believe that equitable global public health partnerships are required to tackle the major societal challenges of our time, and to translate evidence into action.

The Global Diet and Activity Research (GDAR) Network is a global public health research network formed in 2017. We aimed to bring together researchers, policy makers, and community members from diverse sectors and settings, to study population-level patterns of diet and physical activity across Global South cities to inform community and policy-level action.

Current Network members are from nine organisations in seven countries across three continents; based in the cities of Belo Horizonte (Brazil), Yaoundé (Cameroon), Kingston (Jamaica), Kisumu and Nairobi (Kenya), Lagos (Nigeria), Cape Town and Johannesburg (South Africa), and Cambridge (United Kingdom). Find details about our 60+ network members on our website.

Through sustained partnership with policy and community stakeholders in each city, we co-created our research agenda, shared learning, and contributed to policy and practice.



In what context was the GDAR Network developed?

The GDAR Network addresses the rising non-communicable disease (NCD) burden in low- and middle-income countries (LMICs), including heart disease, stroke, cancer, respiratory disease and diabetes. Two important causes of this trend are unhealthy diets and physical inactivity, associated with rapid urbanisation – especially for those living in precarious urban settings at higher risk of climate-change disruptions.

GDAR proposes a '**syndemic approach**' to address **built and food environment** vulnerabilities due to urbanisation and climate change hazards to equitably and sustainably support and enhance healthy diets and physical activity.

Without considering all of these forces together we cannot create effective and sustainable interventions to improve health in LMICs now and in the future.

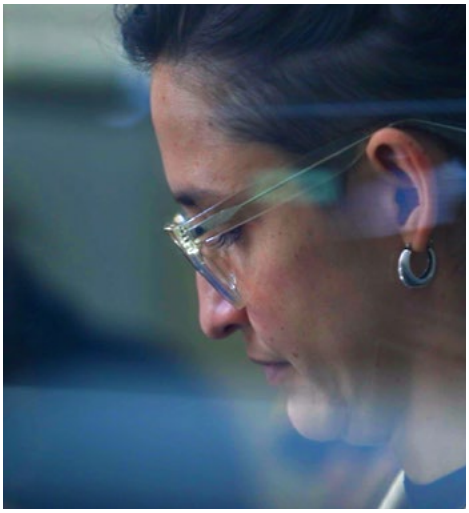
Definition: Syndemic approach

The concept of a 'syndemic' (from 'synergistic epidemic') describes the co-occurrence of interacting epidemics and risks. In GDAR's research, the interaction of mass urbanisation, rapid climate change, and epidemics of poor diet and rising physical inactivity constitute a syndemic. These forces interact to increase risks of non-communicable diseases. Therefore, without considering them together we cannot create effective and sustainable interventions to improve health.[1, 2]

Definition: Food and built environment

The food environment primarily refers to the physical spaces in which people purchase their foods (e.g. supermarkets, restaurants, and small retail shops). Food environment research assesses issues of food availability, affordability, spatial distribution, and convenience, as well as environmental factors that impact on nutrition and health outcomes. A growing understanding of 'foodscapes' looks at the myriad ways people procure food as well as individual perceptions, the role of culture and social relations on procurement practices, and ethical and political dimensions of corporate food industries.[3]

The built environment refers to the places built or designed by humans, including buildings, grounds around buildings, layout of communities, transportation infrastructure, and parks and trails. Key characteristics of built environments are land use (residential, commercial, institutional, or park and open space), population density, spatial distribution of community destinations, and the interconnections available to reach those destinations.[4, 5]




GDAR Network:Who
UCAM
UWI
UN Habitat
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Belo Horizonte
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Key Messages

Key Message 1:

The rapid and informal growth of cities in the Global South presents opportunities for change.

LMICs are undergoing rapid urbanisation while facing growing climate vulnerabilities and a rising burden of non-communicable diseases. Global South cities are growing dramatically, putting pressure on housing, transport, and energy sectors.[6]

A particular feature of rapid urbanisation is **informality** – unplanned expansion that may result in significant spatial inequalities but can also be a source of indigenous, adaptive, and locally creative solutions.[6, 7] GDAR research aims to better understand these informal systems and explore how they might be leveraged to improve health.

Examples of informal, local solutions

Paratransit

A GDAR systematic review of 129 studies in Africa and the Caribbean identified informal and rapid urban growth and sprawl as a salient driver of inaccessible and inequitable transport systems, resulting in long travel distances and the necessity of motorised transportation.[8]

In Africa, public transport is dominated by paratransit – informal, unscheduled, privately owned transport services such as minibus taxis in South Africa or matatus in Kenya – which have competitive advantages when it comes to providing services in informal, unplanned areas with poor road networks inaccessible to other modes and typically under-served by formal public transport.[9] We concluded that paratransit was an effective connector, penetrating unserved areas and helping break cycles of poverty.

ROSCAs

Rotating Savings and Credit Associations (ROSCAs) are "groups of persons that agree to contribute a fixed amount of money at regular intervals, into a common fund, which is then withdrawn in turn, by each member of the association". They are found in almost every LMIC, and act as informal financial institutions, typically providing credit to low-income consumers that often do not have access to more formal financial services.[10]

ROSCAs are used for a variety of purposes, but many are explicitly oriented around food. In Kenya, these started as small 'chamas', a network of women who pool resources and buy each other food items on a rotational basis. These have developed into formal societies and it is estimated that there are currently more than 300,000 chamas in Kenya. Emerging findings from GDAR research indicates that half of Kisumu and Homabay households are chama members, spread across socio-economic classes. Participation in chamas may offer protective effects against under-five wasting and reduce household food expenditure while qualitative findings indicate the involvement of a wide-range of stakeholders and a variety of ways that chamas contribute to food security.[11, 12]

With two thirds of planned infrastructure investments in African cities up to 2050 still pending,[6] there is also an opportunity to use large scale urban infrastructure development for change in formal, policy spaces.

Examples of large-scale solutions

"...there is an urgent need to consider all the urban factors that impact our wellbeing. Doing so would position urban designers and planners as de facto health professionals, with attendant responsibility to protect human and planetary health."[14]

Transport

One of our GDAR Directors, Professor Tolu Oni, and colleagues, outline points to consider for improving transport systems in rapidly urbanising cities. This includes consideration of power imbalances and colonial legacies, the importance of community and connectedness, urban design for healthy and equitable mobility, public space and transport as social infrastructure, and strengthening regulation and financing. Read more here.[6]

Food systems

GDAR researchers in Kenya explored the relationship of food sources with food- and nutrition-related outcomes, finding that the increasing presence and utilisation of supermarkets in LMICs may have positive consequences for food insecurity and dietary diversity across the population – although it is important to consider accessibility, cost, and the negative consequences that supermarkets may have on processed food consumption and the prevalence of overweight/obesity.[13]

Key Message 2:

Global South researchers, policy makers, civil society, and communities can together generate local solutions for complex problems.

2

Local people should shape local research

We need local researchers and stakeholders to co-design research, collect data, and interpret findings in order to develop actionable, context-specific solutions.

This is why research within GDAR partner cities was led by institutions and researchers from that city, with the collaborative structure of GDAR offering the ability to learn from each other across settings. Integral to the GDAR portfolio were multiple stakeholder engagement workshops with relevant research, policy, and community members. This provided the opportunity for local stakeholders to shape GDAR research through all phases of the research lifecycle from designing the research questions, to contributing data, and informing data analysis and dissemination.

- From the start, GDAR research was co-designed with partners to agree research objectives, select pertinent areas of focus in each setting, and then to interpret findings and co-design interventions informed by local evidence, experience, and priorities.
- Participatory research methods, such as citizen science, human-centred design, and systems mapping, were also used to engage local stakeholders in generating insights and solutions.

Examples of GDAR research that include local knowledge co-production:

Climate resilience in communities in the Global South

GDAR researchers used a Community-Based System Dynamics (CBSD) methodology to investigate community resilience strategies to climate events in Belo Horizonte, Yaoundé, Kingston, and Kisumu. The CBSD process comprised four core phases: (1) semi-structured interviews to elicit individual mental models of hazard risk and resilience; (2) thematic analysis; (3) a participatory modelling workshop to co-develop a joint causal loop diagram (CLD); and (4) finalisation of the CLD through iterative stakeholder feedback. This phased approach allowed the researchers to describe and explore system features that drive community resilience.[15]

Food sharing in Small Island Developing States (SIDS)

A GDAR PhD researcher used a systematic scoping review, interviews, and sense-making sessions to refine causal loop diagrams with stakeholders in order to develop an understanding of foodscapes in SIDS with a focus on the role of food sharing practices and their adaptation to global dynamics.[3]

Diet and physical activity adolescent-focused interventions in Johannesburg, Cape Town, and Yaoundé

A novel three-phase mixed-methods participatory research process was conducted in three GDAR cities to identify priority interventions to improve school food environments. Phase one identified contextual drivers of unhealthy eating and physical inactivity in children and adolescents in each setting using secondary analysis of qualitative data. Phase two matched identified drivers to evidence-based interventions. In phase three, the Delphi technique was used by stakeholders to prioritise interventions based on perceived importance and feasibility.[16]

A follow up in Cape Town and Yaoundé made use of human-centred design workshops to explore climate considerations for these adolescent health interventions. In these workshops participants led discussion and mind-mapping groups to create prototypes for school, community, and policy consideration.[16]

Adolescents can be citizen scientists and advocates for change

Adolescents, youth aged between 10-19, comprise approximately one-sixth of the world's population, with 90% living in LMICs.[17] Future-proofing adolescents to syndemic hazards is a way to protect populations long-term. It is a time of physical, mental, and social growth and growing independence, making it an ideal time to introduce health-promoting interventions that can have benefits throughout life.[18]

The United Nations Committee on the Rights of the Child indicates that: "States, through dialogue and engagement with adolescents themselves, should promote environments that acknowledge the intrinsic value of adolescence and introduce measures to help them thrive."[19] Adolescents therefore should have opportunities to engage in citizen science and advocacy for social and environmental justice. This should be done meaningfully, and not just as an "added extra" or tickbox for research.

"Children as young as 13 years old can be citizen scientists, advocating and making significant impacts to promote safe, active, and healthy spaces within and beyond the school, home, and neighbourhood environments."[20]

Citizen science in Cape Town high schools

Between 2021-2023, GDAR researchers collaborated with students (citizen scientists) and school staff (liaison officers for the project) from three high schools in Cape Town. The citizen scientists were trained to capture data (photographs, audio notes, text, and geolocations) on their lived experiences in relation to food, physical activity, hygiene, and safety within their school environment using a mobile application tool.

During a subsequent workshop, the collected photos and text narratives were printed and the students discussed the identified barriers to achieving a healthy school environment. These were further sorted into topics, and students suggested solutions to these barriers.

In 2023, the research team returned to the schools to identify the wider impacts that occurred as a result of the citizen science project (using a method called ripple effects mapping). Many school, neighbourhood, home, and personal ripples were noted from the initial project including having healthier food offered at school, more physical activity added to the curriculum and practised within the family, and improved scientific knowledge and mental health for students.

One final advocacy workshop was then conducted in each school. The students, as advocates for change, presented their findings to the school staff who provided feedback. In agreement with the school authorities and with guidance from the liaison officers, the students chose a specific project to develop. See the newsletters produced by GDAR researchers, research partners, and the school students here.[20]

What happens when we are not local?

Interventions that are imposed on communities without an in-depth knowledge and understanding of how the communities function often fail. This highlights the importance of sustained participatory approaches, cognisant of lived experiences and an understanding of assets and resilience points that can be leveraged.[21]

Local vs virtual audits

GDAR researchers assessed the reliability of virtual audits for characterising urban features related to physical activity in Soweto, a peri-urban area in Johannesburg, South Africa.[22]

Our findings revealed that researchers who lived or worked in Soweto or Johannesburg consistently demonstrated higher inter-rater reliability when assessing physical activity-related features compared to those less familiar with the environment.

The results also exposed limitations in international auditing tools like MAPS-Global when applied to African urban environments. While virtual tools are efficient and resource-saving, they may struggle to capture the full complexity of rapidly urbanising cities. Many aspects of Soweto's streetscapes, such as informal paths, unpaved roads, and how shops or houses look, were difficult to interpret for auditors unfamiliar with the area. This highlights the importance of contextual familiarity in enhancing the accuracy and applicability of research tools.

Our findings revealed that researchers who lived or worked in Soweto or Johannesburg consistently demonstrated higher inter-rater reliability when assessing physical activity-related features compared to those less familiar with the environment.

GDAR researchers advocate that a goal of research should be to build and embed a local cadre of data collectors that are not specific to a project, single academic institution, or funding cycle.[23] Research innovation requires continuity and requires capacity strengthening that is continuous. For example, training people from across different demographic groups that can be used in multiple studies when needed, such as a data collection for a census, or embedding citizen science (see key message 5) in policy and implementation strategies. This allows researchers continued access to trained data collectors and interpreters, and enhances people's employability in other sectors.

In our current reality this process is hindered by short-term funding cycles – but we can challenge ourselves to build towards an ideal.

Key Message 3:

Meaningful and rigorous global public health research embodies the values of transparency and inclusivity.

3

Reflecting on GDAR's experience of working across countries and settings, network members considered how to balance scientific rigour with ensuring research is people- and context-oriented.[24]

Competing interests

Scientific rigour

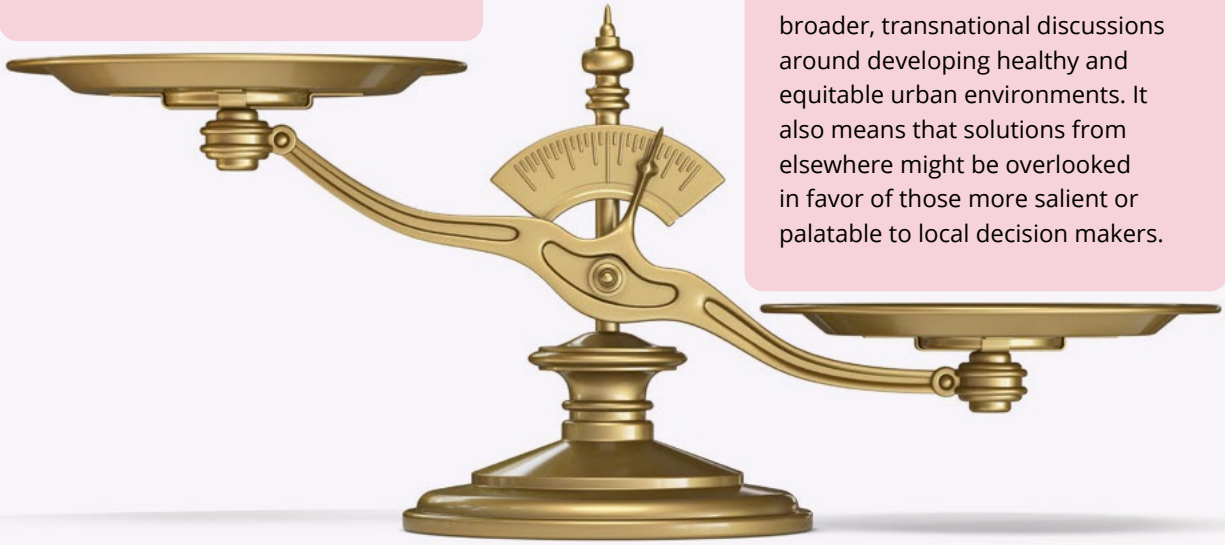
Harmonised protocols, reliable and validated tools, replication, comparability between different settings.

Meaning and impact

Involves local contributors, develops local discourse, respects indigenous knowledge.

Emphasising rigor without meaning. This stems from an overreliance on the idea that measuring more precisely, in a more standardised way, in more places, on a bigger scale, will eventually reveal the "right" answer. It also assumes – erroneously – that an answer may be generalised everywhere.

Emphasising meaning without rigor. This could result in hyperlocal solutions that fail to contribute to broader, transnational discussions around developing healthy and equitable urban environments. It also means that solutions from elsewhere might be overlooked in favor of those more salient or palatable to local decision makers.



Our recommendation for future global public health research is to chart a course that marries rigor with meaning. We suggest the key features of this are transparency in methods, humility in recognising both the contributions and the limitations of the researcher, meaningful engagement of non-academic experts with lived experience in the codesign of research tools, and a commitment to making sense of findings within the broader body of literature.

Key Message 4:

Equity-focused research should highlight the unique experiences and needs of different groups.

4

GDAR's research has consistently demonstrated the importance of understanding how different groups of people experience and use their built and food environments, and the need to include these diverse voices throughout the research process. GDAR research has examined specific population strata including socio-economic status (SES), age, and gender.

Food

A GDAR study in Kenya found that wealthier households spent more money on food compared to poorer households, especially on buying food at supermarkets.[25] Individuals from the poorer households were dominant in eating grains and roots and less likely to consume a mixed variety of food groups, including pulses, dairy, eggs, fruits, and vegetables and so less likely to achieve adequate dietary diversity. Targeted policies on diet and nutrition are required to address socioeconomic inequalities in food purchasing practices.

Active travel

In a GDAR systematic review of factors associated with travel behaviour in Africa and the Caribbean, the relationship between age and active travel differed across the life course.[26] For example, three studies from Ghana, Egypt, and Nigeria revealed that older boys walked more than younger boys during childhood, related to having fewer mobility constraints imposed by parents. Practically speaking, active travel was often the only mode available to older boys who had not yet reached driving-licence age and did not have the financial resources for a car or public transport. In working age adults, active travel decreased with age, as seen in studies from Ethiopia, Egypt, and Uganda, and mode shifting from active travel to either public transport or private cars depended on socioeconomic status (i.e., being able to afford to buy and maintain a car) but was also influenced by the stigmatisation of active travel. Amongst the elderly, rates of walking were relatively high due to inability to afford motorised transport, shorter trip distances, and difficulties getting on and off public transport, as seen in narratives drawn from across the African continent.

Girls and women were less likely to undertake active travel than boys or men. This was due to cultural expectations (that increased with age) around household responsibilities, and because of safety concerns which stemmed in part from patriarchal views, with cycling often seen as particularly inappropriate for women.

Climate change vulnerability

A GDAR study aimed to explore the association between cumulative flood exposure and cardiometabolic risk markers among Jamaicans residing in an urban environment using secondary data from a larger study.[27] The team found that flood exposure varied spatially, with most high exposure communities located on coastal plains, close to a harbour, or at foothills. Based on their findings they concluded that community-level differences in flood patterns may contribute to variations in cardiometabolic health in urban Jamaicans and that the potential impact of social factors and community-level effects on cardiometabolic outcomes suggest that environmental and social risk factors may cluster, pointing to the need for regional assessments of climate change vulnerability across Jamaica and the Caribbean to inform prevention and mitigation strategies.

Different population groups may need different interventions and approaches; however, it is important to consider that these needs may also differ from one setting to another.

Different population groups may need different interventions and approaches; however, it is important to consider that these needs may also differ from one setting to another.

For example, a GDAR cluster analysis showed that in Cape Town, low socio-economic status (SES) adolescents were more sedentary and had poorer eating habits than high-SES teens.[27] The opposite was true in Yaoundé and Kingston although low-SES adolescents attending high-SES schools exhibited more unhealthy dietary and physical activity patterns.

Another GDAR project aimed to describe and compare travel behaviour characteristics and correlates of two Kenyan cities, Nairobi and Kisumu.[28] The findings illustrated marked differences in reported travel behaviour characteristics and correlates within the same country, for example, the proportion of individuals reporting no trips was far higher in Kisumu (47% vs 5%). This indicates setting-dependent influences on travel behaviour.

In addition, how we measure inequality might differ across settings, having an effect on research and subsequent policy decisions.

For example, GDAR researchers in Kenya compared three approaches of classifying households into low, middle, or high SES: fieldworkers, Community Health Volunteers, and a Multiple Correspondence Analysis econometric model (MCA). It was found that the first two community-driven methods were more likely to classify the majority of households as middle and low SES and very few households as high SES compared to a MCA model.[29]

Key Message 5:

Tackling dearth and quality of data will support evidence-informed decision-making in the Global South.

5

Needs, causes, and potential solutions should be local, equitable, and context specific. Data are needed to aid these context specific understandings.

GDAR researchers have generated extensive baseline data around physical activity and diet on which future research can be built. If we know baselines then we can better track progress and impact. Some examples are provided below, with all GDAR outputs available in the bibliography.

Baseline data on active travel

Our research team explored the role of active commuting to school, including walking or cycling, among adolescents in Yaoundé highlighting the interplay between individual, socioeconomic, and environmental factors in determining whether adolescents actively commute to school. They found the built environment characteristics of low income neighbourhoods may be less conducive to motorised transportation and thus may not be easily accessible by means other than walking and thus, adolescents may be more reliant on active forms of transportation for at least part of their journey. Authors indicated that investing in safe pedestrian infrastructure, school zoning policies, and community-based initiatives can help sustain active commuting habits. These efforts are critical in LMICs, where access to recreational physical activity is often limited.[30]

Baseline data on diet

Through in-depth interviews and focus group discussions, a GDAR study aimed to examine the complex interplay between people's characteristics and the environment to understand how these influenced food choices and practices in Western Kenya.[31]

Intrapersonal levels of influence included: age, the nutritional value of food, occupation, perceived satiety of some foods as opposed to others, religion, and medical reasons. The majority of the participants mentioned location as the main source of influence at the community level. Others include seasonality of produce, social pressure, and availability of food in the market. Pricing of food and distance to food markets was mentioned as the major macro-level influence.

Baseline data on air pollution

GDAR's affiliated research project, ALPhA, assessed the temporal and seasonal variabilities in air pollution for over a year in Lagos and Yaoundé.[32] They detected unique pollutant temporal profiles at the two locations, with a distinct weekday-to-weekend effect observed for the gaseous pollutants but not for the particulate matter. Researchers also detected differences between dry and wet seasons. Findings underscore the importance of long-term air quality monitoring to inform action and offer insights into simple behavioural changes that can maximise the health benefits of physical activity while minimising the risk of air pollution exposure.

Intervention data for adolescent health

In Gauteng, 31 contextual drivers were identified that school staff perceived to limit or facilitate a healthy school food environment. Intervention mapping yielded 21 interventions to improve school food environments; of which seven were considered important and feasible. This included regulating what kinds of foods can be sold at school shops, training school staff through workshops and discussions to improve the nutrition environment within the school, and having compulsory, child-friendly warning labels on all unhealthy food products.[33]

Similar studies were conducted in Cape Town and Yaoundé.[34]

Data dearth

GDAR has identified several areas where there is currently limited evidence, including:

More baseline data are needed in more settings such as in Central Africa, Northern Africa, the Caribbean, and other rapidly urbanising settings,[8] more longitudinal research,[35] research with first authors from the local setting,[36] and more evidence regarding the tailored and cost-effectiveness of interventions.

In addition, a GDAR review of reviews identified that we need more summarised evidence of baseline data in the form of systematic reviews as this has implications for decision makers who do not always have the time or skills to appraise primary studies.[37]

Data quality and creativity

It's not just that we need more data. We also need more imagination on different ways of collecting data, different and unexpected data sources, and better understanding of what data would add greatest value. In rapidly changing contexts, the importance of dynamic and democratised approaches to data generation are important. See key messages 2 and 8 for more discussion on this.

Key Message 6:

Effective policy-making requires intersectorality and bidirectional global-to-local influence.

GDAR has explored health and climate policies across a range of countries. Two key commonalities identified across research projects are the need for intersectoral collaboration and that there needs to be bidirectional pathways of influence between global and local policies.

Intersectorality

GDAR research on intersectorality within policies includes:

A GDAR policy analysis in Cameroon aimed to explore whether relevant sectors were prioritising physical activity.[38] Identified sectors included Office of the Prime Minister, Sport and Physical Education, Health, Decentralisation (Local Governance and Development), Urban Development, Youth Affairs, and Education. However, only the health sector explicitly acknowledged the role of physical activity in NCD prevention. Notably, no policy from the transport sector mentioned physical activity.

In another review of global physical activity policies, intersectoral collaboration was regarded as important, but the contributions of other sectors, outside of health, education, transport, and urban planning, was less clear (such as trade and commerce, social welfare, energy, humanitarian relief, and the private sector).[39] It was also noted that "civil society" is often referred to but there is not consistency in the use of the term and actionable roles are vague.

Another GDAR analysis explored how amenable the policy landscape is for supporting intersectoral action for health within global and African diet-related policy documents.[40] The review found that in order to effectively address the NCD burden, a paradigm shift from 'health for development' to 'development for health' is required across non-health sectors and that malnutrition is a possible intermediary concept to motivate intersectoral action to improve access to nutritious food in Africa (which may also promote a collaborative partnership between the agricultural sector and the health sector). Development for health is especially important in LMICs due to the overloaded health sector.

A GDAR review of climate change and urban resilience policies in Global South cities revealed that policies increasingly share a vision of intersectoral collaboration, community engagement, and adaptive governance and often reflect a broad 'whole-of-society' approach – indicating high levels of buy-in for intersectoral policy approaches.[41]

Our findings highlight a need for policy makers to engage across relevant policy sectors and with academics, civil society and, (where appropriate) the private sector. Civil society (including adolescents) should be aware of policy development and of the opportunities that exist for them to shape it. However, in order to realise intersectoral collaboration, there must be concrete opportunities and spaces for that to happen. For example:

- GDAR stakeholder consultations provided a space for policy sectors that would not normally interact to workshop together
- Spaces and networks that already exist can be utilised to share work widely such as the Partnership for Healthy Cities, Resilient Cities Network, and organisations such C40 and Local Governments for Sustainability (known as ICLEI) that work closely with sub-national governments
- UN-Habitat has developed a comprehensive approach to localise the sustainable development goals across 88 cities, providing whole-of-government assistance throughout all stages of planning, policymaking, project development, and monitoring.[42]
- The intersectoral NCD commissions in the Caribbean are an example of how to bring together ministers across government.[43]

Intersectorality highlight: climate change and health

In line with GDAR's syndemic and intersectoral approach, we argue that policies around climate change and health are inextricably linked. Climate change can have combined, direct, or indirect consequences on diseases. While climate change can directly trigger the proliferation of disease vectors, in addition to causing direct illness and aggravating existing illness, it can also indirectly affect health behaviours through reduced spaces to engage in physical activity, exposure to air pollution, and disruptions to food supply leading to decreased access to healthy foods.[44]

The World Health Organization (WHO) in 2025 has climate change and health as one of the WHO strategic priorities, with two key components:[45]

1. Bolstering climate-resilient health system

As climate change intensifies, cities must strengthen their public health capacity to address new challenges. This includes real-time monitoring and early warning systems for climate-related health risk, health infrastructure that is resilient to climate impacts, ensuring that hospitals and clinics remain operational during emergencies (backup power systems, flood protection measures, climate-adaptive building designs), and engaging citizens in climate and health initiatives.[44]

2. Championing and promoting lower-carbon health societies

GDAR's work is most relevant to this component. Despite interdependencies between health and climate, it cannot be assumed that interventions to address climate change will positively impact health equity and vice versa. This tension between climate solutions and health solutions highlights the importance of a systems approach considering positive and negative feedback loops, intended and unintended consequences on health and climate.[21]

> "Will climate change become elevated as a policy issue if we link it to human rights, dignified housing, food security, and better health?"[46]

Between global and local

Just as sectors 'intersect' in intersectorality, different levels of the global-local spectrum (community, city-level, regional, national, and international) should intersect via bidirectional flows of information. This connection is not just needed at the policy development stage but throughout the policy cycle including implementation and evaluation.

GDAR research on global-local policy includes:

- GDAR researchers analysed 34 global policies related to physical activity from different sectors and found that a growth in the number of policies aligned with the changes in the global understanding of the relationship between physical activity and NCDs.[39] The global physical activity agenda is primarily driven by the World Health Organization via three main avenues: providing leadership and coordination, evidence synthesis and dissemination, and physical activity advocacy. To realise its global physical activity mandate, the WHO relies on strategic partnerships with other UN agencies, international associations, member state governments, research institutions, and academia. However, there were limited recommendations for settings (such as LMICs) that have limited resources or competing priority public health needs.
- A GDAR analysis found that South African country-level policy action has followed the explicit global guidance on limiting sugar intake.[47] The focus of the policy translation varied depending on health priority e.g. oral health at the regional level vs obesity at the national level. The most common approach to translation was emulation, which assumes a "standard basis starting point for best policy but allows for adjustment to suit varying needs of the adopter" e.g. changing terminology to be more comprehensible in the local context. However, translation will be different in other countries compared to South Africa. For example, other southern African countries often are less able to participate in global policy due to a lack of finances, resources, or scientific data to support country positions. They may also not have the advantage of well-coordinated civil society advocacy groups.
- The GDAR review of climate change and urban resilience policies in Global South cities found that a common feature across sites are that policies draw from internationally recognised frameworks, such as the Sustainable Development Goals, the United Nations Framework Convention, the City Resilience Framework, the Paris Agreement, and zero-carbon city goals. However, findings suggest a critical tension: while international frameworks help set the agenda at the national and local levels, motivating and supporting project fundraising by government and civil society initiatives, and giving visibility to the issues in the media thereby attracting interest and fostering engagement, they may also produce a hyperfocus on some issues instead of others that would be more pressing at the local level, creating distortions in public policies.[41]
- The GDAR analysis of global and African diet-related policy documents found that key intervention areas include education and awareness, evidence-based monitoring, and structural changes through legislation, policies, and regulations.[40] However, these represent a focus on the role of the local and individual, with only vague direction provided for non-health sectors in which urban macro-level components, such as rapid urbanisation, need addressing.

GDAR research on this topic raises a lot of questions for future research. For example, what is the relationship between different levels of government in different settings? Do local governments follow national rules or can the local level influence national government? How can stakeholders become more aware of policies that affect them and how can policy makers become more aware of local needs?

Key Message 7:

Commercial actors cannot always be relied upon to prioritise health.

7

Voluntary actions are often adopted in lieu of regulating the composition, production, marketing, and sale of unhealthy commodities (such as fast-food or sugary drinks). A GDAR realist review found **no evidence indicating that voluntary actions are effective in safeguarding public health**, and often their implementation has resulted in weaker responses and policy substitution.[48] The authors therefore suggest that voluntary actions have the potential to negatively influence public health and policy.

Towards the end of 2017, a prominent beverage company in South Africa pledged to remove their sugar-sweetened beverages (SSBs) and advertisements from primary schools in order to contribute to the realisation of a healthy school environment. A GDAR mixed-methods study looked at the impacts.[49] **Two years following the voluntary pledge, the company's carbonated SSBs were available** for sale in 54% of Gauteng schools with tuck shops and advertised in 31%. Qualitative interviews with school staff revealed a complex landscape of reasons including:

- Not knowing about or confusion over the pledge
- Providing SSBs due to demand and profit generation
- Lack of knowledge of the link between SSBs and obesity
- For some schools the branded fridge was the only fridge available and so motivation was low to remove them.

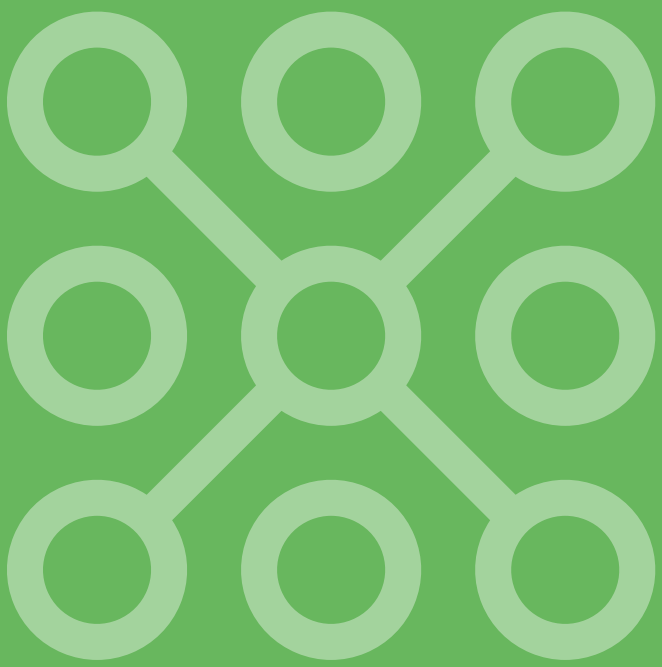
Follow through of the pledge was largely the responsibility of the schools, resulting in inconsistent application.

GDAR network members have reflected on the involvement of Nestlé in the Africa Food Prize and the implications of partnering with the world's largest ultra-processed food (UPF) manufacturer for Africa's sustainable food systems agenda.[50] These GDAR researchers argue that **ultra-processed food manufacturers should be subjected to the same conflict of interest principles applied to other harmful industries** such as tobacco, alcohol and arms and ammunition which includes having strict requirements for whether, when, and how policymakers, international organisations, philanthropists, scientists, and other key stakeholders in food systems engage with UPF companies.

GDAR researchers reviewed publicly available corporate political activity (CPA) in response to climate change of health-affecting industries across four Global South cities. However, limited city-specific data was found with little identified CPA addressing health and non-communicable diseases. For available data, most companies framed themselves as "Good Actors" – positioning themselves as key policy partners to government with high levels of competence, integrity, and foresight. **The researchers call for greater corporate political activity transparency**, considering how commercial actors, through their commercial (manufacturing, advertising and sale), and political activities, have been shown to effect to the syndemic of climate crisis, poor diet, low physical activity, and non-communicable diseases.[51]

Key Message 8:

Sustainable research networks reflect on their real-world influence and nurture the next generation of global public health researchers.



8

We present lessons learned from GDAR Network activities that can benefit other global public health research partnerships.

Funding and co-creation landscape

We recommend that funders allow flexible opportunities for co-creation.

For example, on establishment of the NIHR-funded GDAR Network, our first activity was a two-day face-to-face workshop, attended by all partners, to set and co-design the research agenda.[52] Collaborative approaches such as this maximise the use of established datasets and research investments, and foster novel research questions, particularly those not answerable solely from individual sites. It is essential that community and policy stakeholders are also included in this co-creation process.

In tandem, there is a welcome trend towards mission-oriented science[53], with the focus on solving pressing societal challenges rather than researching a particular topic.

GDAR members consider that the funding landscape for a mature, equitable, and sustainable global public health network should have:

- A shared challenge or vision.
- Rotating and committee based leadership. Notably a team science model that leverages the strengths of a range of professionals, rather than the traditional principal investigator model. This includes having well-described roles and mandate, and accountability.
- A shared strategy for knowledge exchange, researcher development, and impact.
- A devolved portfolio of science, leveraging a plurality of expertise across the network and across different funding opportunities.
- Inclusion of both specialists with technical and methodological expertise and generalists who can see the bigger picture.
- An embedded system of collaboration that can continue beyond funding cycles.
- Equitable partnerships that allow researchers from LMICs and early career researchers to take on leadership roles and have the autonomy and ability to pursue relevant science.
- Stakeholders from LMICs should be explicitly benefiting in international partnerships.

> A takeaway from the COVID-19 pandemic response is that "wide-ranging multisectoral action to reduce inequalities is possible at pace when there is social and political will"[54]

Incorporating multidisciplinary, interdisciplinary, and transdisciplinary approaches

There is a broad range of backgrounds, skills, and experience in the GDAR network, with the ability to learn from each other and develop as researchers. GDAR researchers have formative training in public health, medicine, urban planning, anthropology, biochemistry, and infectious diseases among others, and have worked in a range of roles including as senior researchers, policy advisors, directors of research units, practitioners, and clinicians. Community, government, and civil society engagement also formed a key part of the research process.

The GDAR Network made creative use of different methods, depending on the research question and the strengths of the researchers. If needed, methods experts were brought in to provide training and support.

Some methods used in GDAR include:

- Community-Based System Dynamics
- Citizen science
- Human-Centred Design for co-designing interventions
- Urban environment auditing/mapping tools
- Document analysis
- In-depth interviews
- Focus groups
- Workshops
- Systematic reviews
- Meta-ethnography
- Household surveys

Importantly, GDAR research was co-designed, with policy, civil service, community and wider GDAR Network input throughout the research process.

GDAR Director, Tolu Oni, and colleagues at the Global Alliance for Inter- and Transdisciplinarity developed a design guide for transdisciplinary workshops and courses which can be found here.[55]

Invest in early career researchers (ECRs)

In 2021, a dedicated forum was created to provide a platform for ECRs to share ideas, gain expertise, and have social and networking opportunities. This consisted of monthly online meetings with a mentoring session from a senior researcher as well as capacity building.

Activities included a writing retreat, access to online learning platforms, career "speed dating" and CV review, as well as skills based training such as on grant writing, AI tools for research, and GIS application. The forum has been widely praised within the network for its ability to nurture a rich professional network across geographical, academic, and cultural boundaries. This diversity has been consistently identified as a critical enabler of peer-to-peer learning and knowledge exchange.

Within the network, ECRs were given opportunities to lead on publications, had access to dedicated funds to attend conferences, and run network meetings. In addition, three African ECRs were given scholarships to complete their MPhil in Population Health Sciences at the University of Cambridge.

Monitoring, evaluation, and learning (MEL)

MEL is a core feature of applied science as **we can't change what we don't measure**. MEL allows us to adjust what we are doing, confirm who needs to be involved, and consider how we talk about our findings.

MEL should be conducted internally as well as independently, across data collection types (e.g. interviews, focus groups, and rolling or once-off surveys), to ensure a range of views are captured .

In GDAR, since the 'big goals' of the network are difficult to measure (such as NCD risk reduction and inclusive urbanisation) we instead monitored and evaluated the mechanisms/pathways that we think will lead to these big goals. Our four pathways to impact were:

- Bridging the gaps between research and policy
- Bridging the gaps between research and civil society
- Supporting individual capacity for transdisciplinary research and to participate in global partnerships
- Supporting institutional capacity for transdisciplinary research and to participate in global partnerships

Each site continuously captured activities in the network, linking them to our pathways to impact – with summaries presented back quarterly. Those in our early career training forum also took part in evaluation focus groups during our 2024 Annual Network Meeting. We commissioned two independent evaluations (survey and interviews) of our Network health and connectivity led by the Institute of Development Studies, University of Sussex.

Highlights of the latest independent evaluations indicated a strong impact on individual capacity development within the network and that the network over time had become more mature and adaptable with a strong desire to continue. Points to improve on included developing a future decentralised structure that reduces Cambridge's steering role, having better decision transparency across sites, and redoubling efforts towards stakeholder engagements.

It was noted that the internal evaluation exercise aligned well with the external evaluation – a good sign of being able to reflect openly internally.

Bibliography

1 Global Diet and Activity Research Network. A syndemic approach to the prevention of diet and physical activity related non-communicable diseases. Accessed 28 July, 2025.

2 *Swinburn BA, Kraak VI, Allender S, Atkins VJ, Baker PI, Bogard JR, et al. The global syndemic of obesity, undernutrition, and climate change: The Lancet Commission report. *The Lancet*. 2019;393(10173):791-846.

3 Brugulat-Panés A. Exploring foodscapes in Small Island Developing States through a transition lens: a mixed-methods investigation. PhD dissertation. University of Cambridge; 2024. Accessed 11 Aug, 2025.

4 *Sallis JF, Floyd MF, Rodriguez DA, Saelens BE. Role of built environments in physical activity, obesity, and cardiovascular disease. *Circulation*. 2012;125(5):729-37.

5 Thondoo M, Wayas FA, Oni T. Urban Environments and Healthy Behaviors: Preventing the Epidemic of Chronic Diseases in African Cities. In: Nsoesie EO, Mberu BU, eds. *Urban Health in Africa*. Johns Hopkins University Press; 2025

6 Oni T, Thondoo M, Chikoko H. Democratise and decolonise to decarbonise: how to reap health and climate benefits of transport infrastructure in Africa. *BMJ*. 2024;387:e076772.

7 Weimann A, Oni T. A systematised review of the health impact of urban informal settlements and implications for upgrading interventions in South Africa, a rapidly urbanising middle-income country. *International Journal of Environmental Research and Public Health*. 2019;16(19):3608.

8 Brugulat-Panés A, Randall L, de Sá TH, Anil M, Kwan H, Tatah L, et al. The potential for healthy, sustainable, and equitable transport systems in Africa and the Caribbean: a mixed-methods systematic review and meta-study. *Sustainability*. 2023;15(6):5303.

9 Randall L, Brugulat-Panés A, Woodcock J, Ware LJ, Pley C, Karim SA, et al. Active travel and paratransit use in African cities: mixed-method systematic review and meta-ethnography. *Journal of Transport & Health*. 2023;28.

10 Global Diet and Activity Research Network. Evaluating diet and physical activity related responses to COVID-19. Accessed 28 July, 2025.

11 GDARSpaces. Examining longitudinal changes in food security and the food landscape in Kenya from COVID. [Ongoing research, Objective 3]

12 Gospel Ikpotokin-Ab. The association of informal savings groups (chamas) with child (under-five) stunting and wasting, household food expenditure and household food security in Kenya. Master of Philosophy thesis. The University of Cambridge. Accessed 28 July, 2025. [Under review]

13 Olatunji E, Obonyo C, Wadende P, Were V, Musuva R, Lwanga C, et al. Cross-sectional association of food source with food insecurity, dietary diversity and Body Mass Index in Western Kenya. *Nutrients*. 2021;14(1).

14 Oni T, Maulida R. Heart health: design cities differently and it can help us live longer. *The Conversation*. July 09, 2021.

15 Morais LMO, Borde E, Tatah L, Thondoo M, Wayas FA, Gordon-Strachan G, et al. Collective learning for resilience in Global South cities: a community-based systems mapping approach to integrated climate and health action. *Frontiers in Public Health*. 2025;13.

16 Erzse A, Rwafa-Ponela T, Kruger P, Wayas FA, Lambert EV, Mapa-Tassou C, et al. A mixed-methods participatory intervention design process to develop intervention options in immediate food and built environments to support healthy eating and active living among children and adolescents in Cameroon and South Africa. *International Journal of Environmental Research and Public Health*. 2022;19(16):10263.

17 *Shinde S, Harling G, Assefa N, Barnighausen T, Bukenya J, Chukwu A, et al. Counting adolescents in: the development of an adolescent health indicator framework for population-based settings. *eClinicalMedicine*. 2023;61.

18 Odunitan-Wayas FA, Wadende P, Mogo E, Brugulat-Panés A, Micklesfield L, Govia I, et al. Adolescent levers for a diet and physical activity intervention across socioecological levels in Kenya, South Africa, Cameroon, and Jamaica: mixed methods study protocol. *JMIR Research Protocols*. 2021;10(7).

19 *UNICEF Bulgaria. UNICEF: Lets hear the voices of adolescents! UNICEF. Accessed 28 July, 2025.

20 Global Diet and Activity Research Network. Advocates for change: South African teen citizen scientists in action. Accessed 28 July, 2025.
– MRC Epidemiology Unit. Turning the Tide - GDAR citizen science study in Yaoundé, Cameroon. YouTube. 17 February, 2020

21 Oni T, Lawanson T, Mogo E. The case for community-based approaches to integrated governance of climate change and health: perspectives from Lagos, Nigeria. *The British Academy*. 2021;9:7-32.

22 Godongwana M, Gama K, Maluleke V, Micklesfield L, Odekunle D, Wasnyo YF, et al. Virtual assessment of physical activity–related built environment in Soweto, South Africa: what is the role of contextual familiarity? *Journal of Urban Health*. 2024;101:1221-34.

23 Raised during sense-making brainstorm session with GDAR researchers (Network Steering Group meeting, September 05, 2024)

24 Canelas T, Godongwana M, Wayas FA, Lambert EV, Wasnyo YF, Foley L. Charting a course: navigating rigor and meaning in Global Health research. *Journal of Physical Activity and Health*. 2023;21(2):113-4.

25 Were V, Foley L, Musuva R, Pearce M, Wadende P, Lwanga C, et al. Socioeconomic inequalities in food purchasing practices and expenditure patterns: results from a cross-sectional household survey in western Kenya. *Frontiers in Public Health*. 2023;11.

26 GDARSpaces. Environmental hazards and NCD risks in Kingston. [Ongoing research, Objective 1]

27 Wasnyo Y, Tatah L, Wayas FA, Mapa-Tassou C, Luan Ja, Micklesfield L, et al. Clustering of diet and physical activity behaviours in adolescents across home and school area-level deprivation in Cameroon, South Africa, and Jamaica. *BMC Public Health*. 2024;24. Accessed 28 July 2025.

28 Tatah L, Foley L, Oni T, Pearce M, Lwanga C, Were V, et al. Comparing travel behaviour characteristics and correlates between large and small Kenyan cities (Nairobi versus Kisumu). *Journal of Transport Geography*. 2023;110.

29 Were V, Foley L, Turner-Moss E, Mogo E, Wadende P, Musuva R, et al. Comparison of household socioeconomic status classification methods and effects on risk estimation: lessons from a natural experimental study, Kisumu, Western Kenya. *International Journal of Equity in Health*. 2022;21.

30 Wasnyo Y, Tatah L, Mapa-Tassou C, Foley L, Mba CM, Blanche N, et al. Individual and socio-environmental factors associated with active transport to school among adolescents in Yaoundé. *Journal of Transport & Health*. 2025;42.

31 Musuva R, Foley L, Wadende P, Francis O, Lwanga C, Turner-Moss E, et al. Navigating the local foodscape: qualitative investigation of food retail and dietary preferences in Kisumu and Homa Bay Counties, western Kenya. *BMC Public Health*. 2022;22.

32 Popoola O, Alani R, Assah F, Lawanson T, Tchouaffi AK, Mapa-Tassou C, et al. Assessment of the temporal and seasonal variabilities in air pollution and implications for physical activity in Lagos and Yaoundé. *Atmosphere*. 2023;14(11).

33 Erzse A, Karim SA, Rwafa-Ponela T, Kruger P, Hofman KJ, Foley L, et al. Participatory prioritisation of interventions to improve primary school food environments in Gauteng, South Africa. *BMC Public Health*. 2023;23.

34 GDARSpaces. Co-design of adolescent-focused, climate- resilient interventions and policies that promote healthy diet and physical activity. [Ongoing research, Objective 4]

35 Foley L, Brugulat-Panés A, Woodcock J, Govia I, Hambleton IR, Turner-Moss E, et al. Socioeconomic and gendered inequities in travel behaviour in Africa: mixed-method systematic review and meta-ethnography. *Social Science and Medicine*. 2022;292.

36 Thondoo M, Mogo ERI, Tatah L, Muti M, van Daalen KR, Muzenda T, et al. Multisectoral interventions for urban health in Africa: a mixed-methods systematic review. *Global Health Action*. 2024;17(1):2325726.

37 Turner-Moss E, Razavi A, Unwin N, Foley L. Evidence for factors associated with diet and physical activity in African and Caribbean countries. *Bulletin of the World Health Organization*. 2021;99(6):464-72I.

38 Tatah L, Mapa-Tassou C, Shung-King M, Oni T, Woodcock J, Weimann A, et al. Analysis of Cameroon's sectoral policies on physical activity for noncommunicable disease prevention. *International Journal of Environmental Research and Public Health*. 2021;18(23).

39 Muzenda T, Shung-King M, Lambert EV, Brugulat-Panés A, Weimann A, McCreedy N, et al. Three growth spurts in global physical activity policies between 2000 and 2019: a policy document analysis. *International Journal of Environmental Research and Public Health*. 2022;19(7).

40 Weimann A, Shung-King M, McCreedy N, Tatah L, Mapa-Tassou C, Muzenda T, et al. Intersectoral action for addressing NCDs through the food environment: an analysis of NCD framing in global policies and its relevance for the African context. *International Journal of Environmental Research and Public Health*. 2021;18(21).

41 Thondoo M, Abrahams N, Borde E, Morais LMO, Mathieu E, Odekunle D et al. From climate hazards to health outcomes: investigating policy intersections for NCD prevention and equity in five Global South cities. [Under review]

42 *UN-Habitat. Localizing the SDGs. Accessed 28 July 2025.

43 *Healthy Caribbean Coalition. Getting National NCD Commissions up and running: a framework for the establishment and strengthening of National NCD Commissions in the Caribbean. The Commonwealth. Accessed 28 July 2025.

44 Thondoo M, Abrahams N, Mathieu E. Framing urban design strategies to address the health impacts of climate change. In: Mathur V, Roy A, eds. *Building Resilient Cities Adapting to the Health Impacts of Climate Change. Observer Research Foundation*; 2024.

45 *World Health Organization. WHO General Programme of Work 2025–2028 prioritizes climate change and health. 28 May, 2024.

46 Quote from Lambert EV, Emeritus Professor, during a sense-making session (Annual Network Meeting, November 11, 2024).

47 McCreedy N, Shung-King M, Weimann A, Tatah L, Mapa-Tassou C, Muzenda T, et al. Reducing sugar intake in South Africa: learnings from a multilevel policy analysis on diet and noncommunicable disease prevention. *International Journal of Environmental Research and Public Health*. 2022;19(18):11828

48 Erzse A, Karim SA, Foley L, Hofman KJ. A realist review of voluntary actions by the food and beverage industry and implications for public health and policy in low- and middle-income countries. *Nature Food*. 2022;3:650-63

49 Erzse A, Christofides N, Stacy N, Lebard K, Foley L, Hofman KJ. Availability and advertising of sugar sweetened beverages in South African public primary schools following a voluntary pledge by a major beverage company: a mixed methods study. *Global Health Action*. 2021;14(1)

50 Kruger P, Wynberg R, Mafuyeka M, Laar A, Mialon M, Lake L, et al. The ultra-processed food industry in Africa. *Nature Food*. 2023;4:534-6.

51 Mamabolo B, Abrahams N, Phillips J, Mdlungu V, Tchouaffi AK, Maleke K et al. Corporate Political Activity of ultra commodity industries in selected Global South cities in response to the global syndemic: climate change and diet and physical activity non-communicable diseases. [Submitted]

52 Oni T, Assah F, Erzse A, Foley L, Govia I, Hofman KJ, et al. The Global Diet and Activity Research (GDAR) network: a global public health partnership to address upstream NCD risk factors in urban low and middle-income contexts. *Globalization and Health*. 2020;16

53 *Global Research Council. Discussion paper on Mission-Oriented Research. UK Research and Innovation. Accessed 12 August 2025

54 Oni T, Micklesfield L, Wadende P, Obonyo C, Woodcock J, Mogo ERI, et al. Implications of COVID-19 control measures for diet and physical activity, and lessons for addressing other pandemics facing rapidly urbanising countries. *Global Health Action*. 2020;13(1)

55 *ITD Alliance. Designing inspiring workshops and courses in transdisciplinarity: A guide. Accessed 28 July 2025.

There are many GDAR outputs that contributed to this report, even if not directly referenced. See below further GDAR outputs:

- Foley L, Francis O , Musuva R, Mogo ER , Turner-Moss E, Wadende P, et al. Impacts of a new supermarket on dietary behavior and the local foodscape in Kisumu, Kenya: protocol for a mixed methods, natural experimental study. *JMIR Research Protocols*. 2020;9(12).
- Lopes AAS, Lima LL, Magalhães AS, Andrade ACS, Canelas T, Foley L, Oni T et al. What is the cross-sectional association of geospatially derived walkability with walking for leisure and transport? *PLOS One*. 2025.
- Shung-King M, Weimann A, McCreedy N, Tatah L, Mapa-Tassou C, Muzenda T et al., Protocol for a multi-level policy analysis of non-communicable disease determinants of diet and physical activity: implications for Low- and Middle-Income Countries in Africa and the Caribbean. *Environmental Research and Public Health*. 2021;18(24).
- Tatah L, Wasnyo Y, Pearce M, Oni T, Foley L, Mogo E, et al. Travel behaviour and barriers to active travel among adults in Yaoundé, Cameroon. *Sustainability*. 2022;14(15).
- Thondoo M, Wayas F, Morais LMO, Borde E, Obonyo C, Mafuyeka M. A transdisciplinary framework to tackle the syndemic of climate change and non-communicable diseases in Global South cities: a multi-country analysis. [Under review]
- Wadende P, Francis O, Musuva R, Mogo E, Turner-Moss E, Were V, et al. Foodscapes, finance, and faith: multi-sectoral stakeholder perspectives on the local population health and wellbeing in an urbanizing area in Kenya. *Frontiers*. 2022;10.
- Wayas FA, Smith JA, Lambert EV, Guthrie-Dixon N, Wasnyo Y, West S et al. Association of perceived neighbourhood walkability with self-reported physical activity and Body Mass Index in South African adolescents. *Environmental Research and Public Health*. 2023;20(3).

There are also other GDAR papers currently being drafted - keep an eye out as they get published. Look up our GDAR researchers on Google Scholar or publications on our website for relevant associated research.

Appendix - GDAR research objectives

GDAR (2017 – 2021) goal was to lay the foundations for a well-functioning Network and do innovative research in diet and physical activities in LMICs. Priorities for research were set jointly with our partners and informed by consultation with their stakeholders.

Evidence synthesis

Work Package (WP) 1: Systematic reviews and review of reviews on factors associated with diet and physical activity in Africa and the Caribbean, including travel behaviour

WP1: realist review of voluntary actions by the food and beverage industry

Policy analysis

WP3: Mapping the policy environments and processes relevant to the determinants of NCDs across African and Caribbean settings.

Assessing environments and health behaviours

WP2/WP5 (merged): Identifying a system of factors that can be used to improve health outcomes among adolescents

W6: Travel behaviour characteristics in Yaoundé and Kenya

WP4: Supermarkets and foodscapes in Kenya

Interventions and evaluations

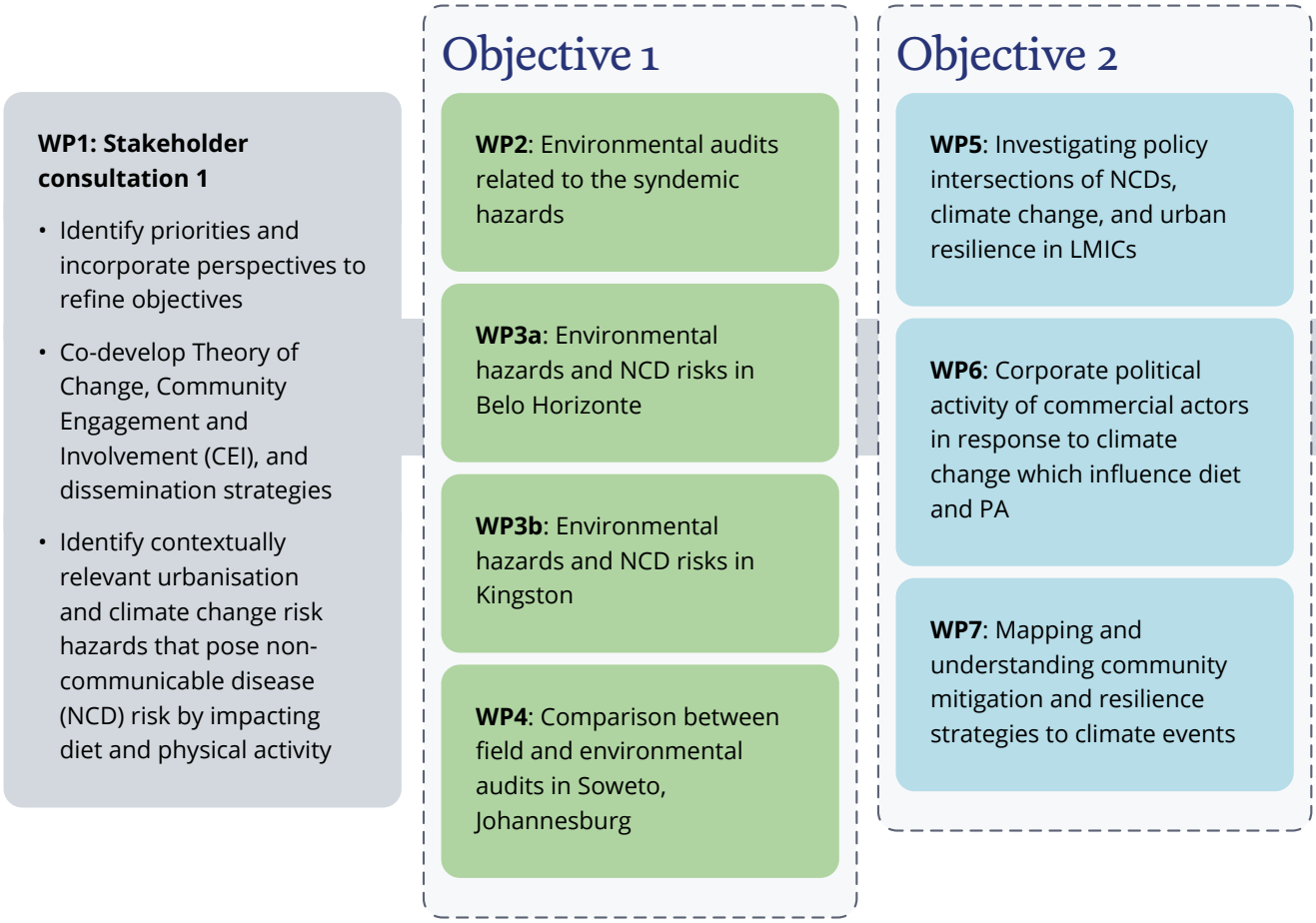
WP7: Co-designing intervention options in food and built environments in and around schools to support healthy eating and active living in young people in Yaoundé, Cape Town and Johannesburg

WP4: An assessment of the food environment in primary schools in Gauteng following a voluntary pledge by a large beverage company

GDARSpaces (2021 – 2025) aimed to generate evidence to support healthy diets and active living interventions and policies that are also resilient to the hazards posed by urbanisation and a changing climate (syndemic hazards) in urban low- and middle-income countries (LMICs).

Objectives

1. Measure syndemic hazard exposure
2. Better understand the adaptive capacity of community, policy, and commercial actors
3. Evaluate sensitivity of community and policy initiatives of built and food environment in response to COVID-19 (as an exemplar of societal disruption)
4. Co-design adolescent-focused, climate resilient diet and physical activity interventions and policies



WP8: Stakeholder consultation 2

- Share and discuss findings from objectives 1 & 2
- Revisit and implement CEI strategy
- Discuss and refine plans for objectives 3 & 4 based on stakeholder experiences and reflections on the findings
- Explore potential for implementation of findings

Objective 3

WP9: Policy and the built environment in the COVID context

WP10: Examining longitudinal changes in food security and the food landscape in Kenya from COVID

Objective 4

WP11: Co-design of adolescent-focused, climate-resilient interventions and policies that promote healthy diet and physical activity

WP12: Stakeholder consultation 3

- Share findings from all objectives
- Discuss implications and implementation of findings
- Explore potential barriers and facilitators of implementation
- Re-visit and implement dissemination strategy
- Explore potential for future research partnership to evaluate health impacts of interventions

GDAR
Global Diet and Activity Research

We believe that equitable global public health partnerships are required to tackle the major societal challenges of our time, and to translate evidence into action

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