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Organization

# Setting global research **priorities for urban health**





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# Abbreviations

**COVID-19** Coronavirus disease 2019

**GPW** WHO's Thirteenth General Programme of Work 2019–2023

**ISUH** International Society for Urban Health

**NCDs** Non-Communicable Diseases

**SDGs** Sustainable Development Goals

**UHRA** Urban Health Research Agenda

**WHO** World Health Organization



# Executive summary



By 2050, more than two thirds of the world's population will live in urban areas, presenting governments and city authorities with the daunting challenge of ensuring citizens have equitable access to safe and sustainable transport systems, green spaces, and healthy, sustainable living and working environments. To be able to meet this challenge, Member States and nongovernmental organizations have called on WHO to support implementation of effective multisectoral interventions to improve the health of urban residents. In response, WHO has developed the Urban Health Research Agenda (UHRA) – a set of global urban health research priorities for 2022–2032.

The UHRA includes all WHO focus areas (including environmental health, climate change, tobacco, housing, healthy diets, physical activity, road safety and emergency preparedness and response) with the overarching goal of supporting states, actors and communities in achieving their health, equity and sustainability targets. UHRA global priorities can also identify and further develop regional research priorities that adequately represent the needs of regional-level stakeholders.

The UHRA is expected to have a medium- to long-term impact at global, national, subnational and local levels by identifying existing gaps in urban health research; developing global research priorities that address knowledge and implementation gaps and strengthen research using rigorous and harmonized methodologies; and providing solid evidence for the development of context-specific, multisectoral interventions that promote urban health.

# The four UHRA priorities

are as follows:

## **1. Strengthen links between urban health research findings and actions to promote urban health**

This involves mapping the evidence base on existing urban health interventions, their enabling factors, and their health impacts, and synthesizing and appraising other factors, including: existing urban health funding and resource mobilization strategies (to enable them to better support multisectoral action); evidence on norms, regulations, financing, reporting, performance mechanisms and incentives (to improve equity in service provision); evidence for safeguarding health through its economic and commercial determinants; and effective models for citizen participation in urban health decision-making.

This priority also involves exploring the application of innovative technologies for measuring urban health risks and improving urban health outcomes, as well as user-centred methodologies for more effective research and knowledge translation, and approaches for health integration into broader urban agendas.

## **2. Build city-level evidence on the relationship between policy, environmental, economic, and social factors in urban environments and health outcomes**

This priority involves investigating local governance approaches to healthy urban development and policy-making, identifying enabling factors and impacts on health, and considering the relationships between neighbourhood factors and social determinants of health. It also involves synthesizing and appraising evidence on access to health services and methods of engaging local health systems, and research on the impact of geographic disparities within cities on vulnerable residents. This priority calls for exploring how population and stakeholder groups subjectively perceive urban health risks in specific city contexts, and gaining a clearer picture of the association between urban exposures and health across the life-course.

### 3. Generate evidence on under-researched thematic areas

This priority aims to strengthen evidence on the relations between climate change and urban health; on effective strategies for preparing, responding and adapting to emergencies in cities; on strategies to combat health disinformation and misinformation; and on the drivers of and interventions to address urban mental health outcomes and interventions to prevent accidents and injuries in cities. This priority also calls for stronger connections between existing global research frameworks such as Planetary Health and One Health that address biodiversity and the links between natural environments and health.

### 4. Generate evidence on under-researched urban population subgroups

This priority involves exploring urban inequities, their role in compounding neighbourhood health risks and outcomes, and how addressing them can improve health equity and outcomes. It calls for the collection, appraisal, and where needed development of a series of global data indicators for monitoring and evaluating urban health interventions directed at specific population groups and on equity outcomes.

It calls for investigation of the relationship between physical and social urban environmental changes, exposures, policies and outcomes for: migrants, internally displaced populations, homeless populations, and refugees; women and girls, older persons, youth, LGBTQIA+, workers, children, and their caregivers; residents of informal settlements; and people with psychosocial, physical, sensory and intellectual disabilities. It also provides for investigating the relationship between land use and zoning regulations and local health inequities.

## UHRA into the future

As the research agenda is implemented, WHO will propose additional processes for the revision and possible expansion of the research questions in collaboration with researchers and practitioners. Possible next steps for knowledge generation and translation of the UHRA priorities may include the creation of a practice-focused “collaboratorium”, an online platform and community of practice.

UHRA implementation will engage actors outside the health sector and explore synergies with existing commitments, in particular the SDGs; global agendas such as the United Nations Decade of Healthy Ageing (2021–2030); frameworks such as the Sendai Framework

for Disaster Risk Reduction 2015–2030; and conventions such as the UN Convention on the Rights of Persons with Disabilities and the UN Convention on the Rights of the Child.

Future activities will emphasize the engagement and capacity building of key stakeholders from governments, funding bodies, civil society, and academia, to ensure their ownership of the UHRA and strengthen their ability to frame health research topics and questions with a greater emphasis on the needs of urban dwellers. Each of these efforts will be informed by, and conducted in alignment with, ongoing research and scientific efforts at WHO and more widely.



# Introduction

Urbanization is one of the most significant global trends of the 21st century. In 2015, more than half of the world's population was living in urban areas – a proportion predicted to rise to more than two thirds by 2050. The United Nations estimates that 90% of expected urban population growth will occur in low- and middle-income countries – most occurring without adequate planning, in informal settlements, and against a backdrop of rising mass-motorization. This means governments face major challenges in ensuring equitable access to services and amenities such as safe and sustainable transport systems and green spaces, and cities face daunting challenges in providing healthy, equitable, and sustainable living and working environments for their residents.

Improving the health and well-being of urban populations is therefore critical to global health. The COVID-19 crisis has drawn renewed attention to the role of cities in shaping health risks, and their power to exacerbate or alleviate urban health inequality. It has brought to light the need to rethink urban spaces, to consider the dynamics between urban and surrounding areas, and to increase urban resilience to climate change, natural disasters, political unrest, and infectious disease outbreaks.

In light of this and given WHO's mandate to provide leadership on health and to shape the research agenda (see Box 1), Member States and nongovernmental organizations have called on WHO to support implementation of effective multisectoral interventions to improve the health of urban residents. Evidence on the health impacts of built environments, design decisions, and infrastructure investments are fundamental to this.

### **Box 1: WHO core functions**

- Providing leadership on matters critical to health and engaging in partnerships where joint action is needed.
- Shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge.
- Setting norms and standards and promoting and monitoring their implementation.
- Articulating ethical and evidence-based policy options.
- Providing technical support, catalyzing change, and building sustainable institutional capacity.
- Monitoring the health situation assessing health trends.<sup>1</sup>

## A strategic approach towards urban health

The ambition to strengthen global evidence through identifying research gaps and providing research leadership is timely and consolidates WHO's commitment to improving urban health worldwide. Over the past few decades, WHO has supported initiatives for healthy cities, advocating for action through health promotion, identifying the connection between cross-sectoral policies and health, developing health impact tools and methodologies for technical assessments, and building strong networks across the globe. Successful outcomes so far include the strengthening of emerging efforts such as WHO's Urban Health Initiative, and well-established networks such as Healthy Cities and Age-friendly Cities and Communities.

The wide-ranging technical areas covered by WHO's urban health work include targeted action in areas such as air pollution, transport, noncommunicable diseases (NCDs), injuries, water and sanitation, emergency preparedness for COVID-19, vector control, malaria, nutrition and more. Additionally, WHO urban health leadership has contributed to the expansion of health promotion programmes in municipalities, piloting local interventions, the development of urban community outreach programmes, establishment of regional observatories for urban governance and development of regional frameworks.

As cities gain traction for a healthy recovery from COVID-19, WHO is working towards a more strategic approach to urban health through increased in-country capacity, the development and dissemination of guidance on best practice interventions, and through high-level political support for urban health among Member States and the international community. This approach is in line with WHO's Thirteenth General Programme of Work 2019–2023 (GPW), aiming to support better health and well-being by 2023 by focusing on social determinants of health across the life-course, including work on urban health (GPW, Output 3.1.1). In this context, a global effort to identify gaps and promote urban health

research is urgently needed. Therefore, the WHO Secretariat has declared the development of global research priorities for urban health as an approved WHO Global Public Health Good, vital for delivering on WHO's current GPW.

## The Urban Health Research Agenda (UHRA)

The resulting Urban Health Research Agenda (UHRA) is a set of global priorities that represent the consensus on urban health research priorities for 2022–2032. The research agenda includes all WHO focus areas (e.g. environmental health, climate change, tobacco, housing, healthy diets, physical activity, road safety and emergency preparedness and response) with the overarching goal of supporting states, actors and communities in achieving their health, equity and sustainability targets. The UHRA global priorities can also support the identification and further development of regional research priorities that adequately represent the needs of regional level stakeholders. In particular, the UHRA will support the development of research and knowledge-to-action initiatives that facilitate the uptake of evidence-based solutions to promote health and well-being in urban environments worldwide.

The UHRA is expected to have a medium to long-term impact at global, national, subnational and local levels by (i) identifying existing gaps in urban health research; (ii) developing global research priorities that address knowledge and implementation gaps and strengthen research using rigorous and harmonized methodologies; and (iii) providing solid evidence for the development of context-specific, multisectoral interventions that promote urban health. Insights from the UHRA will be instrumental in translating evidence into the planning and implementation of multisectoral interventions for improving the health of urban residents. And the UHRA will contribute to achieving the Sustainable Development Goals (SDGs), particularly those on health (SDG 3), inequality (SDG 10) and sustainable cities (SDG 11).

This document describes the global review – led by WHO – of the current status of the research, evidence and response to urban health determinants, and the identified gaps, opportunities, and priorities for urban health research. It also describes the process, inputs and findings<sup>1</sup> that led to the development of the UHRA, as well as the research priorities themselves.

## Scope and audience

The scope of the UHRA is to (i) identify existing gaps in urban health research; (ii) develop global research priorities that address knowledge and implementation gaps and strengthen research using rigorous and harmonized methodologies; and (iii) provide solid evidence for the development of context-specific, multisectoral interventions promoting urban health.

These UHRA research priorities are intended to guide Member States (at national, subnational and local levels), academic institutions and national and international donor agencies in determining which projects should be prioritized when developing, implementing and funding urban health research proposals. This will inform a 10-year global road map for urban health (2022–2032) and constitute a key part of strategic activities to advance urban health research as a WHO global public health good (GPHG 2020/21 724).

## Guiding principles

The following principles have guided the identification of UHRA priorities and will continue to inform and steer the implementation of initiatives to support research and action to promote health in urban areas, including specific regional and local research as appropriate.

### 1. Adopting a systems approach

Research should be focused on generating actionable pathways for systems change. Transformative and transdisciplinary research with results that can be

implemented and replicated at different scales and in low-resource settings should be prioritized.

### 2. Co-production of knowledge

Rather than static and siloed research processes, research processes should prioritize the co-production of knowledge. Such research generation should be grounded in community participation and collaboration, particularly with stakeholders who are typically underrepresented in decision-making.

### 3. Equity as a transversal element

Urban health research should focus on addressing the unequal disease and mortality burden; and promoting the health of vulnerable populations such as informal settlement residents, children and adolescents, informal sector workers, migrants, refugees, and older people in urban environments. Disaggregated data for monitoring inequities and mechanisms to engage citizens in this process are fundamental.

### 4. Cost-benefit and cost-effectiveness considerations

The costs, benefits and effectiveness of interventions to promote health among urban populations should be considered. Research that explores this should be prioritized.

### 5. Sustainability

Research with the potential to achieve sustained impact over longer time periods and benefit future generations should be prioritized.

### 6. Environmental impact. Research itself should be environmentally friendly and sustainable

Research should promote local and regional environmental benefits that together improve planetary health.

<sup>1</sup> The full findings of the global review will be published in due course.

## Methodology for developing the UHRA

The global UHRA priorities are the result of a synthesis of several activities aimed at characterizing the breadth and focus of existing urban health research, as well as identifying opportunities to support knowledge generation and action for improved urban health. The first of these activities (and the most important of them all) was commissioned by WHO through the International Society for Urban Health (ISUH). It included a global scoping review of the published literature; an analysis of big data examining and identifying the connections between urban health concepts and actors globally; and more than 100 in-depth interviews with urban health researchers and leaders carried out in the six WHO regions and related languages.

A predetermined search strategy and a broad framework for urban health determinants and outcomes were used to guide the analyses. The scoping review of the global urban health published literature covered reviews of urban health determinants and outcomes and was carried out in English. The stakeholder mapping and social network analysis used big data from web text mining and social media, to visualize the salience and links between urban health concepts and stakeholders in each WHO region and globally.

Selected regional ISUH coordinating groups conducted in-depth interviews with urban health research leaders in each of WHO's regions and languages, looking at gaps and opportunities for urban health research and knowledge for action. They used a survey when interviews were not feasible, implemented snowball sampling and identified non-peer reviewed reports, books, articles, and initiatives across regions. A web mining<sup>2</sup> and social network analysis identified key themes and analysed the relationships between knowledge generation, action, and key actors regionally and globally. The output of this was a report led by ISUH, in partnership with regional coordinators.

To complement the ISUH research activities, WHO conducted an in-house mapping of its urban health activities. The mapping captured urban health activities led by WHO in its headquarters, as well as documents on the websites of its six regional offices, selected country offices, and the official WHO database of publications (IRIS). The urban health activities were also identified through desktop searches of grey literature, bibliographic databases, and input from in-house technical teams. The components of each activity were documented in a meeting report, as were the gaps and opportunities for advancement in urban health research.

The UHRA was also informed by insights from broader developments that reflect a renewed focus on urban health by WHO globally. This includes a recent WHO Expert Meeting on Urban Health, convening leading global academics and experts to support the Social Determinants of Health department's new cross-cutting function and workstream in this area. The meeting was also attended by WHO colleagues from departments across headquarters and regional offices. Approximately 30 experts were tasked with taking stock of the large breadth of WHO's current activities in urban health and providing guidance on the way forward. The outcome of the meeting included recommendations across different areas including awareness creation, data, monitoring, governance, norm setting, guidance and tools, technical assistance, partnership activities and research.

WHO also developed and disseminated a survey aimed at understanding the needs of implementers, decision-makers and civil society in cities around the world. This survey aimed to understand key urban health activities, actors, gaps, and opportunities, as well as areas in which cities would like to be supported to improve health outcomes. In consultation with WHO's internal focal points in cities in each WHO region, the survey was delivered to selected city representatives and organizations in official relationships with WHO. City actors indicated

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<sup>2</sup> Web mining is an application of automated data mining techniques to extract both structured and unstructured data from web pages, server logs and link structures.



a need for support in funding and implementing coordinated spatial action in cities, as well as in the translation of evidence to interventions, evidence-based policy options, and norms and standards for service provision.

The output of the above activities was synthesized thematically. First, key themes covering urban health activities, actors, needs, and opportunities were identified in each of the documents. These themes were compared at the regional level to identify areas of potential convergence as well as divergence. From this process, the themes were transformed into a set of draft UHRA priorities. This was followed by a discussion between the WHO team leading the UHRA development process and the ISUH leads to revise, ground-truth and clarify the proposed priorities. A draft of the UHRA priorities was subsequently prepared.

Subsequently, WHO hosted a Stakeholder Consultation on the WHO Urban Health Research Agenda, convening members from research communities, cities, international organizations, citizen groups, and national authorities to shape the draft UHRA priorities for improved impact on urban health globally. The stakeholders were tasked with identifying additional research priorities not captured in the UHRA gap analysis, advising on which priorities to retain and which research methodologies were needed to further develop and be applied to complement the priorities. Stakeholders also provided an initial set of inputs on the implementation of the UHRA, including for activities related to monitoring and evaluation as well as outreach and dissemination. Based on their input, the draft UHRA principles and priorities were refined and finalized.



# UHRA priorities

The following global UHRA priorities are purposefully broad while recognizing the need for adaptation to the diverse scales and contexts.

## Strengthen links between urban health research findings and actions to promote urban health

1. Map the evidence base on **existing urban health interventions, their enabling factors, and their health impacts**. These include, for instance, upstream integrated initiatives to address road safety and injury; active mobility; land-use planning; transport; public spaces; green and blue spaces; urban agriculture and food environments; child- and age-friendly environments; informal settlement upgrading; water, sanitation, and hygiene; housing; air, soil and water pollution. This may involve creating registers of existing and ongoing research and action that are widely accessible.
2. Explore user-centred **methodologies for more effective research and knowledge translation**. This includes knowledge sharing, database generation and dissemination, the application of systems thinking and foresight methods, use of comparative urban health research, and monitoring the impact of policies and interventions.
3. Synthesize and appraise existing urban health **funding and resource mobilization strategies** and propose ways in which they can better support multisectoral action to improve urban health and equity-related aspects.
4. Synthesize and appraise evidence on norms, regulations, financing, reporting, performance mechanisms and incentives to improve **equity in service provision** through the public and private sectors.
5. **Explore the application of innovative technologies for measuring urban health risks and improving urban health outcomes**. This includes exploring the role of technology in improving citizen and local decision-makers' access to urban health data; risk factor surveillance; and the use of big data to identify local and global health trends, topics and actors.
6. Document and evaluate the **use and impact of existing health assessment tools** (e.g., Health Impact Assessment, Urban HEART) and their application in various urban environments with a view to strengthening them and scaling up their use where needed.
7. Synthesize and appraise evidence for **safeguarding health through its economic and commercial determinants**, with a focus on addressing the urban health impact of multinationals' and corporations' activities, and private sector-led transformations of urban systems.
8. Synthesize and appraise evidence on **effective models for citizen participation** in urban health decision-making. This includes considering appropriate theories of change and models for interaction with decision-makers.
9. **Explore approaches for health integration into broader urban agendas**: This includes research into approaches to building the capacity for health practitioners to integrate health into economic, social and other development agendas and policy-making processes.

## Build city-level evidence on the relationship between policy, environmental, economic, and social factors in urban environments and health outcomes

10. Investigate **local governance approaches** to healthy urban development and policy-making, identifying enabling factors and impacts on health.
11. Consider multivariable relationships between neighbourhood factors and **social determinants of health**, to assess the impact of various factors on health outcomes and to understand comorbidities.
12. Research the impact of **geographic disparities within cities** on vulnerable residents, including risks for communicable diseases such as vector-borne diseases, tuberculosis, zoonotic infections, and NCDs, as well as access to health services and citywide health equity.
13. Synthesize and appraise evidence on **access to health services and methods of engaging local health systems** and their effects on urban health outcomes, including evidence on how living conditions, pollution, and local social systems can affect health.
14. Explore how diverse population and stakeholder groups **subjectively perceive urban health risks, protective factors and characteristics within specific city contexts** and the relationship to their health outcomes. This includes the application of participatory action research, rights-based approaches, citizen-generated data, e.g., crowdsourced data, and democratized tools, e.g., wearables, to understand citizens' experience.
15. Generate more **dose-response models** of the association between the urban exposome and positive as well as negative health outcomes across the life-course.

16. Generate **spatiotemporal models** of the association between urban exposures and disease risk factors and positive as well as negative health outcomes throughout the life-course. This includes longitudinally monitoring disaggregated urban indicators to understand health outcomes and how they might differ across the socioeconomic gradient.

## Generate evidence on under-researched thematic areas

17. Strengthen evidence on **the relations between climate change and urban health**. This includes i) effective climate change responses that result in co-benefits for health; ii) health-related climate outcomes and effective interventions in varying contexts, e.g. island nations, coastal, arid, and tropical cities; iii) climate change impacts on vulnerable populations and effective measures to reduce vulnerability and enhance health among those groups; and iv) the interaction between climate change and other health threats e.g., vector-borne diseases, zoonoses, heat stress, heat islands, epidemic thresholds, and food security.
18. Strengthen evidence on effective strategies **for preparing, responding and adapting to emergencies** in cities, including disease outbreaks, natural disasters, humanitarian and political crises.
19. **Connect with existing global research frameworks** such as Planetary Health and One Health that address biodiversity and the links between natural environments and health.
20. Strengthen evidence on strategies to **combat health disinformation and misinformation, and communication to strengthen public trust in evidence** in cities.
21. Strengthen evidence on the drivers of, and interventions to address, **urban mental health outcomes**.

22. Strengthen evidence on the drivers of, and interventions to address, **accidents and injuries** in cities. These include research with an emphasis on men concerning their role in violence reduction, domestic violence, road traffic injuries, falls, drowning, suffocation, drug overdoses, gun violence (including homicide, suicide, police shootings, gang violence and school shootings).

## Generate evidence on under-researched urban population subgroups

23. Explore **urban inequities, their role in compounding neighbourhood health risks and outcomes, and how addressing them can improve** health equity and outcomes. Specific inequalities to be investigated include class, gender, disability, ethnicity, geography, incarceration, indigeneity, and/or socioeconomic status.

24. Collect, appraise, and where needed, develop a series of **global data indicators for monitoring and evaluating** urban health interventions directed at specific population groups (e.g. age-friendly cities) and on equity outcomes (e.g. vis-a-vis migrants, indigenous peoples, and other inequities according to gender or socioeconomic status).

25. Investigate the relationship between physical and social urban environmental changes, exposures, policies and outcomes for **migrants, including rural-urban migrants, internally displaced populations, homeless populations, and refugees.**

26. Investigate the relationship between physical and social urban environmental changes, exposures, policies and outcomes for specific population subgroups including **women and girls, older persons, youth, LGBTQIA+ populations, workers, children, and their caregivers.**

27. Investigate the relationship between physical and social urban environmental changes, exposures and outcomes for **residents of informal settlements.** These include housing units without legal land tenure, squatter settlements on public or private land, and inadequate housing without basic service provision (e.g. water, sanitation, electricity, waste services).

28. Investigate the relationship between physical and social urban environmental changes, exposures, and outcomes for **people with psychosocial, physical, sensory and intellectual disabilities.**

29. Investigate the relationship between **land use and zoning regulations** and neighbourhood health inequities.



# Next steps for the UHRA

The adoption and financing of the UHRA, as well as its adaptation to various scales such as the neighbourhood, national and regional levels, are necessary for it to be impactful. The UHRA can be used by WHO, partners, research agencies and academia as a reference in identifying key research and evidence gaps to underpin local interventions and their evaluation for health. WHO will be facilitating connections and supporting commitment from all relevant actors in a truly cross-sectoral effort. As the research agenda is implemented, WHO will propose additional processes for the revision and possible expansion of the research questions in collaboration with researchers and practitioners.

Possible next steps for knowledge generation and translation of the UHRA priorities may include the creation of a practice-focused collaboratorium, an online collaboration platform and community of practice. The collaboratorium could enable regional learning on the adaptation of the UHRA at multiple scales, as well as the sharing of successes, failures and insights gained in driving urban health impact. The collaboratorium could also provide avenues for health practitioners to build their capacity in applying a systems lens to urban health, in advancing the integration of health in development agendas, and in working with non-health actors.

Other possible directions include the development of a broader urban health framework and the coordination of funding to generate knowledge on the UHRA priorities. The evaluation of the UHRA with a view to exploring how its principles, implementation and translation may be linked to urban health impact is also a future priority.

Facilitating health integration into development is another relevant step related to the implementation of the UHRA and includes engaging actors outside the health sector and exploring the synergies with existing commitments, in particular with the SDGs; global agendas such as the United Nations Decade of Healthy Ageing (2021–2030); frameworks such as the Sendai Framework for Disaster Risk Reduction 2015–2030; and conventions such as the UN Convention on the Rights of Persons with Disabilities and the UN Convention on the Rights of the Child, given their direct link to urban health and existing monitoring and reporting systems.

And in terms of capacity building for health practitioners, WHO is also recommended to facilitate training and skills for health practitioners to support them in their ability to apply a systems lens to urban health through advancing the integration of health in global agendas, frameworks, and platforms; and through framing health research topics, processes and outcomes with a greater emphasis on the needs of non-health actors.

Finally, future activities will also emphasize the engagement and capacity building of key stakeholders from governments, funding bodies, civil society, and academia, to ensure their ownership of the UHRA and strengthen their ability to frame health research topics and questions with a greater emphasis on the needs of urban dwellers. Each of these efforts will be informed by, and conducted in alignment with, ongoing research and scientific efforts at WHO and more widely.

**Urban Health**

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