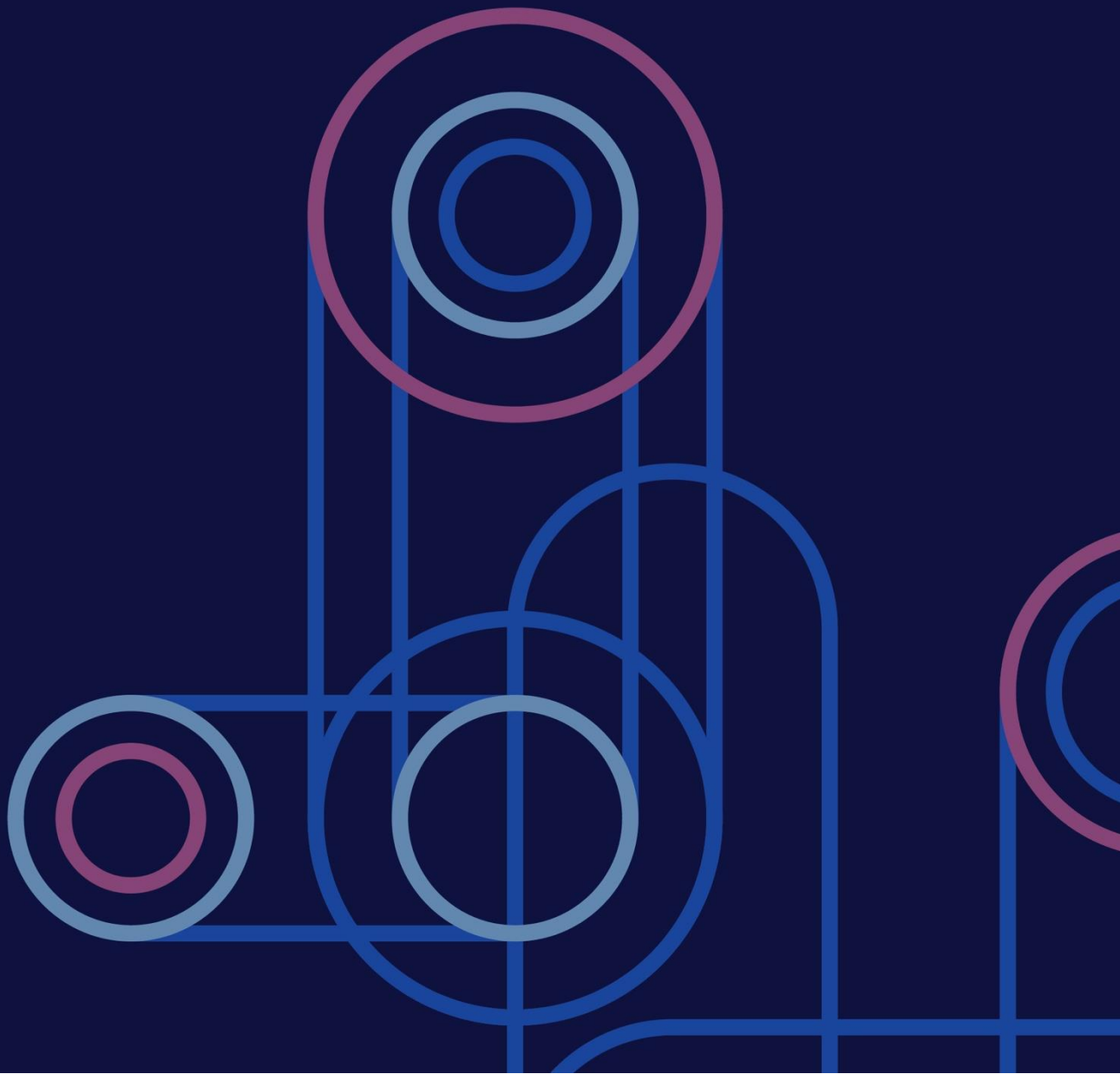
World Health Organization

CASE STUDY

Shaping Healthier Cities: The Pioneering Work of the Observatory for Urban Health in Belo Horizonte, Brazil

2025



Basic information	
WHO Region	AMRO
City or Country	Belo Horizonte, Brazil
Timeline	2002 – ongoing
Type of intervention	Monitoring; analysis
Primary level of implementation	City
Primary sectors involved	Health; urban planning; environment; data
Primary health outcomes or challenges	Health inequities; data for health

Case description

The Observatory for Urban Health in Belo Horizonte (OSUBH) was established in 2002 as a collaborative effort between the Federal University of Minas Gerais (UFMG) School of Medicine and the Municipal Health Department. It emerged as one of the first city-based observatories in Latin America dedicated to understanding and reducing urban health inequities. Building on epidemiological and geospatial expertise, the observatory was designed to integrate social, environmental, and health data for strategic decision-making and policy evaluation in the metropolitan region.

Belo Horizonte – with a population of approximately 2.3 million (at the heart of a metropolitan region of approximately 6 million) – faces challenges typical of rapid, unequal urbanization: growing inequalities in housing and infrastructure, exposure to environmental risks, and spatially concentrated poverty. Responding to the need for locally grounded evidence, OSUBH has strengthened the interface between research and policy by generating innovative urban health studies and maintaining a shared data and knowledge platform.

Over two decades, the observatory has compiled and analysed city-level information on morbidity, mortality, social determinants, and neighbourhood conditions. It produces disaggregated maps and dashboards that help municipal departments visualize inequities, target investments, and assess the impact of urban and health interventions. Examples include studies on transport, mobility, and housing, vector-borne disease dynamics, and broader natural and built environmental and social health risks shaped by urban infrastructure. By systematically linking urban indicators to health outcomes,

The urban landscape of Belo Horizonte, Brazil. 2025. © Solimar Rocha.

OSUBH has supported revisions to the city's master plan and public health surveillance strategies.

The observatory also serves as a national reference point for urban health monitoring, supporting the Brazilian Ministry of Health and the Pan American Health Organization (PAHO) in developing urban health indicator frameworks. During the COVID-19 pandemic, OSUBH created the Info-COVID-OSUBH platform to map cases and deaths at fine spatial resolution, providing near-real-time evidence for risk-based responses in Belo Horizonte. This experience shows how robust local data and analytic capacities can support responses to emergent challenges.

Key enabling factors include institutional continuity within UFMG, stable technical staff, long-term municipal collaboration, and external support from PAHO and international networks. Barriers have included resource constraints and difficulty in maintaining multisectoral engagement beyond the health sector. Nevertheless, OSUBH has become a model for city-level urban health observatories across Latin America and beyond. Its datasets are used to track progress toward Sustainable Development Goals and to evaluate equity-oriented urban interventions. Future priorities include expanding integration of environmental and mobility data and enhancing the participatory use of observatory tools by citizens, community groups, and civil society organizations to democratize urban health knowledge and decision-making.

OSUBH is also building new research/action programmes to meet emerging challenges, such as the growing impacts of climate change on urban health. To this end, it has integrated climate time series (air temperature, humidity, heat waves, extreme rainfall, among others) with epidemiological surveillance and spatial analysis to inform municipal decision-making. This agenda combines risk modelling and geoprocessing to identify territories where climatic extremes exacerbate health burdens – including heat-stress mortality, exacerbation of respiratory issues, arboviral transmission, and hydrological impacts. By linking high-resolution environmental data with health outcomes and social determinants, local monitoring platforms convert evidence into actionable intelligence for policy, such as extreme-heat contingency plans, intersectoral protocols, and urban design interventions to reduce heat islands and protect vulnerable groups. In sum, integrating climate science, health surveillance, and urban governance enables more equitable, timely, and evidence-based responses, positioning monitoring as an axis for structuring axis effective public policy.

Strategic Highlight

The Belo Horizonte Observatory for Urban Health illustrates how city-level observatories can transform data into strategic intelligence for urban health governance. By establishing a permanent interface between academic institutions and municipal administration, OSUBH has enabled evidence-informed policy choices that address social and environmental determinants of health. Among its key principles are the promotion of institutional mechanisms for collaborative learning, the integration of health metrics into urban planning, and the building and leveraging of capacity to evaluate the impacts of urban policies.

The observatory acts as both a scientific and political bridge, combining cutting-edge research and analytical capacity with an integrated data infrastructure that informs and supports evidence-based urban health governance. Politically, it is a trusted space where scientific evidence and policy needs can cross-inform one another to support productive solutions. Through regular interaction with municipal departments, the observatory ensures that knowledge about inequalities, risk exposure, and service gaps informs resource allocation and urban design.

Belo Horizonte's experience demonstrates that observatories are not stand-alone research projects but core elements of urban governance systems. They enable cities to move from individual projects to continuous monitoring and adaptation, a foundation for strategic action amid the complexity of urban conditions. To be effective, urban health observatories require institutional anchoring, data access agreements, and co-production between technical experts and decision-makers. When embedded within city institutions and linked to regional and global networks, they can substantially

strengthen public sector capacity to plan, evaluate, and govern for health and health equity.

Further Information

- https://osubh.medicina.ufmg.br/
- https://www.iied.org/driving-health-equity-for-cities-communities-work-belo-horizontes-urban-observatory