

CLIMATE CHANGE AND URBAN HEALTH

LESSONS FROM LATIN AMERICAN CITIES



Urban areas across Latin America face increasing health impacts from climate change. Cities have a key role in adapting to changing climate, mitigating greenhouse gas emissions, and maximizing co-benefits of climate action to safeguard human and environmental health.

Key Points

- Climate change has direct and indirect impacts on human health, and these impacts are increasing.
- Health and other impacts of climate change are not experienced equally. Populations that are already disadvantaged, including those living in poverty and in highly vulnerable urban areas, can face concentrated and magnified impacts.
- Across Latin America, urban areas will face increasingly frequent and severe extreme events, like heatwaves, extreme cold temperatures, fires, and flooding – as well as permanent changes in temperature and precipitation patterns.
- Climate adaptation and mitigation actions can create co-benefits for health.

Health can provide a unifying framework to drive urban policies and interventions that promote equity, address climate change, and foster sustainable development.

CLIMATE CHANGE AND URBAN HEALTH

How does climate change affect health?

- Climate change exacerbates existing weather (such as storms and extreme temperatures) and creates long-term, permanent changes in temperature and precipitation patterns.
- These changes create direct and indirect effects for human health.
- Urban areas are vulnerability “hotspots.” Many cities are located in low-lying coastal areas, and the urban built environment further increases the risk and severity of flooding, heat waves, and landslides.
- Uncontrolled growth, especially in areas highly vulnerable to natural hazards or with limited access to urban services, increases the risks and impacts of climate change.
- Urban socioeconomic factors and dynamics determine people’s ability to respond and adapt. Certain groups – like ageing populations, groups affected by migration, and people with unequal access to healthcare and other resources – are therefore more vulnerable to climate change.

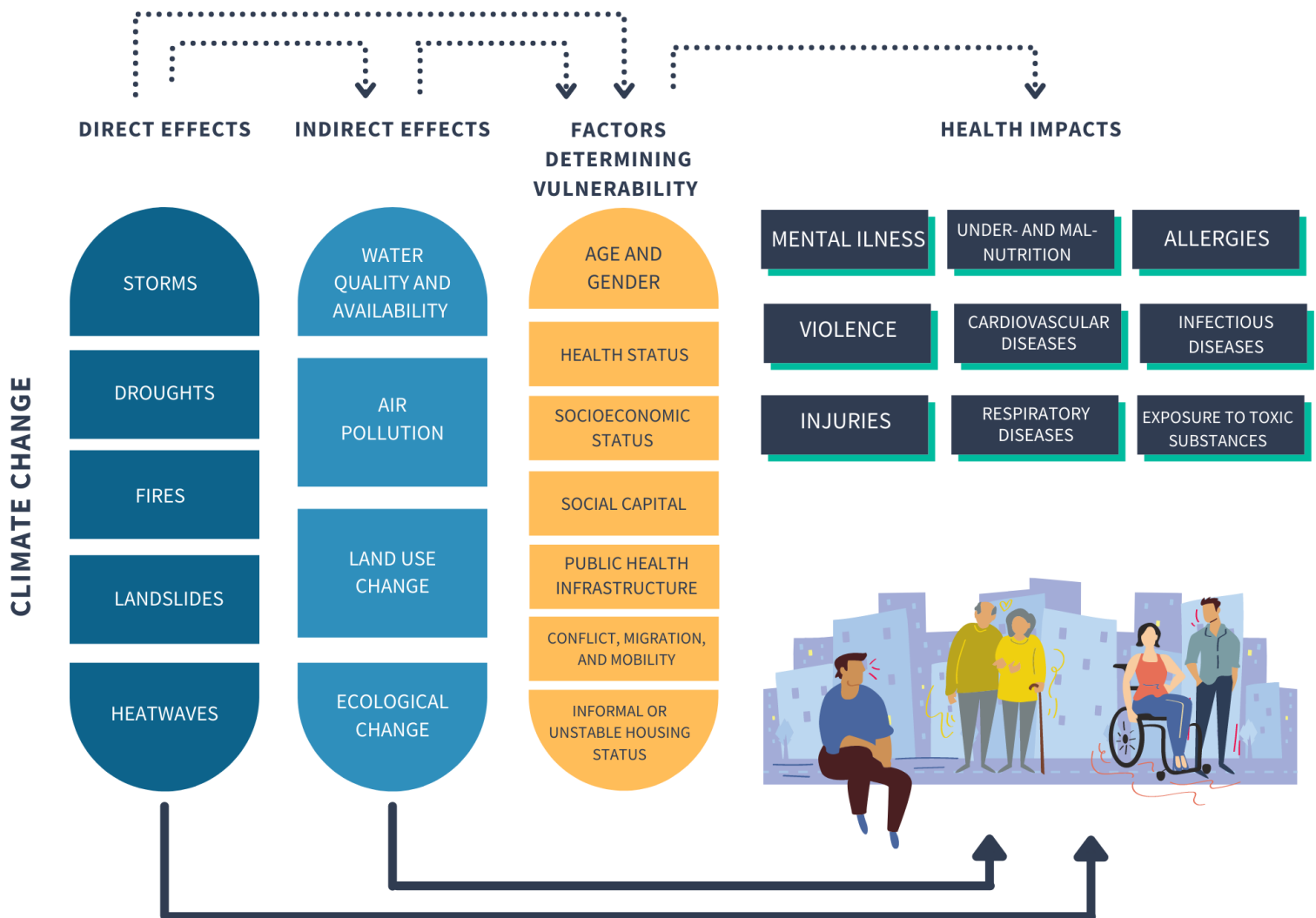


Figure 1. The direct and indirect effects of climate change on health and wellbeing. Adapted from: Watts et al 2015.

Climate change and vulnerability in Latin American cities

- In Latin America, many people in urban areas experience a high risk of flooding, landslides, and other natural disasters.
- Informal and unplanned development, often in the outskirts of cities, creates additional risks and exacerbates environmental hazards, especially for marginalized communities and those living in poverty.
- Urban areas in Latin America concentrate poverty and informality, creating large populations that are vulnerable to both extreme events and to long-term climate shifts².
- The health impacts of climate change will increase health inequities across the region.



Figure 2. Climate change in Latin America.

* The Intergovernmental Panel on Climate Change (IPCC) is the body of the United Nations responsible for advancing knowledge on science related to climate change.











URBAN CLIMATE ACTION: ADAPTATION, MITIGATION, AND CO-BENEFITS FOR HEALTH

Cities are responsible for 3/4 of all energy use and produce over half of global GHG emissions⁴. Although Latin America and the Caribbean is responsible for less than 10% of global GHG emissions, transport-related emissions are rapidly increasing across the region as a result of increasing private vehicle ownership and urban sprawl⁵.



- Adaptation efforts seek to adjust (“adapt”) human systems to the changing climate and reduce harmful impacts.
- Mitigation seeks to reduce (“mitigate”) greenhouse gas (GHG) emissions or to increase capture in carbon sinks.
- Many adaptation and mitigation actions directly improve human health, and activities designed to promote health can also contribute to climate change mitigation or adaptation. These gains are known as “co-benefits.”
- Both short- and long-term adaptation and mitigation actions from many urban sectors can help address climate change and provide co-benefits for health in cities.

Examples of what cities in Latin America are doing to address climate change and create co-benefits. Adapted from C40^{5,6}.

City	Sector	Intervention	Co-benefits for health
 Medellín, Colombia	Urban planning and design 	Installation of “Green Corridors” across the city to reduce heat island effect and the impacts of extreme weather events.	Space for recreation and active transport, reducing heat stress and air pollution.
 São Paulo, Brazil	Waste management 	Compost facilities to reduce landfill waste and mitigate GHG emissions.	Reduced presence of disease vectors and improved air quality.
 Santiago, Chile	Transport 	Electrification of public bus and taxi fleet.	Improved air quality and reduced noise pollution. Projected to prevent 1,370 premature deaths by 2030 ⁷ .
 Bogotá, Colombia	Urban planning and transport 	Bogotá received the 2022 Sustainable Transport Award for creating >84 km of emergency bike lanes in response to the pandemic, expanding their electric bus fleet, and implementing speed management programs.	Reduced speed limits and other measures produced a 21% decrease in road traffic deaths in 2019, and a 28% decrease in 2020 ⁸ .
 Salvador, Brazil	Emergency preparedness 	Creation of community centers to promote early warning systems and other disaster risk reduction strategies.	Capacity building, increased preparedness and reduced injuries and deaths while preventing economic losses as a result of extreme precipitation and other weather events.

See more here: bit.ly/30J95q9

RECOMMENDATIONS

For urban policymakers:

- 1. Identify key climate hazards and assess cities' capacity to respond to these challenges.
- 2. Make use of available research and research partnerships to build awareness of the health impacts of extreme weather events and long-term changes.
- 3. Identify vulnerable populations and review all policies and proposed interventions with a focus on the potential benefits, costs, and other impacts for these groups.
- 4. Build partnerships across multiple sectors (health, transport, urban planning, food policy, energy, social services, housing, construction) to develop policy responses.
- 5. Focus on the underlying causes of vulnerability and prioritize adaptation and mitigation actions that address these causes – not only respond to their effects.
- 6. Support policy actions and interventions that protect both health and the environment: (1) promote active travel and invest in clean public transport (2) promote urban greening (3) prevent sprawl (4) subsidize energy efficient housing (5) promote clean energy production (6) reduce waste.

For public health researchers:

- 1. Advocate for a **health in all policies** approach.
 - > Leveraging evidence of health impacts throughout urban planning decisions and climate policy negotiations can drive more ambitious climate action.
- 2. Focus research questions on evaluating the **underlying drivers** of climate vulnerability across cities.
 - > This evidence can increase support for climate action by highlighting inequities, and inform responses that target the physical, social, and economic conditions that make some people and groups more vulnerable.
- 3. Identify and prioritize **vulnerable populations** when designing and implementing urban policy evaluations.
 - > This evidence can inform future interventions to promote more inclusive and equitable policies.
- 4. Develop research questions and studies to assess the **health co-benefits** of existing policies and adaptation and mitigation action.

References

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Salud Urbana en América Latina (SALURBAL), Urban Health in Latin America, is a five-year project that studies how urban environments and urban policies impact the health of city residents throughout Latin America. SALURBAL's findings inform policies and interventions to create healthier, more equitable, and more sustainable cities worldwide. SALURBAL is funded by the **Wellcome Trust's Our Planet Our Health initiative, the first large biomedical foundation to direct specific attention to climate change**. See more: <https://doi.org/10.1371/journal.pmed.1002628>. The **Urban Health Network for Latin America and the Caribbean (LAC-Urban Health)** seeks to promote regional and multisectoral collaboration in order to generate evidence on the drivers of urban health and health equity and translate this evidence into policies to improve health across cities in Latin America and the Caribbean.



More information about LAC-Urban Health and SALURBAL

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