



URBAN HEALTH IN LATIN AMERICA THE SALURBAL PROJECT

The *Salud Urbana en América Latina* or Urban Health in Latin America (SALURBAL) Project brings together over **200 professionals** from multiple disciplines to study the ways urban environments and urban policies impact the health of city residents throughout Latin America. Project findings inform policies and interventions to create **healthier, more equitable, and more sustainable cities** worldwide. SALURBAL is funded by the Wellcome Trust and is the main initiative of the Urban Health Network for Latin America and the Caribbean (LAC-Urban Health).

Learn more about LAC-Urban Health here: bit.ly/LAC-UHNetwork



SALURBAL PROJECT AIMS

AIM 1

Identify city and neighborhood drivers of health and health inequalities among and within cities.

AIM 2

Evaluate the health, environmental, and equity impacts of urban policies and interventions.

AIM 3

Employ systems-thinking and simulation models to evaluate urban-health-environment links and plausible policy impacts.

AIM 4

Engage the scientific community, the public, and policy makers to disseminate and translate findings.

Lessons from Latin America about what makes cities healthier, equitable and environmentally sustainable.

OUR TEAM

SALURBAL is implemented by Drexel University and 14 institutional partners across the United States and Latin America:

- Drexel University, Philadelphia, Pennsylvania, **USA**
- Universidad Nacional de Lanús, Buenos Aires, **Argentina**
- Universidade Federal de Minas Gerais, Belo Horizonte, **Brazil**
- Universidade de São Paulo, São Paulo, **Brazil**
- Fundação Oswaldo Cruz, Salvador de Bahia, **Brazil**
- Fundação Oswaldo Cruz, Rio de Janeiro, **Brazil**
- Universidad de Chile, Santiago, **Chile**
- Pontificia Universidad Católica de Chile, Santiago, **Chile**
- Universidad de los Andes, Bogotá, **Colombia**
- Instituto Nacional de Salud Pública, Mexico City, **Mexico**
- Universidad Peruana Cayetano Heredia, Lima, **Peru**
- Instituto de Nutrición de Centro América y Panamá (INCAP), Guatemala City, **Guatemala**
- Pan American Health Organization (PAHO), Washington D.C., **USA**
- University of California at Berkeley, Berkeley, California, **USA**
- Washington University in St. Louis, St. Louis, Missouri, **USA**



SALURBAL DATA

The SALURBAL data resource includes hundreds of variables on all cities with 100,000 residents or more in **11 countries** in Central and South America.

bit.ly/SALURdata

371
cities



Argentina

33
cities



Brazil

152
cities



Chile

21
cities



Colombia

35
cities



Costa Rica

1
city



El Salvador

3
cities



Guatemala

3
cities



Mexico

92
cities



Nicaragua

5
cities



Panama

3
cities



Peru

23
cities

The SALURBAL resource includes data for **371 cities** on:

- Mortality and life expectancy
- Health risk factors
- Social, economic, and service environment
- Physical and natural environment
- Demographics
- Environmental impact



Level1_AD

Composed of administrative units (level 2) with easily available data.

Level1_UX:

Urban extent of the built-up area of a city quantitatively determined from satellite imagery.

Level1_MA:

Follows exact country-specific definitions of urban areas.

Level 2

Individual administrative "subcity" units nested in Level1_AD (e.g., municipios or comunas.) In some cases, Level 2 may be nested in Level1_MA.

Level 3

"Neighborhoods" that are small census units (e.g., setor censitario) that are nested within Level 2. May approximately be linked with Level1_UX.

Variables are available at the city, sub-city, neighborhood, and individual levels, allowing for inter- and intra- urban comparisons and multilevel analysis of health impacts.

POLICY EVALUATION STUDIES

SALURBAL is evaluating the health and environmental impacts of six city and neighborhood-level policies and interventions over time:



bit.ly/SALURpeval



TransMiCable
Bogotá, Colombia

Evaluation of a new cable car's impact on the health and wellbeing of residents of Ciudad Bolívar, located in the outskirts of Bogotá.



Speed limits
Mexico City, Mexico

Evaluation of reduced speed limits and enhancement of speed limit enforcement, implemented as a part of the country's Vision Zero strategy.



EcoBici
Mexico City, Mexico

Evaluation of a large-scale bike share program Mexico City and changes in cycling infrastructure in response to the COVID-19 pandemic.



RUCAS
Viña del Mar and
Santiago, Chile

Evaluation of the *Programa de Regeneración de Conjuntos Habitacionales* (Housing Complex Regeneration Program) and its impact on residents' health and wellbeing.



Vila Viva
Belo Horizonte, Brazil

Evaluation of urban redevelopment initiatives' impact on mortality, asthma, mosquito-borne disease, and NCD risk factors in informal settlements.



Health warnings on processed foods
Lima, Peru

Evaluation of Peruvian warning labels on ultra-processed foods, including an assessment of food choice among adolescents and industry response to the new legislation.

SYSTEMS MODELING

SALURBAL researchers have developed two agent-based models to simulate real-world scenarios and understand the impacts of food and transport policies. These models were informed by workshops held with diverse stakeholders where participants mapped out the complex connections between urban policies, food and transport-related decisions and behaviors, and health in cities throughout the region.



bit.ly/SALUR_st

CLIMATE CHANGE AND URBAN HEALTH

- Since 2020, SALURBAL researchers funded by Wellcome Trust's Climate Change and Health Awards have led a study documenting the impacts of heat on mortality and the buffering effects of green spaces and socioeconomic conditions.
- Key findings to-date highlight the impacts of extreme temperatures on mortality, especially among older adults, and the role of extreme heat in determining low birthweight.
- Beginning in 2023, our team will develop additional work in this area, including:
 - An assessment of existing knowledge, research gaps, and policy questions surrounding climate and health across the region;
 - The expansion of our data resource to support understanding of the health and health equity impacts of climate change in urban areas; and
 - Capacity building to engage existing and new partners and support coalition building between scientists, NGOs, and government agencies working in this area.

bit.ly/SALURheat



POLICY ENGAGEMENT AND DISSEMINATION

Our team develops materials and activities to disseminate our findings broadly to a range of audiences, promote new ways of thinking about urban health, and ensure the policy relevance of our research.



Policy and
Data Briefs



Webinars



Engagement
with the
media



Digital
dissemination

- social media
- SALURBlog
- website
- newsletter



Conference
participation



Trainings and
workshops



Featured in:

- CNN
- El País
- BBC
- ...Many more!

SALURBAL RESULTS: HIGHLIGHTS

To-date, the SALURBAL team has produced **more than 100 publications, including peer-reviewed journal articles, policy briefs, and data briefs**. All publications are available to download and can be accessed on our website.



bit.ly/SALURpubli

Key findings to-date include:

 City-level life expectancy varies across countries and within countries by as much as 7-10 years. Better city-level education, water access, and sanitation and less overcrowding are associated with greater life expectancy and a relatively lower proportion of deaths from communicable, maternal, prenatal, and nutritional conditions, and with a higher proportion of deaths from cancer, cardiovascular disease, and other noncommunicable diseases (**Bilal et al. 2021, Nature Medicine**).

 Characteristics of the urban built environment are related to road traffic mortality. Road traffic mortality is lower in cities with higher population density, higher street connectivity, mass transit systems such as a subway or Bus Rapid Transit, and with less isolated built-up areas (**Quistberg et al. 2022, Lancet Planetary Health**).

 Cities in Latin America are experiencing increased motorization. Development fragmentation, urban form complexity, and circuitry of street networks are associated with greater increases in car rates (**Delclòs-Alió et al. 2023, Travel Behavior and Society**).

 Longer commuting, commuting by personal vehicle, and poor access to transit are associated with more depressive symptoms (**Wang et al. 2019, Journal of Transport & Health**). Vegetable consumption is lower, and sugar sweetened beverage consumption is higher among those who experience greater travel delays (**Guimarães et al. 2022, International Journal of Environmental Research and Public Health**).

 Lower education level is associated with higher rates of diabetes and obesity among women. In men, these associations are weaker and vary by country and city socioeconomic development, with inverse associations emerging as city socioeconomic development increases (**Braverman et al. 2021, Journal of Epidemiology & Community Health; Mazariegos et al. 2021, Public Health Nutrition**).

 Racial inequities in self-rated health are larger in cities that are more segregated (**Guimarães et al. 2022, American Journal of Epidemiology**).

 More than half of the people in Latin American cities live in areas with air pollution levels that exceed World Health Organization guidelines. Larger cities and cities with higher GDP, higher motorization, higher congestion, lower population density, less greenness, and higher intersection density have higher levels of PM2.5 (**Gouveia et al. 2021, Science of the Total Environment**).

 Nearly 6% of all deaths and 10% of deaths from respiratory infections can be linked to extreme temperatures. On very hot days, a one-degree Celsius increase in temperature is associated with a 5.7% increase in the risk of premature death (**Kephart et al. 2022, Nature Medicine**). Higher temperatures throughout gestation are associated with lower birthweight (**Bakhtsiyarava et al. 2022, Environment International**).



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