WELCOME

INEQUALITY IN MORTALITY OUTCOMES IN LATIN AMERICAN CITIES: DATA FROM THE SALURBAL PROJECT

WEBINAR

JULY 1, 2020
11:00 AM ET
THE SALURBAL PROJECT

Salud Urbana en América Latina – Urban Health in Latin America

• An initiative of the Urban Health Network for Latin America and the Caribbean (LAC-Urban Health).
• Implemented by Drexel University and 14 partners primarily based in Latin America.
• Funded through Wellcome Trust’s “Our Planet, Our Health” global initiative.
AN INTERNATIONAL NETWORK OF COLLABORATORS

Drexel University, Philadelphia, Pennsylvania, USA
National University of Lanus, Buenos Aires, Argentina
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Universidade de Sao Paulo, Sao Paulo, Brazil
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Instituto Nacional de Salud Pública, Mexico City, Mexico
Universidad Peruana Cayetano Heredia, Lima, Peru
Institute of Nutrition of Central America and Panama (INCAP), Guatemala City, Guatemala
Pan American Health Organization, Washington, D.C., USA
University of California at Berkeley, Berkeley, California, USA
Washington University in St Louis, St Louis, Missouri, USA
SALURBAL...

1. ...Analyzes **urban data** to reveal how **cities impact health** outcomes, health inequities, and environmental sustainability.

2. ...Evaluates the **impact of urban policies and interventions** on health and the environment.

3. ...Uses systems approaches to **gain insight** into the dynamic relationships between the urban environment, health, and environmental impact.

4. ...Works with policymakers and the media to **disseminate our research** so that it can be used to create change.
SALURBAL data

SALURBAL data

- SALURBAL has compiled data for 371 cities of 100,000 people or more in 11 countries.
- This data has been linked to sub-city units and neighborhoods in these cities.

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<th>Health</th>
<th>Built Environments</th>
<th>Social Equity</th>
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<td>Deaths and causes of death</td>
<td>Land use and urban form</td>
<td>Poverty</td>
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<td>Life expectancy</td>
<td>Transit options</td>
<td>Income inequality</td>
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<td>Health risk factors</td>
<td>Traffic congestion</td>
<td>Housing conditions</td>
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<td>Health-related behaviors</td>
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<td>Violence</td>
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- Land use and urban form
- Transit options
- Traffic congestion
- Air pollution
- Walkability
- Green space
- Water and sanitation
- Housing
- Poverty
- Income inequality
- Housing conditions
- Education
- Employment

Diagram showing sub-city and neighborhood units within a city.
WEBINAR SPEAKERS

Dr. Ana Ortigoza
Inequalities in infant mortality in 286 cities in Latin America

Dr. Usama Bilal
Inequalities in adult mortality and life expectancy in 363 cities in Latin America
INFANT MORTALITY AND THE URBAN ENVIRONMENT IN LATIN AMERICA

Ana Ortigoza
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Twitter: @AnaOrtigoza14
Infant wellness and survival depends on how we imagine and design social, political, and economic structures in our societies.
INFANT MORTALITY: TECHNICAL NOTES

What is an infant mortality rate?
- Number of deaths during the first year of life per 1,000 live births

What are the main causes of infant mortality?
- Premature births and birth complications
- Congenital defects
- Pneumonia and diarrhea
- Other vaccine-preventable infections

How can urban context influence infant mortality?
- Economic determinants
- Social determinants
- Environmental determinants
WHAT IS SALURBAL TRYING TO UNDERSTAND?

- The extent to which variations in infant mortality rates in cities explain differences in country-level infant mortality rates
- Which characteristics of the urban environment are linked to infant mortality in cities
- What these results suggest about actions at the local level that could achieve further reductions in infant mortality in Latin America
VARIABILITY IN INFANT MORTALITY RATES ACROSS COUNTRIES IS EXPLAINED BY DIFFERENCES IN INFANT MORTALITY RATES ACROSS CITIES

**IMR trends in SALURBAL countries**

**IMR in SALURBAL cities by countries**
(2014-2016) Source: SALURBAL project

$\text{IMR} = \text{number of deaths before 1 year of age among babies born alive, per 1,000 live births}$
VARIABILITY IN INFANT MORTALITY RATES ACROSS COUNTRIES IS EXPLAINED BY DIFFERENCES IN INFANT MORTALITY RATES ACROSS CITIES


IMR in SALURBAL cities by countries (2014-2016) Source: SALURBAL project

IMR = number of deaths before 1 year of age among babies born alive, per 1,000 live births
WHICH CHARACTERISTICS OF THE URBAN ENVIRONMENT ARE LINKED TO INFANT MORTALITY IN CITIES?

**Population growth**
- City population growth 2010-2015

**Housing and living conditions**
- % households with piped water in the house
- % of households with overcrowding conditions (3+/room)
- % population 15-17 age attending school

**Service provision**
- % of households with water connected to municipal network
- % of households with sewage system connected to municipal network

**Population education**
- % population 25+≥ high school level
- % population 25+≥ university level

**Mass transit availability**
- Presence of either subway or bus rapid transit (BRT) networks

**Access to healthcare**
- % of MMR1 vaccines coverage among infants
WHICH CHARACTERISTICS OF THE URBAN ENVIRONMENT ARE LINKED TO INFANT MORTALITY IN CITIES?

<table>
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<th>Characteristic</th>
<th>Socioeconomic Scores</th>
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<tbody>
<tr>
<td>Population growth</td>
<td>5% lower IMR</td>
</tr>
<tr>
<td>Housing and living conditions</td>
<td>14% lower IMR</td>
</tr>
<tr>
<td>Service provision</td>
<td>12% lower IMR</td>
</tr>
<tr>
<td>Population education</td>
<td>NO ASSOCIATION</td>
</tr>
<tr>
<td>Mass transit availability</td>
<td>10% lower IMR</td>
</tr>
<tr>
<td>Access to healthcare</td>
<td>NO ASSOCIATION</td>
</tr>
</tbody>
</table>
WOMEN’S EMPOWERMENT IS LINKED TO LEVELS OF INFANT MORTALITY

**Women’s labor force participation**
- Ratio of female/male population over age 25 with more than **high school** level education
- Ratio of female/male population over age 25 with more than **university** level education
- Labor force participation among women
- Ratio of female/male population participating in the labor force

**Educational attainment among women**
- Percent of the female population over age 25 with more than **high school** level education
- Percent of the female population over age 25 with more than **university** level education
HOW IS WOMEN’S EMPOWERMENT LINKED TO INFANT MORTALITY?

Women’s labor force participation
- 6% lower IMR

Educational attainment among women
- 4% lower IMR in countries with lower GDP
TO ACHIEVE FURTHER REDUCTIONS IN INFANT MORTALITY IN LATIN AMERICA, INTERVENTIONS IN THE URBAN CONTEXT SHOULD ALSO BE CONSIDERED MATERNAL AND CHILD HEALTH INTERVENTIONS

Living conditions
- Urban redevelopment in slums
- Housing improvement programs

Service Provision
- Affordable water & sanitation services
- Sanitation design & expansion in cities

Mass Transit
- Network expansion
- Accessible & affordable public transportation

Women’s empowerment
- Foster women’s social & economic development
- Girls’ education

Maternal and infant mortality prevention programs
- Breastfeeding education
- Prenatal care & skilled birth
- Vaccine delivery
- Nutritional supplements
- Oral rehydration & antibiotic therapy
CONCLUSIONS

Cities are vital to reducing infant mortality rates in Latin America.

Local strategies to prevent infant deaths need to be comprehensive.

Adequate city services and ensuring women’s social participation are important parts of infant-targeted health interventions.
NEW DATA BRIEF COMING SOON

“INFANT MORTALITY IN LATIN AMERICAN CITIES: DATA FROM THE SALURBAL PROJECT”
INEQUALITIES IN ADULT MORTALITY AND LIFE EXPECTANCY IN LATIN AMERICAN CITIES

Usama Bilal
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Twitter: @usama_bilal
INEQUALITIES IN ADULT MORTALITY AND LIFE EXPECTANCY IN LATIN AMERICAN CITIES

How does life expectancy vary between Latin American Cities?

How do mortality profiles vary across Latin American Cities?

How does life expectancy vary within large Latin American Cities?
HOW DOES LIFE EXPECTANCY VARY ACROSS LATIN AMERICAN CITIES?

[Graph showing life expectancy at birth for women and men across different Latin American cities.]
HOW DOES LIFE EXPECTANCY VARY ACROSS LATIN AMERICAN CITIES?
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INEQUALITIES IN ADULT MORTALITY AND LIFE EXPECTANCY IN LATIN AMERICAN CITIES

How does life expectancy vary between Latin American Cities?

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How does life expectancy vary within large Latin American Cities?
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

**CAUSE OF DEATH CATEGORIES**

- **CMNN**: Communicable, maternal, neonatal, and nutritional causes
- **CANCER**
- **CVD/NCD**: Cardiovascular disease, non-communicable disease
- **UNINTENTIONAL INJURIES**
- **VIOLENT OR INTENTIONAL INJURIES**

**EXAMPLES**

- **CMNN**: Influenza, diarrhea, Dengue
- **CANCER**: Lung cancer, breast cancer
- **CVD/NCD**: Stroke, heart attack, liver disease, diabetes
- **UNINTENTIONAL INJURIES**: Traffic crashes, drug overdoses
- **VIOLENT OR INTENTIONAL INJURIES**: Homicides, suicides

**CDMX, MX**
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

Proportion of deaths by violent injuries vary from 0% to 20%
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

Proportion of deaths by unintentional injuries vary from 3% to 19%
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

Proportion of deaths by CMNN conditions vary from 6% to 55%
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

Proportion of deaths by cancer vary from 9% to 30%
HOW DO MORTALITY PROFILES VARY ACROSS LATIN AMERICAN CITIES?

Proportion of deaths by non-communicable diseases vary from 28% to 71%
INEQUALITIES IN ADULT MORTALITY AND LIFE EXPECTANCY IN LATIN AMERICAN CITIES

How does life expectancy vary between Latin American Cities?

How do mortality profiles vary across Latin American Cities?

How does life expectancy vary within large Latin American Cities?

Bilal et al. (The Lancet Planetary Health)
HOW DOES LIFE EXPECTANCY VARY WITHIN LARGE LATIN AMERICAN CITIES?

Women

Belo Horizonte

Buenos Aires

Mexico City

Panama City

San Jose

Santiago

Life Expectancy at Birth

Life Expectancy at Birth

Education
HOW DOES LIFE EXPECTANCY VARY WITHIN LARGE LATIN AMERICAN CITIES?

Trouble in Paradise: Chile’s Inequality Explodes

The social reforms agenda presented by President Sebastián Piñera to ease the Chileans’ discontent is insufficient.

Photo: HispanTV
Capital y GBA

Esperanza de vida: en Buenos Aires hay diferencias de hasta 7 años según el lugar donde se vive

"Una mujer pobre vive 18 años menos...": estudio extranjero revela brutal desigualdad en Santiago
CONCLUSIONS

• Mortality varies widely across Latin American cities in the SALURBAL study
• Life expectancy is highly variable, ranging from values like lower-middle income countries to high income countries.
• Causes of death vary widely across cities, especially violent and unintentional injuries
• Life expectancy is highly unequal within six large Latin American cities
Q&A
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