



The 2023 Latin America report of the Lancet Countdown on health and climate change

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Dear Editor,

The 2023 Latin America report of the Lancet Countdown on health and climate change: the imperative for health-centered climate-resilient development¹ has just been released and highlights very important points for achieving a healthier continent.

The renamed Lancet Countdown Latin America Regional Centre has expanded its geographic scope to include Mexico and five Central American countries (Costa Rica, El Salvador, Guatemala, Honduras and Panama) in response to the need for greater collaboration in a region with intense social disparities, including research capacity and funding.

This center is an independent multidisciplinary collaboration that monitors the relationships between health and climate change in Latin America, following the methods and 5 domains of the Lancet Countdown global report.

The 2023 Lancet Countdown Latin America report presents 34 indicators that track the relationship between health and climate change through 2022 to provide evidence for public decision-making aimed at improving the health and well-being of Latin American populations and reducing social inequalities through health-centered climate actions.

According to this report, increasing exposure to climate change will occur, including a warming trend throughout Latin America. In 2022, the population was exposed to ambient temperatures on average 0.38 °C higher than in 1986-2005, with Paraguay experiencing the largest anomaly (+1.9 °C), followed by Argentina (+1.2 °C) and Uruguay (+0.9 °C) (indicator 1.1.1).

Comparing the 1986-2005 and 2013-2022 periods, Latin American children < 1 year of age were exposed to 248% more heat wave days, while people over 65 years of age were exposed to 271% more heat wave days (indicator 1.1.2). Furthermore, the hotter weather increased moderate and high risk of heat stress during light outdoor physical activity (indicator 1.1.3), with a 140% increase in heat-related mortality between these periods (indicator 1.1.4).

Ecosystem changes have led to an increased risk of wildfires, exposing individuals to a high fire risk for longer periods (indicator 1.2.1). Moreover, the transmission potential of dengue mosquitoes increased by 54% between 1951-1960 and 2013-2022 (indicator 1.3), which is consistent with the recent outbreaks and increasing cases of dengue observed across Latin America in recent months.

This report indicates 3 key areas that the region must continue to investigate and address to achieve health-focused, climate-resilient development, which are discussed below.

Latin American countries require intersectoral public policies that simultaneously increase climate resilience, reduce social inequality, improve population health, and reduce greenhouse gas emissions.

The report's findings indicate a lack of adaptation policies in Latin America, as well as an urgent need for robust vulnerability and adaptation assessments. As of 2021, Brazil was the only country to have completed the World Health Organization's official vulnerability and adaptation statement. Similarly, efforts to develop and implement National Health Adaptation Plans are varied and limited in scope. Brazil, Chile, and Uruguay are the only Latin American countries with National Health Adaptation Plans (indicator 2.1.2).

Furthermore, municipal climate change risk assessments are very limited in the region (indicator 2.1.3). Collaboration between meteorological and health sectors is insufficient, with only Argentina, Brazil, Colombia, and Guatemala reporting some level of collaboration.

Colombia and Guatemala have reported some level of integration (indicator 2.2.1) to provide a comprehensive

response to climate-related health risks in the region. Furthermore, despite the urgent need for action, there is minimal progress in increasing urban green spaces throughout the region, with only Colombia, Nicaragua, and Venezuela showing slight improvements (indicator 2.2.2).

Compounding these challenges is the decline in funding for climate change adaptation projects in Latin America, as demonstrated by the 16% drop in resources allocated by the Green Climate Fund between 2021 and 2022.

Latin American countries must accelerate energy transition policies that prioritize health and well-being, reduces energy poverty and air pollution, and maximizes economic and health benefits.

The use of renewable energy has been growing, increasing by an average of 5.7%, although access to clean cooking fuels remains a concern: 46.3% of the rural population of Central America and 23.3% of the rural population of South America did not have access to clean fuels in 2022 (indicator 3.1.2).

Overreliance on fossil fuels, especially liquefied petroleum gas, as the main cooking fuel is worrisome: 74.6% of Latin American countries depend on liquefied petroleum gas for cooking.

Fossil fuels continue to be the dominant energy source for road transport in Latin America (96%), although biofuel use has increased in some South American countries (indicator 3.1.3). Varying trends were found in different countries regarding premature mortality attributable to fine particulate matter (PM_{2.5}) derived from fossil fuels. In Latin America, these deaths increased by 3.9% between 2005 and 2020, which corresponds to 123.5 premature deaths per million people (indicator 3.2.1). In 2020, the Latin American countries with the highest premature mortality rate attributable to PM_{2.5} were Chile, Peru, Brazil, Colombia, Mexico, and Paraguay. Of the total premature deaths attributable to PM_{2.5}, 19.1% were transportation-related, 12.3% were household-related, 11.6% were industry-related, and 11% were agriculture-related.

Greenhouse gas emission and capture, deforestation, and the expansion of agricultural land continue to be the main causes of the tree cover loss in the region, representing around 80% of the total loss (indicator 3.3).

Furthermore, the production of food of animal origin in Latin America contributes 85% of agricultural CO₂ equivalent emissions, with Argentina, Brazil, Panama, Paraguay, and Uruguay having the highest per capita emissions (indicator 3.4.1). From a health perspective, in

2020 approximately 870,000 deaths were associated with unbalanced diets, of which 155,000 (18%) were linked to high consumption of red meat, processed foods, and dairy products (indicator 3.4.2).

As this report demonstrates, air pollution, both outdoor and indoor, is a major problem across the region, with stark disparities between urban and rural areas. In 2022, Peru, Chile, Mexico, Guatemala, Colombia, El Salvador, Brazil, Uruguay, Honduras, Panama and Nicaragua were among the 100 most polluted countries in the world.

Transitioning to cleaner energy sources, phasing out fossil fuels, and promoting greater energy efficiency in the industrial and housing sectors are not only measures to mitigate climate change, but represent huge opportunities for more prosperous and healthy societies.

To pave the way for climate-resilient development, Latin American countries need to increase climate finance through permanent financial commitment and multilateral development banks.

Climate change entails significant economic costs and investment in mitigation and adaptation measures. In 2022, economic losses due to extreme climate events in Latin America were between USD 6 and 15 billion, mainly due to floods and landslides in Brazil, representing 0.28% of Latin America's gross domestic product (indicator 4.1.1). Unlike in high-income countries, most of these losses are not covered by insurance, placing a considerable financial burden on affected families and governments.

Heat-related mortality among Latin Americans over 65 years of age has reached alarming levels, with losses exceeding the equivalent average income of 451,000 people per year (indicator 4.1.2). The total potential loss of income due to heat-related reduction in work capacity represents 1.34% of regional gross domestic product, disproportionately affecting the agriculture and construction sectors (indicator 4.1.3).

The economic cost of premature mortality due to pollution was considerable, representing a significant share of the region's gross domestic product (0.61%) (indicator 4.1.4). Regional investment in clean energy increased in 2022, outpacing investment in fossil fuels. However, in 2020, all investigated countries continued to offer negative net carbon prices, with total subsidies for fossil fuels reaching USD 23 billion. Venezuela had the highest net fossil fuel subsidies relative to current health spending (123%), followed by Argentina (10.5%), Bolivia (10.3%), Ecuador (8.3%) and Chile (5.6%) (indicator 4.2.1).

Fossil fuel-based energy is now more expensive than renewable energy. The burning of fossil fuels drives climate change and damages the environment, with air pollution from fossil fuels causing 7 million premature deaths each year, in addition to a significant burden of disease.

Transitioning to healthy, emission-free energy, transitioning to healthy food systems, and accelerating adaptation efforts would be cost-effective. However, to implement mitigation and adaptation policies that also improve social well-being and prosperity, stronger and more robust financial systems are needed.

Climate finance is scarce in Latin America, largely depending on political change, which threatens an adequate response to current and future challenges. It is clear that climate progress is lagging and government engagement remains insufficient, although news coverage on health and climate change has increased, reaching its highest point in 2022, although the proportion of news articles on climate change in which health is discussed has decreased over time (indicator 5.1).

Despite the significant growth in scientific articles focused on Latin America, they still represent < 4% of the global publications on the subject (indicator 5.3). Moreover, although most Latin American countries discussed health at the 2022 UN General Debate, only a few addressed the intersection of health and climate change, indicating a lack of awareness at a government level (indicator 5.4).

The Lancet Countdown Latin America 2023 highlights cascading health impacts exacerbated by anthropogenic climate change, marked by increased exposure to heatwaves, wildfires, and vector-borne diseases. The report emphasizes 3 urgent needs:

- interdisciplinary public policies that improve climate resilience across the region;

- energy transition that focuses on co-benefits for health and well-being;
- increased climate finance through fiscal commitment and sustained engagement with multilateral development banks.

By understanding the problems, addressing the gaps, and taking the decisive and necessary measures, Latin America will be able to effectively promote a more sustainable and resilient future for its population.

References

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Marilyn Urrutia-Pereira

Universidade Federal do Pampa, Pediatria - Uruguaiana, RS, Brazil.

Herberto Jose Chong-Neto

Complexo Hospital de Clínicas - Universidade Federal do Paraná, Pediatria - Curitiba, PR, Brazil.

Dirceu Solé

Disciplina de Alergia, Imunologia e Reumatologia Pediátrica - Escola Paulista de Medicina - Universidade Federal de São Paulo - São Paulo, SP, Brazil.