



Credit: Adam Mastoon

# Improving health in the Amazon demands local involvement

The poor health outcomes of people in the Brazilian Amazon have been exacerbated by COVID-19, and can only be improved with a health equity approach that involves local people.

The Amazon region in Brazil was disproportionately affected by COVID-19. It witnessed a fast spread of the virus and a total collapse of hospital capacity, including a lack of medical oxygen. The unprecedented number of deaths led to a decline of 3.5 years in the 2020 life expectancy at birth for Brazilians in Amazonas state, more than double the decline seen overall in Brazil.

The Amazon has striking inequalities in income, access to basic infrastructure and availability of healthcare services and professionals. Historically, those inequalities have been exacerbated by developmental models and policies that focus on (or provide incentives for) the exploitation of resources and ignore local voices, knowledge and needs. This context directly affects the epidemiological profile. Deforestation and illegal gold mining are associated with increases in malaria transmission; and forest fires increase the emission of particulate matter, leading to elevated hospitalization and mortality due to respiratory diseases, including COVID-19. The co-occurrence and interaction of multiple diseases and the political, economic, social and environmental factors that enhance the negative consequences of disease interaction characterize a syndemic model of health.

Developing a more diverse and inclusive cadre of policymakers, politicians, researchers and healthcare professionals would be a step forward in improving health equity, and thus toward a more just and healthier future.

First, in Brazil, members of Congress, Senate and the Ministerial cabinet are mostly male and white. Only one congressperson (a woman named Joenia Wapichana) is Indigenous. In the 2020 local elections, only eight Indigenous people were elected mayor. The demographics of those in power who make decisions bears no resemblance to that of the wider population. This creates a

disparity not just in demographics, but also on priorities, that may contribute to health inequities. Diverse voices and experiences are critical to advocating for policies that maximize the well-being of the population in the Amazon. The recent weakening of environmental policies in Brazil has fueled an increase in deforestation, forest fires and illegal gold mining, all with catastrophic health consequences to the local population and potential spillovers to other geographical areas within and beyond Brazil.

Second, the Amazon region lags behind the rest of Brazil in federal funding for research and training at the graduate and undergraduate levels. This is concerning, as topics selected for funding may therefore not reflect priority areas for the Amazon. In addition, research teams led by investigators from outside the Amazon (including outside of Brazil) do not always include local researchers as co-investigators, in real collaborative efforts, with knowledge exchange and local capacity building. Difficulties in securing funding may also push researchers to leave the region, contributing to local brain drain. Supporting local researchers, addressing local needs and leveraging local knowledge, such as the use of local herbs (which is often unknown outside the Amazon, or even ridiculed), is not just the right thing to do, but the best approach for finding locally adapted solutions to improve equity, and thereby health.

Third, greater representation of the diverse voices of the Amazon in decision-making roles and in research would help pave the way for policymaking through an equity lens, facilitating the identification of vulnerable groups and places. This approach brings a human rights perspective to public health. Fostering diversity and inclusion in the healthcare workforce, from physicians to community health agents, contributes to improving trust, incorporating local knowledge in primary

healthcare and identifying local challenges and solutions. Currently, indigenous health agents are part of the workforce of the Brazilian health system. They work in indigenous communities, focusing on disease prevention and health promotion. Their job, however, does not have the same legal status as that of community health agents. In April 2021, Congresswoman Joenia Wapichana proposed legislation to change that situation and give both categories equal status.

Health equity can only be achieved with the understanding that diseases do not affect all people equally, and by identifying and removing the barriers to a healthy and fair life. In the early twentieth century, scientific expeditions to the Amazon revealed the unsanitary conditions of rural areas, where people lacked governmental assistance and were scourged by infectious diseases. The findings made it clear that the poor health conditions were both a social and an economic problem, and that there could not be economic development without a healthy population. This set the stage for the 1918 sanitary reform that led to the creation of the National Public Health Department and several rural health centers.

Achieving health equity in the Amazon demands political will. Until then, the voices of local and indigenous leaders are crucial to raising awareness, saving lives and inspiring others to expand their efforts. □

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## Competing interests

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