

Health in the balance

Modeling shows that spending cuts in primary care could curb the decline in premature mortality

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The Brazilian Federal Government's fiscal austerity program could slow the rate of decline in premature mortality in Brazil over a period extending to 2030. Premature mortality measures the number of deaths of individuals younger than 70—often associated with respiratory infections, high blood pressure, malnutrition, and other health problems—that could have been prevented had those individuals had access to primary care either at home or at local clinics. These conclusions were drawn by an international group led by Italian biologist Davide Rasella, from the Institute for Collective Health at the Federal University of Bahia (UFBA). He and his team modeled the potential impacts on coverage provided by two primary healthcare programs, *Estratégia Saúde da Família* (ESF) and *Mais Médicos*, after a constitutional amendment imposed a 20-year cap on government spending in 2016.

Using mathematical and statistical modeling, the authors estimated the effects of government spending cuts in

healthcare on 5,507 Brazilian municipalities. Their modeling work was based on data available from the World Bank, the Brazilian Ministry of Health, the Brazilian Institute of Geography and Statistics (IBGE), and the Institute for Applied Economic Research (IPEA). The study, published in April in *BMC Medicine*, modeled the potential impact of four scenarios over the next 10 years. In one scenario, the ESF coverage remains relatively constant, at 80.4% of the population in 2030—compared with 84.7% currently. In a second scenario, the ESF coverage is reduced to 37.8%, but the *Mais Médicos* program is maintained. A third, which was the worst-case scenario, models the termination of *Mais Médicos* and a reduction in ESF coverage to 16% of the population. In the fourth, which was the best-case scenario, both programs provide universal coverage.

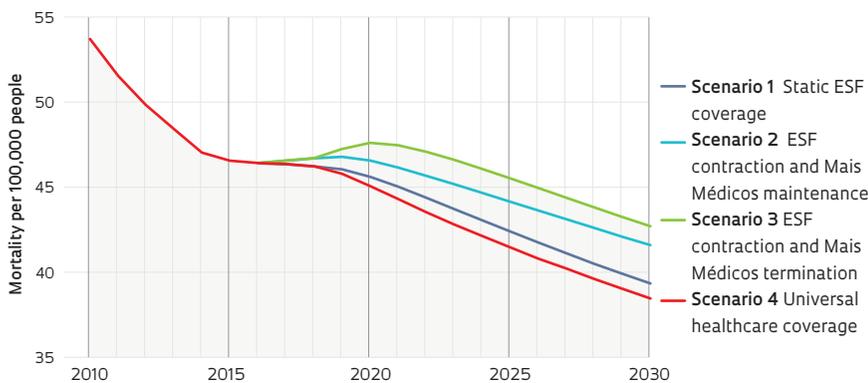
In all the modeled scenarios, including the worst-case scenario, the projections indicate a reduction in the mean premature mortality in Brazil through 2030 from a current baseline of 45 annual

deaths per 100,000 people. The rate of decline, however, is slowed as healthcare spending is reduced. In the best-case scenario, with universal access to the services available from both programs, mortality decreases to 38 deaths per 100,000 people in 2030. In the scenario with the harshest budget cuts, mortality declines more modestly, to 43 deaths per 100,000 people. According to the study, the severest austerity scenario would result in 48,546 more premature deaths over the following decade compared with those under the current levels of program coverage.

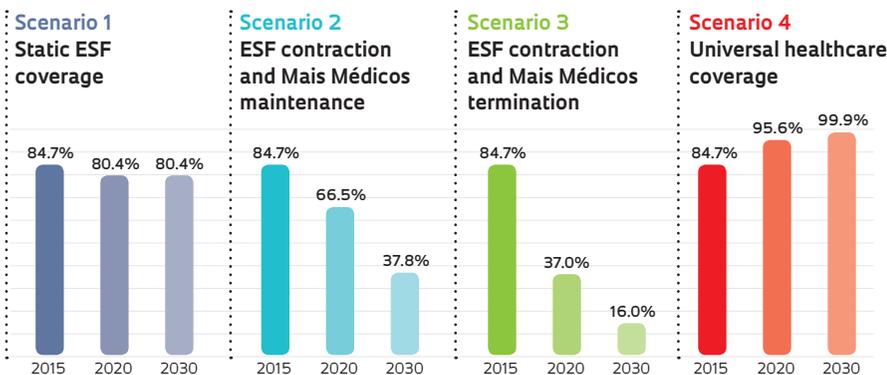
Rasella warns that the impact of reducing the ESF coverage would be greatest on the poorest municipalities of Brazil. The researchers also note that premature death rates due to complications associated with infectious diseases and malnutrition would be 11.7% higher in the worst-case scenario compared with those under the current coverage levels in these regions. “Shrinking ESF coverage would affect the population groups that are the most vulnerable from a

Differing rates

The decline in premature mortality rates is curtailed as healthcare investments decrease



PROJECTED PROGRAM COVERAGE



SOURCE RASELLA, D. ET AL. BMC MEDICINE

social and economic standpoint and have the worst mortality rates compared to the rest of the population,” says Rasella.

Moreover, these projections capture only a portion of the effects from reduced spending on the ESF and Mais Médicos—premature mortality accounts for only 10-15% of the total deaths in Brazil. A 2018 study using the same methodology published in *PLOS Medicine* by the UFBA group estimated that lower spending on the ESF and Bolsa Família would result in 19,732 more deaths among children under 5 by 2030.

AN IDEAL MODEL

The ESF program was introduced in 1994 and has become one of the primary gateways into the Brazilian National Healthcare System (SUS). Multidisci-

plinary teams of healthcare professionals provide services covering prevention, recovery, and rehabilitation from illnesses and other health complaints. The program currently has 43,000 teams on the ground visiting patients at their homes. “Over the previous 25 years, ESF has proven to be the ideal model for primary care and has supported a reduction in preventable child deaths and hospitalizations,” says Rosália Neves of the Federal University of Pelotas (UFPe) in Rio Grande do Sul, one of the authors of a 2018 paper about the ESF in *Epidemiologia e Serviços de Saúde*. The study reports that ESF coverage gradually expanded after its initial implementation, growing from 45.3% of the population in 2006 to 64%, or 123 million people, in 2016. However, coverage levels have

recently begun to decline. The Brazilian Ministry of Health estimates that 3 million people lost coverage from November 2018 to May this year.

Mais Médicos is a more recent program. The initiative, launched by the federal government in 2013 to increase the number of physicians practicing in underserved and remote areas of Brazil, costs an average of R\$1.1 billion per year, according to a paper in *Revista Pan-Americana de Saúde Pública*. Many of the 18,000 professionals in the program are from Cuba. An estimated 2,000 of the 8,000 Cuban doctors who came to Brazil are likely to stay in the country (not all practicing within Mais Médicos).

Physician Victor Wunsch, a professor at the School of Public Health at the University of São Paulo (FSP-USP), who was not part of Rasella’s research group, argues that studies such as these are useful in alerting policymakers to the consequences of policy decisions made today. He notes, however, that they are not always taken into account in decision-making. “Epidemiologists themselves are often skeptical of accepting modeling results, as political and economic circumstances may change dramatically in short spaces of time”, says Wunsch. “However, the *BMC Medicine* paper provides a helpful picture of the likely future health impacts of the current government policy.”

In addition to a higher rate of premature deaths among economically active adults—the impact modeled in this study—Wunsch notes that any reduction in primary care coverage within the SUS can also have wider effects on families and society that are difficult to measure. “High-quality outpatient care helps to reduce hospitalizations and provides significant savings in public healthcare spending,” he says. ■

Scientific articles

RASELLA, D. *et al.* Mortality associated with alternative primary healthcare policies: A nationwide microsimulation modelling study in Brazil. *BMC Medicine*. v. 17, p. 1–11. Apr. 2019.

Neves, R. G. *et al.* Time trend of Family Health Strategy coverage in Brazil, its regions and federative units, 2006–2016. *Epidemiologia e Serviços de Saúde*. v. 27, i. 3, p. 1–8. Sept. 2018.

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