

# The COVID-19 pandemic in Brazil has overwhelmed its health systems

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The spread of COVID-19 in Brazil overwhelmed the health systems in all the country's regions, particularly in areas where they were already fragile, according to a collaborative effort involving the Barcelona Institute for Global Health (ISGlobal), an institution supported by the 'la Caixa' Foundation, the University of Sao Paulo, the Catholic University of Rio de Janeiro, the D'Or Institute of Research and Education and the Oswaldo Cruz Foundation. The findings, published in *The Lancet Respiratory Medicine*, reveal that a large percentage of COVID-19 patients that were hospitalized in Brazil required intensive care and respiratory support, and many did not survive.

The COVID-19 pandemic has put an enormous strain on healthcare systems across the world by increasing the demand for healthcare professionals and the need for beds in intensive care units and respiratory support such as ventilators. However, the mortality rate among confirmed cases has greatly varied between countries and this is in great part due to differences in the capacity and preparedness of their [health systems](#).

"To date, there is very limited data on the mortality of patients hospitalized with COVID-19 or on how

the health systems have coped with the pandemic in low- and middle-income countries," explains Otavio Ranzani, ISGlobal researcher and first author of the study. Brazil, for example, is an upper middle-income country with a unified health system for its 210 million inhabitants. However, the country's unique health system has been undermined by recent economic and political crises and there is great heterogeneity across different regions of the country.

Ranzani and his colleagues used data from a nationwide surveillance system to evaluate the characteristics of the first 250,000 patients admitted to hospital with COVID-19 in Brazil, whether they required intensive care or respiratory support, and how many of them died. They also analyzed the impact of COVID-19 on healthcare resources and in-hospital mortality across the country's five big regions.

The analysis shows that almost half (47%) of the 254,288 patients admitted to hospital with COVID-19 were under 60 years-old. The in-[hospital mortality](#) rate was high (38%) and rose to 60% among those admitted to the [intensive care](#) unit (ICU) and to 80% for those who were mechanically ventilated. Although COVID-19 overwhelmed the health system in all five regions, hospital admissions and mortality were considerably higher in the North and Northeast regions at the beginning of the pandemic (for example, 31% of patients aged under 60 died in hospitals in the Northeast versus 15% in the South).

"These regional differences in mortality reflect differences in access to better health care that already existed before the pandemic," explains Fernando Bozza, study coordinator and researcher at the National Institute of Infectious Disease. "This means that COVID-19 not only disproportionately affects the most vulnerable patients but also the most fragile health systems," he adds. "Brazil's health system is one of the largest across the globe

to provide care to everyone free of charge and has a solid tradition in the surveillance of infectious diseases. However, COVID-19 overwhelmed the system's capacity," says Ranzani.

The authors conclude that the high [mortality](#) observed in hospitals underlines the need for improving the structure and the organization of the health system, particularly in low- and [middle-income countries](#). This implies increasing available resources—from equipment and consumables, to ICU beds and trained healthcare staff.

**More information:** Ranzani OT, Bastos LSL, Gelli JGM et al. Characterisation of the first 250000 hospital admissions for COVID-19 in Brazil: a retrospective analysis of nationwide data. *Lancet Resp Med*. Jan 2021, [DOI: 10.1016/S2213-2600\(20\)30560-9](#)

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