

COVID-19 cases in India underreported by over 20 million, study says

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Credit: AI-generated image ([disclaimer](#))

A new study, led by professors at the University of Chicago and Duke University, found that COVID-19 cases in the southern state of Karnataka, India, are nearly 95 times greater than reported.

The study—led by Prof. Anup Malani from the University of Chicago's

Law School and Pritzker School of Medicine, and Prof. Manoj Mohanan from Duke University—suggests that 44.1% of the population in [rural areas](#) and 53.8% in [urban areas](#) in the southern state of Karnataka tested positive for antibodies to COVID-19 by the end of August 2020.

The findings, based on data collected from a representative sample of households in 20 districts in the state, suggest that Karnataka alone had approximately 31.5 million cases of COVID-19 by then, relative to 8 million reported nationally in India until now.

Published in the *Journal of the American Medical Association*, the study collected data on antibodies for recent and past COVID-19 infection using a test that targets the RBD spike protein and better identifies exposure to the SARS-CoV-2 virus rather than other coronaviruses.

A unique feature of the study is that it also tested the same individuals for current infections using the RT-PCR test. This pairing allows the study to both report current levels of immunity and forecast future immunity because most of today's infected population will, in a few weeks, join tomorrow's immune population.

"Our data shows evidence of high levels of active infections and transmission, especially in urban areas of Mysore and [coastal districts](#) during our study period—where 9.7% to 10.5% of individuals tested positive for current infection," said Malani, the Lee and Brena Freeman Professor of Law.

Funded by ACT Grants in India and supported by IDFC Institute, the study found that rural areas had nearly the same level of exposure to COVID-19 as urban areas. Although cities were more densely populated, rural areas face additional risk because agriculture is an essential sector and exempt from many lockdown restrictions.

The study demonstrated the feasibility, in resource-constrained settings, of conducting pooled sample RT-PCR testing where multiple samples are tested simultaneously and individual samples are further tested if a "pool" tests positive. It also demonstrated the feasibility of simultaneously measuring current and past [infection](#) in a population-representative [sample](#) even in rural areas of a lower-middle income country.

More information: Manoj Mohanan et al. Prevalence of SARS-CoV-2 in Karnataka, India, *JAMA* (2021). [DOI: 10.1001/jama.2021.0332](#)

Provided by University of Chicago

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