'Test-&-trace' crucial but won't beat coronavirus alone: study

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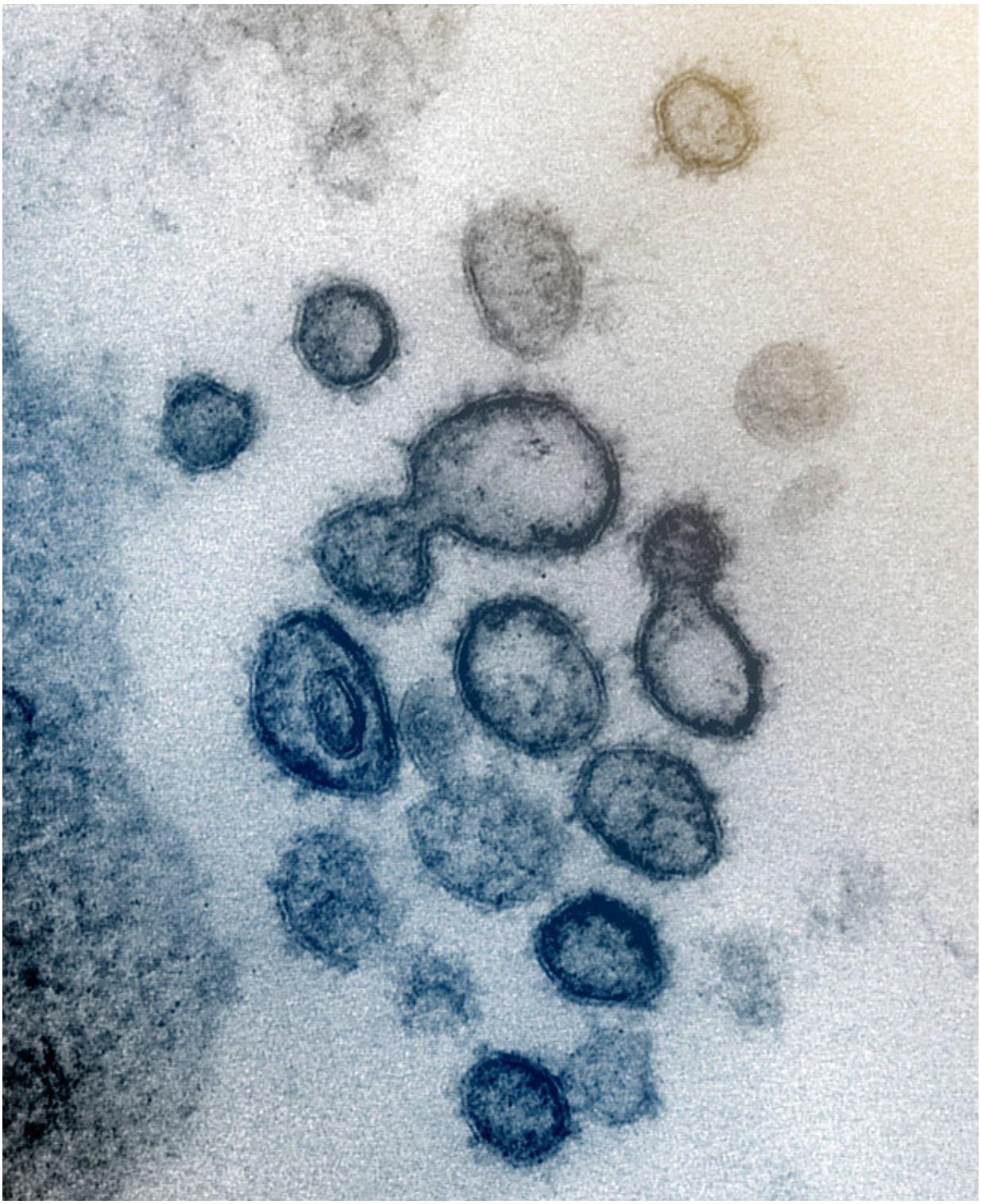

This transmission electron microscope image shows SARS-CoV-2 -- also known as 2019-nCoV, the virus that causes COVID-19 -- isolated from a patient in the US. Virus particles are shown emerging from the surface of cells cultured in the

lab. The spikes on the outer edge of the virus particles give coronaviruses their name, crown-like. Credit: NIAID-RML

Testing for COVID-19 and tracing the prior contacts of those found to be infected are crucial measures for slowing the disease's spread, but inadequate unless combined with other measures, researchers said Wednesday.

By itself, the test-and-trace approach can reduce the virus' reproduction rate, or R number, by 26 percent, they reported in *The Lancet Infectious Diseases*, using mathematical models to examine data from previously published studies.

The reproduction rate measures the number of people in a population, on average, infected by each person carrying the virus.

Anything above "1" means the disease is continuing to expand; below that threshold, it will eventually peter out.

Some countries that brought the spread of COVID-19 under control but are now struggling to prevent a resurgence have R numbers well above 1.

In France, for example, it hovered at about 1.33 during the first week of August, according to national health authorities.

But the new finding comes with a caveat, said lead author Nicholas Grassly, a professor at Imperial College's School of Public Health.

"Our results show that test and trace can help reduce the R number but needs to be carried out effectively and quickly to do so," he said in a

statement.

Concretely, that means immediate testing with the onset of symptoms and results within 24 hours; the quarantine of contacts, also within 24 hours; and the identification of 80 percent of cases and contacts.

Very few countries—notably South Korea, Taiwan and Germany—have come close to staying within these guidelines, and most are still falling well short.

In France, for example, it generally take days to get an appointment for a so-called PCR nasal test, and on average 3.5 days for a result, according to official figures.

Herd immunity not close

In the United States and the UK, delays can be even longer.

Even if nations do adhere to these guidelines, it will still not be enough to bring the infection rate down sufficiently by itself, the new study concludes.

"Test and trace alone won't be enough to control transmission in most communities, and other measures alongside will be needed to bring the R number below 1," said Grassly.

Weekly screening of high-risk groups such as health and social-care workers—regardless of whether they have symptoms or not—can reduce transmission by an additional 23 percent, his team found.

Experts are still unsure as to what percentage of a population must be immune—a threshold known as "herd immunity"—to prevent the virus from continuing to spread.

Estimates range from below 50 to 70 percent.

It is possible that some of the hardest hit regions—New York City, northern Italy—may be close to these levels, but at a national scale the numbers are still far lower, probably barely in double digits.

WHO emergencies director Michael Ryan said Tuesday that the planet was "nowhere close to the levels of immunity required to stop this disease".

People should "not live in hope of herd immunity being our salvation. Right now, that is not a solution," he added.

A vaccine, of course, would also provide immunity, but is unlikely to be available until next year.

Currently, only people who have fought off COVID-19 and survived have some degree of immunity, though it remains unclear how robust it is and how long it lasts.

It is also unclear the extent to which people with mild or asymptomatic cases have immunity at all.

The novel coronavirus has killed nearly 775,000 people and infected almost 22 million since the outbreak emerged in China last December, according to a tally from official sources compiled by AFP.