

Virus won't vanish despite greater vaccine availability, says expert

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Credit: Donna Grethen

A Harvard proponent of rapid, inexpensive coronavirus tests has teamed up with a banking giant to measure whether testing thousands of employees several times a week can prevent cases from becoming

outbreaks and provide a way to keep businesses and schools open despite the pandemic flare-ups expected to reoccur during cold and flu season, even with the greater availability of vaccines.

Michael Mina, assistant professor of epidemiology at the Harvard T.H. Chan School of Public Health and associate medical director in clinical microbiology at Brigham and Women's Hospital, said the trial with Citi has already enrolled 1,000 people—it hopes to eventually have 6,000—and has also already seen results, preventing several asymptomatic employees infected with the [coronavirus](#) from going to work and potentially spreading the virus in the workplace.

"We've already had a number of participants who are completely asymptomatic and would have gone to work, who found out that morning before work that they were infected," said Mina, who spoke to the media during a conference call Wednesday morning. "They would have gone to work on those days without knowing that they were positive and transmitting."

The study equips employees with rapid antigen tests developed by study partner Innova Medical Group. The tests, approved for use in the U.K. and European Union, are currently awaiting FDA emergency-use authorization and provide results in 20 minutes. Participants also use a [smartphone app](#) developed by another study partner, LivePerson, which develops AI-driven chatbots that power website chat functions. Called BELLAHealth with Innova, the app is an [artificial intelligence](#)-guided resource that includes a virtual assistant to ensure participants conduct tests properly and allows them to "attest" daily that they're symptom-free before heading to work.

"We have many colleagues who aren't able to do their roles remotely who have continued to work onsite through the pandemic," Citi medical director Lori Zimmerman said in a statement on the study. "Our team

follows [safety measures](#), including daily health screenings, masking, social distancing, and frequent handwashing, and we are excited to introduce a new mitigant strategy for our colleagues to prevent the spread of the virus."

The trial seeks to illustrate the potential utility of such cheap, at-home tests in interrupting viral spread and allowing society to function in an approximation of normalcy by increasing confidence that workplaces and schools are safe, Mina said.

The study is occurring as the rollout of COVID-19 vaccines picks up steam, with President Joe Biden saying recently that the administration aims to have enough doses for all American adults by the end of May. On Wednesday, he announced that the nation would secure another 100 million doses of vaccine, this one a single-shot treatment developed by Johnson and Johnson. Though the prospect of widespread vaccination equals the pandemic's end in the minds of many, Mina cautioned against thinking that the coronavirus will go away entirely and said that another surge as the weather cools in the fall is likely.

The autumn surge is anticipated because this coronavirus appears to be seasonal, as are its cold virus cousins, Mina said. In addition, while vaccines are likely to reduce transmission, they won't eliminate it entirely. That, combined with the proportion of the population that remains unvaccinated and the possibility that some immunity will wane over time, means that devising strategies that allow society to function normally despite the virus' presence remains important. In addition to those factors, Mina said the threat of viral variants that can evade vaccine immunity is real.

"Let's hope that doesn't happen," he said. "I think it's very unlikely that we'll have surges as big as what we have seen in the recent fall and winter, but we will probably have surges and society is going to have to

make decisions [about whether] we continue counting cases and shut schools down, or do we count hospitalizations and deaths and allow society to keep running despite cases."

A similar screening strategy is already in use abroad, Mina said, and the potential effectiveness of a regular testing program has already been illustrated here, albeit the program used lab-based PCR tests instead of at-home rapid antigen tests. He pointed to the many colleges and universities which, despite being located in cities and harboring a high-risk population of gregarious, rule-bending young people, have largely been able to control cases and limit outbreaks by routinely testing students every few days. That allows medical personnel to detect infections early, then trace, contact, and quarantine those who test positive. While that has not eliminated cases entirely, for the most part it has avoided letting a handful of infections blossom into large outbreaks.

In the general population, by contrast, Mina said a recent survey indicated that two-thirds of Americans haven't received even one COVID [test](#), and, of those who have, most have gotten only one. Had a regular, rapid testing regimen been adopted broadly across the country last fall, it would likely have saved thousands of lives during the fall/winter surge, Mina said.

"If every American household had these tests in their homes last summer, which was possible, we could have potentially prevented hundreds of thousands of deaths by preventing the epidemic getting out of control in the fall and winter," Mina said. "If we can get R [the number of cases that stem from a single case] below one, what that means is even if cases start to pop up in a community, if enough people are testing on a regular basis, the outbreak will never appear, it will be a blip, and it will be gone."

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