A supermarket cashier in Buenos Aires, Argentina, waits for costumers behind a makeshift plastic curtain as a precaution against the spread of the coronavirus that causes COVID-19.

You may be able to spread coronavirus just by breathing, new report finds

By **Robert F. Service** | Apr. 2, 2020 , 6:45 PM

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touching their mouth, nose, or eyes. But if the coronavirus can be suspended in the ultrafine mist that we produce when we exhale, protection becomes more difficult, strengthening the argument that all people should wear masks in public to reduce unwitting transmission of the virus from asymptomatic carriers.

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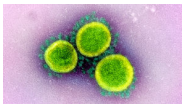

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The debate began when researchers **reported earlier this year in *The New England Journal of Medicine*** that SARS-CoV-2 can float in aerosol droplets—below 5 microns across—for up to 3 hours, and remain infectious. In their review, Fineberg and his NAS colleagues pointed to other studies, including **a recent one by Joshua Santarpia and colleagues** at the University of Nebraska Medical Center that found widespread evidence of viral RNA in isolation rooms of patients being treated for COVID-19. Viral RNA turned up on hard to reach surfaces, as well as in air samplers more than 2 meters from the patients. The presence of the RNA indicates virus can spread via aerosols, Santarpia and his colleagues concluded, although they did not find infectious viral particles.

Leung of the University of Hong Kong and colleagues. They collected respiratory droplets and aerosols from patients with respiratory illnesses caused by viruses; some of the patients wore surgical facemasks. The masks reduced the detection of coronavirus RNA in both respiratory droplets and aerosols, but only in respiratory droplets among influenza sufferers. “Our results provide mechanistic evidence that surgical facemasks could prevent transmission of human coronavirus and influenza virus infections if worn by symptomatic individuals,” the researchers conclude.

Not all experts agree that aerosols are a likely route of transmission. A 27 March scientific brief from the World Health Organization (WHO) states that aerosol transmission “may be possible in specific circumstances and settings that generate aerosols,” such as when severely ill patients are intubated with a breathing tube. However, the WHO experts say, an analysis of more than 75,000 coronavirus cases in China revealed no cases of airborne transmission. As for studies such as Santarpia’s, they note that “the detection of RNA in environmental samples based on PCR-based assays is not indicative of viable virus that could be transmissible.”

Nevertheless, CDC is apparently getting ready to change its stance on the subject. According to multiple news reports the agency is poised to recommend that all people in the United States wear cloth facemasks in public to reduce the spread of the virus.

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