

Editor's Note

Contact Tracing, Testing, and Control of COVID-19—Learning From Taiwan

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Taiwan is a country of about 24 million people, 81 miles off the coast of mainland China. As of late April 2020, Taiwan had about 330 confirmed cases of coronavirus disease 2019 (COVID-19) and 6 deaths. By comparison, the US had about 1 million confirmed cases of COVID-19, and 60 000 deaths.

In this issue of *JAMA Internal Medicine*, there is a remarkable report from Taiwan on the use of contact tracing and virologic polymerase chain reaction testing to assess the transmission dynamics of COVID-19 in the country's initial 100 confirmed cases.¹ Among 2761 close contacts of the 100 cases, confirmed between January 15 and March 18, 2020, Cheng et al report that there were 22 paired-index secondary cases and an overall secondary clinical attack rate of 0.7% (95% CI, 0.4%-1.0%).¹

The study has important messages for the control of COVID-19 throughout the world. First, people with COVID-19 were found to be most infectious to others before and within 5 days of symptom onset. Within 5 days of symptom onset, the attack rate was 1.0% (95% CI, 0.6%-1.5%). With exclusive pre-symptomatic exposures, the attack rate was 0.7% (95% CI, 0.2%-2.4%), and with exposures 6 days or more after symptom onset, there were 0 cases from 852 contacts (95% CI, 0%-0.4%).¹

These findings underscore the pressing public health need for accurate and comprehensive contact tracing and testing.

Testing only those people who are symptomatic will miss many infections and render contact tracing less effective. The finding that asymptomatic people and those with minimal or fewer symptoms early in infection are those most likely to transmit COVID-19 strongly argues for maintaining social distancing and having people wear face masks to reduce the potential for transmission. Solely isolating patients symptomatic with COVID-19 will fail to control transmission during the infected but asymptomatic stage.

Second, the study underscores the many things that Taiwan has done right in proactively and rapidly responding to COVID-19.² It is impressive, even astounding, that Taiwan not only conducted robust contact tracing and testing on the first 100 confirmed cases, but also quickly and comprehensively reported the results, thus meaningfully advancing knowledge of the transmission dynamics of the virus.¹ Unfortunately, widespread testing was not available in the US in February 2020, hampering the ability to identify people who were COVID-19 positive.

A first step for the US and other nations in "reopening" society is to have sufficient testing and contact tracing such that the outbreaks that will inevitably occur as social restrictions are removed can be successfully contained. Beyond this, even when "reopening," social distancing throughout society and the wearing of face masks should be maintained to the maximum extent possible until there is a vaccine or effective treatment.

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Published Online: May 1, 2020.
doi:10.1001/jamainternmed.2020.2072

Conflict of Interest Disclosures: None reported.

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