



COVID-19 research update

April 16, 2020

The Health Policy Institute of Ohio is collecting the latest research so that Ohio policymakers and other stakeholders can make informed decisions on the rapidly evolving COVID-19 pandemic. HPIO has also created a [Coronavirus \(COVID-19\) resource page](#) to serve as a "one-stop-shop" for links to the Ohio Department of Health, Centers for Disease Control and Prevention and other sources of frequently updated, reliable information. If this update was forwarded to you, you can [click here to join our mailing list](#). NOTE: HPIO is moving to a Monday-Tuesday-Thursday release schedule for COVID-19 research updates.

COVID-19 patients can spread the virus days before having symptoms

[An analysis of viral shedding in COVID-19 patients](#) (Nature Medicine, April 15) estimated that 44% of transmissions occurred when a patient was still pre-symptomatic. The researchers observed high viral load in COVID-19 patients immediately after symptoms presented, which tapered off over a period of approximately 21 days. The authors also found that COVID-19 patients become infectious 2.3 days before symptom onset, with a peak in infectiousness around 0.7 days before symptom onset. Because of the high likelihood of transmission before symptom onset, disease control measures should be adjusted to account for probable pre-symptomatic transmission. The finding could also impact criteria for contact tracing to capture potential transmission events 2 to 3 days before symptom onset.

Digital contact tracing faces political, cultural barriers in U.S.

Compared to how several East Asian countries have deployed technology to conduct effective contact tracing, cultural and political differences in the U.S. may limit the use of these technologies, according to a [Harvard Business Review report](#) (April 15). The authors explore three critical conditions that might each present difficult dilemmas for Western democracies: 1) Adoption of technologies (whether they are encouraged or made mandatory), 2) Digital infrastructure enabled and activated by the government and 3) Seamless data sharing between government and business that may afford few privacy protections. While digital contact tracing is faster and likely more effective than traditional methods, barriers such as privacy concerns and the ability of public and private entities to share data would need to be overcome in order to deploy this technology in Ohio.

Intermittent social distancing may be needed long term

[A modeling study based on other coronaviruses](#) (Science, April 14) projects that recurrent wintertime outbreaks of SARS-CoV-2, the virus that causes COVID-19, will probably occur after the initial, most severe pandemic wave. The authors conclude that intermittent social distancing could prevent critical care capacity from being exceeded, but that widespread surveillance will be required to time the distancing measures correctly. Periodic social distancing will likely need to continue through 2022 or beyond in order to avoid overwhelming the healthcare system. The findings mean that Ohio

policy-makers should be prepared to implement intermittent social distancing over the long-term to handle possible seasonal peaks that could strain the critical care system. Effective timing of changes in social distancing should be informed by widespread surveillance, indicating that increased testing capacity (including serological testing) is critical for informing policy decisions. Once data are available, benchmarks could be established to guide timing of increased and decreased social distancing policies.