



COVID-19 research update

March 31, 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, reputable information.

University of Washington model predicts state COVID-19 deaths, hospitalization

[Modeling](#) conducted by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington forecasts death and hospital utilization for each state. As displayed in the [state data visualization](#) (choose Ohio from the green drop-down menu), the analysis currently estimates that Ohio's peak hospital resource use day will be in late April (projections may be frequently updated). Unlike many other states, this analysis predicts that Ohio may have enough hospital beds and ICU beds to meet demand. A [companion methodology article](#) describes how the model estimates the timing of deaths and demands for hospital beds, ICU occupancy and ventilator use.

It is important to note that the IHME model does not take into consideration the prevalence of chronic lung disease, heart disease, diabetes, obesity, smoking or other health conditions that may lead to variations in hospitalizations, ICU use and deaths across states. As described in the [2019 Health Value Dashboard](#) and the [2019 State Health Assessment](#), Ohio has relatively high rates of chronic diseases that may increase the severity of COVID-19 complications. Ohio ranks in the bottom quartile, for example, for adult smoking, adult obesity and cardiovascular disease mortality. Predictive models such as these should be improved to incorporate data on the prevalence of these conditions in Ohio.

Studies of previous infectious diseases shed light on effectiveness of public use of face masks

Current messages to the public about COVID-19 have discouraged use

of masks, except for healthcare workers. However, previous research on the effectiveness of masks to reduce the spread of other infectious diseases may suggest that those recommendations should be reconsidered.

A [randomized control trial](#) (Annals of Internal Medicine, Oct. 6, 2009) found that hand washing and facemasks (together) can reduce influenza transmission if used early after symptom onset of the first person with illness in the household. Facemasks plus hand hygiene was more effective than hand hygiene alone in reducing transmission of influenza.

A [systematic review](#) (BMJ, Nov. 27, 2007) of the effectiveness of hand washing, masks, gloves and gowns to reduce the spread of SARS found that all methods were effective in reducing (but not eliminating) transmission; N95 masks, other masks and gowns were most effective. N95 masks are extremely important for reducing transmission and protecting healthcare workers, but other types of masks, as well as gowns, gloves and handwashing are also important.

COVID-19 may worsen or induce cardiovascular problems, studies find

A [review](#) (JAMA Cardiology, March 27) of the potential effects of coronaviruses on the cardiovascular system concluded that COVID-19 can cause cardiovascular complications, which put patients at increased risk for severe disease and mortality. Until specific treatments for COVID-19 are developed, cardiovascular complications should be treated using guideline-based therapies, the authors found. According to the Heart Failure Society of America, American College of Cardiology and American Heart Association, ACE inhibitors, ARBs or renin-angiotensin-aldosterone system antagonists, "can be continued in patients with COVID-19 without interruption in compliance with available clinical guidelines."

[Another study](#) (JAMA Cardiology, March 27) of COVID-19 patients in China found that those with cardiovascular disease and myocardial injury were at elevated risk for mortality from COVID-19. People with underlying cardiovascular disease and no myocardial injury experience relatively favorable outcomes. Triaging for cardiovascular disease and myocardial injury can help providers to make treatment decisions.