



COVID-19 research update

April 27, 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 and publishes updates on Mondays, Tuesdays and Thursdays. 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](#).

Workplace infections

An [epidemiological study of a COVID-19 outbreak in a call center in South Korea](#) (CDC, Emerging Infectious Diseases, April 23) found that of 1,143 persons who were tested for COVID-19, a total of 97 had confirmed cases. Of these, 94 were working on the same floor of a call center with 216 employees, translating to an attack rate of 43.5%. The household secondary attack rate among symptomatic case-patients was 16.2%. This outbreak shows that SARS-CoV-2, the virus that causes COVID-19, can be exceptionally contagious in crowded office settings such as a call center. The magnitude of the outbreak illustrates how a high-density work environment can become a high-risk site for the spread of COVID-19 and potentially a source of further transmission. In this case, extensive contact tracing, testing all contacts and early quarantine blocked further transmission and may be an effective approach for containing rapid outbreaks in crowded work settings.

Risk factors and comorbidities

A [review of early data examining the effects of body mass index \(BMI\) on COVID-19](#) patients (Nature Reviews Endocrinology, April 23) concluded that, while it is widely recognized that the presence of comorbidities such as hypertension, diabetes and cardiovascular disease are associated with more severe cases COVID-19, obesity has not been sufficiently investigated. Obesity is a main risk factor for these comorbidities and more generally for impaired metabolic health (such as dyslipidemia and insulin resistance) and is also linked to an increased risk of pneumonia. However, authors also note an "obesity paradox," where despite the increased risk of pneumonia and difficulties associated with intubation and mask ventilation, the risk of death in patients with obesity and pneumonia might be decreased. Preliminary data suggest that people with obesity are at increased risk of severe COVID-19. However, data is limited.

A [study of risk of COVID-19 complications](#) (CDC, Emerging Infectious Diseases, April 23) estimated that 45.4% of U.S. adults are at increased risk for complications from COVID-19 because of cardiovascular disease, diabetes, respiratory disease, hypertension or cancer. The percentage of adults with any of the chronic conditions increased by age, from 19.8% for persons 18-29 years of age to 80.7% for persons older than 80. The rate of chronic conditions also varied by state, race/ethnicity, health insurance status and

employment. The authors found that 48.3% of Ohioans surveyed had at least 1 of 6 chronic conditions that increase risk for coronavirus disease complications. They estimated that, in total, 4,268,748 Ohioans have increased risk for complications due to these chronic conditions.

Testing strategies

A [report outlining recommendations for a national approach to serological testing](#) (Johns Hopkins Bloomberg School of Public Health Center for Health Security, April 22) describes the potential uses of serology (antibody) tests, areas of uncertainty where additional research is needed and examples from other countries now beginning to make use of these tests. While serology testing is an important tool, validated, accurate tests are currently in short supply. The report is a useful summary of what is currently known about antibody tests and what unanswered research questions and ethical considerations remain. The report includes a section called "Actions for Leaders," which specifies policy actions that could take place at the state and local levels. These include: (1) plan, conduct and oversee public and private testing, (2) use serology to inform ongoing contact tracing and (3) ensure that serology surveillance is available for vulnerable and underserved populations.

A [model for exploring the effectiveness of alternative testing strategies for COVID-19](#) (Imperial College, April 23) found that weekly screening of healthcare workers and other at-risk groups using point-of-care tests for infection, irrespective of symptoms, is estimated to reduce their contribution to transmission by 25-33%, on top of reductions achieved by self-isolation following symptoms. Widespread PCR testing in the general population is unlikely to limit transmission more than contact tracing and quarantine based on symptoms alone, but could allow earlier release of contacts from quarantine. The findings of the report suggest that COVID testing is essential for pandemic surveillance but its direct contribution to the prevention of transmission is most effective if implemented with patients, healthcare workers and other high-risk groups.

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