



# COVID-19 research update

Friday, May 29, 2020

## **SARS-CoV-2 transmission in offices and poorly ventilated spaces**

[New/updated CDC COVID-19 employer guidance for office settings](#) (CDC, May 27)

includes suggestions of ways to increase the distance between employees and to disinfect workspaces. Notably, the CDC recommends that employees wear a cloth face covering in all areas of the business. This guidance could be useful for Ohio office-based employers who are making decisions regarding employees' primary places of work. The guidance also includes links to other sources of information on suggested ventilation and water safety protocols.

A [commentary on the spread of COVID-19 through droplets](#) (The Lancet Respiratory Medicine, May 27) studied the rate at which large and small droplets from speaking, breathing and coughing fall to the ground after being expelled. Large droplets tended to fall to the ground quickly and do not travel far before doing so. Small droplets tended to linger in the air for about 9 minutes before reaching the ground. Furthermore, they examine how types of ventilation affect the rate at which potentially viral-laden droplets can be removed from a room. The best ventilation reduced the number of droplets in the room by half after 30 seconds, the second-best reduced droplets by half in one to four minutes, and no ventilation took five minutes to reduce droplets by half. These results could be useful when designing COVID-19 response policies for poorly ventilated spaces, like public transport and nursing homes, which have been reported as sites of viral transmission despite preventive physical distancing. The authors recommend that public health officials advocate for the avoidance of poorly ventilated spaces and improved ventilation to reduce potentially infectious aerosols.

## **Effectiveness of stay-at-home orders**

A [study of state-level stay-at-home orders on COVID-19](#) (American Journal of Infection Control, May 24) found that infection rates dropped after state orders were put in place. Infection rates were 0.113/day pre-order and 0.047/day post-order. The results were consistent across states and support the usefulness of stay-at-home orders in reducing COVID-19 infection rates. Before the stay-at-home order, Ohio's infection rate was 0.15 per day. After the order was put in place, the infection rate dropped to 0.053 per day.

## **Municipal sewage testing as a COVID-19 outbreak indicator**

**[A study on the effectiveness of testing waste water to determine prevalence of COVID-](#)**

**19** (Yale University and Connecticut Agricultural Experimental Station [published pre-print by MedRxIV], May 22) found that sampling sewage is a potential way for states to detect and study potential trends in cases of COVID-19 earlier than currently possible from indicators such as local hospital admissions and compiled COVID-19 testing data. The study examined SARS-CoV-2 RNA concentration in the primary sewage sludge of a northeastern United States metropolitan area (New Haven, Connecticut) amid the Spring 2020 outbreak of COVID-19. All environmental samples collected and included in the study contained SARS-CoV-2 RNA and showed a high correlation with the COVID-19 epidemiological curve as well as with local hospital admissions. The concentration of SARS-CoV-2 RNA in the primary sewage sludge samples was subsequently identified as a seven-day leading indicator ahead of COVID-19 testing data and predated local hospital admissions data by three days.