Precautions used to prevent COVID-19 decreased common respiratory illness rates, study finds

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Wearing masks and physical distancing—two key infection prevention strategies implemented to stop the spread of COVID-19—may have led

to the dramatic decrease in rates of common respiratory viral infections, such as influenza. A study led by researchers at Boston Medical Center (BMC) showed an approximately 80 percent reduction in cases of influenza and other common viral respiratory infections when compared to similar time periods in previous years, before wearing masks, physical distancing, and school closures were implemented to help stop the spread of COVID-19. Published online in *Open Forum Infectious Diseases,* these results suggest that public health measures used to prevent COVID-19 transmission could be useful in helping prevent other respiratory viral infections.

"We know viruses that cause the common cold and pneumonia are spread through close contact, aerosols and/or droplets, which is why we decided to look into how the measures implemented to prevent the spread of COVID-19 may have impacted the incidence of other common viral respiratory illnesses," said Manish Sagar, MD, an infectious diseases physician and researcher at BMC and the study's corresponding author.

In this retrospective cohort analysis, the researchers analyzed all (inpatient and outpatient) documented respiratory viral infections at BMC for certain time periods between January 1, 2015 and November 25, 2020. These infections were diagnosed using a comprehensive respiratory panel polymerase chain-reaction test, which screens for 20 common respiratory pathogens, and positive results were recorded. Positive and negative results for SARS-CoV-2 tests were excluded from the study given the focus on other common respiratory illnesses prior to the COVID-19 pandemic.

The year 2020 was divided into two specific periods. The first, referred to as Period 1, represents the time before the implementation of mask wearing, physical distancing and school closures (Weeks 1-10 from Jan. 1—March 10, 2020). The second, referred to as Period 2, represents the

time after the implementation of these practices to stop the transmission of COVID-19 (Weeks 11-46, March 11—Nov. 25, 2020). The researchers analyzed the number of viral infections during periods 1 and 2 for 2015—2019 and compared to the 2020 results.

In 2020 period 2, after the implementation of measures to stop COVID-19, newly detected respiratory viruses were approximately 80 percent lower compared to the same time period from 2015 to 2019. In contrast, in 2020 period 1, before COVID-19 prevention measures, there were more respiratory virus infections compared to 2015 to 2019. Additionally, the phased re-opening in Boston, which occurred around July 20, 2020, was associated with an increase in the detection of rhinovirus infections.

"Our study results may be particularly helpful for developing prevention strategies in settings where respiratory infections are very harmful, such as congregate settings and for the elderly and immunosuppressed," added Sagar, an associate professor of medicine and microbiology at Boston University School of Medicine.

More information: Sinha Pranay et al, COVID-19 mitigation strategies were associated with decreases in other respiratory virus infections, *Open Forum Infectious Diseases* (2021). DOI: 10.1093/ofid/ofab105

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