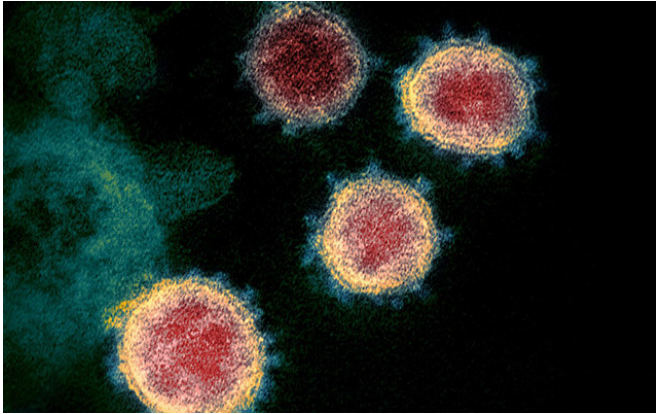


New research shows substantially higher burden of COVID-19 compared to flu

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A colorized scanning electron micrograph of the SARS-CoV-2 virus. Credit: NIAID

In a paper published in the *Journal of General Internal Medicine*, physician-researchers at Beth Israel Deaconess Medical Center (BIDMC) assessed the relative impact of COVID-19 on patients hospitalized with the viral infection in March and April 2020, versus patients hospitalized with influenza during the last five flu seasons at the medical center. Overall, the team demonstrated that COVID-19 cases resulted in significantly more weekly hospitalizations, more use of mechanical ventilation and higher mortality rates than influenza.

COVID-19 and influenza are both contagious respiratory viral diseases that can lead to pneumonia and acute respiratory failure in severe cases. However, detailed comparison of the epidemiology and clinical characteristics of COVID-19 and those of influenza are lacking.

"COVID-19 has been compared to influenza both by [health care professionals](#) and the lay public, but there's really limited detailed objective data available for comparing and contrasting the impact

of these two diseases on [patients](#) and hospitals," said corresponding author Michael Donnino, MD, Critical Care and Emergency Medicine physician at BIDMC. "We compared patients admitted to BIDMC with COVID-19 in spring 2020 to patients admitted to BIDMC with influenza during the last five flu seasons. We found that COVID-19 causes more severe disease and is more lethal than influenza."

Donnino and colleagues included a total of 1,634 hospitalized patients in their study, 582 of whom had laboratory-confirmed COVID-19 and 1,052 of whom had confirmed influenza. The team found that, on average, 210 patients were admitted to BIDMC during each eight-month flu season, compared to the 582 patients with COVID-19 admitted in March and April 2020. While 174 patients with COVID-19 (or 30 percent) received [mechanical ventilation](#) during the two-month period, just 84 patients with influenza (or 8 percent) were placed on [ventilation](#) over all five seasons of influenza. Likewise, the proportion of patients who died was much higher for COVID-19 than for influenza; 20 percent of admitted patients with COVID-19 died in the two-month period, compared to three percent of patients with influenza over five seasons.

Further analysis revealed that hospitalized patients with COVID-19 tended to be younger than those hospitalized with influenza. Among patients requiring mechanical ventilation, patients with COVID-19 were on ventilation much longer—a median duration of two weeks—compared to just over three days for patients with [influenza](#). Moreover, among patients requiring mechanical ventilation, patients with COVID-19 were far less likely to have had pre-existing medical conditions.

"Our data illustrate that 98 percent of deaths of patients hospitalized with COVID-19 were directly or indirectly related to their COVID-19 illness, illustrating that patients did not die with COVID but rather from COVID pneumonia or a complication,"

said Donnino.

The authors note that the stringent social distancing guidance in effect last spring may have impacted these findings by limiting the incidence and lethality of COVID-19 toward the end of April 2020.

Conversely, some treatment practices have evolved over the course of the pandemic, potentially improving outcomes for patients with COVID-19.

More information: Donnino, M.W., Moskowitz, A., Thompson, G.S. et al. Comparison between Patients Hospitalized with Influenza and COVID-19 at a Tertiary Care Center. *J Gen Intern Med* (2021). doi.org/10.1007/s11606-021-06647-2

Provided by Beth Israel Deaconess Medical Center

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