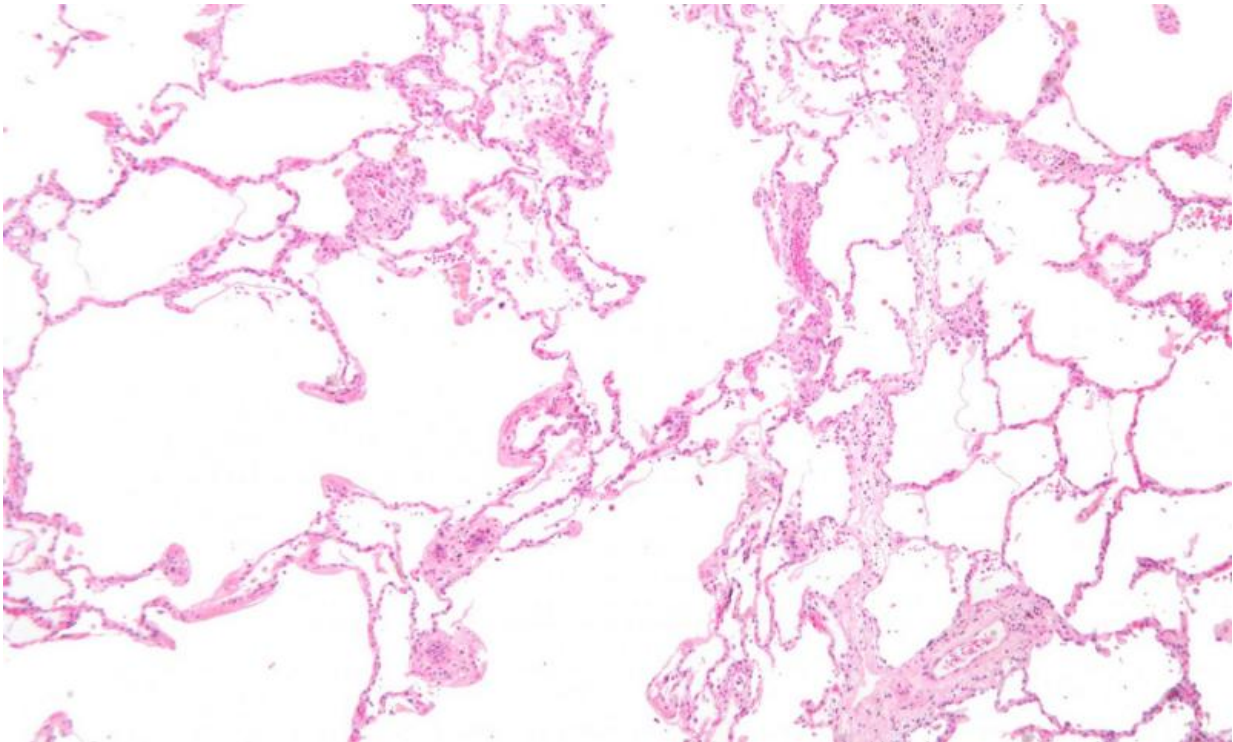


Flu vaccination keeps COPD patients out of the hospital

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Micrograph showing emphysema (left – large empty spaces) and lung tissue with relative preservation of the alveoli (right). Credit: Wikipedia, CC-BY-SA 3.0

A new study published in the January issue of *Chest* establishes that patients with chronic obstructive pulmonary disease (COPD) face heightened risks of death, critical illness, and hospitalization if they develop the flu and demonstrates the beneficial effects of influenza

vaccination. The report also reveals gaps in care that need to be addressed, including less-than-universal influenza vaccination in patients with COPD and failure to provide an antiviral medication in a timely manner once the patient is diagnosed with the flu.

The study found that influenza infection is a common reason for hospitalization among [patients](#) with COPD, and the consequences of influenza infection are severe: one out of every 10 patients with influenza died, and one out of every five patients with influenza required intensive care.

"Despite these severe outcomes, we also found that influenza [vaccine](#) was associated with a 38 percent reduction in influenza-related hospitalizations among patients with COPD. Given the results of this study, we strongly encourage patients with COPD to receive the [influenza vaccine](#) each year as a protective measure against influenza and its serious health consequences," explained Sunita Mulpuru, MD, FRCPC, MSc, of The Ottawa Hospital Research Institute, Clinical Epidemiology Program, University of Ottawa, Ontario, Canada.

In this large national, prospective study, data were collected from 46 hospitals as part of the Canadian Immunization Research Network (CIRN) Serious Outcomes Surveillance (SOS) Network. The SOS Network conducts surveillance for influenza and related illnesses each influenza season in order to help understand the burden of these illnesses in Canada, especially for high risk populations such as seniors and individuals with underlying medical illnesses. The data were collected over the course of four winter seasons during 2011-2015. This study included hospitalized adults with a documented diagnosis of COPD, selecting those with known influenza vaccination history.

Analysis of nasopharyngeal swabs was used to diagnose if patients had the flu. Of the 4,755 patients included in the study, 38.5 percent (1,833)

were confirmed as having influenza.

"We found that influenza infection is a common reason for hospitalization among patients with COPD," said Dr. Mulpuru. Once hospitalized, influenza-positive patients more frequently required mechanical ventilation (8.7 percent vs. 5.2 percent), experienced higher mortality (9.7 percent vs. 7.9 percent), and greater need for critical care (17.2 percent vs. 12.1 percent) compared with patients who tested negative for influenza. For patients using home oxygen, the outcomes were more severe with greater risk for ICU admission and higher mortality.

Despite the clear benefits of vaccination, only 66.5 percent of patients with COPD studied were vaccinated. The vaccination rate was not any better among patients requiring home oxygen therapy.

The investigators also identified another gap in care for these vulnerable patients with COPD. Among those infected with [influenza](#), only 69 percent received an antiviral medication while hospitalized and, for many, the prescription of the antiviral was delayed.

"Our results suggest that greater awareness is needed among patients with COPD and their health care providers regarding the severe consequences of [influenza infection](#) and the benefits of vaccination. Finding methods to improve vaccination rates among patients with COPD is likely to have a significant impact," emphasized Dr. Mulpuru.

More information: Sunita Mulpuru et al, Effectiveness of Influenza Vaccination on Hospitalizations and Risk Factors for Severe Outcomes in Hospitalized Patients With COPD, *Chest* (2019). [DOI: 10.1016/j.chest.2018.10.044](https://doi.org/10.1016/j.chest.2018.10.044)

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