

COPD epidemic could overwhelm healthcare systems within two decades, study says

September 20 2016



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Health authorities should brace themselves for an epidemic of chronic obstructive pulmonary disease (COPD) over the next two decades, despite a decline in smoking rates, according to a new study from the

University of British Columbia.

COPD is a progressive lung disease associated with smoking, air pollution and age. To predict future rates of the disease, researchers conducted forecasting analyses, combining population statistics and health data for the province of B.C. They concluded that between 2010 and 2030, the number of COPD cases in the province will increase by more than 150 per cent—despite decreased rates of smoking. Among seniors over 75 years of age, rates of COPD will more than triple, increasing by 220 per cent. The staggering figures astonished even the researchers.

"Everyone who has seen the results has been surprised," said senior author Dr. Mohsen Sadatsafavi, assistant professor in the faculties of pharmaceutical sciences and medicine. "Many people think that COPD will soon be a problem of the past, because smoking is declining in the industrialized world. But aging is playing a much bigger role, and this is often ignored. We expect these B.C.-based predictions to be applicable to Canada and many other industrialized countries."

Lead author Amir Khakban, health economist in the faculty of [pharmaceutical sciences](#) at UBC and the Centre for Health Evaluation and Outcome Sciences, said age-adjusted COPD rates have remained constant as [smoking rates](#) have declined. "This pattern, along with an aging population and a decrease in mortality rates, is responsible for the alarming growth in the burden of COPD," he said.

While other diseases of aging are expected to increase over the coming decades, the researchers say COPD will overtake them all. The associated health-care costs of caring for these patients will be significant. The study predicts that annual inpatient days related to COPD will grow by 185 per cent. It's a burden the health-care system is not equipped to deal with, said co-author Dr. Don Sin, professor in UBC

department of medicine's division of respiratory medicine and head of respiratory medicine at St. Paul's Hospital.

"Our only hope of changing this trajectory is to find new therapeutic and biomarker solutions to prevent and treat COPD, and this can only happen through research and innovation," he said. "Our UBC team is poised to make these breakthroughs."

"The Projected Epidemic of COPD Hospitalizations Over the Next 15 Years: A Population Based Perspective" appears in the *American Journal of Respiratory and Critical Care Medicine*.

Background

Key findings

From 2010 to 2030 in British Columbia:

- The total population growth rate will be less than 25 per cent, while the total number of diagnosed COPD patients will increase by 155 per cent.
- The absolute number of COPD cases will increase by more than 150 per cent.
- The greatest growth will be in those 75 years of age or older, where the absolute number will increase by 220 per cent.
- The burden of inpatient care, measured as the total annual inpatient days, will show a growth rate of 185 per cent.

About COPD:

- COPD is the leading cause of hospitalization in Canada, after heart disease.
- In the U.S. it is expected to surpass heart disease within five

years to become the leading cause of hospitalizations.

- Cigarette smoking is the single most important modifiable risk factor for COPD.

More information: Amir Khakban et al. The Projected Epidemic of COPD Hospitalizations Over the Next 15 Years: A Population Based Perspective, *American Journal of Respiratory and Critical Care Medicine* (2016). [DOI: 10.1164/rccm.201606-1162PP](https://doi.org/10.1164/rccm.201606-1162PP)

Provided by University of British Columbia

Citation: COPD epidemic could overwhelm healthcare systems within two decades, study says (2016, September 20) retrieved 23 April 2024 from <https://medicalxpress.com/news/2016-09-copd-epidemic-overwhelm-healthcare-decades.html>

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