

ONTARIO BACKGROUNDER: DRAMATIC RESULTS SHOW SHIFTING CHRONIC DISEASE CARE CLOSER TO HOME REDUCES HOSPITAL USE

COPD In Canada – A growing problem

Chronic obstructive pulmonary disease (COPD), which includes emphysema and chronic bronchitis, is one of the most deadly, prevalent and costly chronic diseases.¹

About 800,000 Canadians 35 and over report they have been diagnosed with COPD² but this may just be the tip of the iceberg. Statistics Canada has estimated that COPD is under-diagnosed and up to three times more Canadians have respiratory changes consistent with COPD than have been formally diagnosed.³ One in four Canadians will develop COPD in their lifetime.¹

Patients in the advanced stages of COPD resort to episodic emergency department (ED) care and hospitals to cope with poorly managed symptoms of breathlessness. Of the chronic diseases, COPD is the leading cause for hospital admission from ED,⁴ inpatient hospitalizations,⁵ and hospital readmissions.⁶ As a result, those living with advanced COPD are among the highest users of healthcare resources, costing the Canadian healthcare system approximately \$1.5 billion each year.⁷

An INSPIRED solution

To address this issue, in 2014 CFHI launched INSPIRED Approaches to COPD, a pan-Canadian quality improvement collaboration focused on spreading an innovative model of COPD care. This proactive program supports patients living with moderate-to-severe COPD and their families to transition from the hospital into supported care in the community. It was modelled on the INSPIRED COPD Outreach Program™ developed by Medical Director Dr. Graeme Rocker and two colleagues, a respiratory therapist and a spiritual care practitioner, at Capital Health in Halifax (now part of the Nova Scotia Health Authority) based on extensive input from patients and their caregivers.

INSPIRED is a supportive program that equips patients to better manage their illness by providing them with: written action plans for managing their disease; phone calls after they are discharged home and at later intervals; at-home self-management education and psychosocial support; and advance care planning when needed. Patients in the program are also given a day-time telephone number to call for support.

How INSPIRED is transforming COPD care in Ontario

Currently, about 316,000 Ontarians age 35 and over report they have been diagnosed with COPD² but up to 950,000 may have breathing problems indicative of early stage disease or increased risk.³

Ontario team selected for next phase of INSPIRED

- *Joseph Brant Hospital and Caroline Family Health Team (serving Burlington, Oakville and Hamilton)*

Since the team began participating in the first phase of the INSPIRED collaboration in 2014-15, Joseph Brant Hospital has enrolled approximately 80 patients with COPD.

Results to date:

- 46% reduction in ED visits
- 70% reduction in hospital readmissions
- Estimated cost savings of up to \$855,000
- Improved quality of life and patient experience for program participants

Given these stellar results, CFHI is investing \$197,162 to support the scale up of INSPIRED with Joseph Brant Hospital (Burlington) to the Caroline Family Health Team and up to three other primary care organizations serving Burlington, Oakville and Hamilton North. By March 2019, enrollment is expected to increase at least three-fold, to over 240 people with COPD. As it does, the benefits of INSPIRED will continue to grow.

Future implications for COPD patients in Ontario

An independent analysis conducted by RiskAnalytica identifies possible savings in ED visits and in-patient hospital care by scaling INSPIRED throughout Canada.⁸ The analysis accounts for aging and realistic growth in the Canadian population. It assumes gradual implementation and patient enrolment while adjusting for an expected decrease in cigarette smoking rates, the underlying cause of the majority (80%) of COPD cases in North America.⁹

If the INSPIRED COPD Outreach Program™ were implemented nationally, it would have the biggest impact in Ontario, which represents 39% of the population of Canada. If an

average of 2,200 Ontarians with COPD were enrolled in INSPIRED each year, over five years the program could:

- Prevent up to 26,000 ED visits, for a cost savings of \$30 million
- Prevent 17,000 hospital readmissions and 154,000 bed days, for a savings of \$246 million
- Provide combined cost savings of approximately \$34,000 per Ontarian with COPD, for a total healthcare savings of at least \$263 million. This figure includes the cost of the program (approximately \$1,000 per participant per year) but does not include potential savings in primary care costs associated with improved patient outcomes.⁸

Bottom line: \$1 invested in INSPIRED prevents \$21 in hospital costs.⁸

A national snapshot of healthcare savings:

If the INSPIRED program were implemented across Canada, by 2021 it would:

- Prevent 68,500 ED visits, for a cost savings of \$79 million
- Reduce hospital readmissions by 44,100 and bed days by 400,000, thus reducing hospital costs by \$644 million⁸

The INSPIRED program costs around \$1,000 per COPD patient to implement. By 2021, nationwide INSPIRED programs would net \$688 million in healthcare savings.⁸ This figure is based on prevented ED visits and hospitalizations and does not include savings in prevented routine care, but includes the costs of delivering the program.

Bottom line: \$1 invested in INSPIRED prevents \$21 in hospital costs.⁸

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The views expressed herein do not necessarily represent the views of Health Canada.

¹ Gerson AS, Warner L, Cascagnette P, Victor JC, To T. . Lifetime risk of developing chronic obstructive pulmonary disease: a longitudinal population study. *Lancet* 2011;378(9795):991-6

² Canadian Community Health Survey 2015/16 CANSIM Table 105-0509.

<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=1050509&&pattern=&stByVal=1&p1=1&p2=31&tabMode=dataTable&csid=>

³ Evans J, Chen Y, Camp PG, Dowie DM, McRae L. Estimating the prevalence of COPD in Canada: reported diagnosis versus measured airflow obstruction. *Health Reports* 2014; 25(3): 3-11

<https://www.statcan.gc.ca/pub/82-003-x/2014003/article/11908-eng.htm>

⁴ Canadian Institute for Health Information. Hospital admission from ED

https://secure.cihi.ca/free_products/NACRS_ED_QuickStats_Infosheet_2014-15_ENweb.pdf

⁵ Canadian Institute for Health Information. Top 5 reasons for inpatient hospitalizations

<https://www.cihi.ca/en/top-5-reasons-for-inpatient-hospitalizations>

⁶ Canadian Institute for Health Information. Hospital readmissions

https://secure.cihi.ca/free_products/Readmission_to_acutecare_en.pdf

⁷ Canadian Institute for Health Information. *COPD in Alberta. Examining the Characteristics and Health Care Use of High Users*. 2017. https://secure.cihi.ca/free_products/COPD-Alberta-high-users-report-2017-en-web.pdf

⁸ Risk Analytica. Modelling the INSPIRED COPD Outreach Program™ National and Provincial Analysis, Final Report, April 2016. <http://www.cfhi-fcass.ca/sf-docs/default-source/documents/inspired/inspired-riskanalytica-e.pdf>

⁹ Stephens MB, Yew KS. Diagnosis of chronic obstructive pulmonary disease. *Am Fam Physician* 2008;78(1):87-92