

WESTERN CANADA 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 Rucker 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 Alberta

Currently, 87,100 residents of Alberta age 35 and over report they have been diagnosed with COPD² but up to 261,000 may have breathing problems indicative of early stage disease or increased risk.³

Alberta team selected for next phase of INSPIRED

- *Alberta Health Services (Edmonton Zone)*

Since the team began participating in the first phase of the INSPIRED collaboration in 2014-15, a total of 786 patients with COPD have been enrolled through the Home Living Program, part of AHS Continuing Care.

Results to date:

- 47% reduction in ED visits
- 54% reduction in hospital readmissions
- 65% decrease in hospital length of stay
- Improved quality of life and patient experience for program participants

Given these stellar results, CFHI is investing \$265,246 to further support the scale up of INSPIRED across Alberta Health Services (Edmonton Zone). By March 2019, an additional 900 patients will benefit from INSPIRED. As the reach of INSPIRED is expanded, the benefits will continue to grow.

Through this investment, INSPIRED is expanding to stakeholders across the Edmonton Zone, including:

- University of Alberta Hospital
- Royal Alexandra Hospital
- Edmonton Southside Primary Care Network
- Edmonton North Primary Care Network
- Pulmonary Rehabilitation Centres - G.F MacDonal Lung Health Centre (Edmonton General Continuing Care Centre)
- Covenant Health Acute Care Centres
 - Grey Nuns Community Hospitals
 - Misericordia Community Hospital

As well, community referrals that started in the first phase of INSPIRED will continue to expand in the following areas:

- Continuing Care Program: Home Living, Supportive Living, Facility Living, Palliative and End of Life and Community Services Program, Transitional Services, Program and Planning Support, and others

By the end of this phase of scaling the INSPIRED collaboration, the program will be working with all pulmonary rehabilitation centres and the Alberta Health Services Respiratory Health Strategic Clinical Network that oversees provincial respiratory care.

Future implications for COPD patients in Alberta

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

It has been estimated that in Alberta, over five years INSPIRED could:

- Prevent up to 6,300 ED visits, for a cost savings of \$7 million
- Prevent 4,100 hospital readmissions and 37,000 bed days, for a savings of \$59 million in hospital costs
- Provide combined healthcare cost savings of approximately \$66 million. This figure includes the cost of the program (approximately \$1,000 per adult with COPD 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

How INSPIRED is transforming COPD care in Manitoba

Currently, 25,700 residents in Manitoba age 35 and over report they have been diagnosed with COPD² but up to 77,100 may have breathing problems indicative of early stage disease or increased risk.³

Manitoba team selected for next phase of INSPIRED

- *Manitoba team includes Winnipeg Regional Health Authority, Interlake-Eastern Regional Health Authority and Prairie Mountain Regional Health Authority*

Since WRHA began participating in the first phase of the INSPIRED collaboration in 2014-15, a total of 50 COPD patients have been enrolled at Concordia Hospital in the Winnipeg Regional Health Authority, of which 34 have been tracked before and after program implementation. Initial analysis of the data on this population identified a small sub-set of high-need and anxious patients responsible for disproportionate numbers of ED visits and hospital readmissions. New community-based approaches are being developed to address this population and further analysis will be conducted with a larger sample of patients.

CFHI is investing \$265,799 to further support the scale up of INSPIRED across Manitoba. By March 2019, the number of patients who will benefit from the education, training and services of INSPIRED is expected to grow rapidly, with up to 1,000 receiving in-hospital services with referral to enhanced community resources and 200-225 post-discharge in-home services. As the program is scaled up, the benefits of INSPIRED will continue to grow.

Through this investment, INSPIRED is expanding to:

- Additional sites in the Winnipeg Regional Health Authority
 - Seven Oaks Hospital
 - St. Boniface General Hospital
- Interlake-Eastern Regional Health Authority
 - Selkirk Regional Health Centre
- Prairie Mountain Regional Health Authority
 - Brandon Regional Health Centre
- Community Partners that include: Home Care and Community Therapy Services, My Health Teams, Regional Pulmonary Rehab Program Winnipeg and Brandon, Lung Health Clinic and Chronic Disease Education Program

Future implications for COPD patients in Manitoba

An independent analysis conducted by RiskAnalytica identifies possible savings in ED visits and in-patient hospital care by scaling INSPIRED throughout Canada.¹⁰ 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.¹¹

It has been estimated that in Manitoba, over five years INSPIRED could:

- Prevent 2,400 ED visits, for a cost savings of \$3 million
- Prevent 1,500 hospital readmissions and up to 14,000 bed days, for a savings of \$11 million in hospital costs
- Provide combined healthcare cost savings of approximately \$14 million. This figure includes the cost of the program (approximately \$1,000 per adult with COPD 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

¹⁰ 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>

¹¹ Stephens MB, Yew KS. Diagnosis of chronic obstructive pulmonary disease. *Am Fam Physician* 2008;78(1):87-92