

How improving COPD treatment in primary care could reduce demand on hospitals and emergency departments

September 15 2022, by Andrew Scarffe, Christopher Licskai, Doug Coyle, Kednapa Thavorn and Kevin Peter Brand



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In Ontario, [nearly 900,000 people](#) live with chronic obstructive

pulmonary disease (COPD). [People with this condition account for 24 percent of hospitalizations, 24% of emergency department visits and 21% of ambulatory care visits.](#)

Because of difficulty in managing care, patients with COPD have hospitalization rates that are [63% higher than the general population, as well as rates of emergency department and ambulatory care visits that are, respectively, 85% and 48% higher than the general population](#), all of which contribute [significant financial costs](#) to Ontario's health care system.

Health care sustainability has made headlines as emergency rooms around Ontario have closed due to [staffing shortages, COVID-19 infections and burnout of frontline workers](#). Ontario's Health Minister Sylvia Jones has said that the province should [embrace innovation](#) to help solve challenges within the health care system.

Arguably, one of the most effective solutions would be to divert patients away from the emergency room and hospital in favor of more cost-effective [primary care](#). Innovations in treatment of patients with COPD in primary care has the potential to alleviate a significant strain on the health system by reducing emergency department visits and hospitalizations.

Fortunately, there is an existing program in primary care, called Best Care, that has been demonstrated to be [cost-effective](#), [improve patient and provider experience](#) and [reduce emergency department visits and hospitalizations](#).

The opportunity for Best Care

Best Care is an innovative integrated disease management program (IDM) for managing high-risk, exacerbation-prone patients with COPD

in a primary care setting. It was designed by a collaborative team of frontline health-care providers and administrators, supported by Ontario Health.

The [Best Care IDM program](#) involves [embedding a certified respiratory educator](#), who is also a case manager, within the primary care practice where the patient normally receives care. In collaboration with the patient's primary care provider, the certified respiratory educator delivers or supports access to all 14 of [Ontario Health's COPD quality standards](#), including diagnosis, assessment, care planning, patient education, medication management and specialized respiratory care.

People in the Best Care program become active partners in their care, taking back control over their lives. The efficacy of Best Care has been empirically [demonstrated to improve patients' quality of life and to help avoid emergency department visits](#) and [reduce hospitalizations](#).

Over the past three years, 7,000 Ontarians affected by severe COPD have benefited from the program. Three Ontario health regions implementing Best Care have shown dramatic reductions in COPD-related emergency department visits and hospitalizations.

Evaluating cost-effectiveness

Recently, with a team of health economists from the University of Ottawa, we [evaluated the cost-effectiveness](#) of the Best Care integrated disease management program for high-risk, exacerbation-prone patients in a primary care setting. In this research we used data from our earlier [clinical study](#) and the best available evidence to evaluate if investment in the Best Care program was cost-effective from the perspective of the Ontario health system.

Our results show that Best Care is not just cost-effective, but is

dominant in comparison to standard care in Ontario. Best Care integrated disease management program was cost-effective in 85.3% of our simulations.

When evaluating programs in terms of health economics, a program is [dominant](#) when it improves patient outcomes and costs less than the alternative standard of care: in other words, better care at a lower cost.

With a modest up-front investment in primary care, the Best Care program is expected to dramatically reduce demand for acute health services. In fact, our modeling anticipates a 1.5-fold return on investment in the first year of implementation. Continued health system savings are expected for at least 10 years by reducing the number of urgent care and emergency room visits and the frequency of hospitalization.

We also ran several different scenarios to test the assumptions we made within our economic analysis. The results consistently demonstrated that Best Care integrated disease management program was cost-effective and dominant in comparison to the usual standard of care. When we assume that a patient's quality of life should only improve with access to a certified respiratory educator/ case-manager (i.e., the patient's quality of life should remain the same or increase, but not decrease), the probability that Best Care IDM is cost-effective increases to over 96 percent.

Sustainable health care investment

The [Ontario health system](#) seeks to invest in sustainable, innovative solutions that will maximize health care capacity. This includes reducing avoidable hospitalizations and emergency department visits; improving patient, caregiver and provider experience; and enhancing patient outcomes while containing costs.

[Prior peer-reviewed publications](#) and health system data have confirmed that the Best Care integrated disease management program improves patient outcomes as well as patient, caregiver and provider experience. Our robust health economic analysis confirms that Best Care is economically attractive compared to the current provincial care standard.

Best Care in COPD is a [sustainable health care investment](#) and delivers on all of the goals of the [quadruple aim approach to health care](#): optimizing patient experience, improving health at the population level, reducing costs and supporting the well-being of health care providers.

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