



Co-RIG Project

Extending Primary Care at Home: A comprehensive care model for COVID-19-positive patients

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Project location: Hamilton, Ontario

Summary

The Extended Care in Hamilton project provided clinical pathways to support family physicians to care for patients with mild or moderate COVID-19 and other chronic conditions. The pathways integrate evidence, tools, electronic medical record (EMR) templates, and oxygen monitors to prevent unnecessary hospitalization and detect deterioration early to expedite necessary hospital transfers. The clinic connects regularly with patients in their home with phone calls that monitor symptoms. Evaluation of the pathways' success resulted in scale up across Ontario in a provincial program now referred to as COVID@Home.

Faces of COVID-19

Worsening COVID-19 or not?

Julia is a family physician in Hamilton who recently attended a training session on the Extended Care in Hamilton Pathway. She received notification that two of her patients tested positive for COVID-19. One is male (age 43) with a history of anxiety and hypertension and the other is female (age 70) in overall good health. Using the pathway, Julia spoke to each patient to assess symptoms. She categorizes them both as higher risk, requiring a pulse oximeter and daily monitoring, and explains that an oximeter will be delivered that day with clear instructions.

Two days later the male patient reports significant breathlessness and wants to go to the hospital. Julia checks his oxygen levels, symptoms, and other vitals and sees he is stable. They agree it is increasing anxiety and he should stay home and make virtual appointments for mental health support and COVID-19 monitoring checkup. On the other hand, the female reports she feels fine at the daily check-in, but her oxygen levels have dropped significantly and indicate hypoxia. The care team directs her to the local emergency department and she is admitted immediately to the ICU.

In both cases the pathway and use of the oximeter supported the best care for each patient.

Project detail

Approximately 7.5 per cent of people diagnosed with COVID-19 in Canada have required hospitalization, putting a significant strain on the health care system.¹ A multidisciplinary team led by Dr. Dee Mangin at McMaster University developed the Extended Care in Hamilton (EC-Ham) Pathway that would support family physicians in providing the best possible monitoring and care of patients with mild to moderate illness.

With Co-RIG funding, Dr. Mangin and team evaluated the efficacy of the EC-Ham pathway to provide family physicians with clear guidance on patient care and support patient outcomes.

The pathway targets patients who are at risk of acute worsening COVID-19 symptoms, and can be used for patients with other chronic conditions. It helps primary care clinic teams systematically and safely monitor patients using evidence-based supports. Hospital specialists and community partners collaborate to provide backup advice or care if required.

Monitoring oxygen levels is critical for patients with mild or moderate COVID-19. A key component of Dr. Mangin's innovation is the provision of pulse oximeters to patients to measure the amount of oxygen in a patient's blood. This allows the team to identify this key marker for worsening disease requiring hospitalization, and to continue to reassure patients when hospitalization is not required.

Impact

- **Enhancing family medicine:** The guidance included in the pathways provides practical direction on how to conduct patient assessments. Coupled with an EMR template it helps physicians recognize a patient requiring more intensive care. Clinicians indicated it made them feel confident in their care.
- **Person-centred approach:** Family physicians and interdisciplinary primary care teams play an important role in caring for patients with mild to moderate COVID-19 symptoms. Patients indicated that they felt comfortable and safe being treated at home, were pleased care was provided by their usual primary care team who knew them, and felt less anxious.
- **Building capacity:** With Dr. Mangin's evaluation, Ontario Health was able to calculate the number of pulse oximeters required for a province-wide rollout. The clinical pathway is posted online as the key supporting resource for primary care of patients with mild-moderate COVID.

Results to date

- Of the initial cohort of 197 patients assigned to the primary care pathway at Dr. Mangin's clinic, 30 per cent were stratified to the high-risk category. As of June 9, 2021, more than 500 patients have gone through the pathway at the McMaster Family Health Clinic, and more across Hamilton.
- Patients were either "very satisfied" (61 per cent) or "satisfied" (30 per cent) with the care they received.
- All surveyed clinicians reported they are confident that they know how to safely manage COVID-19 patients in the community and that managing COVID-19 patients is appropriate for primary care.
- To support the scale and spread of the innovation by Ontario Health, Dr. Mangin and her team hold ongoing online community of practice support meetings (10 to date).

- Pathway resources are available online from Hamilton Family Medicine² and have been

accessed by 9,300 family physicians since rollout across Canada (to June 9, 2021).

Methodology

- Develop and maintain a primary care pathway through continuous evidence searching, with development of matching mapped evaluation.
- Provide extended, comprehensive care to an initial 20 patients where detailed access to data is possible to feasibility test.
- Collect data on a larger cohort of consecutive patients to understand outcomes, detect weaknesses, and assess strengths.
- Conduct interviews, focus groups, and surveys with care providers and patients to evaluate the model and patient experience as real time quality improvement, and make any necessary adjustments.
- Provide training through community of practice meetings to expand scale up use.

“This is a deeply rewarding program. The primary care pathway brought together key aspects of family medicine: it is person-focused, increases access, and supports comprehensive and continuous care. It also builds new relationships between health care providers across the system.”

– Dr. Dee Mangin, project lead

¹ Health Canada. COVID-19 daily epidemiology update website. 2021. <https://health-infobase.canada.ca/covid-19/epidemiological-summary-covid-19-cases.html>. Accessed May 19, 2021.

² Hamilton Family Medicine. Assessment, Monitoring and Management of COVID website. 2020. <https://hfam.ca/clinical-pathways-and-evidence/covid/assessment-diagnosis-and-management-of-covid/>. Accessed May 19, 2021.

Project team

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