# A case study on improving **COPD management** through an EMR decision support tool
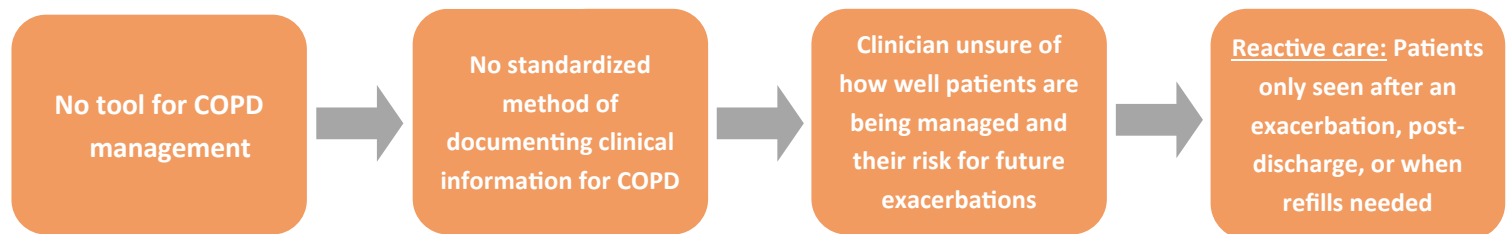
## Background

There are over 1.5 million Canadians who have been diagnosed with Chronic Obstructive Pulmonary Disease (COPD), while as many as 1.6 million may remain undiagnosed (CTS, 2010). COPD accounts for the highest rate of hospital admission among major chronic illnesses in Canada (CTS, 2010). Appropriate diagnosis and management of the condition is key in reducing COPD hospitalizations. An important part of COPD management is the documentation of clinical information on factors such as the number of acute exacerbations of COPD (AECOPD) per year and where a patient falls on the dyspnea scale, which helps a clinician determine how well the patient's COPD is being managed and their risk for future exacerbations (Müllerova et al., 2015).
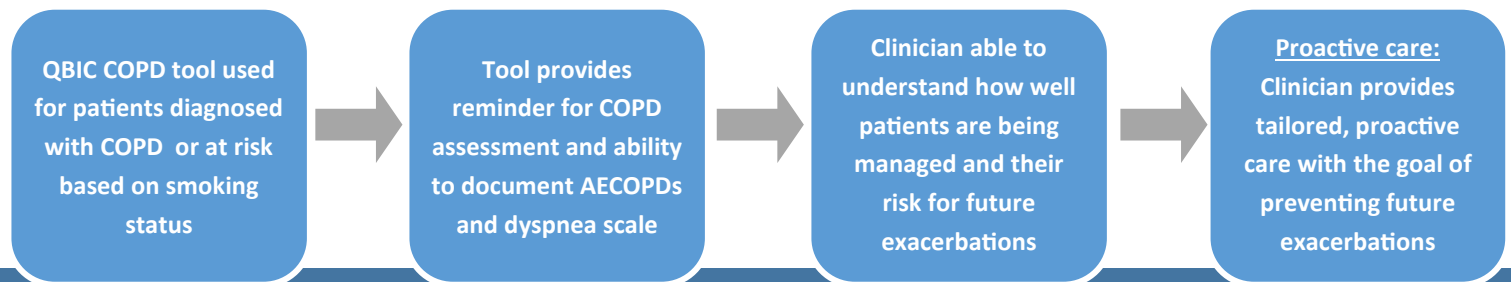
> The eHealth Centre of Excellence's QBIC (Quality Based Improvements in Care) program has created a COPD EMR decision support tool that guides clinicians through application of best practices and consistent documentation for COPD, supporting proactive care through informed decision making and appropriate steps to improve patient's disease trajectory.

In 2016, QBIC's COPD form (see box, left) was adopted by the Guelph Family Health Team (FHT) as an element of a quality improvement initiative to reduce readmissions for COPD. The figure below illustrates the care process before and after COPD tool adoption.

Before QBIC COPD Tool Adoption: Reactive Care

**No tool for COPD management** → **No standardized method of documenting clinical information for COPD** → **Clinician unsure of how well patients are being managed and their risk for future exacerbations** → **Reactive care: Patients only seen after an exacerbation, post-discharge, or when refills needed**

After QBIC COPD Tool Adoption: Proactive Care

**QBIC COPD tool used for patients diagnosed with COPD or at risk based on smoking status** → **Tool provides reminder for COPD assessment and ability to document AECOPDs and dyspnea scale** → **Clinician able to understand how well patients are being managed and their risk for future exacerbations** → **Proactive care: Clinician provides tailored, proactive care with the goal of preventing future exacerbations**

"Improving documentation is the first step towards understanding how well or sick my patients are, and therefore what management is required to improve their health. By using this tool, I have had more conversations with patients regarding possible COPD, which has led to more testing to confirm diagnosis and smoking cessation referrals."
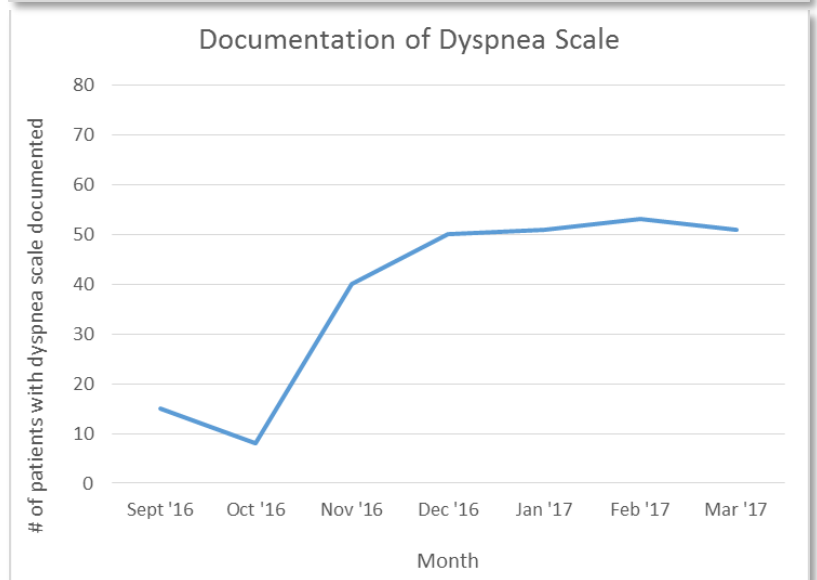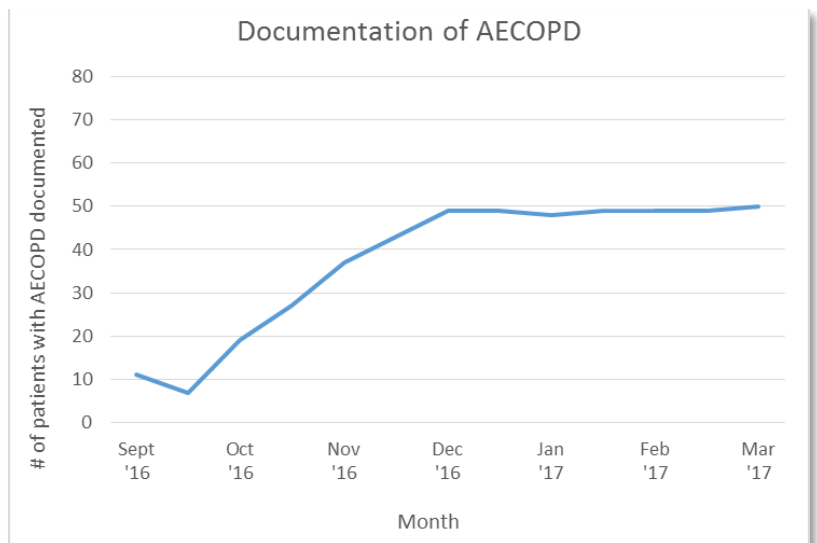
- Dr. Joan Mackenzie Chan, MD CCFP

## What were the benefits?

At the clinics within the Guelph FHT who opted to use the QBIC COPD tool, over 3.5 times more COPD patients have AECOPD documentation and almost 2.5 times more COPD patients have dyspnea scale documentation, compared to when the tool started to be used (see graphs, right).

Dr. Chan used the tool for **88%** of her diagnosed COPD patients. She found that having these clinical values documented in a consistent way improves the organization of COPD-related patient information and enables proactive management of the patient's condition. Improving documentation has enabled Dr. Chan to better understand how well or sick her patients are. She can then make a better informed decision as to what type of management is required to improve their health.

The experience of implementing the COPD tool prompted Dr. Chan's clinic to adopt a new workflow to enhance patient care; a primary care nurse clinician is now a part of each COPD visit, with a focus on patient education for self-management.

### Documentation of AECOPD

*# of patients with AECOPD documented vs Month (Sept '16 – Mar '17)*

### Documentation of Dyspnea Scale

*# of patients with dyspnea scale documented vs Month (Sept '16 – Mar '17)*

## Program description

QBIC (Quality Based Improvements in Care) is a program hosted by the eHealth Centre of Excellence in Waterloo, Ontario. The objective of QBIC is to improve the health and wellness of Waterloo Wellington residents by supporting primary care clinicians with digital health solutions that meet their needs and enhance the quality of care they provide.

**For more information about the tools and services available, or to book an eHealth Coaching session, please scan the QR code (left) or visit: www.ehealthce.ca/QBIC.**

## Works cited:

1. **Canadian Thoracic Society. (2010). The Human and Economic Burden of COPD. Retrieved from: http://www.respiratoryguidelines.ca/the-human-and-economic-burden-of-copd-a-leading-cause-of-hospital-admission-in-canada**
2. **Müllerova, H., Maselli, D. J., Locantore, N., Vestbo, J., Hurst, J. R., Wedzicha, J. A., ... Wallack, R. Z. (2015). Hospitalized exacerbations of COPD: Risk factors and outcomes in the ECLIPSE cohort. Chest, 147(4), 999-1007. DOI: 10.1378/chest.14-0655**

**If you have questions about this Research & Evaluation case study, or would like to participate in a future case study, please contact communications@ehealthCE.ca.**

This case has been authored by Lirije Hyseni, Benefits Realization Practice Lead at the eHealth Centre of Excellence.

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