



Kingston Health Sciences Centre

Centre des sciences de
la santé de Kingston



Hôpital
Hotel Dieu
Hospital



Hôpital Général de
Kingston General
Hospital

Dr. Mike Fitzpatrick
Chief of Staff & VP Med & Acad Affairs, KHSC



Respirology & Sleep Medicine
Dept of Medicine
Queen's U



Kingston Health
Sciences Centre

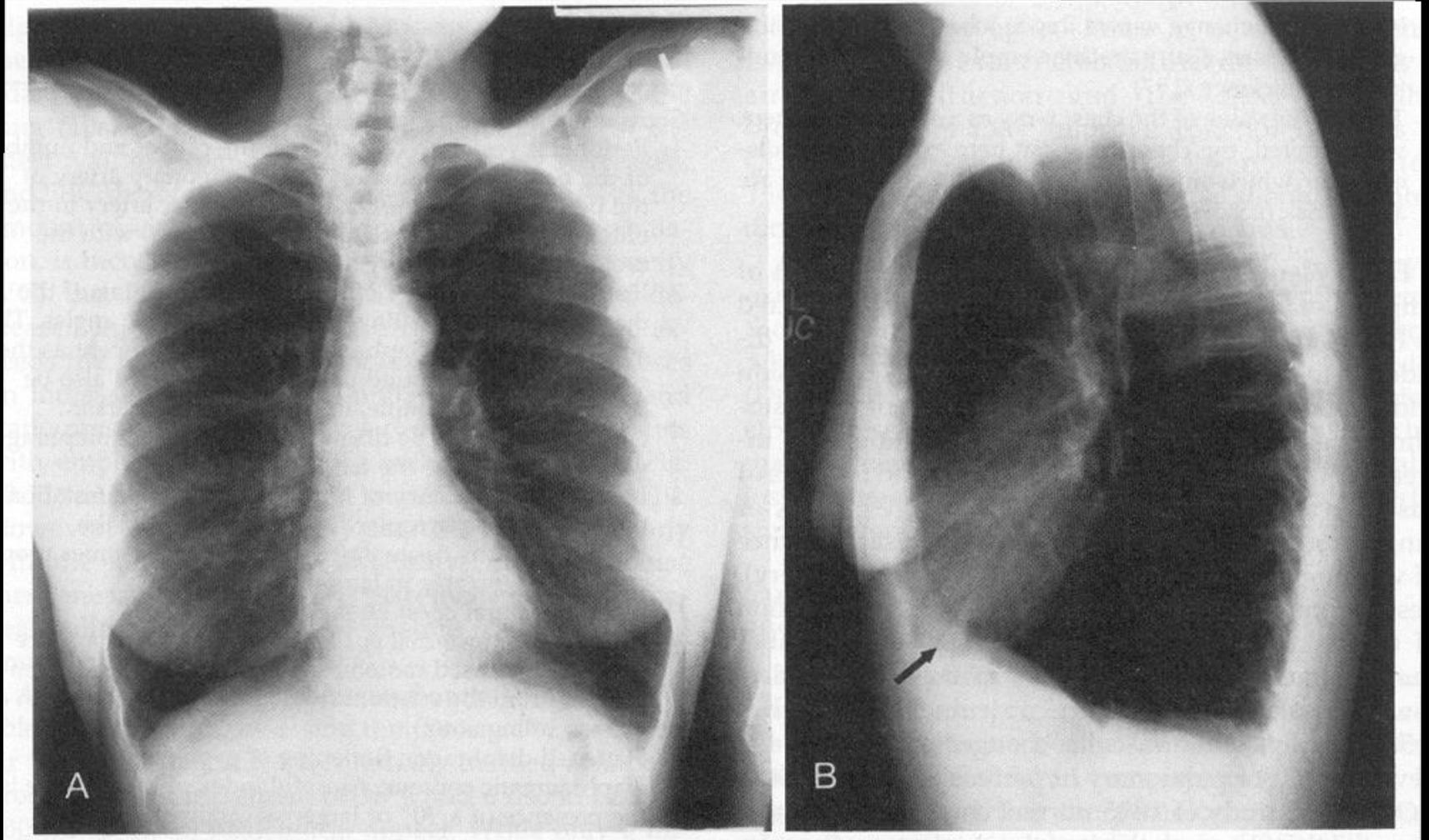
Centre des sciences de
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COPD



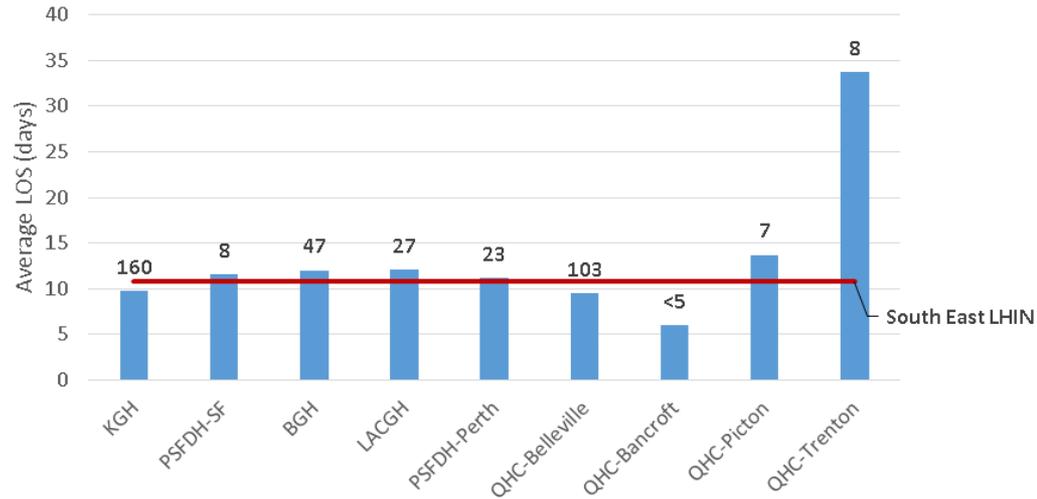
Hyperinflation in COPD:



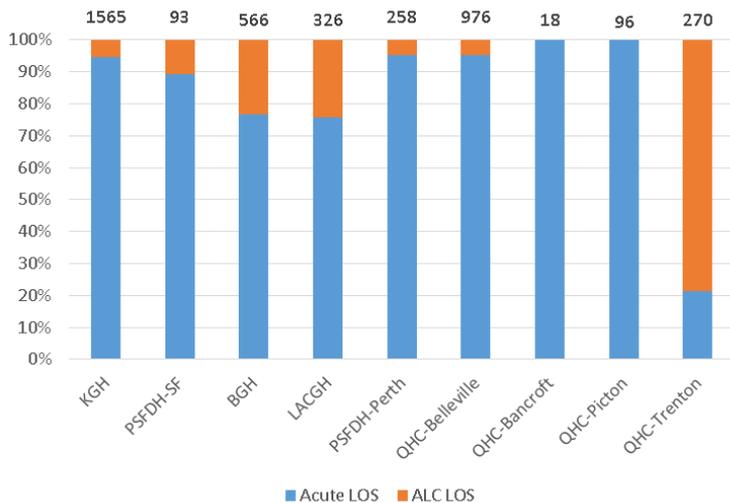
Emergency Department Visits for COPD, South East LHIN Residents age 35+, Fiscal Year 2014/15 – 2015/16

HOSPITAL	2014/15	2015/16	GRAND TOTAL
BGH	251	278	529
KGH	459	483	942
HDH	160	139	299
LACGH	220	260	480
OUTSIDE SELHIN	147	150	297
PSF - PERTH	115	134	249
PSF - SF	94	104	198
QHC - BANCROFT	71	87	158
QHC - BELLEVILLE	349	363	712
QHC - PICTON	123	167	290
QHC - TRENTON	232	272	504
GRAND TOTAL	2,221	2,437	4,658

Average LOS for COPD by Hospital, South East LHIN Residents age 35+, Fiscal Year 2015/16.



Distribution of Acute and ALC LOS (days) for COPD by Hospital, South East LHIN Residents age 35+, Fiscal Year 2015/16.



KHSC: 160 patients x ave stay of 10 days

Source: SELHIN

Hospital admission with AECOPD



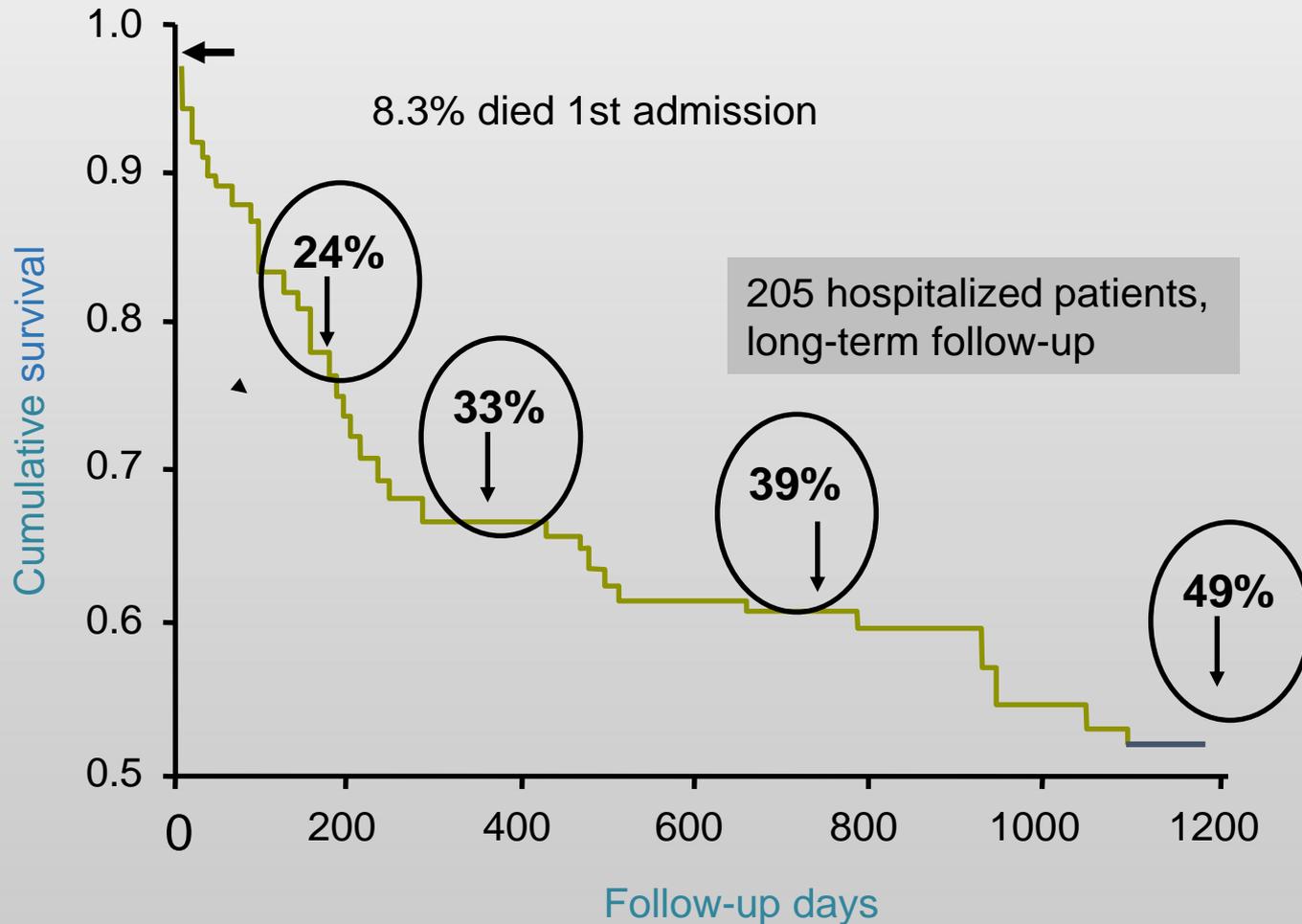
Overall in-hospital mortality rate: 10%

If intubated: 12%

If hypercapnic: 50% mortality rate \leq 1 year

AECOPD and Long-Term Survival

50% patients are dead within 4 years of first admission with COPD²



1. Gunen H, et al. *Eur Respir J*. 2005;26:234-41.
2. Suissa S, Dell'Aniello S, Ernst P. *Thorax*. doi: 10.1136/thorax.jnl-2011-201518.

Risk Factors for AECOPD requiring ER & Hospital Resources:

- Previous admission for AECOPD
- Advanced age, frailty and low BMI
- Chronic Bronchitis phenotype
- Active comorbidities [especially CVD]
- History of respiratory failure needing BiPAP
- Psychosocial (isolation, anxiety/depression)
- Refractory dyspnea

Use the hospital admission to plan the transition of care from hospital back to the community



Navigator helps people manage lung disease

KHSC nurse is using self-management education to empower people with chronic obstructive pulmonary disease (COPD)

A key success factor in helping people manage disease is time: taking the time to understand patients' unique symptoms, explaining what activities to avoid, and providing plenty of opportunities for questions to be answered. Time is what Kingston Health Sciences Centre's (KHSC) COPD Nurse...

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INSPIRED HOSPITAL 2 HOME



In Canada,

COPD* is

#1

chronic disease
reason for
hospitalizations

&

costs
healthcare
system

**\$ 1.5
BILLION**

a year

6

regional / provincial
teams

More than
2000

COPD patients so far

52%

fewer
emergency
department
visits



64%

fewer
readmissions

Every

\$1

invested in
INSPIRED
prevents

\$21



in
hospital-based
costs

+

improved quality
of life for patients



*chronic obstructive pulmonary disease

cfhi-fcass.ca

Why innovative procurement for new technology ?

Southeast region has unique challenges:

Small population + large geographic area

Higher proportion of elderly.

High proportion of patients w/o a family physician

Is there technology that could support the transition of care to the home, and reduce readmissions ?

Monitor symptoms, vital signs

Action plan for AECOPD

Tablet access to a nurse specialist



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News

Kingston Health Sciences Centre Procures COPD technology from Cloud DX

September 16, 2019

KINGSTON, Ontario, September 16, 2019 - Chronic Obstructive Pulmonary Disease (COPD) is a degenerative lung condition that, in Canada, is most commonly caused by long-term use and exposure to tobacco smoking and is a prevalent condition in the Kingston region.

Currently, thousands of patients with COPD seeking urgent and emergency care place a significant demand on the emergency department at Kingston Health Sciences Centre's (KHSC) Kingston General Hospital site. In order to deliver better care in a more patient-centred and convenient way for those with COPD and their caregivers, while also curbing costs and the volume of patients with COPD in the hospital environment, KHSC looked for novel, community-based health solutions. Reducing frequent emergency room visits and readmission of patients with COPD reduces patient risk in developing secondary complications such as respiratory tract infections while also reducing ER overcrowding.

In looking to identify innovative solutions, KHSC led an Innovation Procurement – a new approach to procure outside of the traditional process - through an opportunity with the Resources for Evaluating, Adopting and Capitalizing on Innovative Healthcare Technology (REACH) Program. The REACH Program, delivered by [Ontario Centres of Excellence \(OCE\)](#) supports Ontario health care provider organizations to utilize innovation procurement methodologies to more effectively procure and adopt innovative health care technology products and services.

Using both early market engagement strategies and the Innovation Partnership approach, KHSC was able to refine a problem statement, "Reduce the frequency of ER visits caused by acute exacerbation of COPD by managing patient care in the community" and develop the required Outcomes Based Specifications [OBS] to identify solutions in the marketplace. As a result of the procurement process, Cloud DX was selected as KHSC's innovation partner. Cloud DX's solution can gather key vital signs

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