

COPD MANAGEMENT IN PRIMARY CARE

- Dr. Ian Fraser and Dr. Catherine Yu
- Friday June 19, 2026

INTEGRATING CARE.
BOLD IMPACT.

Facilitator/Presenter Disclosures

Affiliation (financial or otherwise) with a for-profit or not-for-profit organization:

Dr. Ian Fraser

- **Any direct financial relationships including receipt of honoraria:** (1) Michael Garron Hospital - Credentialed Physician, Specialist lead for COPD Integrated Care Pathway
- **Memberships on advisory boards or speakers' bureau:** None
- **Funded grants, research, or clinical trials:** Ontario Health - Models of Care Innovation Fund grant (2 year funding for development of an integrated care pathway for post-ICU & complex respiratory disease patients & their families/caregivers)
- **Patents for drugs or devices:** none
- **Other:** none

Dr. Catherine Yu

- **Any direct financial relationships including receipt of honoraria:** (1) Michael Garron Hospital - Staff Member, (2) Flemingdon CHC - Medical Director, (3) University of Toronto - Faculty
- **Memberships on advisory boards or speakers' bureau:** East Toronto Family Practice Network Board Member
- **Funded grants, research, or clinical trials:** none
- **Patents for drugs or devices:** none
- **Other:** none

Disclosure of Financial Support

This program has not received any financial or in-kind support from any external organizations.

Mitigating Potential Bias

No potential sources of bias were identified by the Scientific Planning Committee.

BEAM Collaborative Objectives

By attending the BEAM Collaborative sessions, participants will be able to:

1. Identify and collectively problem solve around barriers to integrated care and unmet needs
(Contributes to the improvement of comprehensive, continuity-based, and patient-centred health care delivered in teams, organizations, and systems)
2. Increase knowledge to support care coordination/service navigation *(Establishes plans for ongoing care and timely consultation when appropriate)*
3. Increase knowledge to support complex medical management of chronic conditions
(Contributes generalist abilities to address complex, unmet patient or community needs, and emerging health issues, demonstrating community-adaptive expertise)

June 19, 2026 Session Objectives

By attending this BEAM Collaborative session, participants will be able to:

1. Understand the differential diagnosis COPD and COPD exacerbations
2. Identify common factors driving the COPD frequent exacerbator phenotype
3. Collaboratively manage COPD frequent exacerbators in our community context

63-Year-Old Female

Medical history/factors:

- Patient has severe COPD.
- On home oxygen.
- Has had four hospital admissions for AECOPD this year.

Medications:

- On benzodiazepines for insomnia.
 - Started in hospital to assist with patient's chronic insomnia and to assist with using BiPAP.
 - Does not seem to be helping. Currently trying to taper due to medication/dosing issues.
- Providing antibiotics/prednisone approx. once a month in clinic for AECOPDs to assist in managing frequent hospital visits (4 hospital admissions in one year).
- Puffers currently being optimized by resp.
- Optimizing vaccines.
- Working with patient on smoking cessation.

Seeking advice on:

- Managing frequent AECOPDs in outpatient setting, especially with absence of influenza testing.
 - Abx prescriptions: Alternate antibiotics to avoid resistance if we meet the GOLD criteria for antibiotic prescriptions?
 - Tapering prednisone to prevent recurrent episodes?
 - Advice on how to keep patient out of ER/being admitted to hospital.
- Curious about BiPAP for COPD patients.
 - Insight in the use of sleeping medications/rxs for people with insomnia who are on BiPAP and whether this changes indications.

1 in 9 Ontario adults lives with COPD



Despite drop in incidence, steep rise in prevalence and lower mortality over 20 years point to higher future COPD health care needs.

Researchers analyzed health data for all 13 million Ontario residents since 1996.

Chronic Obstructive Pulmonary Disease (COPD) is an umbrella term for progressive lung diseases including emphysema and chronic bronchitis. While COPD cannot be reversed, it can be treated.

COPD incidence, mortality and prevalence (2014-15 data)



11.8%
Prevalence

Percentage of adult population living with COPD in 2014/15 (37% higher than 1996/97)



8.8 per 1,000 adults
Incidence

Proportion of population newly diagnosed with COPD in 2014/15 (32% lower than 1996/97)



1 in 25
Mortality

Proportion of people with COPD who died in the year 2014/15 (28% lower than 1996/97)



Geographic differences in COPD acute care use (2014-15 data)

System-wide, COPD is a leading cause of hospitalization and acute care use.

Hospitalizations

The LHIN with the highest annual COPD hospitalization rate had **2X the rate** compared to the LHIN with the lowest rate:

- North West LHIN - 4 per 100 people with COPD
- Central LHIN - 2 per 100 people with COPD

Emergency department visits

The LHIN with the highest annual rate of COPD visits to EDs had **5X the rate** compared to the LHIN with the lowest rate:

- North East LHIN - 5 per 100 people with COPD
- Mississauga Halton LHIN - 1 per 100 people with COPD

Characteristics of the COPD population (2014-15 data)



Compared to the general population, people with COPD are more likely to be:

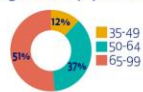
- aged 65+
- in the lowest income quintile



Sex Differences

While most people with COPD are women, **men** have slightly more risk than women for both incidence and prevalence.

Age of COPD population



Income quintiles of COPD population



Prevalence

Men: 11%
Women: 10%

Incidence

Men: 9 per 1,000
Women: 7 per 1,000

Source: Chronic Obstructive Pulmonary Disease in Ontario: 1996/97 to 2014/15

Hospitalization rates for COPD across Canadian cities*



Overall*

Hospitalizations for COPD have increased over time



Gap between lowest and highest income neighbourhoods has widened over time

Overall*

For those in the lowest income quintile, hospitalizations per 100,000 population were...



Notes

* Analysis limited to Urban Public Health Network member cities (census metropolitan areas).

COPD: Chronic obstructive pulmonary disease.

For more information, see the Measuring Trends in Health Inequalities in Cities data tables and technical notes.

Sources: Discharge Abstract Database and Hospital Morbidity Database, Canadian Institute for Health Information; Statistics Canada, Demography Division.

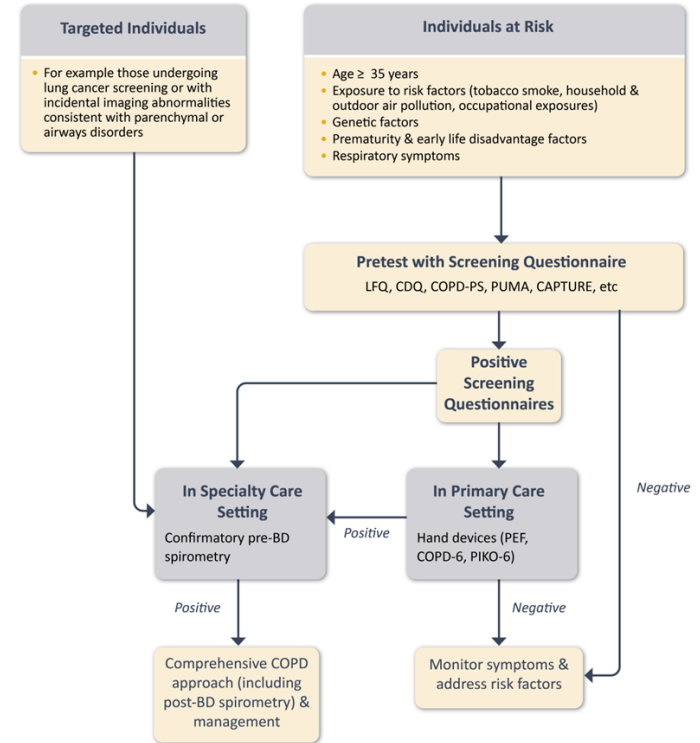
COPD Diagnosis

Post BD FEV1.0/FVC less than 0.70*

*N.B. New emphasis on
high risk targeted populations*

An Algorithm for COPD Case-finding

Figure 2.9



Adapted from: Aaron et al. Am J Respir Crit Care Med. 2024 Apr 15;209(8):928-937.

COPD

Exacerbations

*Pause to avoid an
Anchoring Bias*

Conditions That May Mimic or Worsen Exacerbation-like Symptoms

Figure 4.3

Tools available to address potential confounders:

Most frequent	Acute viral or bacterial bronchitis • Viral and bacterial microbiological assessment • Chest X-ray
	Heart failure • Chest X-ray or chest CT scan • NT pro-brain natriuretic peptide (NT proBNP) and BNP • Cardiac ultrasound
	Myocardial infarction and/or cardiac arrhythmias (atrial flutter/fibrillation) • Electrocardiography • Troponin
	Pulmonary embolism • Clinical probability assessment (hemoptysis, deep vein thrombosis, history of cancer, surgery, bone fracture) • D-dimer • CT angiography for pulmonary embolism
	Pneumonia • Viral and bacterial microbiological assessment • Chest X-ray or chest CT scan • Lung ultrasound
Less frequent	Pneumothorax • Chest X-ray or chest CT scan • Thoracic ultrasound

Frequent Exacerbator Phenotype

*2+ moderate or severe
COPDE in 12 months*

Interventions that Reduce the Frequency of COPD Exacerbations

Figure 4.11

Intervention Class	Intervention
Bronchodilators	LABAs LAMAs LABA + LAMA
Corticosteroid-containing regimens	LABA + LAMA + ICS
Anti-inflammatory (non-steroid)	Roflumilast Dupilumab Mepolizumab
Anti-infectives	Vaccines Long term macrolides
Mucoregulators	N-acetylcysteine Carbocysteine Erdosteine
Various others	Smoking cessation Rehabilitation Lung volume reduction Vitamin D Shielding measures (e.g., mask wearing, minimizing social contact, frequent hand washing)

COPD Improved Survival

Meds & More

Evidence Supporting a Reduction in Mortality with Pharmacotherapy and Non-pharmacotherapy in COPD Patients

Figure 3.19

Therapy	RCT*	Treatment effect on mortality	Patient characteristics
Pharmacotherapy			
LABA+LAMA+ICS ¹	Yes	Single inhaler triple therapy compared to dual LABD therapy relative risk reduction: IMPACT: HR 0.72 (95% CI: 0.53, 0.99) ^{1a} ETHOS: HR 0.51 (95% CI: 0.33, 0.80) ^{1b}	Symptomatic people with a history of frequent and/or severe exacerbations
Non-pharmacological Therapy			
Smoking cessation ²	Yes	HR for usual care group compared to intervention group (smoking cessation) HR 1.18 (95% CI: 1.02, 1.37) ²	Asymptomatic or mildly symptomatic
Pulmonary rehabilitation ^{3a}	Yes	Old trials: RR 0.28 (95% CI 0.10, 0.84) ^{3a} New trials: RR 0.68 (95% CI 0.28, 1.67) ^{3b}	Hospitalized for exacerbations of COPD (during or ≤ 4 weeks after discharge)
Long-term oxygen therapy ⁴	Yes	NOTT: ≥ 19 hours of continuous oxygen vs ≤ 13 hours: 50% reduction ^{4a} MRC: ≥ 15 hours vs no oxygen: 50% reduction ^{4b}	PaO ₂ ≤ 55 mmHg or < 60 mmHg with <i>cor pulmonale</i> or secondary polycythemia
Noninvasive positive pressure ventilation ⁵	Yes	12% in NPPV (high IPAP level) and 33% in control HR 0.24 (95% CI 0.11, 0.49) ⁵	Stable COPD with marked hypercapnia
Lung volume reduction surgery ⁶	Yes	0.07 deaths/person-year (LVRS) vs 0.15 deaths/person-year (UC) RR for death 0.47 (p = 0.005) ⁶	Upper lobe emphysema and low exercise capacity

*RCT with pre-specified analysis of the mortality outcome (primary or secondary outcome); #Inconclusive results likely due to differences in pulmonary rehabilitation across a wide range of participants and settings.

1. a) IMPACT trial (Lipson et al. 2020) and b) ETHOS trials (Martinez et al. 2021); 2. Lung Health Study (Anthonisen et al. 2005); 3. a) Puhan et al. (2011) and b) Puhan et al. 2016; 4. a) NOTT (NOTT, 1980) and b) MRC (MRC, 1981); 5. Kohlein trial (Kohlein et al. 2014); 6. NETT trial (Fishman et al. 2003)

ICS: inhaled corticosteroid; IPAP: inspiratory positive airway pressure; LABA: long-acting beta-agonist; LABD: long-acting bronchodilator; LAMA: long-acting muscarinic antagonist; LTOT: long-term oxygen therapy; NPPV: noninvasive positive pressure ventilation; LVRS: lung volume reduction surgery; UC: usual treatment control group.

Triple Maintenance Inhalers

*1+ moderate
COPDE per year*

*N.B. relative
contraindications*

Factors to Consider when Initiating ICS Treatment

Figure 3.10

Factors to consider when adding ICS to long-acting bronchodilators:

(note the scenario is different when considering ICS withdrawal)

STRONGLY FAVORS USE

History of hospitalization(s) for exacerbations of COPD[#]

≥ 2 moderate exacerbations of COPD per year[#]

Blood eosinophils ≥ 300 cells/μL

History of, or concomitant asthma

FAVORS USE

1 moderate exacerbation of COPD per year[#]

Blood eosinophils 100 to < 300 cells/μL

AGAINST USE

Repeated pneumonia events

Blood eosinophils < 100 cells/μL

History of mycobacterial infection

[#]despite appropriate long-acting bronchodilator maintenance therapy (see Figures 3.8 & A3.1 for recommendations); *note that blood eosinophils should be seen as a continuum; quoted values represent approximate cut-points; eosinophil counts are likely to fluctuate.

Adapted from & reproduced with permission of the © ERS 2019: *European Respiratory Journal* 52 (6) 1801219; DOI: 10.1183/13993003.01219-2018 Published 13 December 2018

COPD

Eosinophilic Phenotype

Best response with Eos >300 (IL-4R/IL-13R & IL5R)

Evidence Supporting Use of Biologics in the Treatment of COPD

Figure 3.11

Molecule/RCT*	Key inclusion criteria ^a	Annualized rate of moderate/severe exacerbations	Lung function improvement (pre-BD FEV1) ^d	Quality of life improvement (SGRQ)
Dupilumab (300 mg/2 weeks)				
BOREAS ¹ (n=939)	FEV1 post-BD 30-70% chronic bronchitis ^b eos ≥ 300 (screen)	RR 0.70; P < 0.001	83mL; P < 0.001 (95% CI: 42, 125)	-3.4; P = 0.002 (95% CI: -5.5, -1.3)
NOTUS ² (n=935)	FEV1 post-BD 30-70% chronic bronchitis ^b eos ≥ 300 (screen)	RR 0.66; P < 0.001	62mL; P = 0.02 (95% CI: 11, 113)	-3.4 ^e (95% CI: -5.8, -0.9)
Mepolizumab (100 mg/4 weeks)				
METREO ³ (n=674)	FEV1 post-BD 20-80% eos ≥ 150 (screen) or eos ≥ 300 (previous year)	RR 0.80; NS	19mL; NS (95% CI: -29, 67)	-1.8; NS (95% CI: -4.5, 0.8)
METREX ³ (n=836)	FEV1 post-BD 20-80% eos ≥ 150 (screen) or eos ≥ 300 (previous year) ^c	RR 0.82; P = 0.04	-10mL; NS (95% CI: -54, 33)	0.2; NS (95% CI: -2.8, 3.2)
MATINEE ⁴ (n=804)	FEV1 post-BD 20-80% eos ≥ 300 (screen) and eos ≥ 150 (previous year)	RR 0.79; P = 0.01	-9.0mL; NS (95% CI: -60.1, 42.1)	-2.3; NS (95% CI: -4.6, 0.1)

*Molecules are listed in order of approval in the US.

These results cannot be directly compared across trials as there were different patient populations included.

^a: all studies recruited patients with exacerbations in the previous year while receiving inhaled triple therapy

^b: patient-reported history of chronic bronchitis (chronic productive cough) for 3 months in the year up to screening, absent other known causes

^c: pre-defined eosinophilic population

^d: at 52 weeks

^e: significance not tested according to hierarchical testing procedure

NS: not statistically significant; eos: blood eosinophils (cells/μL); SGRQ: St George's Respiratory Questionnaire; BD: bronchodilator; RR: risk ratio.

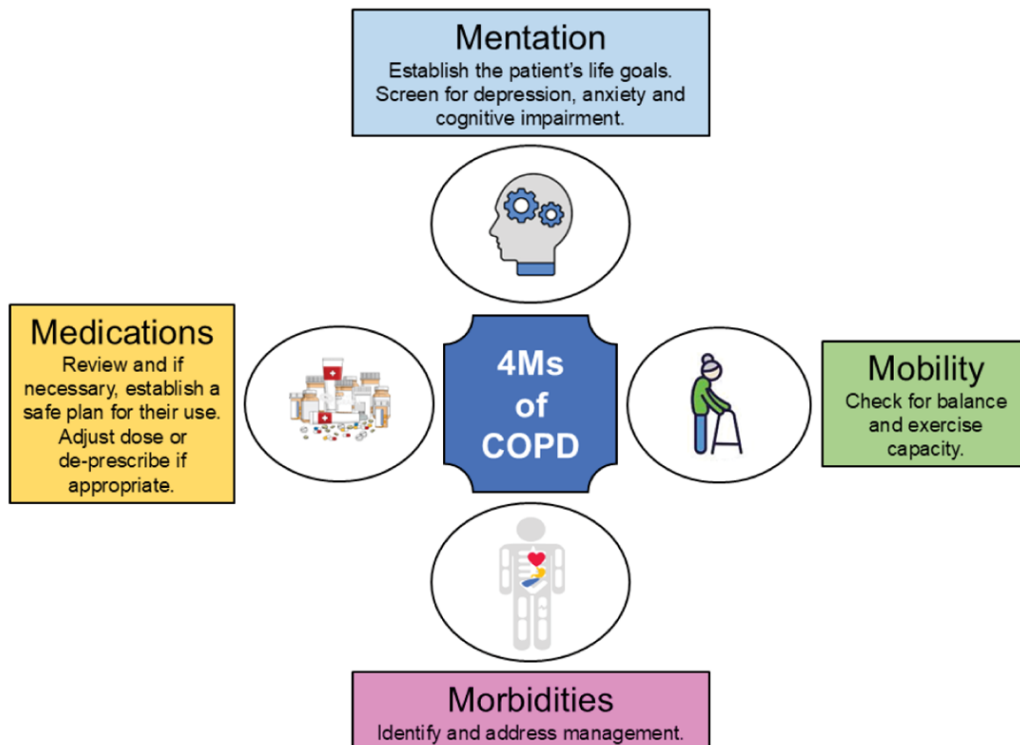
References: ¹Bhatt et al. N Engl J Med 2023;389:205-214; ²Bhatt et al. N Engl J Med 2024;390:2274-2283; ³Pavord et al. N Engl J Med 2017;377:1613-1629; ⁴Sciurba et al. N Engl J Med 2025;392:1710-1720; .

Multimorbid COPD

4 Ms approach

Summary of the Modified 4Ms Person-centered Approach to Multimorbid Patients with COPD

Figure 5.1



Adapted from: Celli BR, Fabbri LM, Yohannes AM, Hawkins NM, Criner GJ, Bon J, Humbert M, Jenkins CR, Pantoni L, Papi A, Quint JK, Sethi S, Stolz D, Agusti A, Sin DD. A person-centred clinical approach to the multimorbid patient with COPD. Eur J Intern Med. 2025 Aug 12:106424. doi: 10.1016/j.ejim.2025.07.020.

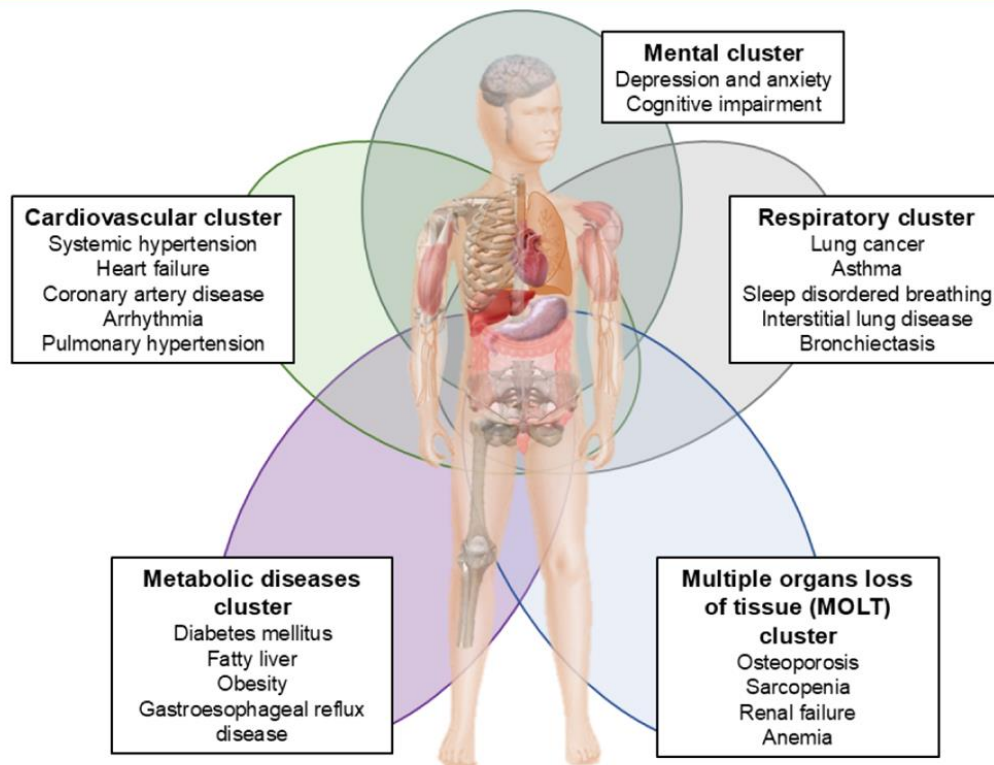
COPD

Multimorbidity

*Look for treatable
clustered comorbid
illnesses*

Morbidity Clusters Frequently Present in Patients with COPD that Independently Impact Outcomes

Figure 5.2



Adapted from: Celli BR, Fabbri LM, Yohannes AM, Hawkins NM, Criner GJ, Bon J, Humbert M, Jenkins CR, Pantoni L, Papi A, Quint JK, Sethi S, Stolz D, Agusti A, Sin DD. A person-centred clinical approach to the multimorbid patient with COPD. Eur J Intern Med. 2025 Aug 12:106424. doi: 10.1016/j.ejim.2025.07.020.

COPD ICP

COPD Integrated Care Program for patients at high risk for exacerbations, ED visits & hospitalizations

High Risk COPD

- ✓ **ETHP Catchment**
- ✓ **PFT COPD dx**
- ✓ **Severe* or 2** moderate COPDE within year**
- ✓ **2 or more co-morbidities**
- ✓ **Exclude End-of-life care, Nursing Home, CCC & existing ICP**

* Hospital admit /ED visit

** Prednisone/Antibiotic Rx

Integrated Care



Self Management Education

- **COPDE Action Plan (scripts)**
- **Exercise script**
- **Inhaler technique**
- **Breathing control techniques & paced activity**
- **Vaccinations**

Smoking cessation

Advanced care planning

Co-morbidity self management



Clinical Care Facilitator (PA's)

Virtual Visits

Alerts (AQI, vaccinations)

Primary Care Coordination

Specialist Access (Resp, Palliative)

Community Services Coordination

Outcomes



Quality of Life
(self mastery)



Goals of care
(100% target)



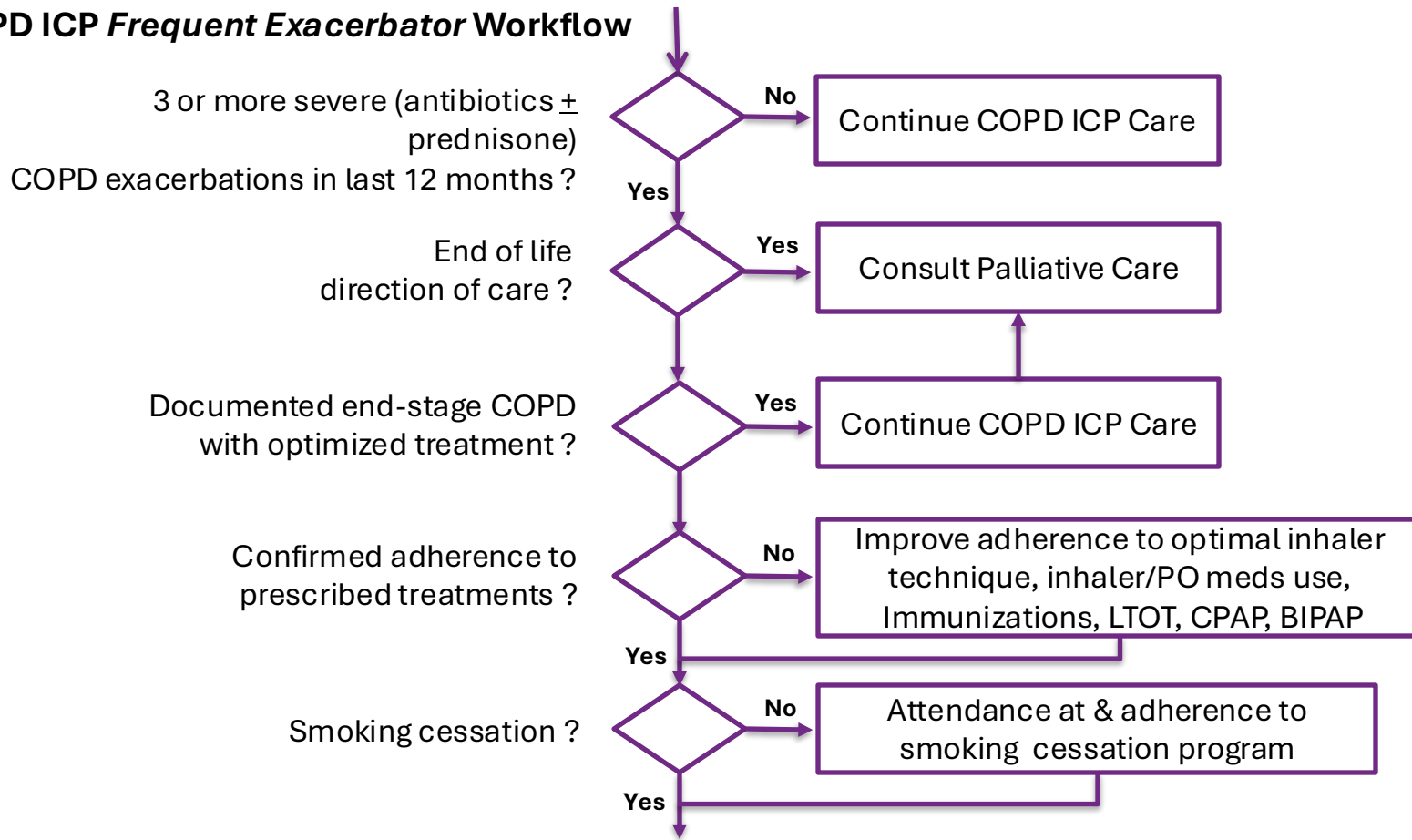
ED Visits & Hospitalizations

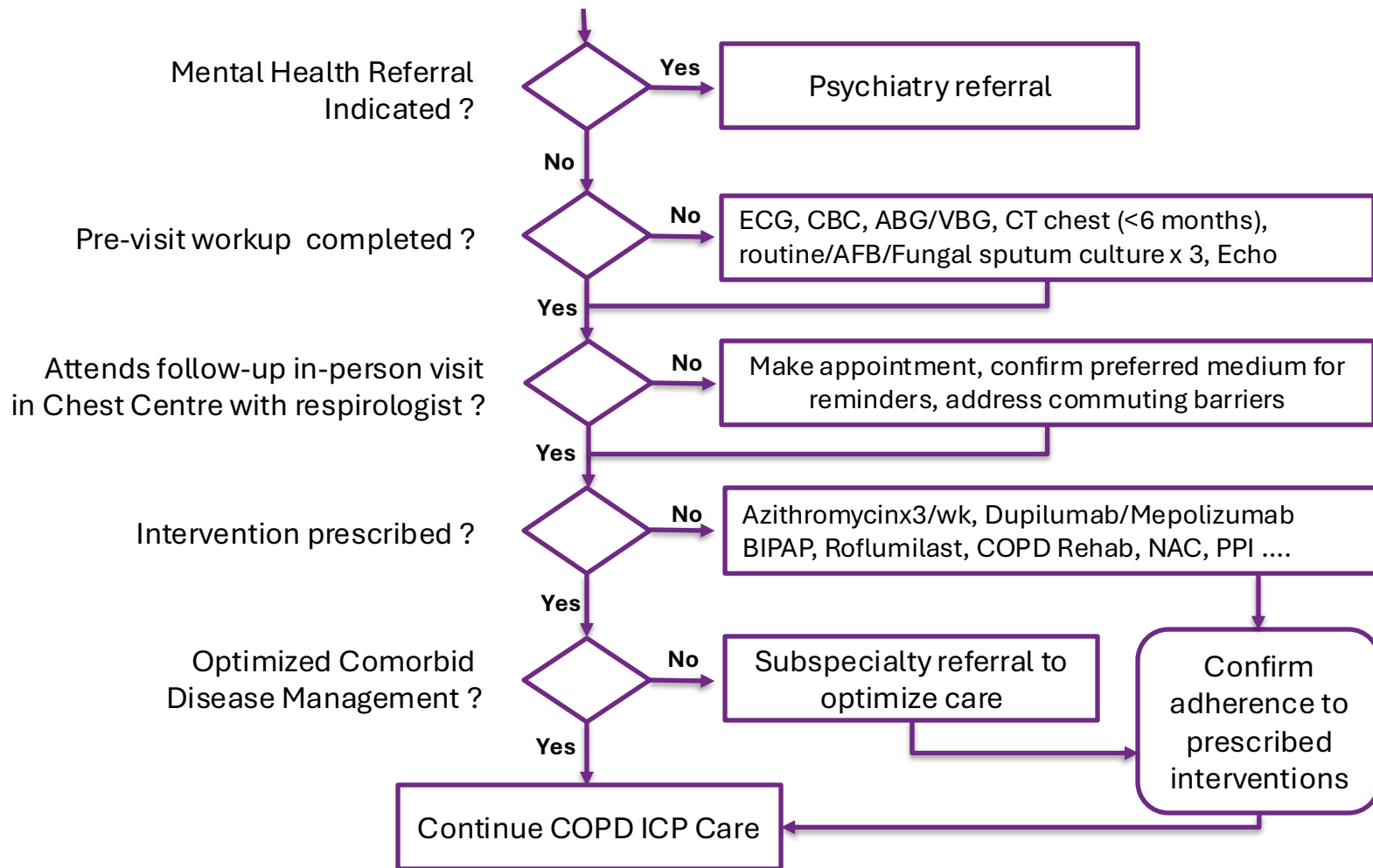


Survival

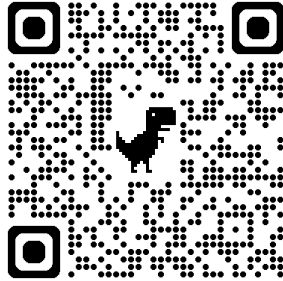
Rose L, Istamboulian L, Carriere L, Thomas A, Lee HB, Rezaie S, et al. Program of Integrated Care for Patients with Chronic Obstructive Pulmonary Disease and Multiple Comorbidities (PIC COPD+): a randomised controlled trial. Eur Respir J. 2018 Jan;51(1).

COPD ICP *Frequent Exacerbator* Workflow

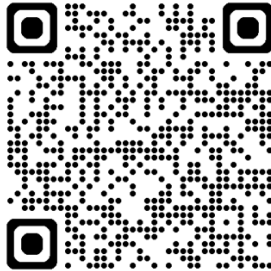




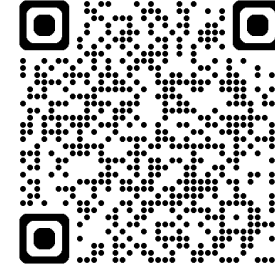
GOLD Guidelines Pocket Guide 2026



**Lung Cancer Screening at MGH (50-80 years-old,
20 smoking years)** *MGH Website Informational video*



CTS Position Statement on **Climate Change and Choice of Inhalers** for Patients with Respiratory Disease



**EastTCaN COPD Integrated Care
Pathway**



Case-based Discussion

63-Year-Old Female

Medical history/factors:

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On home oxygen.

Has had four hospital admissions for AECOPD this year.

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Does not seem to be helping. Currently trying to taper due to medication/dosing issues.

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Puffers currently being optimized by resp.

Optimizing vaccines.

Working with patient on smoking cessation.

Seeking advice on:

Managing frequent AECOPDs in outpatient setting, especially with absence of influenza testing.

Abx prescriptions: Alternate antibiotics to avoid resistance if we meet the GOLD criteria for antibiotic prescriptions?

Tapering prednisone to prevent recurrent episodes?

Advice on how to keep patient out of ER/being admitted to hospital.

Curious about BiPAP for COPD patients.

Insight in the use of sleeping medications/rxs for people with insomnia who are on BiPAP and whether this changes indications.



Roundtable Discussion

- System-level barriers and provider needs identified during the session
- Collective problem-solving around barrier/needs leveraging existing resources.



**Thank you for participating
in today's session**

**Please Complete the
Session Evaluation**

<https://forms.cloud.microsoft/r/7p8J1vF8JT>

**June 19, 2026 Evaluation Form -
BEAM Collaborative**



This activity has been certified by the College of Family Physicians of Canada and the Ontario Chapter for up to 4 Mainpro+® Certified Activity credits. This session has been certified for 1 credit.

Resources Shared

- EastTCaN program information
 - <https://ethp.ca/our-work/east-toronto-care-network/provider-page/>
- Individual treatment effect estimation tool for azithromycin
 - <https://azithromycin-ite-tool.streamlit.app/>
- East-FPN/Scope information and pathways
 - <https://eastfpn.org/scope>
- Pulmonary Rehabilitation Resources
 - [Respiratory Rehabilitation Program in Toronto - West Park](#)
 - [Outpatient Respiriology Clinic, Pulmonary Rehabilitation and Pulmonary Function Testing - Toronto Grace Health Centre](#)
 - [Pulmonary Rehabilitation Program in Toronto -UHN](#)
- Session recording
 - [Bridging Expertise Across Medicine \(BEAM\) Collaborative - COPD Management in Primary Care - June 19, 2026](#)