

Optimizing COPD Care in Patients with HIV

**IHQI Symposium
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Project Sponsor: Joseph Eron



Rapid titration of inhaler regimen leads to optimization of symptoms



January 2021
mMRC 3

March 2021
mMRC 1

Aim Statements – Learning Process

Global Aim

- Optimize COPD symptoms in patients living with HIV utilizing telehealth modalities

Initial SMART Aim

- By August 31, 2021, 60% of enrolled patients with HIV and COPD will have an optimized mMRC score by 84 days

Revised SMART Aim

- By August 31, 2021, 80% of patients will have received all elements of the best care bundle by program completion



Best Care Bundle

- Smoking cessation referral
- Inhaler use education
- On maximal therapy for GOLD stage



≥2 moderate exacerbations or ≥1 leading to hospitalisation	Group C LAMA	Group D LAMA or LAMA + LABA [Ⓐ] or ICS + LABA [Ⓑ] [Ⓐ] Consider if highly symptomatic (e.g. CAT >20) [Ⓑ] Consider if eos ≥300
	Group A A Bronchodilator	Group B A Long Acting Bronchodilator (LABA or LAMA)
0 or 1 moderate exacerbations (not leading to hospital admission)	mMRC 0–1 CAT <10	mMRC ≥2 CAT ≥10

LAMA=long-acting muscarinic receptor antagonists; LABA=long-acting beta₂ agonist; ICS=inhaled corticosteroids; CAT=COPD assessment test; COPD=chronic obstructive pulmonary disease; eos=blood eosinophil count in cells per microlitre; mMRC=modified Medical Research Council dyspnoea questionnaire.

Tests of Change

Patient Identification and Referral process

- Patient **combined registry** COPD and HIV for patient identification
- HIV-COPD clinic referral changes to include **PFT order**
- Provider and staff **education**
- **Patient information** in exam rooms
- **AVS smartphrase for referrals** developed for providers

Nursing care manager

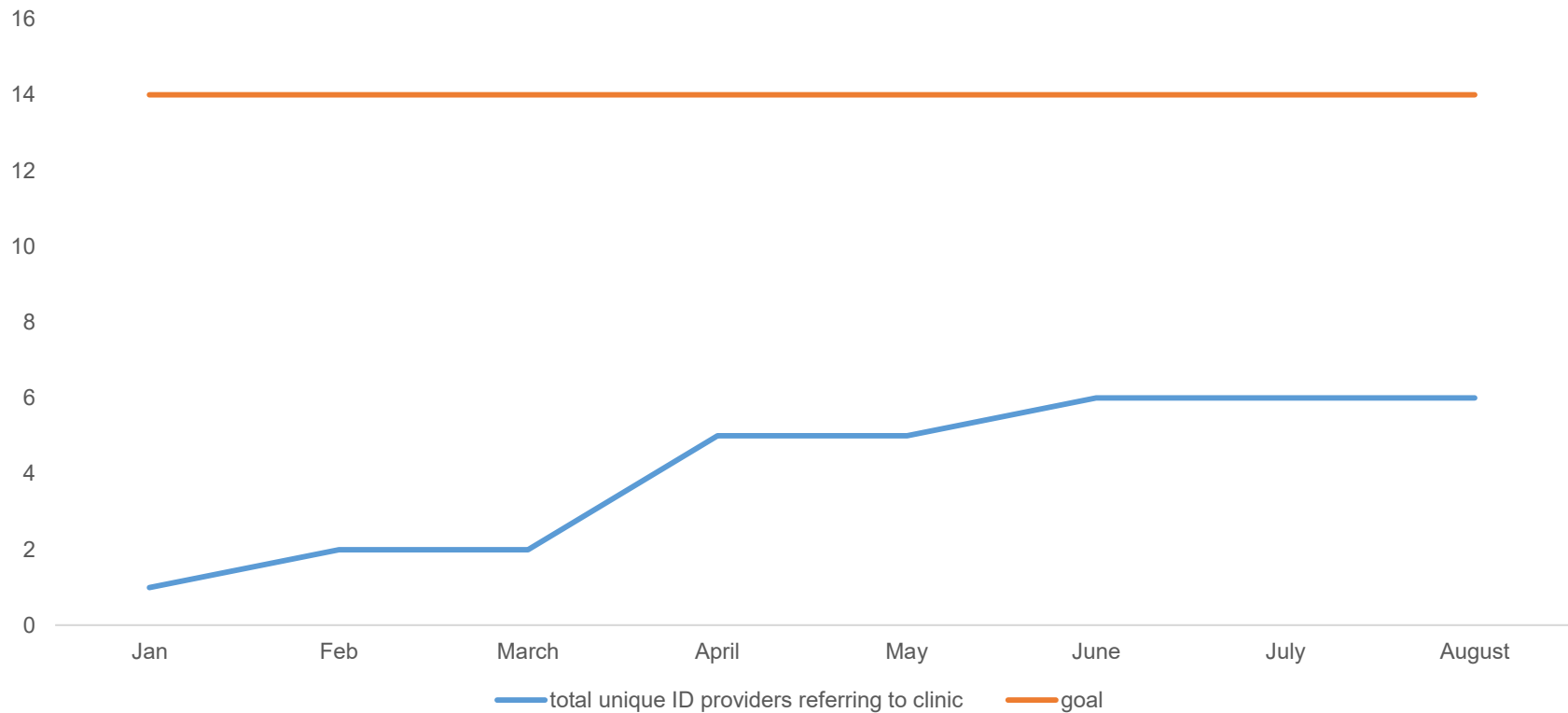
- Development of **shared patient list** with sorted date for follow up
- **Standard protocol** for telehealth intervention after visit
- Assessments of med access, **inhaler technique education**, symptoms

Tracking data and outcomes

- Development and use of REDCap database

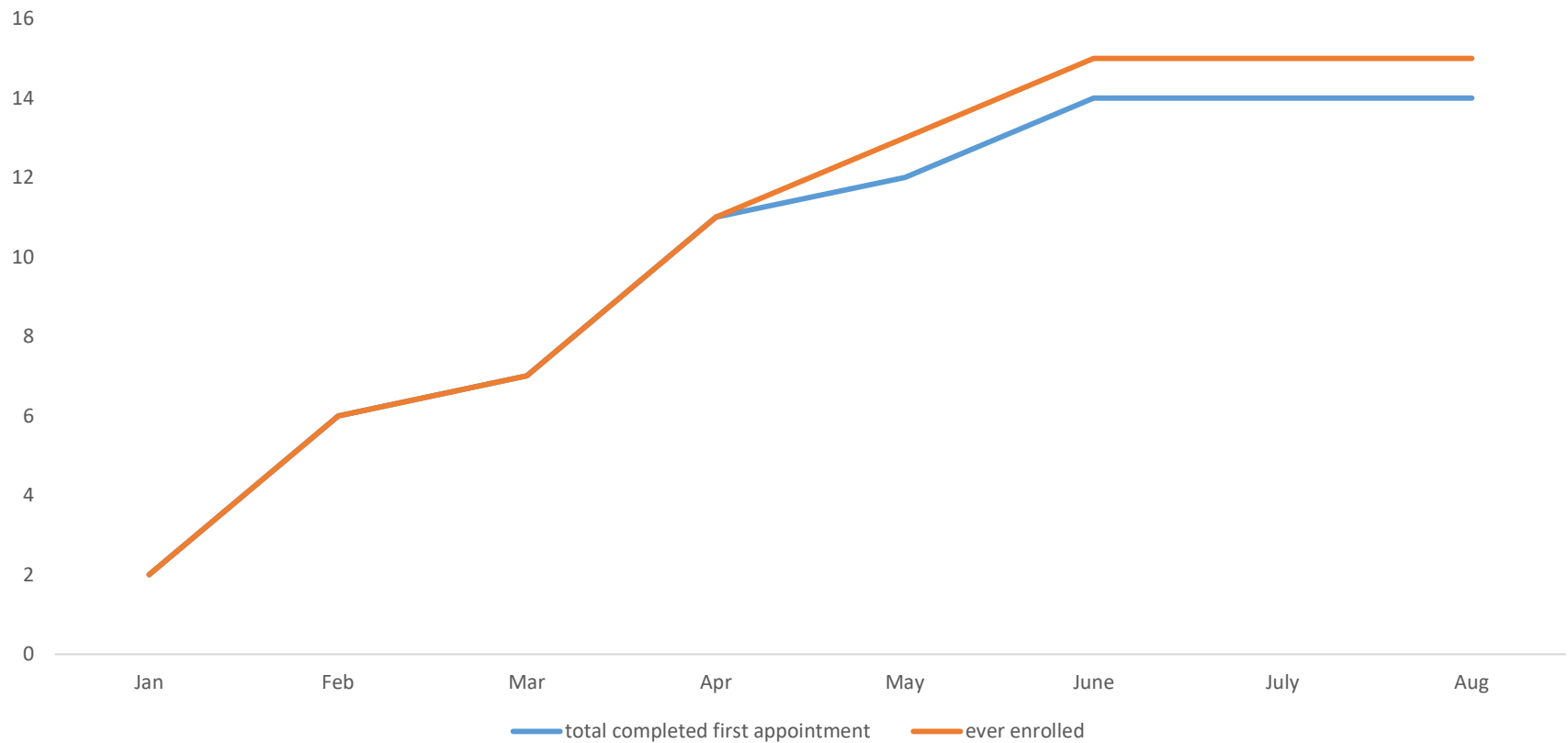
ID provider referrals are slowly increasing

Total unique ID providers referring to HIV-COPD clinic



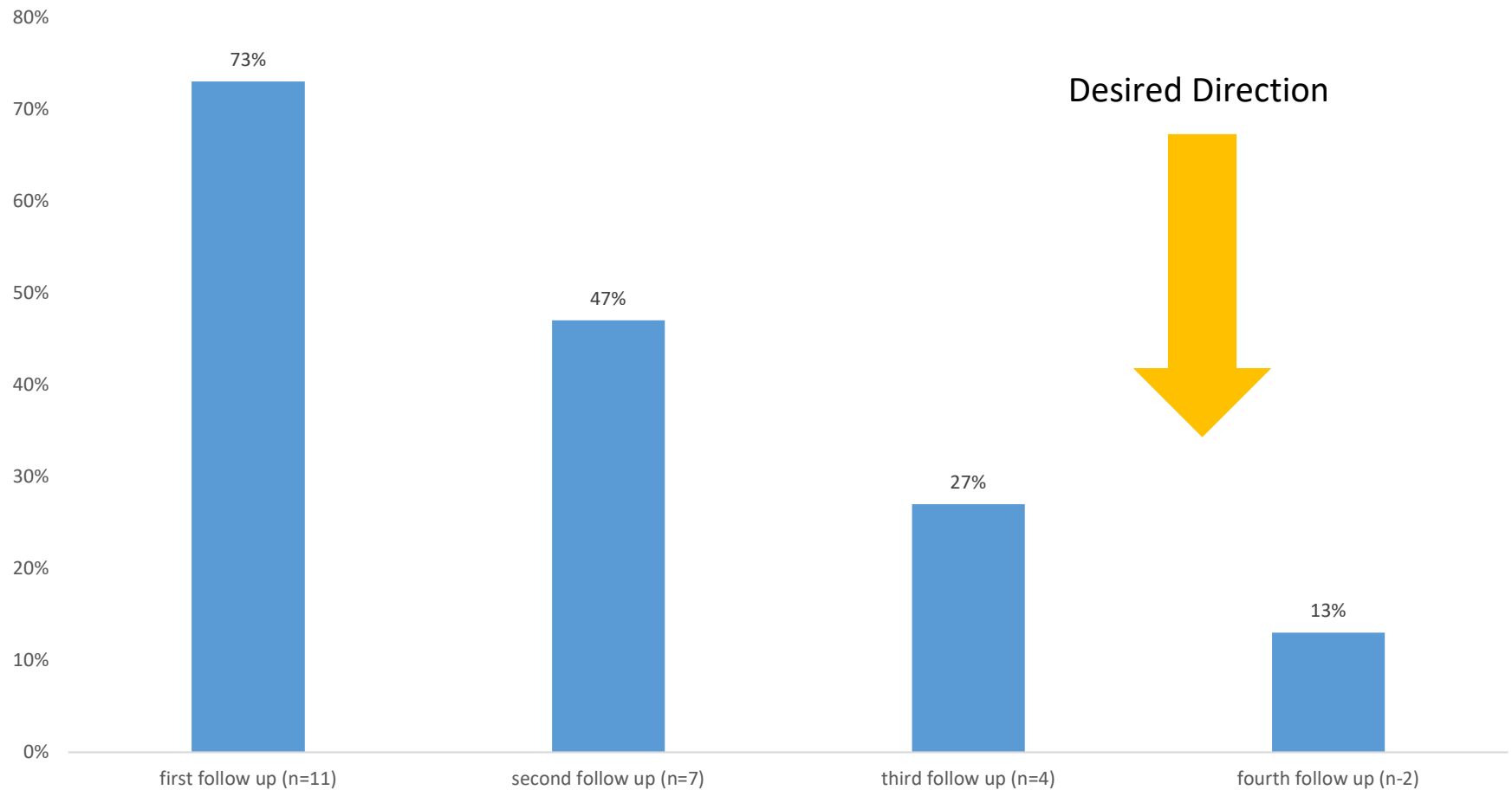
All but one referred patients completed in-person first appointment with pulmonologist

Cumulative total of completed first appointments and ever enrolled patients



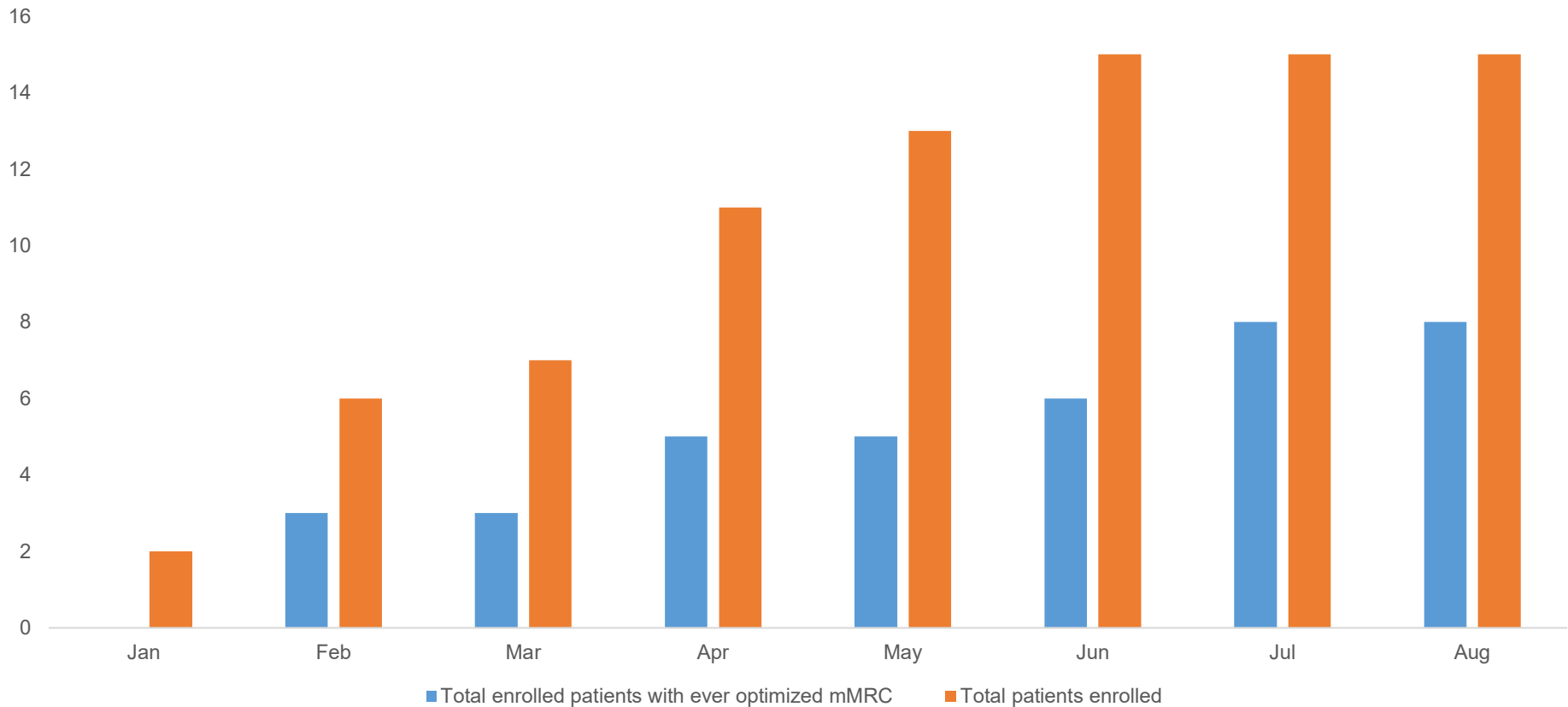
Enrolled patients needed less support over time

Percent enrolled patients receiving 1st through 4th follow up interactions



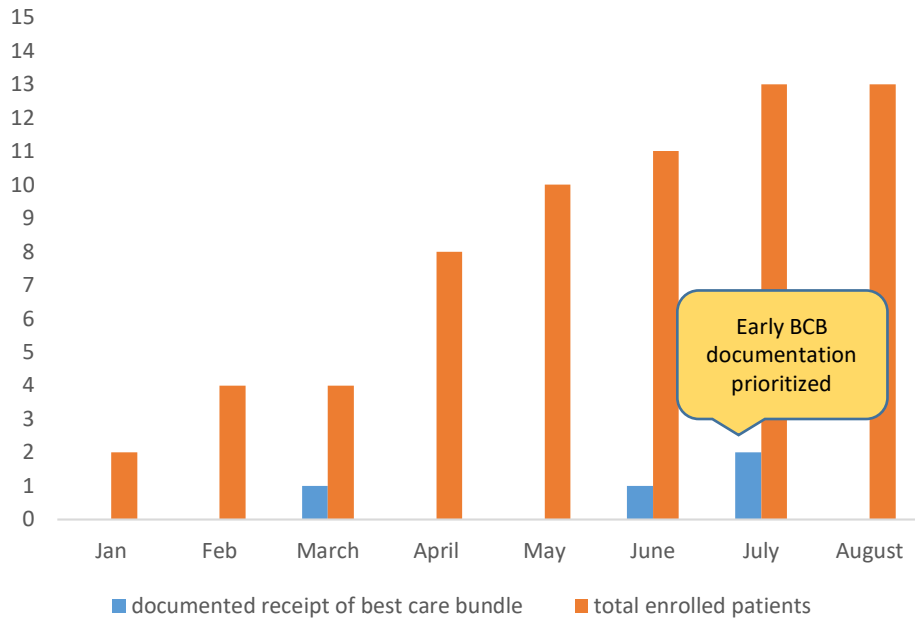
Majority of patients with optimized COPD symptoms at some point during program enrollment

Total patients with ever optimized mMRC and total patients enrolled in HIV-COPD clinic, Jan-Aug 2021

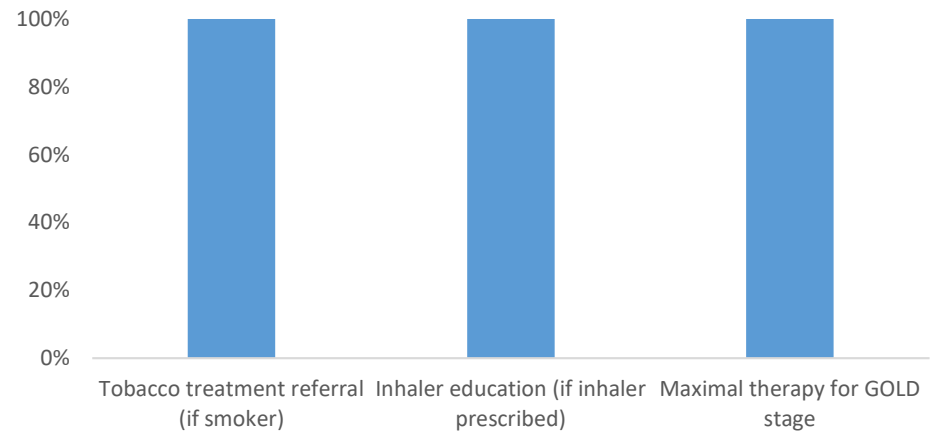


Best Care Bundle (BCB) Progress

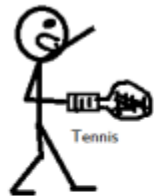
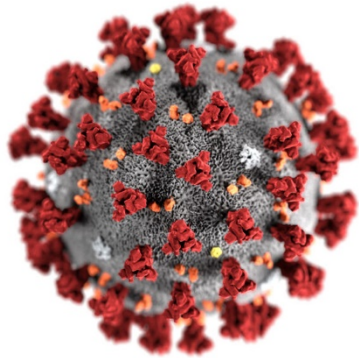
Team working toward documenting receipt of Best Care Bundle



All patients with documented bundle elements received all appropriate elements January - August 2021 (n=4)



Lessons Learned



MMRC Dyspnea Scale

Grade 0
Not troubled by dyspnea unless on strenuous exercise

Grade 1
Dyspnea when hurrying or walking up hill

Grade 2
Dyspnea when walking on level (slower/stop for breath after 15 minutes)

Grade 3
Severe dyspnea when walking on level (need to stop after 100 m/a few minutes)

Grade 4
Very severe dyspnea till cannot leave the house

Sustainment and Spread

Guide for referral management and follow up in patients with pulmonary diagnoses and symptoms who also have HIV

Designed for use by Primary Care and ID Providers in collaboration with UNC Health's HIV-Pulm Program July 2021

- Legend:
- Pulmonary providers
 - Primary care/ID providers
 - Other care providers

DIAGNOSES

SYMPTOMS

Diagnoses best managed by Pulmonary Clinic	
ASTHMA <ul style="list-style-type: none"> Uncontrolled (with persistent symptoms despite long-acting therapies or >2 exacerbations or 1 hospitalization/yr) 	ILD SARCROID ABNORMAL IMAGING: NODULES
COPD, with significant obstruction (FEV1<50%) or persistent symptoms despite LABA/LAMA treatment	

Symptoms best evaluated by Pulmonology Clinic	
COUGH, not responsive or not associated with cough-variant asthma, GERD or allergic rhinitis	

Diagnoses best managed by Interventional Pulmonology	
ABNORMAL IMAGING: MASS	

Symptoms best evaluated by HIV-Pulm Program	
DYSPNEA in patients with any of the following: <ul style="list-style-type: none"> Low CD4 count or detectable HIV viral load 	PERSISTENT DYSPNEA without an obvious existing diagnosis
Once diagnosis is made, HIV-Pulm program will be responsible for directing patient to appropriate follow up care Contact: Subha Sellers, MD	

Diagnoses best managed by Primary Care/ID	
ASTHMA <ul style="list-style-type: none"> Controlled with short or long acting inhaled therapy 	LUNG CANCER SCREENING (no respiratory symptoms, can also be conducted by Lung Cancer Screening Clinic)
COPD <ul style="list-style-type: none"> Mild and controlled FEV >50%, not yet optimized See associated algorithm for management using the mMRC screener	

Symptoms best evaluated by Primary Care/ID	
COUGH, responsive and related to cough-variant asthma, GERD, allergic rhinitis or respiratory infection	DYSPNEA in non-smoker (see associated algorithm for management using the mMRC screener)

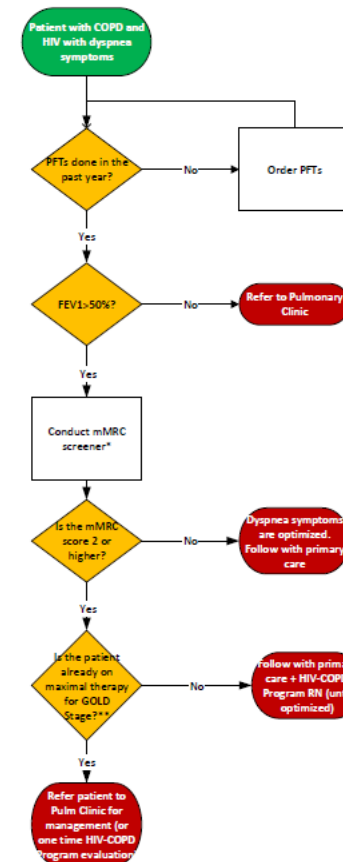
Diagnoses where support is available through Tobacco Treatment Program	
TOBACCO USE AND DESIRE TO QUIT	Contact: Eric Langhans

Algorithm for managing COPD in patients who also have HIV

Designed for use by Primary Care and ID Providers in collaboration with UNC Health's HIV-COPD Program July 2021

*mMRC screener available at <https://www.mdcalc.com/mmrc-modified-medical-research-council-dyspnea-scale>

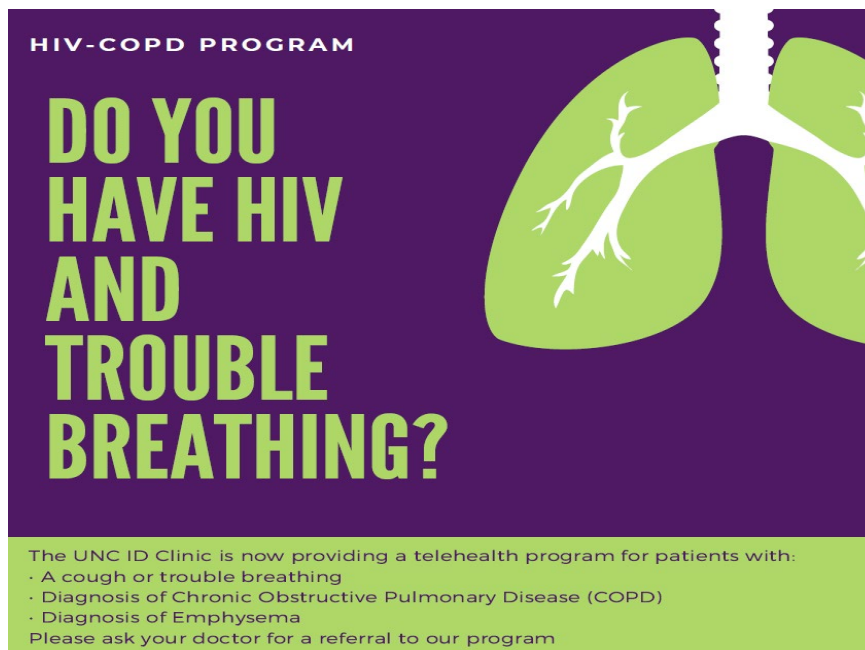
**COPD GOLD Stage: https://goldcopd.org/wp-content/uploads/2020/05/GOLD-2020-POCKET-GUIDE-ver1.0_FINAL-WMV.pdf



Provider Testimonial: Dr. David Wohl

“I think the value is that we can really, truly have patient centered care.”

“We see a lot of [HIV patients] struggling with the loss of pulmonary function over time and I feel really unable to assist them with that. Having the COPD clinic here has been tremendous. It has kept people out of the hospital and improved their quality of life.”



HIV-COPD PROGRAM

**DO YOU
HAVE HIV
AND
TROUBLE
BREATHING?**

The UNC ID Clinic is now providing a telehealth program for patients with:

- A cough or trouble breathing
- Diagnosis of Chronic Obstructive Pulmonary Disease (COPD)
- Diagnosis of Emphysema

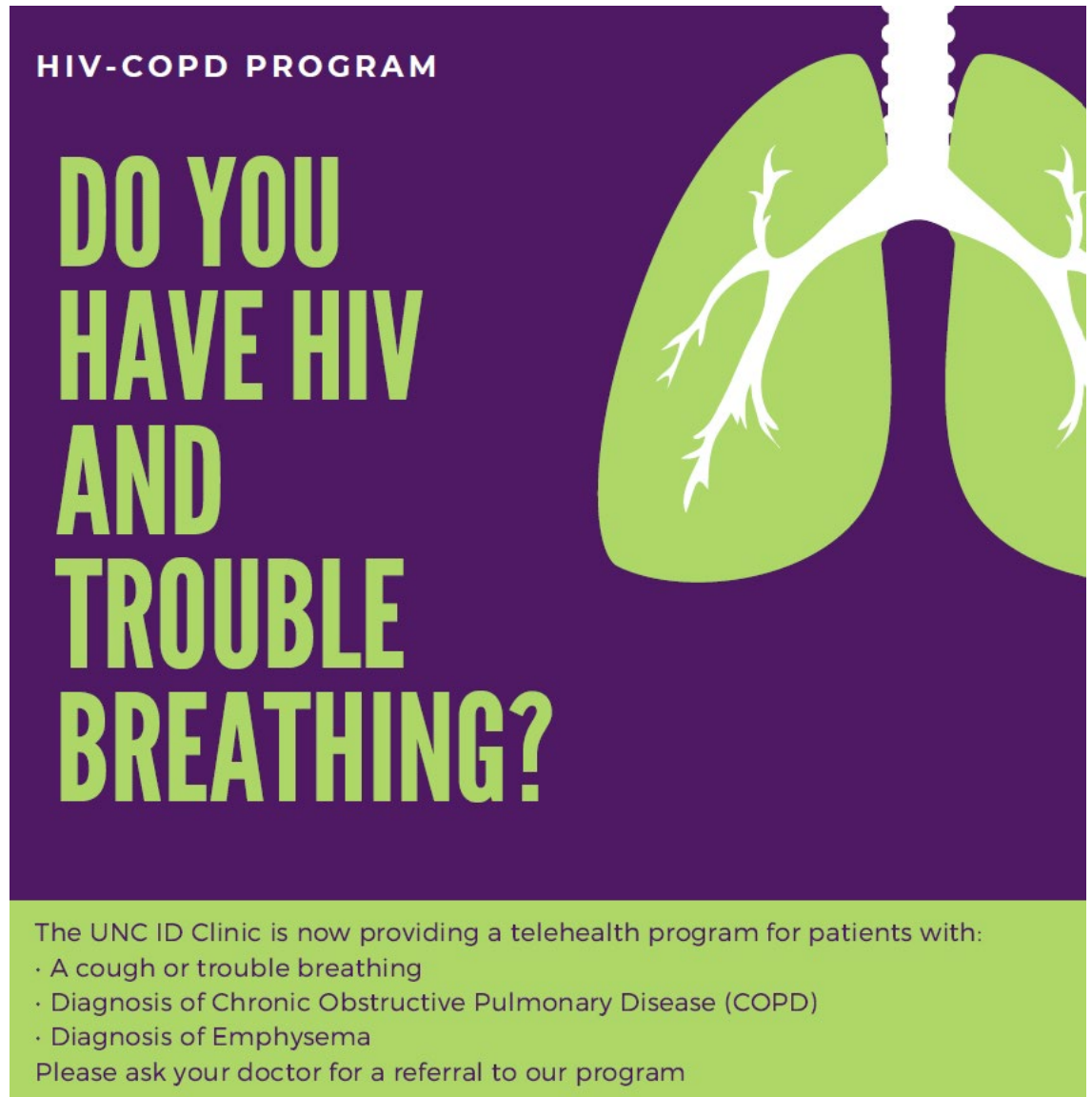
Please ask your doctor for a referral to our program

The poster features a stylized illustration of human lungs in light green against a dark purple background. The text is in a bold, sans-serif font.

Improving Patient Engagement

Feedback received on

- AVS summary for patients
- Telephone script for follow up phone calls
- Literacy level of materials (health sciences librarian input as well)

A poster for the HIV-COPD PROGRAM. The background is dark purple. On the right side, there is a stylized graphic of human lungs in a light green color. The text is in a bold, sans-serif font. The main title is in light green, and the program name is in white.

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Measures

Outcome measures

1. Percent of patients with **best care bundle** completed (smoking cessation referral, inhaler use education, on maximal therapy for GOLD stage)
2. Percent of patients with **optimized mMRC score** within 84 days

Process measures

1. Percent HIV-COPD clinic interaction with **documented mMRC score** (telehealth and in-person)
2. Percent **HIV providers referring** potential COPD patients to HIV-COPD clinic
3. Percent **completed referrals** to HIV-COPD clinic for patients with possible COPD

Balancing measure

1. Nurse care manager time spent conducting HIV COPD patient care coordination

Provider Testimonial: Dr. David Wohl

“I think the value is that we can really have truly have literally patient centered care. So people come to the Infectious Diseases clinic to get their HIV care, but that more and more is encompassing more than just dealing with their HIV. Their comorbid conditions are a bigger threat to their existence than their HIV infection, especially for people with lung problems, especially COPD. We see a lot of our people struggling with the loss of pulmonary function over time and I feel really unable to assist them with that. Having the COPD clinic here has been tremendous. It has kept people out of the hospital and improved their quality of life. So that already is just an amazing service to have here. In addition, the research that is being done to better understand more about the interaction between the relation of HIV to lung function over time is further value added. So, this is just a great resource and we are lucky to have it.”