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Evidence2Practice – COPD Management Tool v. 1.0.0 – User Guide

A. Introduction

EMR tools from the Evidence2Practice Ontario (E2P) program are comprised of condition-specific modules (scalable to multiple conditions) based on the core clinical functions of quality standards developed to make it easier for clinicians to access and apply best practice information and quality standards at the point of care.

This guide provides a walk-through of the tool with examples, highlighting the most important functionalities.

B. Purpose of the Tool

Our objective was to create an EMR-integrated tool that supports clinicians in the screening and management of chronic obstructive pulmonary disease (COPD).

The E2P COPD tool engages a modular approach format to assist primary care providers with capturing critical information during an encounter while also supporting quality improvement initiatives where possible.

The tool is divided into 3 separate forms to support the:

- 1) Screening & diagnosis of COPD
- 2) Management of COPD
- 3) COPD Action Plan

C. Overview

Some key features of the tool include:

- Additional considerations for clinics/practices using CDM worksheets to work in harmony with the E2P COPD tool
- New and improved lab result manual entry and summary review table
- Optimized guidance on EMR and tool collaboration
- Generate Note function for COPD management
- Macros to support documentation consistency and efficiency

D. Getting Started

A. Navigating to the modules within the tool:

To go to the different modules, use the left and right page arrows.



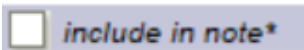
B. Import values:



Clicking the **Import Values** button will pull the previous values/information from any previously completed E2P COPD form into the current form.

C. Generate Letter:

New to E2P tools for Accuro QHR is the generate letter feature!



In the tool, users will see the “*include in note**” checkbox this will be for specific sections that will allow users to decide if they would like to include a section into the note.

This means the user can include if something was ordered or discussed during the current visit in the visit note, saving precious documentation time, while also still recording the date that something was ordered/discussed which can be viewed at a future visit.

E. Icon Library



Blue tooltip icon – Pop-up text

Click your mouse over this icon to view the content.



Asterisk symbol – Hover over text

Hold your mouse over this area to view the content.

[Give feedback](#)

Blue text with underline – Hyperlink

Click your mouse on this text to open the website in a new window.

F. Using the Tool

While we recognize that the forms can appear overwhelming at first glance, please rest assured that we have designed our tools with the intention that they are to be used over time; forms do not need to be completed in one visit. Users can pull the information that was documented in the previous patient visit and continue to add to it, making your documentation more comprehensive as time goes on.

G. COPD Screening & Diagnosis Form

This form will allow the user to flag the symptoms and the associated risk factors the patient has, record the resulting actions (such as if the patient needs to be referred to spirometry or if the patient declined spirometry), and update the diagnosis status.

This feature offers an opportunity for clinicians who want to measure that they are performing screening and/or capture if they are reviewing the patient's risk for COPD, even if they do not move forward with a COPD diagnosis or visit form.

E2P COPD Screening and Diagnosis

Screening last completed:

Patients are clinically suspected of having COPD if they have at least one respiratory symptom and one risk factor

Screen patients for at least one respiratory symptom and one risk factor

Symptoms

- Persistent shortness of breath that worsens with activity and/or exercise
- Chronic cough
- Regular sputum production
- Recurrent respiratory infections
- Chronic wheezing
- Chest tightness
- Activity and/or exercise limitation owing to breathlessness

Risk Factors

- Current or past tobacco smoking
- Exposure to second-hand smoke
- Exposure to occupational lung irritants, such as dust, vapours, fumes, gases, and other chemicals
- Childhood factors, such as low birthweight, recurrent respiratory infections, and other lung development issues
- Exposure to significant air pollution
- Family history of COPD (alpha – 1 antitrypsin deficiency)
- Genetic predisposition
- History of asthma
- Use of biomass fuels for indoor heating or cooking without proper ventilation

If at least one selection made in both symptoms and risk factors: refer patients for spirometry (use input field below to update status to suspect) indicate if spirometry declined (use input field below to update status to unconfirmed)

Diagnosis status: | **Last updated:** | **Update status:** ?

If diagnosis is unconfirmed, please indicate reason

H. COPD Management Visit Form

Assessment Section

The screenshot shows the 'Assessment' section of the E2P COPD Management Tool v1.0. At the top, it displays 'Screening last completed:' and 'Visit form last completed:'. Below this, a note states: 'The E2P COPD tool is based on the following guidelines: CTS, Va/DoD, GOLD, OH QS'. The main form area is divided into several sections: 'Diagnosis status' with fields for 'Last updated:' and 'Update status:'; a section for 'Subjective | Objective' with 'Reason for visit:' and 'Since last visit, patient feels:'; 'Current symptoms' with checkboxes for 'Persistent breathlessness', 'At rest', 'On exertion', 'Chest tightness', 'Wheezing', 'Chronic cough', 'Regular sputum production', 'Frequent colds', 'Chest pain', and 'Activity and/or exercise limitation'; 'Physical exam' with 'Breath sounds:' (Normal/Abnormal) and 'Appearance:' (Barrel chested, Clubbing, Cachectic, Other); and 'Additional notes' with a large text area. On the right sidebar, there is a 'Spirometry' section with dropdown menus for 'FEV1/FVC (%)', 'LLN*', and 'FEV1(%)'. Below that is an 'Investigations' section with checkboxes for 'Chest x-ray', 'Echo', 'ECG', 'Blood', 'CT', and 'Other', each with a date field. At the bottom of the sidebar is the 'Latest Vitals' section, listing 'BP: 180 / 88 (2023-Aug-14)', 'Wt: 88 kg (2023-Aug-14)', 'O2: 98 % (2023-Aug-14)', 'HR: 154 bpm (2023-Aug-14)', and 'BMI: 17.4 (14-Aug-2023)'.

To support QI initiatives, this form will pull in the date the last screening form was completed and the date the last visit form was completed. Whether a screening form was completed or not, the COPD diagnosis status will flow to both the screening and visit forms. The diagnosis status is saved in a lab result that has three status options: unconfirmed, suspected, and confirmed.

Spirometry results can easily be entered in this section using the drop-down menu. For clinics/practices that have CDM worksheets embedded, please ensure that you follow the installation instructions to connect these lab results. *Note: CDM worksheets are not required to use this tool.

The assessment section allows for the documentation of subjective and objective information, as well as the ability to update spirometry results, record the date an investigation has been ordered, and review the patient's latest vital measurements.

Users can capture the patient's current symptoms and conduct a physical exam. Macros can be used in the additional notes section. For more information on adding macros specific to COPD, see page 3 in the tool.

Management Section

The management section contains areas to document vaccination information. Users can record whether a vaccination was actioned: discussed, declined, or updated, and the date it was completed. In this section, information regarding lifestyle considerations (such as if the user discussed inhaler technique, physical activity, any self-management or education, and smoking cessation/status) can also be efficiently tracked and managed here.

Medications Section

This form supports the creation of pharmacological treatment based on CTS severity. CTS severity considers the symptom burden for patients, which is calculated using spirometry, the number of acute exacerbations of COPD (AECOPD), the CAT, and mMRC screeners. The intended workflow is as follows: **Step 1) measures the degree of disability**. This is done manually; the form contains the screeners for the user to complete, enables the user to record multiple AECOPDs, and defines the CTS severity, enabling the user to select the treatment plan.

Page 2 in the tool offers calculators that capture the scores of the other screening/assessment tools. For patients who have 1 or the other who only have spirometry (FEV1) or have a CAT and an mMRC grade, users can still use either result to drive them to **step 2) identifying the severity**.

Acute Exacerbations of COPD (AECOPD) are recorded as lab results so that they can be tracked. There are two ways to update the AECOPD, text box (labeled “B” in the image above) or using the drop-down menu. We can review the severity history and date. We have embedded tooltip icons to promote the education of what is an exacerbation with the patient.

The first time the tool is used, the main priority should be to capture the history of AECOPD, which can be done using the lab result window so the history of exacerbations can be backdated and multiple can be entered by clicking “Apply”. Otherwise, using the text box will associate the exacerbation with the current date.

Once the user has identified CTS severity using the degree of disability and number of acute exacerbations, the user can now document the current pharmacological treatment plan decision.

Medication Monitoring and Adherence Section

Medication monitoring and adherence

Taking as directed? Y N

Is the medication helping? Y N

Side effects experienced? Y N

Severity of side effects

Update plan *Consider reviewing the medication reference table when starting or optimizing medications.*

additional notes

At the next follow-up visit, users can move to **step 3) review adherence**, and document updates to the pharmacotherapy plan. As the current plan will most likely be tailored to the patient’s needs this may mean that it may not directly align with where the patient falls on the CTS severity. The user can go into detail and explain the reasoning for the current treatment plan, why the patient is not currently in alignment, how the medications are working for the patient, and if any updates need to be made in this step.

Referrals & Follow-Up Section

Referrals include in note*

respirologist
 pulmonary rehab
 smoking cessation
 COPD education
 spirometry
 PFT
 Other:

Next visit booked for

The documentation for if the patient needs to be referred to an external provider can be recorded in this section. The next visit date can be planned here as well. If the "include in note*" is checked off this section will be added to the letter that is generated at the end.

I. Page 2: COPD Assessments

The tool offers calculators that capture the scores that will be used when initiating pharmacological treatment. These assessments include the COPD Assessment Test (CAT) and the Modified Medical Research Council (mMRC) Dyspnea Scale. These assessments will record the scores into their respective lab results: CAT and mMRC which will be pulled into page 1 and can be tracked over time.

Evidence2Practice Ontario

COPD Assessment Test (CAT) Latest score 25 /40 Last completed 05/18/2024

I never cough	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I cough all the time
I have no phlegm (mucus) in my chest at all	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	My chest is completely full of phlegm (mucus)
My chest does not feel tight at all	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	My chest feels very tight
When I walk up a hill or one flight of stairs I am not breathless	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I am very limited doing activities at home
I am not limited doing any activities at home	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I am very limited doing activities at home
I am confident leaving my home despite my lung condition	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I am not at all confident leaving my home because of my lung condition
I sleep soundly	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I don't sleep soundly because of my lung condition
I have lots of energy	<input type="radio"/> 0	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	I have no energy at all

total score 0.00 record score*

Modified Medical Research Council (mMRC) Dyspnea Scale Latest score 4 Last completed 05/18/2024

0	1	2	3	4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I only get breathless with strenuous exercise	I get short of breath when hurrying on level ground or walking up a slight hill	On level ground, I walk slower than people of the same age because of breathlessness, or have to stop for breath when walking at my own pace	I stop for breath after walking about 100 yards or after a few minutes on level ground	I am too breathless to leave the house or I am breathless when dressing

total score 0.00 record score*

Page 3: Tips and Tricks

Creating a lab summary table

A lab summary table is an alternate way to view lab results. This is a convenient way to display labs from different test results in a flowsheet style.

In the Encounter notes window

- (1) Locate the dropdown menu in the labs heading.
- (2) Select Manage from the list displayed. The Edit Lab Summary Configurations is displayed.
- (3) Click the green '+' Add button.
- (4) In the name field type in the name of the group being created (COPD)
- (5) Click the green '+' Add button. The Lab Search Results window is displayed.
- (6) Type in the results to be added to the group and click the Select button to add them to the list
- (7) Repeat this step until you have added all the required results to your list, select OK to save.

Result	2024-Jun-24	2024-Mar-05
FEV1/FVC (post)		101
FEV1% predicted (post)		100
LLN (FEV1/FVC)	67	
CAT	23	
mmrc	3	
AECOPD	moderate	
dxStatusCOPD	unconfirmed	

Using macros in forms

copdmgmt

-discussed/provided action plan -reviewed Living with COPD resource -reviewed OH patient guide

copdsmk

pack years , cannabis use, vape use, ready to quit, NRT

copdresp

Resp: Chest clear bilaterally to both bases, no adventitious sounds

copdhrt

HS: S1/S2, no added sounds or murmurs; JVP normal No peripheral edema

(1) Go to Tools > Template Wizard.

(2) Click on the "Edit Macros" circle-select at the top of the Template Wizard. Click New.

(3) Enter a title (the word you will need to type to insert the macro). Use "_" rather than a space.

(4) Enter/paste the sentence or paragraph in the main typing area under the title.

(5) Save

Linking a template to the form

This form contains unique tags that will assist in generating a 'letter' (or encounter note) that is searchable from the virtual chart

(1) Select the text from the area below (CTRL+A) (2) Right-click and choose copy

(1) Go to Tools > Template Wizard Press New (2) Enter a title (3) Right Click, Paste in to the content area (4) Save.

This page is intended to provide users with ready-to-use instructions that will help improve the functionality of this form and the EMR. Much of this information may already be known to the user but reassures us that users have the best tools at their fingertips for optimal experience.

This page includes steps on how to in a lab summary table which will enable users to review labs in the most ideal manner, as well as provides condition-related macros that can make documentation within the tool more efficient and consistent, as well as the templates designed specifically for the E2P COPD screening and diagnosis tool and the COPD visit management tool for the generate letter features.

For support with any of these additions, please reach out to emrtools@ehealthce.ca to book a training session.

J. COPD Action Plan

Evidence2Practice Ontario **E2P COPD Action Plan and Patient Resources**

My Symptoms	I Feel Well	I Feel Worse	I Feel Much Worse
I have sputum	My usual sputum colour is <input style="width: 100%;" type="text"/>	Changes in my sputum for at least 2 days <input type="checkbox"/> Y <input type="checkbox"/> N	My symptoms are not better after taking my flare-up medicine for 48 hours
I feel short of breath.	When I do this: <input style="width: 100%;" type="text"/> <input style="width: 100%;" type="text"/>	More short of breath than usual for at least 2 days <input type="checkbox"/> Y <input type="checkbox"/> N	I am very short of breath, nervous confused and/or drowsy, and/or I have chest pain.
My Actions	Stay Well	Take Action	Call For Help
	I use my daily puffers as directed.	If I checked 'Yes' to one or both of the above, I use my prescriptions for COPD flare-ups.	I will call my support contact, and/or see my doctor and/or go to the nearest emergency department.
	If I am on oxygen, I use <input style="width: 50px;" type="text"/> L/m	I use my daily puffers as usual. If I am more short of breath than usual, I will take <input style="width: 50px;" type="text"/> puffs of <input style="width: 50px;" type="text"/> up to a maximum of <input style="width: 50px;" type="text"/> times per day.	I will dial 911.
Notes	<input style="width: 100%; height: 50px;" type="text"/> I use my breathing and relaxation methods as taught to me. I pace myself to save energy. If I am on oxygen, I will increase it from <input style="width: 50px;" type="text"/> L/m to <input style="width: 50px;" type="text"/> L/m		Important information: I will tell my doctor, respiratory educator, or case manager within 2 days if I had to use any of my flare-up prescriptions. I will also make follow-up appointments to review my COPD Action Plan twice a year.
Prescription for COPD flare-up (Patient to take to pharmacist as needed for symptoms)			
These prescriptions may be refilled two times each, as needed, for 1 year, to treat COPD flare-ups. Pharmacists may fax the doctor's office once any part of this prescription has been filled.			

The final component of the E2P COPD Management Tool is the COPD Action Plan. The reason for this section to be available in a stand-alone form is to provide users with the option to print this page specifically for the patient without including the other information. This page is meant to be patient-facing as it includes information for the patient to review and take home, such as the COPD action plan, the prescription for flare-ups, as well as additional patient resources which can be found at the bottom of the page.

Additional Resources

- Ontario Health Patient Guide - <https://link.cep.health/e2pcopdt2>
- Living with COPD –Lung Health Foundation (contact LHF to request mailed copy) <https://link.cep.health/e2pcopdt1>
- COPD Action Plan- Canadian Thoracic Society - <https://link.cep.health/e2pcopdt3>
- Smoking Treatment for Ontario Patients (STOP) Program - <https://link.cep.health/e2pcopdt6>
- Treating breathing issues: COPD – Choosing Wisely Canada - <https://link.cep.health/e2pcopdt22>

K. Feedback

Included in the tool is a link to provide feedback which allows users to submit their thoughts and communicate any issues they've encountered or any areas they wish to see added to the tool. This section allows you to submit feedback anonymously or allows you to add your email address and name if you wish to be contacted.

* The link can be found in the COPD Management Tool at the bottom of page 1:

please [click here](#) to provide feedback for this tool

L. Contact

As part of the Evidence2Practice Ontario (E2P) program, the [eHealth Centre of Excellence](#) is providing change management at no cost to support clinicians with the implementation and optimal use of E2P tools.

If you have any questions, please reach out to EMRtools@ehealthce.ca and we will be happy to help!

E2P brings together multi-disciplinary, cross-sector expertise under the joint leadership of the Centre for Effective Practice, eHealth Centre of Excellence, and North York General Hospital. Funding and strategic guidance for E2P is provided by Ontario Health in support of Ontario's Digital First for Health Strategy.