

# COPD PRIMARY CARE: PROVIDING A CLINICALLY RELEVANT PICTURE FOR CLINICIANS

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## Introduction

- There is a need to present primary care physicians (PCPs) with relevant COPD data in a well-structured and clinically useful format during clinic visits.

## Apex (Advancing the Patient Experience) in COPD Registry

- The APEX COPD registry is a multi-center, observational, primary care initiative which will retrospectively and prospectively collect COPD variables from >3,000 patients across the U.S. (from Dec 2008 to Dec 2022).

## Aims

- To capture key information on COPD patients (from multiple sources, and) with maximal efficiency, and
- To present these data to clinicians and patients in a structured, clinically-useful format for use during primary care consultation.

## Methods

- Core APEX variables to collect were informed by GOLD, ATS, and ERS guidelines,<sup>1-6</sup> and have been agreed by Delphi consensus.
- These variables will be collected from 3 sources:
  - EHRs:** Collected prospectively and retrospectively from the EHR system with minimal data entry needed.
  - From **patients PRIOR to consultation:** Three questionnaires will be deployed (**Figure 1**).
  - From **patients AT consultation with their primary care physician.**
- The collected data will be restructured and used to provide direct feedback to both patients and PCPs for use during the consultation process.

Figure 1: Summary of PRO/PRI collected at baseline, annually and pre-visit

Baseline Questionnaire	Annual Survey	Pre-visit Survey
<ol style="list-style-type: none"><li>About your COPD<ul style="list-style-type: none"><li>Age of onset, family history, medication use, inhaler training</li></ul></li><li>Inhaler satisfaction</li><li>Consequences (last 12 months)<ul style="list-style-type: none"><li>Tx side effects, mental health (last 2 wks), hospitalization, ATB/steroids, pneumonia?</li></ul></li><li>Impact on well-being</li><li>Smoking history &amp; status</li><li>Expectations of COPD treatment</li><li>Written action plan</li><li>Adherence</li></ol>	<ol style="list-style-type: none"><li>Medication check (still correct?)</li><li>Medication update</li><li>Inhaler training (last 12 months)</li><li>Inhaler satisfaction</li><li>Consequences (last 12 months)</li><li>Impact on well-being</li><li>Smoking history/status</li><li>Vaccination history</li><li>Meeting goals</li><li>Adherence</li></ol>	<ol style="list-style-type: none"><li>Impact on well being<ul style="list-style-type: none"><li>Cough &amp; phlegm</li><li>Chest tightness</li><li>Breathlessness on stair walking,</li><li>Activity limitation</li><li>Confidence leaving the house</li><li>Sleep quality &amp; energy level</li></ul></li><li>Consequences (last 3 months)<ul style="list-style-type: none"><li>Tx side effects</li><li>Adherence</li><li>Hospitalization</li><li>ATB/steroids</li><li>Pneumonia</li><li>Meeting goals</li></ul></li></ol>

Abbreviations: ATB: antibiotic; COPD: Chronic Obstructive Pulmonary Disease; Tx: treatment

## Results

- The **Patient Feedback Report** will contain information on:
  - Meeting goals (e.g. not missing work due to COPD)
  - Health status (e.g. GOLD group and COPD Assessment Test (CAT) score)
  - Smoking & prevention (e.g. number of cigarettes/e-cigarettes smoked/day; smoking cessation advice, influenza/pneumococcal vaccination status).
  - Information on Inhalers will include:
    - Inhaler prescribed, overall satisfaction rating (0-100%), links to refresher videos on how to use inhaler(s), an adherence score (0-50), and link to tips on how to improve adherence
  - COPD monitoring (e.g. annual treatment and hospitalization tracker)
  - Any questions (a space for patients to input important questions for their PCPs)

# CONCLUSIONS

This is the first COPD registry which combines EHR data and PRO/PRI outcomes on such a large scale and presents this clinically-relevant information to both patients and physicians in a structured and clinically useful format for use during primary care clinic visits.

Provision of this information should inform COPD-related decision making and improve disease management in primary care.



More information on both methodology and results may be accessed by simply scanning the QR code.

## Results (cont.)

- The **Physician Feedback Report** shown is shown in **Figure 2**.
- Both Patient and Physician Feedback Reports are combined in one document and presented to patients upon completion of their questionnaire. Patients are encouraged to print out this report and take it with them to their next appointment.

Figure 2: Physician Feedback Report

SUMMARY FOR YOUR DOCTOR				
<b>Patient</b>	<b>JOHN SMITH</b>	<b>MRN: 12345678</b>		
<b>DOB: 01/01/1955</b>	<b>AGE: 64</b>	<b>SEX: Male</b>		
<b>Health</b>	<b>TEST SCORE</b>	<b>Prevention and Adherence</b>		
<b>GOLD</b> Exacerbation risk (A-D)	D	Increased risk of flare ups		
<b>CAT</b> Health status (0-40)	32	Very high impact on wellbeing		
<b>mMRC</b> Breathlessness (0-4)	3	Exercise limitation		
<b>Exacerbations</b> in the past 12 months	2	Total number of flare-ups		
<b>PHQ-2</b> Mental wellbeing (depression, 0-6)	3	Elevated score, consider PHQ-9		
<b>GAD-2</b> Mental wellbeing (anxiety, 0-6)	2	Normal score		
For more on tests & guidelines visit   <a href="http://www.apexcopd.org/guidelines">www.apexcopd.org/guidelines</a>				
<b>Smoking Status</b>	Current Smoker			
<b>Smoking Approach</b>	Patient wishes to quit smoking			
<b>Pack-years</b>	25			
<b>Written Action Plan</b>	Patient does not know how to use their action plan			
<b>Influenza Vaccination</b> Received in the past 12 months	Yes			
<b>Pneumococcal Vaccinations</b>	PCV13	Yes	PPSV23	Yes
<b>TAI score</b> Inhaler adherence	46/50	Reduced adherence when anxious or sad		
<b>Inhaler technique training</b> Received in the past 12 months	Yes			
(321) 842-2586   <a href="mailto:super@practice.com">super@practice.com</a>   Super Health Practice, 50 Main St, Orlando, Florida, 32104				

Abbreviations: GOLD: Global Initiative for Obstructive Lung Disease; CAT: COPD assessment Test; mMRC: modified Medical Research Council dyspnea scale; PHQ: Patient Health Questionnaire; GAD: Generalized Anxiety Disorder; TAI: Test of Adherence to Inhalers.

## The Future

- Data collected will be integrated and stored in the APEX COPD database and made available for COPD-related research.
- Data will be used to analyze COPD natural history as well as clinical, safety and cost effectiveness of current COPD treatments in primary care across the USA.

## Acknowledgments/Disclosures

APEX COPD is conducted by Optimum Patient Care (OPC) Global Limited, and co-funded by OPC Global and Boehringer Ingelheim Pharmaceuticals, Inc. The author(s) meet criteria for authorship as recommended by the International Committee of Medical Journal Editors (ICMJE). The authors received no direct compensation related to the development of the manuscript. Writing, editorial support, and/or formatting assistance was provided by Agnes Tan, Dip.Asc, and Audrey Ang, BSc (Hons), of OPRI, Singapore, which was funded by Boehringer Ingelheim Pharmaceuticals, Inc. (BIPI). BIPI was given the opportunity to review the manuscript for medical and scientific accuracy as well as intellectual property considerations.

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