

COPD Primary Care: Providing a Clinically Relevant Picture For Clinicians

Kaplan A^{1,2}, Aranda A³, Carter V^{1,4}, Chang KL⁵, Edwards C⁴, Fox C^{6,7}, Han M⁸, Kocks JWH^{1,9}, Mahle C¹⁰, Make B¹¹, Shaikh A¹⁰, Skolnik N^{12,13}, Pace W^{7,14}, Yawn B^{15,16}, Gopalan G¹⁰, Price DB^{1,4,17}

¹Observational Pragmatic Research Institute, Singapore; ²Family Physician Airways Group of Canada, Stouffville, Ontario, Canada; ³Hospital Auxilio Mutuo, San Juan, Puerto Rico; ⁴Optimum Patient Care, Cambridge, UK; ⁵University of Florida College of Medicine, Gainesville, FL, USA; ⁶University at Buffalo, Buffalo, NY, USA; ⁷DARTNet Institute, Aurora, CO, USA; ⁸University of Michigan, Ann Arbor, MI, USA; ⁹General Practitioners Research Institute, Groningen, Netherlands; ¹⁰Boehringer Ingelheim Pharmaceuticals, Inc., Ridgefield, CT, USA; ¹¹National Jewish Health Department of Medicine, Denver, CO, USA; ¹²Thomas Jefferson University, Jenkintown, PA, USA; ¹³Abington Jefferson Health, Jenkintown, PA, USA; ¹⁴University of Colorado, Denver, CO, USA; ¹⁵COPD Foundation, Washington, D.C., USA; ¹⁶University of Minnesota, Minneapolis, USA; ¹⁷University of Aberdeen, Aberdeen, UK

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 guidelines¹⁻⁶, and have been agreed by Delphi consensus. These variables will be collected from 3 sources:
 1. **EHRs:** Collected prospectively and retrospectively from the EHR system with minimal data entry needed.
 2. **From patients PRIOR to consultation:** Three questionnaires will be deployed (Figure 1).
 3. **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.

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)

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">1. About your COPD<ul style="list-style-type: none">• Age of onset, family history, medication use, inhaler training2. Inhaler satisfaction3. Consequences (last 12 months)<ul style="list-style-type: none">• Tx side effects, mental health (last 2 wks), hospitalization, ATB/steroids, pneumonia?4. Impact on well-being5. Smoking history & status6. Expectations of COPD treatment7. Written action plan8. Adherence | <ol style="list-style-type: none">1. Medication check (still correct?)2. Medication update3. Inhaler training (last 12 months)4. Inhaler satisfaction5. Consequences (last 12 months)6. Impact on well-being7. Smoking history/status8. Vaccination history9. Meeting goals10. Adherence | <ol style="list-style-type: none">1. Impact on well being<ul style="list-style-type: none">• Cough & phlegm• Chest tightness• Breathlessness on stair walking,• Activity limitation• Confidence leaving the house• Sleep quality & energy level2. Consequences (last 3 months)<ul style="list-style-type: none">• Tx side effects• Adherence• Hospitalization• ATB/steroids• Pneumonia• Meeting goals |

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

- The **Physician Feedback Report** 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 | | | |
|--|---------|--|--|
| Patient JOHN SMITH | | MRN: 12345678 | |
| DOB: 01/01/1955 | AGE: 64 | SEX: Male | |
| Health | | Prevention and Adherence | |
| TEST SCORE | | Smoking Status Current Smoker | |
| GOLD Exacerbation risk (A-D) | D | Smoking Approach Patient wishes to quit smoking | |
| CAT Health status (0-40) | 32 | Pack-years 25 | |
| mMRC Breathlessness (0-4) | 3 | Written Action Plan Patient does not know how to use their action plan | |
| Exacerbations In the past 12 months | 2 | Influenza Vaccination Received in the past 12 months Yes | |
| PHQ-2 Mental wellbeing (depression, 0-6) | 3 | Pneumococcal Vaccinations PCV13 Yes PPSV23 Yes | |
| GAD-2 Mental wellbeing (anxiety, 0-6) | 2 | TAI score Inhaler adherence 46/50 Reduced adherence when anxious or sad | |
| For more on tests & guidelines visit www.apexcopd.org/guidelines | | Inhaler technique training Received in the past 12 months Yes | |
| (321) 842-2586 super@practice.com 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

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.

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.

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