Root Cause Analysis: Uncovering Barriers to Optimal Management of Patients with COPD in the Primary Care Setting

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Introduction

Conducting a needs assessment is a basic and critical step in planning a CME program. Depending on the source, quality, and details of the needs assessment data, a root cause analysis (RCA) may be necessary. Borrowed from other fields and often applied to patient safety, an RCA in CME may serve to provide critical details about the educational needs of the target audience and determine whether the root cause was one of knowledge, competence, or some combination thereof, enabling educators to refine an educational activity to address the underlying problem(s) associated with a performance gap. In 2021, National Jewish Health, CE Outcomes, ArcheMedX, Pri-Med, and faculty [Educators] conducted an RCA to understand why US-based primary care clinicians struggle to close performance gaps related to the diagnosis and management of patients with chronic obstructive pulmonary disease (COPD).

Objectives

The goal of the RCA was to identify key barriers to medical care for patients with COPD to inform the development of a COPD educational curriculum curated by family practice and pulmonary faculty hosted on www.pri-med.com.

Methods

The RCA was an interview-based study utilizing a standardized interview guide. Pri-Med collected a list of primary care clinicians interested in participating in an interview related to the diagnosis, treatment, approach, guideline use, and exacerbation management of COPD. Inclusion criteria required physicians to have a primary specialty in internal medicine, family medicine, or general practice and see approximately 11 to 40 patients with COPD per week. Ten clinicians were identified, and interviews were conducted by CE Outcomes. Interviews ranged from 28 to 45 minutes in length. Clinicians were assigned an alphabetical identification code to mask their identity and were provided with a professionally appropriate honoraria for their time. Demographics of the clinician sample are provided in Table 1.

CE Outcomes conducted, recorded, and automatically transcribed the interviews on Microsoft Teams. CE Outcomes researchers reviewed the recordings to ensure that the transcripts were accurate. A constant comparative method was used for the analysis, which allowed for emergent ideas and themes within the data to be considered and verified during the interview progression. Themes that were not considered in the interview guide were noted and discussed in later interviews. One researcher coded the transcript based on themes identified in the original interview guide. Additional coding was then added to reflect new ideas and perceptions commonly held with the interviewees. Discussion between all researchers verified the coding and key themes. As primary care practices can differ based on setting, additional analysis identified whether discrepancies in COPD management between interviewees could be attributed to individual context. All themes and educational recommendations were reviewed and verified by faculty.

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Results

Key Findings

Guidelines

Despite their high confidence, PCPs use limited objective methods for diagnosis. Nearly all believe they are following the general guidance for COPD management, but few indicate that they strictly follow a specific set of guidelines.

"I know that [the authors of the GOLD guidelines] tried to include other aspects other than just pure spirometry information, but I think that it's actually cumbersome and hard to understand, the way that it was put together."

Referral

Clinicians will primarily refer a patient to a pulmonologist only for initial pulmonary function testing (PFT), not for management. They are reluctant to refer a patient for COPD management.

"Patients don't want to just get this diagnosis unless it's certain. So I can send them to pulmonary to confirm the diagnosis, then they are more willing to accept that type of diagnosis."

Adherence

The main barrier to care is adherence, but issues with adherence can be driven by a variety of factors, including cost, side effects of therapies, patient reluctance to receive care, and difficulties with smoking cessation.

"They have to remember to take this medication every day, and a lot of them do it sometimes and other times they may not because they may be [prescribed] twice a day and may be four times a day."

Exacerbations

Most clinicians are confident that they can identify patients at risk for exacerbations and know which patients are most likely to have exacerbations. However, they do not always assess for exacerbation at each appointment and have different approaches to measuring the severity of an exacerbation.

"I think it is important [assessing exacerbations]. If I see someone's coming in frequently needing antibiotics, I say we need to do something to prevent this."

Table 1 Demographics of Clinician Sample

Practice Setting	Years in Practice	Patients Seen/ Week with COPD
Private community urban	18	11
Academic medical center, half-time between outpatient primary care and inpatient acute management	27	12
Overnight care in an urban community hospital	35	30
Primarily rural private internal medicine, part time in community hospital	29	17
Family medicine in rural midwestern	28	20
Family medicine in suburban community	15	17
Rural community hospital	32	10
Primary care and geriatrics in community small group	20	35
General internist and pediatrician, community private	22	30
Internal medicine with pulmonology training, private community practice in large metropolitan area	40	25

Conclusion

From the perspective of primary care clinicians, COPD presents a unique challenge in patient management. COPD has a gradual onset that patients associate with aging and often do not mention. Providers should be aware of a patient's potential risk factors for COPD beyond smoking status. And while most providers use a guideline-based approach to escalating therapy, most base treatment changes on subjective measures of symptoms.

Faculty experts used information from the RCA to create educational content that was highly relevant to clinicians, considering limitations in time, access to resources (spirometry, specialists), guideline preferences (GOLD), and practical ways to incorporate screening tools.

As of June 2022, over 9,000 primary care providers (physicians, nurse practitioners, and physician assistants) have completed activities within the curriculum.

Post-education surveys indicated the success of the program in meeting the educational needs identified by the RCA:

84% of clinicians (47% MD/DO; 43% NP/PA) Agree/Strongly Agree they will make changes to their approach to practice

69% plan to change their approach to utilizing guidelines

72% plan to evaluate or incorporate screening tools

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