Primary Care Physicians' Knowledge, Attitudes, and Practice Patterns in Chronic Obstructive Pulmonary Disease Diagnosis and Management

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Abstract

Chronic obstructive pulmonary disease (COPD) is a gradually progressive disease associated with significant morbidity. Patients with COPD range from asymptomatic to severely disabled with a need for intensive medical management. This project assessed at the performance level primary care physicians' gaps in the diagnostic and outpatient management of COPD. The target audience for this study was family practitioners and general internists who provide care for adults with COPD. A random national sample of 900 family practitioners and general internists who provide care for adults with COPD was surveyed by email and fax during December, 2006 and January, 2007.

Performance gaps identified based on survey responses include:

- 34% would not obtain spirometry to evaluate subtle chronic respiratory symptoms
- 34% did not appropriately diagnose and stage mild-moderate COPD
- 23% would treat mild COPD with a long-acting bronchodilator
- 23% would not provide multifaceted smoking cessation counseling with follow-up by office staff
- 26% of primary care physician respondents were not optimistic about effectively managing and treating COPD
- 45% of survey respondents were unaware of GOLD or ATS-ERS guidelines
- 30% of those who were aware of these guidelines did not use them in clinical decision-making
- 36% lack the ability to perform spirometry testing in their practice
- an additional 22% have spirometry available but do not routinely use it
- 60% rated their recent exposure to CME regarding COPD as inadequate

Implications for future education include addressing issues related to accurately reading spirometry in diagnosis of COPD, treatment strategies that provide long-acting control of symptoms, awareness of optimal strategies for facilitating smoking cessation in COPD patients, and strategies for facilitating the adoption of clinical practice guidelines.
Key Words: Performance gaps, COPD, primary care, assessment

Overview: Chronic obstructive pulmonary disease (COPD) is a gradually progressive disease associated with significant morbidity. Patients with COPD range from asymptomatic to severely disabled, with a need for intensive medical management. Although primary care physicians care for patients across this spectrum, they most commonly see patients with subtle respiratory symptoms needing evaluation and patients with COPD in the mild-moderate stages. This project focused on assessing at the performance level the diagnostic and outpatient management issues that primary care physicians are likely to consider when caring for this patient spectrum. Findings from this project are expected to identify specific COPD practice patterns that should be targeted for improvement as well as barriers to optimal care. This project was supported by an educational grant from Pfizer, Inc. and Boehringer Ingelheim Pharmaceuticals, Inc

Target audience: The target audience for this study was family practitioners and general internists who provide care for adults with COPD.

Methods: This project examined both recognized and plausible clinical practice gaps in COPD diagnosis and management. A national sample of 900 family practitioners and general internists who provide care for adults with COPD was surveyed during

December, 2006 and January, 2007. The survey instrument was developed to determine the knowledge, attitudes, and practice patterns of primary care physicians in COPD diagnosis and management.

Case vignettes have gained considerable support for their value in predicting physician practice patterns. Results from recent research demonstrate that case vignettes (as compared to chart review and standardized patients) are a valid and comprehensive method to measure a physician's process of care in actual clinical practice. Furthermore, case vignettes are more cost-effective and less invasive than other means of measurement.[i,ii] Case vignettes for this survey were developed by physicians affiliated with the COPD Foundation.

Survey items were designed to measure understanding and knowledge with regard to disease management based on guideline and clinical evidence. There were also items to measure attitudes, confidence levels, and barriers to translating evidence into practice. Furthermore, information about preferences related to information seeking about disease management education was obtained.

The surveys were distributed by email and by fax. They were distributed to a random sample from the American Medical Association list of primary care physicians seeing adult patients. Physicians who did not respond to the survey after being contacted three times were replaced by others drawn randomly from the American Medical Association list until a usable sample of 900 U.S. physician respondents had been achieved. . Data was entered into a form using Market Research Interview and the Statistical Package for Social Sciences as a stable, integrated survey platform. T-tests and Chi square were used to determine the significance of differences among populations.

Results: Primary Care Decision-Making: COPD Diagnosis and Management

Demographics

- 54% Family practitioners, 5% General practitioners, 41% General internists
- MD 85%, DO 13%, Other 2%
- Practice type: 95% private practice
- Location: urban 34%, suburban 46%, rural 20%

Spirometry is the test of choice to evaluate persistent dyspnea for the vast majority of physicians (90%); however, only 66% would obtain spirometry to evaluate subtle chronic respiratory symptoms

- Physicians who used COPD guidelines to guide decision making were significantly more likely to obtain spirometry for subtle symptoms ($p < 0.01$)

When given simple spirometry data, 82% correctly diagnosed COPD; 66% both diagnosed and staged COPD correctly

In a patient with mild COPD, 32% would recommend inhaled steroids, while 23% would offer a long-acting bronchodilator

- Believing that the patient had asthma or COPD influenced whether physicians chose inhaled steroids (46% vs. 31%) and long-acting bronchodilators (14% vs. 25%) as initial therapy

In a heavy smoker with acute cough and dyspnea, 12% would treat with antibiotics alone, 47% with antibiotics and a short-acting bronchodilator, 9% with

antibiotics and a long-acting bronchodilator, and 33% would order a chest X-ray before deciding therapy

- For persistent dyspnea that has not responded to initial short-acting bronchodilator therapy, physicians would choose a long-acting anticholinergic (36%), a short-acting bronchodilator (33%), and an inhaled corticosteroid (29%)

To assist a patient with overt respiratory symptoms who wants to quit smoking, the majority of physicians (77%) would provide multifaceted counseling and arrange follow-up by office staff, while 14% of physicians would offer the same counseling without follow-up, 5% would offer encouragement and recommend a nicotine substitute and 4% would refer to a local smoking cessation program.

- Physicians who utilized guidelines were significantly more likely to offer counseling with follow-up. ($p<0.01$)

26% of primary care physician respondents were not optimistic about effectively managing and treating COPD with currently available interventions

COPD Resources in Primary Care: 45% of survey respondents were unaware of GOLD or ATS-ERS guidelines; furthermore, 30% of those who were aware of these guidelines did not use them in clinical decision-making:

36% lack the ability to perform spirometry testing in their practice; an additional 22% have spirometry available but do not routinely use it

60% rated their recent exposure to CME regarding COPD as inadequate

Learning Preferences of Primary Care Physicians: Survey respondents found clinical practice guidelines to be the most helpful source of information for providing optimal care to their patients, followed closely by CME activities and opinions of experts and colleagues. Respondents prefer live or online CME activities. Respondents overwhelmingly endorsed the addition of strategies for daily practice in future CME activities. They would like to see educational programs provide more patient-centered content.

Physicians Who Inaccurately Diagnose COPD

Misinterpretation of Spirometry Data:

A sub-group of respondents was identified based on their inaccurate interpretation of spirometry data in the diagnosis of COPD in the case vignettes, and one-third of them would not order spirometry for a patient with subtle respiratory complaints.

One-third of this sub-group selected “low suspicion of COPD in patients with minimal respiratory complaints” as their greatest barrier to optimal diagnosis and management of COPD.

One-third also selected insufficient resources for patient education and self-management skill training as their greatest barrier.

These respondents were moderately confident they can detect patients with early COPD. They see a large number of patients per week (125), 10% of which have COPD.

They rated their exposure to CME focused on COPD detection, diagnosis, and management as “just right” during the past year.

They are most likely to access live activities, online, or print with live case discussions, live lectures, or print case studies. They would like to see more strategies for daily practice and patient-centered content in future CME activities.

COPD Diagnosis:

Another sub-group of primary care physicians who inaccurately diagnosed COPD in the case vignettes rated themselves as somewhat confident they could accurately diagnose and stage COPD.

These physicians see a high number of patients (130) per week, with 15% of their patients having been diagnosed with COPD.

Only half of the physicians in this sub-group are aware of clinical practice guidelines in COPD.

These respondents are equally likely to access CME online as CME live activities and prefer live lectures and case discussions. They would like to find more strategies for daily practice and opportunities for interaction in their CME activities.

Guideline Adherence:

A third sub-group of primary care physicians was identified based on making case vignette choices that did not adhere to guideline recommendations for the treatment of COPD.

These physicians were only somewhat optimistic that COPD can be effectively prevented and treated with current interventions.

59% of them do not routinely use a spirometer in their practices.

They perceive the largest barrier to optimal COPD care to be patient non-adherence to recommended therapy.

These physicians had less than what they consider to be the right amount of CME focused on COPD detection, diagnosis, and management during the past year.

This group was also interested in live lectures and live case discussions and would like to see more strategies for daily practice and patient-centered content in CME activities. Twenty-one percent live in rural areas.

COPD Resources in Primary Care

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Implications for Future Education

The following issues may be used to frame the development of future education for primary care physicians treating adults for COPD: accurately reading spirometry in diagnosis of COPD, treatment strategies that provide long-acting control of symptoms, awareness of optimal strategies for facilitating smoking cessation in COPD patients, and strategies for facilitating the adoption of clinical practice guidelines.

Reference

Foster et al. Enhancing COPD Management in Primary Care Settings, MedGenMed, 2007. Full text online article available at: www.medscape.com/viewarticle/558990.

[i]Peabody, John W., et al.: Comparison of vignettes, standardized patients, and chart abstraction: A prospective validation study of 3 methods for measuring quality. *JAMA* 2000;283:1715-22

[ii]Peabody, John W., et al.: Measuring the quality of physician practice by using clinical vignettes: a prospective validation study. *Ann Intern Med.* 2004 Nov 16;141(10):771-80.