

# Introduction

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**M**ore than 13 million people in the United States have been diagnosed with chronic obstructive pulmonary disease (COPD),<sup>1</sup> a complex, heterogeneous respiratory condition characterized by persistent, and usually progressive, airflow limitation.<sup>2,3</sup> The prevalence of COPD is rising: It has been declared the third leading cause of death in the United States,<sup>4</sup> and the World Health Organization has predicted that it will become the third leading cause of death worldwide by 2030.<sup>5</sup> This increase is driven by an aging population, and tobacco smoking, which is the primary risk factor for COPD in high-income countries.<sup>6</sup>

Symptoms of COPD, as well as the severity of these symptoms, can vary, but patients typically present with dyspnea, chronic cough, and sputum production.<sup>2</sup> These symptoms are often underreported by patients with COPD,<sup>2</sup> but have a significant impact on patients' day-to-day lives, adversely affecting their quality of life and their ability to engage in physical activity, further contributing to disease progression.<sup>7,8</sup>

Comorbidities are common in patients with COPD, and can pose significant challenges to the diagnosis and management of the condition. Some of these comorbidities, such as lung cancer and ischemic heart disease, share a common etiologic pathway with COPD—smoking; while others, such

as anxiety and depression, appear to be unrelated to COPD pathogenesis, although they may share a systemic inflammatory basis, and are highly prevalent in patients with COPD.<sup>9</sup>

Primary care physicians are the key point of contact for most patients with COPD,<sup>10</sup> and play a critical role in diagnosis, drug and device selection, and long-term disease management of COPD and associated comorbidities. A number of pharmacologic and nonpharmacologic treatment options are available to manage COPD symptoms, which can confer considerable benefits to patients. Selection of pharmacologic treatment should be based on an individual patient's symptom burden and their exacerbation history, and it is important that physicians are aware of when therapy should be escalated, and indeed stopped if no longer required.<sup>2</sup>

Proper device selection is an important part of choosing treatments for patients with COPD. A variety of inhaler devices are available for COPD medications, and it is important that devices are matched to patients' needs and preferences based on device characteristics and individual patient capabilities.

The aim of this supplement is to provide readers with an introduction to 4 key topics critical to the effective management of COPD in primary care, highlighting best practices to optimize patient care and outcomes. In the first article, Dr. Marchetti and Dr. Kaplan review physical activity in COPD, discussing its inter-relationship with dyspnea and hyperinflation, and its importance in modifying disease progression.

The second article examines anxiety and depression in COPD. Prof. Yohannes, Dr. Kaplan, and Dr. Hanania review the prevalence, mechanisms, and impact of the 2 often overlooked and undertreated psychologic comorbidities in patients with COPD. The authors provide guidance on how anxiety and depression can be detected and managed in patients with COPD in a primary care setting.

The third article is authored by Dr. Dhand, Dr. Cavanaugh, and Dr. Skolnik, and reviews the device options available for COPD pharmacologic therapy. It summarizes the key features of each respective inhaler device, discusses considerations for patient-device matching, and emphasizes the importance of training in correct device use.

Finally, Dr. Victor Kim and I assess different COPD treatment options in the supplement's fourth article. We review the latest updates in recommendations from both the Global

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## DISCLOSURES

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Initiative for Chronic Obstructive Lung Disease (GOLD) and the COPD Foundation, discuss the importance of personalized treatment goals for patients, and review how to address current unmet needs in patient management. ●

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### REFERENCES

1. Ford ES, Croft JB, Mannino DM, Wheaton AG, Zhang X, Giles WH. COPD surveillance—United States, 1999-2011. *Chest*. 2013;144(1):284-305.
2. Vogelmeier CF, Criner GJ, Martinez FJ, et al. Global Strategy for the Diagnosis, Management, and Prevention of Chronic Obstructive Lung Disease 2017 Report. GOLD Executive Summary. *Am J Respir Crit Care Med*. 2017;195(5):557-582.
3. Barrecheguren M, Miravittles M. COPD heterogeneity: implications for management. *Multidiscip Respir Med*. 2016;11:14.
4. National Center for Health Statistics (US). Health, United States, 2015: With Special Feature on Racial and Ethnic Health Disparities. Hyattsville, MD; National Center for Health Statistics: 2016.
5. World Health Organization. World Health Statistics 2008. [http://www.who.int/whosis/whostat/EN\\_WHS08\\_Full.pdf?ua=1](http://www.who.int/whosis/whostat/EN_WHS08_Full.pdf?ua=1). Accessed August 2017.
6. Waatevik M, Skorge TD, Omenaas E, Bakke PS, Gulsvik A, Johannessen A. Increased prevalence of chronic obstructive pulmonary disease in a general population. *Respir Med*. 2013;107(7):1037-1045.
7. O'Donnell DE, Gebke KB. Activity restriction in mild COPD: a challenging clinical problem. *Int J Chron Obstruct Pulmon Dis*. 2014;9:577-588.
8. Miravittles M, Ribera A. Understanding the impact of symptoms on the burden of COPD. *Respir Res*. 2017;18(1):67.
9. Hillas G, Perlikos F, Tsiligianni I, Tzanakis N. Managing comorbidities in COPD. *Int J Chron Obstruct Pulmon Dis*. 2015;10:95-109.
10. Foster JA, Yawn BP, Maziar A, Jenkins T, Rennard SI, Casebeer L. Enhancing COPD management in primary care settings. *MedGenMed*. 2007;9(3):24.