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# The underappreciated role of documentation in improving COPD care

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) is the third leading cause of death worldwide, and the third leading cause of hospital readmissions in the United States. COPD continues to be a major economic burden on healthcare systems, due to the high number of hospitalizations caused by severe exacerbations.

Since its first publication in 2001, the Global Initiative for Chronic Obstructive Lung Disease (GOLD)<sup>4</sup> has been widely used as the de facto standard for evidence-based management of COPD. But despite the well-known importance of providing guideline-concordant care, studies have shown that there are still barriers to implementing evidence-based recommendations in providing care for patients with COPD.<sup>5,6</sup>

While there may be many root causes of poor uptake of COPD guidelines in clinical practice, a contributing factor not well explored is the improper documentation of the refined GOLD assessment tool and exacerbation risk to accurately identify the disease burden and plan an appropriately customized treatment plan.

In 2011, GOLD guidelines added symptom severity and exacerbation history to the classification system for COPD rather than relying solely on evidence of airflow limitation based on forced expiratory volume in 1 second on spirometry. The goals of GOLD COPD assessment are to determine not only the level of airflow limitation but also its impact on the patient's health status and the risk of future doi:10.3949/ccjm.89a.21044

events (eg, exacerbations, hospital admissions, death), in order to guide therapy to both reduce the symptom burden and improve the clinical outcome.<sup>8</sup> Even though airflow limitation has an important role in predicting population-level outcomes, at the individual patient level, it loses accuracy if used alone without considering the symptom burden and risk of exacerbations to guide the choice of therapy.

# ACCURATE DOCUMENTATION IS AN IMPORTANT FIRST STEP

The development of guidelines is an important step in the care of patients with COPD. But to improve care, guidelines need to be adopted into practice, and accurately identifying and documenting COPD is an important first step toward guideline-based care.

Regularly, patients are classified as having COPD in clinical documentation with no additional notes to specify the COPD symptom burden or exacerbation risk assessment, as suggested by GOLD. Jouleh et al9 showed that patients classified with a higher GOLD stage are significantly more likely to receive guideline-concordant care, and this might be due to higher referral of these patients to subspecialists to receive care. Belletti et al<sup>10</sup> found that in 11 primary care settings, only 48% of the 1,517 patients diagnosed with COPD had documented GOLD classifications. In 14,130 patients with COPD in a cohort of the Optimum Patient Care Research Database from the United Kingdom during 2002–2010, 16% had an unknown GOLD assessment group.<sup>11</sup>

Improper
documentation
of the GOLD
assessment tool
contributes to
poor uptake
of COPD
guidelines

### Studies show missed documentation

Interestingly, not many studies have reported the rate of proper documentation of COPD assessment in their populations, possibly because patients with insufficient data to be classified into appropriate GOLD assessment groups have been excluded from the studies. This can also explain the gap in the evidence regarding this phenomenon. These findings are very similar to a study of missed documentation of chronic kidney disease in which clinicians frequently documented the disease as a general term in medical records without consistently including additional specification on the stage.<sup>12</sup>

## POOR DOCUMENTATION HINDERS OUALITY-IMPROVEMENT PROJECTS

Many quality-improvement projects are geared toward implementing evidence-based interventions in clinical settings to improve clinicians' adherence to the published guidelines and the subsequent care for COPD patients. Insufficient and nonstandardized documentation of a comprehensive COPD assessment makes the evaluation of quality of care challenging.

Reasons behind missed documentation of a comprehensive COPD assessment may be the pace of the ambulatory clinics, electronic medical record fatigue, lack of training on how to obtain a disease-specific COPD history, and the lack of appropriate documentation or knowledge regarding guideline recommendations. At times, dual management of COPD care by a primary care physician and a pulmonologist may contribute to incomplete or inaccurate documentation of the COPD assessment, as each clinician may defer the task of accurate documentation to the other.

Overdiagnosis and underdiagnosis of COPD

It is worth mentioning that both overdiagnosis and underdiagnosis of COPD are major ob-

stacles to improving management of COPD. Underutilization of spirometry is the main reason, but patient-related factors such as exposure to airborne pollutants, patient age and educational level, and language barriers have been identified as potential contributors, and these in turn can affect the comprehensive initial assessment and subsequent documentation of the findings.<sup>13–15</sup>

# GOALS FOR IMPROVING COPD DOCUMENTATION

Disseminating the results of the quality-improvement efforts among healthcare institutions is an essential step toward improving the care throughout the healthcare systems. <sup>16,17</sup> If the state of nonstandardized assessment of COPD disease-burden documentation does not improve, assessment of current status and data-sharing between clinicians or institutions will be inaccurate. This will have a negative impact on the quality of provided care and will reduce the pace of quality-improvement efforts in COPD care.

We urge clinicians providing care to patients with COPD to accurately assess the patient's exacerbation risk and COPD disease burden using the refined GOLD "ABCD" assessment tool, 18 which is a well-recognized, accepted, easy-to-use tool, and also to document the assessment in the patient record to allow better uptake of guideline-based care. For patients who receive dual care from a primary care physician and a pulmonologist, this can be done as a collaborative effort. We also propose that future studies on the uptake of COPD guidelines consider the importance of documenting the COPD disease-burden assessment.

## DISCLOSURES

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#### REFERENCES

- World Health Organization. Chronic obstructive pulmonary disease (COPD). https://www.who.int/news-room/fact-sheets/detail/chronic-obstructive-pulmonary-disease-(copd). Accessed April 25, 2022.
- Press VG, Au DH, Bourbeau J, et al. Reducing chronic obstructive pulmonary disease hospital readmissions. An official American Thoracic Society Workshop report. Ann Am Thorac Soc 2019; 16(2):161– 170. doi:10.1513/AnnalsATS.201811-755WS
- Ehteshami-Afshar S, FitzGerald JM, Doyle-Waters MM, Sadatsafavi M. The global economic burden of asthma and chronic obstructive pulmonary disease. Int J Tuberc Lung Dis 2016; 20(1):11–23. doi:10.5588/iitld.15.0472
- Pauwels RA, Buist AS, Calverley PM, Jenkins CR, Hurd SS; GOLD Scientific Committee. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease. NHLBI/WHO Global Initiative for Chronic Obstructive Lung Disease (GOLD) Workshop summary. Am J Respir Crit Care Med 2001; 163(5):1256–1276. doi:10.1164/ajrccm.163.5.2101039
- Johnston K, Grimmer-Somers K, Young M, Antic R, Frith P. Which chronic obstructive pulmonary disease care recommendations have low implementation and why? A pilot study. BMC Res Notes 2012; 5:652. doi:10.1186/1756-0500-5-652
- Johnston KN, Young M, Grimmer-Somers KA, Antic R, Frith PA. Why are some evidence-based care recommendations in chronic obstructive pulmonary disease better implemented than others? Perspectives of medical practitioners. Int J Chron Obstruct Pulmon Dis 2011; 6:659–667. doi:10.2147/COPD.S26581
- Vestbo J, Hurd SS, Agustí AG, et al. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease: GOLD executive summary. Am J Respir Crit Care Med 2013; 187:347–365. doi:10.1111/crj.12002
- Nowak M, Brożek GM, Zejda JE, Jankowski M, Pierzchała W. Impact of changing GOLD guidelines (2007–2011–2017) on assignment of a COPD patient to disease severity category. Postepy Dermatol Alergol 2020; 37(2):221–228. doi:10.5114/ada.2018.79143
- 9. Jouleh B, Erdal M, Eagan TM, Bakke P, Gulsvik A, Nielsen R. Guideline adherence in hospital recruited and population based COPD

- patients. BMC Pulm Med 2018; 18(1):195. doi:10.1186/s12890-018-0756-8
- Belletti D, Liu J, Zacker C, Wogen J. Results of the CAPPS: COPD--assessment of practice in primary care study. Curr Med Res Opin 2013; 29(8):957–966. doi:10.1185/03007995.2013.803957
- Brusselle G, Price D, Gruffydd-Jones K, et al. The inevitable drift to triple therapy in COPD: an analysis of prescribing pathways in the UK. Int J Chron Obstruct Pulmon Dis 2015; 10:2207–2217. doi:10.2147/COPD.S91694
- Chase HS, Radhakrishnan J, Shirazian S, Rao MK, Vawdrey DK.
   Under-documentation of chronic kidney disease in the electronic health record in outpatients. J Am Med Inform Assoc 2010; 17(5):588–594. doi:10.1136/jamia.2009.001396
- Ho T, Cusack RP, Chaudhary N, Satia I, Kurmi OP. Under- and overdiagnosis of COPD: a global perspective. Breathe (Sheff) 2019; 15(1):24–35. doi:10.1183/20734735.0346-2018
- Yu WC, Fu SN, Tai EL, et al. Spirometry is underused in the diagnosis and monitoring of patients with chronic obstructive pulmonary disease (COPD). Int J Chron Obstruct Pulmon Dis 2013; 8:389–395. doi:10.2147/COPD.S48659
- Han MK, Kim MG, Mardon R, et al. Spirometry utilization for COPD: how do we measure up? Chest 2007; 132(2):403–409. doi:10.1378/chest.06-2846
- Dixon-Woods M, Martin GP. Does quality improvement improve quality? Future Hosp J 2016; 3(3):191–194. doi:10.7861/futurehosp.3-3-191
- Backhouse A, Ogunlayi F. Quality improvement into practice. BMJ 2020; 368:m865. doi:10.1136/bmj.m865
- Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive pulmonary disease (2020 report). https://goldcopd.org/ wp-content/uploads/2019/12/GOLD-2020-FINAL-ver1.2-03Dec19\_ WMV.pdf. Accessed April 25, 2022.

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