



ResMed

What are the unmet needs in COPD?

Knowledge

Amongst patients with COPD, **disease acceptance and knowledge are suboptimal**, particularly amongst patients with less severe disease.^{1,2}

Diagnosis

Globally, there is a large variation in the reported prevalence of COPD, with **10–95% of patients underdiagnosed**, often due to under, or inconsistent use of, diagnostic methods or lack of availability,³ with some patients unable to access diagnostic facilities or appropriate healthcare.

QoL

COPD impacts substantially on patient QoL & mental wellbeing, being associated with **poorer physical health** and disease-specific health status vs. individuals without COPD⁴ and a high incidence of psychiatric comorbidities⁵ including **depression**.^{6,7}

Exacerbations

Up to 70% of patients experienced at least one exacerbation over a 1–5 year follow-up period.⁸ Exacerbations are associated with **lung function decline**, **worsening QoL**,^{10,11} **decreased physical activity**,¹² and increased risk of **further exacerbations**,¹⁴ **depression**,¹³ and **mortality**.¹⁵

Secretions

There are currently limited treatment options to manage secretions. **Cough and sputum production** are common and associated with lower HRQoL¹⁶ and respiratory infections.¹⁷ Infections increase the risk of exacerbations¹⁸ in turn leading to hospitalisations,¹⁹ lung function decline,⁹ and increased mortality.¹⁵

Hospitalisations

COPD patients are at risk of frequent hospitalisations, with the associated emotional distress: nearly 1 in 5 patients attending the emergency department are hospitalised at least once in the year following their initial visit.²⁰

Moderate-to-very severe COPD represents a considerable economic burden for healthcare providers, particularly due to the cost of exacerbations.²¹

Globally, **COPD resulted in**

3.2 million deaths

in 2017²² with exacerbations significantly associated with increased mortality in patients with COPD.^{15,23}



More must be done to increase the awareness, diagnosis and treatment of COPD, and to address patient priorities, with the ultimate aim of improving patient outcomes.



References

- 1 Baiardini I, Rogliani P, Santus P, Corsico AG, Contoli M, Scichilone N, Di Marco F, Lessi P, Scognamiglio C, Molinengo G, Ferri F, Patella V, Fiorentino G, Carone M, Braido F. Disease awareness in patients with COPD: measurement and extent. *Int J Chron Obstruct Pulmon Dis.* 2019;14:1–11. doi:10.2147/COPD.S179784 / [Read article](#)
- 2 Nakken N, Janssen DJA, van den Bogaart EHA, Muris JWM, Vercoulen JH, Custers FL, Bootsma GP, Grootenhuis MHM, Wouters EFM, Spruit MA. Knowledge gaps in patients with COPD and their proxies. *BMC Pulm Med.* 2017;17:136. doi:10.1186/s12890-017-0481-8 / [Read article](#)
- 3 Ho T, Cusack RF, Chaudhary N, Satia I, Kurni OP. Under- and over-diagnosis of COPD: a global perspective. *Breathe (Sheff).* 2019 Mar;15(1):24–35. doi:10.1183/2034735.0346-2018 / [Read article](#)
- 4 Franssen FME, Smid DE, Deeg DJH, Huisman M, Poppeelaars J, Wouters EFM, Spruit MA. The physical, mental, and social impact of COPD in a population-based sample: results from the Longitudinal Aging Study Amsterdam. *NPJ Prim Care Respir Med.* 2018;28(1):30. doi:10.1038/s41533-018-0097-3 / [Read article](#)
- 5 Fitzgerald JM, Haddon JM, Bradley-Kennedy C, Kuramoto L, Ford GT, RUSIC Study Group. Resource use study in COPD (RUSIC): A prospective study to quantify the effects of COPD exacerbations on health care resource use among COPD patients. *Can Respir J.* 2007;14(3):145–152. doi:10.1155/2007/921914 / [Read article](#)
- 6 Omachi 2009 Omachi TA, Katz PP, Yelin EH, Gregorich SE, Iribarren C, Blanc PD, et al. Depression and health-related quality of life in chronic obstructive pulmonary disease. *American Journal of Medicine* 2009;122(8):778–e9–15 / [Read article](#)
- 7 Zhang MW, Ho RC, Cheung MW, Fu E, Mak A. Prevalence of depressive symptoms in patients with chronic obstructive pulmonary disease: a systematic review, meta-analysis and meta-regression. *General Hospital Psychiatry Journal* 2011;33(3):217–23. / [Read article](#)
- 8 Hoogendoorn M, Feenstra TL, Boland M, Briggs AH, Borg S, Jansson S, Riesbrough NA, Sleijko JF, Rutten-van Mölken MPMH. Prediction models for exacerbations in different COPD patient populations: comparing results of five large data sources. *Int J Chron Obstruct Pulmon Dis.* 2017;12:3183–3194. doi:10.2147/COPD.S142378 / [Read article](#)
- 9 Donaldson G, Seemungal T, Bhowmik A, Wedzicha J. Relationship between exacerbation frequency and lung function decline in chronic obstructive pulmonary disease. *Thorax.* 2002;57(10):847–852. doi:10.1136/thorax.57.10.847 / [Read article](#)
- 10 Miravitles M, Ferrer M, Pont A, Zalacain R, Alvarez-Sala J, Masa F, Vereia H, Murio C, Ros F, Vidal R. Effect of exacerbations on quality of life in patients with chronic obstructive pulmonary disease: a 2 year follow up study. *Thorax.* 2004;59(5):387–395 / [Read article](#)
- 11 Seemungal TA, Donaldson GC, Paul EA, Bestall JC, Jeffries DJ, Wedzicha JA. Effect of exacerbation on quality of life in patients with chronic obstructive pulmonary disease. *Am J Respir Crit Care Med.* 1998;157(5):1418–1422. doi:10.1164/ajrccm.157.5.9709032 / [Read article](#)
- 12 Ehsan M, Khan R, Wakefield D, Qureshi A, Murray L, Zuwallack R, et al. A longitudinal study evaluating the effect of exacerbations on physical activity in patients with chronic obstructive pulmonary disease. *Ann Am Thorac Soc* 2013;10:559–564. / [Read article](#)
- 13 Alahmari AD, Kowllessar BS, Patel ARC, Mackay AJ, Allinson JP, Wedzicha JA, Donaldson GC. Physical activity and exercise capacity in patients with moderate COPD exacerbations. *Eur Respir J.* 2016;48 (2):340–349. doi:10.1183/13993003.01105-2015 / [Read article](#)
- 14 Suissa S, Dell'Aniello S, Ernst P. Long-term natural history of chronic obstructive pulmonary disease: severe exacerbations and mortality. *Thorax.* 2012;67(11):957–963. doi:10.1136/thoraxinl-2011-201518 / [Read article](#)
- 15 Connors AF, Dawson NV, Thomas C, Harrell Jr FE, Desbiens N, Fulkerson WJ, Kussin P, Bellamy P, Goldman L, Knaus WA. Outcomes following acute exacerbation of severe chronic obstructive lung disease. The SUPPORT Investigators (Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments). *Am J Respir Crit Care Med.* 1996;154:959–67 / [Read article](#)
- 16 Deslee G, Burgel PR, Escamilla R, Chanze P, Court-Fortune I, Nesme-Meyer P, Brinchault-Rabin G, Perez T, Jebrak G, Caillaud D, Paillasquer JL, Roche N, on behalf of the Initiatives BPCO Scientific. Impact of current cough on health-related quality of life in patients with COPD. *Int J Chron Obstruct Pulmon Dis.* 2016;11:2091–2097. doi:10.2147/COPD.S106883 / [Read article](#)
- 17 Hasan A, Chapman TH, McCool D, Smith RE, Dilworth JP, Agnew JE. Domiciliary humidification improves lung mucociliary clearance in patients with bronchiectasis. *Chron Respir Dis.* 2008;81–86. doi:10.1177/147972307078190 / [Read article](#)
- 18 Anzueto A. The pathogenesis of acute infection in COPD. *Breathe.* 2009;5:311–15. doi:10.1183/18106838.0504.311 / [Read article](#)
- 19 GOLD 2020 report. Accessed 11 November 2020 / [Read article](#)
- 20 Yeatts KB, Lippmann SJ, Waller AE, Hassmiller Lich K, Travers D, Weinberger M, Donohue JF. Population-based burden of COPD-related visits in the ED, return ED visits, hospital admissions, and comorbidity risks. *Chest.* 2013;144:784–93 / [Read article](#)
- 21 Iheanacho I, Zhang S, King D, Rizzo M, Ismaila AS. Economic Burden of Chronic Obstructive Pulmonary Disease (COPD): A Systematic Literature Review. *Int J Chron Obstruct Pulmon Dis.* 2020;15:439–460. doi:10.2147/COPD.S234942 / [Read article](#)
- 22 GBD 2017 Causes of Death Collaborators. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980–2017: a systematic analysis for the Global Burden of Disease Study 2017. *Lancet.* 2018;392(10159):1736–1788. doi:10.1016/S0140-6736(18)32203-7 / [Read article](#)
- 23 Soler-Cataluña JJ, Martínez-García MA, Román Sánchez P, Salcedo E, Navarro M, Ochando R. Severe acute exacerbations and mortality in patients with chronic obstructive pulmonary disease. *Thorax.* 2005;60(11):925–931. doi:10.1136/thx.2005.040527 / [Read article](#)

Abbreviations

COPD, chronic obstructive pulmonary disease; HRQoL, health-related quality of life; QoL, quality of life