

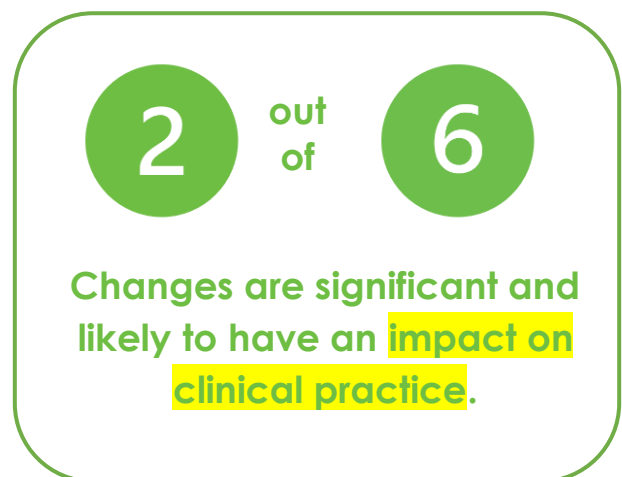
## COPD-X Summary of Changes V2 66

### Table of Contents

Snapshot of the evidence review cycle for V2 66 – April 2022.....	1
C: Case finding and diagnosis .....	2
O. Optimise function.....	3
X: Manage eXacerbations.....	4
New studies cited (listed in alphabetical order) .....	6
Citations removed (listed in alphabetical order) .....	6

### Snapshot of the evidence review cycle for V2 66 – April 2022

The latest update of The COPD-X Plan has been provided by Lung Foundation Australia following the April 2022 meeting of the COPD-X Guidelines Committee. There are 6 changes are outlined in this summary.



### Implications for Clinical Practice

All changes made to the document are outlined below and those highlighted in yellow are differentiated as the most significant and likely to have an impact on clinical practice.

## C: Case finding and diagnosis

Change	Section	Type of change	If there is a relevant key recommendation, this is listed below for each change	Page number
<b>C1. Aetiology and natural history</b>				
1	Occupational dust exposure might be responsible for 20 to 30% of COPD. This is consistent with the findings of a European study (Lytras 2018). This has long been recognised in coal miners (Santo Tomas 2011), but biological dust has also been identified as a risk factor, particularly in women (Matheson 2005). Non-smoking women involved in the spinning, weaving and knitting of cotton or silk have an increased risk of death from COPD (Cui 2011). Biological dust exposure is also associated with chronic sputum production, dyspnoea and work inactivity in male patients (Rodriguez 2008). Livestock farmers are also at increased risk of developing chronic bronchitis and COPD (Eduard 2009). Dairy farmers have increased wheeze and morning phlegm and increased rate of decline in FEV1 compared to controls. These effects appear to be associated more with exposure to animal feed than handling hay or straw (Thaon 2011). Lifetime cumulative exposure to pesticides is associated with risk of developing COPD (De Matteis, 2022).	New citation added to existing paragraph. Statement on risk of pesticides from new UK Biobank cohort study.	<b>Not directly related to a key recommendation.</b>	P23
2	Premature birth is associated with the development of COPD (Bui 2022). This association is compounded by smoking.	New citation added to existing section regarding risk factors.	<b>Smoking is the most important risk factor in COPD development (Fletcher 1977, Burrows 1977)</b> [Evidence level I, strong recommendation]	P24

## O. Optimise function

Change	Section	Type of change	If there is a relevant key recommendation, this is listed below for each change	Page number
<b>O4.2 Inhaled corticosteroids and long-acting beta2-agonists and long-acting antimuscarinics in combination (ICS/LABA/LAMA)</b>				
3	Triple therapy (TT) prescribing has been increasing since 2016. Retrospective analysis of de-identified administrative data from the US between 2013 and 2018 found that almost three-quarters of patients with COPD who were prescribed triple therapy did not meet guideline recommendations pertaining to prior maintenance therapy and/or exacerbations. Relative to patients prescribed open TT (multiple inhalers collectively containing ICS, LAMA, and LABA), those prescribed closed TT (a fixed-dose single TT inhaler containing fluticasone furoate/umeclidinium/vilanterol) were more likely to be dual discordant and naïve to maintenance inhalers. This guideline-discordant prescribing behaviour occurred more often among generalist-specialty prescribers than pulmonologists. Increasing prescriber awareness of guideline recommendations is warranted to counter the continuing overprescribing of TT in individuals with COPD (Bhatt 2022) [evidence level III-2].	New citation and paragraph added discussing triple therapy from retrospective analysis.	<b>Not directly related to a key recommendation.</b>	P56
<i>➤ O4.2.1 Eosinophil count and inhaled corticosteroids</i>				
4	A retrospective study from a single centre in China found no association between in hospital eosinophil count and in hospital mortality or length of stay, or exacerbation within one year of discharge (Yu 2021) [evidence level III-B].	New citation and wording added to existing section describing findings from retrospective study in China.	<b>Not directly related to a key recommendation.</b>	P57

## X: Manage eXacerbations

Change	Section	Type of change	If there is a relevant key recommendation, this is listed below for each change	Page number
<b>X3.2 Non-invasive ventilation</b> > X3.2.1 Humidified nasal high flow therapy (hNHF)				
5	<p>Humidified nasal high flow therapy (hNHF) delivering flows of up to 60 L/minute has been used successfully for the management of acute hypoxaemic respiratory failure, while in acute exacerbations of COPD associated with hypercapnia and acidemia, NIV is accepted as standard of care (see below).</p> <p>In a multi-centre Italian study of hNHF (Cortegiani 2020) (Optiflow and MR850 or Airvo) patients (n=80) with mild-moderate AECOPD and hypercapnia (PaCO<sub>2</sub> ≥55mmHg, pH 7.25-7.35) before support were randomised to receive NIV or hNHF, with oxygen titrated to oxygen saturations of 88-92%. hNHF was statistically non-inferior to NIV as initial ventilatory support in reducing PaCO<sub>2</sub> at 2 hrs (-6.8mmHg HFNT +/- 8.7, v -9.5 mmHg +/-8.5), p=0.4, considering a non-inferiority margin of 10 mmHg. However, by 6 hours 32% of patients (32%) in hNHF group had switched to NIV due to worsening or no improvement of respiratory failure; n=1 due to intolerance, while from the NIV group only one patient switched to hNHF due to intolerance and one to invasive ventilation. The authors of this study concluded that further trials with a superiority design examining patient related outcome measures are needed. NIV remains standard of care at present as it has been consistently shown to reduce mortality [evidence level I].</p>	New section created for hNHF to reflect results of a multi-centre Italian study of NIV vs hNHF.	<p><b>Non-invasive ventilation (NIV) is effective for patients with rising paCO<sub>2</sub> levels</b> [Evidence level I, strong recommendation]</p> <p><b>Non-invasive ventilation (NIV) should be strongly considered in patients with an exacerbation of COPD who present with hypercapnic respiratory failure as defined on an arterial blood gas with a PaCO<sub>2</sub> above 45mmHg and a pH less than 7.35</b> (Osadnik 2017) [Evidence level I].</p>	P151

### X3.5 Develop post-discharge plan and follow-up

6	<p>A Tasmanian retrospective cohort study by Njoku et al (2022) demonstrated that being male (odds ratio [OR] 1.49, 95% CI 1.06–2.09), or Indigenous (OR 2.47, 95% CI 1.31–4.66) and living in a lower socioeconomic region (OR 1.80, 95% CI 1.20–2.69) were risk factors for 30-day readmission (Njoku 2022) [evidence level III-B]. Efforts to find effective interventions are needed particularly for those at high risk of readmission.</p>	<p>Additional sentence added to existing paragraph, updating findings from a retrospective cohort study.</p>	<p><b>Patients with COPD discharged from hospital following an exacerbation should receive comprehensive follow-up led by the primary healthcare team</b> [Evidence level I, strong recommendation].</p>	P153
---	--	--	--	------

## New studies cited (listed in alphabetical order)

- BHATT, S. P., BLAUER-PETERSON, C., BUYSMAN, E. K., BENGTSON, L. G. S. & PAINE III, S. R. 2022. Trends and Characteristics of Global Initiative for Chronic Obstructive Lung Disease Guidelines-Discordant Prescribing of Triple Therapy Among Patients with COPD. *Chronic Obstr Pulm Dis*.
- BUI, D. S., PERRET, J. L., WALTERS, E. H., LODGE, C. J., BOWATTE, G., HAMILTON, G. S., THOMPSON, B. R., FRITH, P., ERBAS, B., THOMAS, P. S., JOHNS, D. P., WOOD-BAKER, R., HOPPER, J. L., DAVIS, P. G., ABRAMSON, M. J., LOWE, A. J. & DHARMAGE, S. C. 2022. Association between very to moderate preterm births, lung function deficits, and COPD at age 53 years: analysis of a prospective cohort study. *Lancet Respir Med*.
- CORTEGIANI, A., LONGHINI, F., MADOTTO, F., GROFF, P., SCALA, R., CRIMI, C., CARLUCCI, A., BRUNI, A., GAROFALO, E., RAINERI, S. M., TONELLI, R., COMELLINI, V., LUPIA, E., VETRUGNO, L., CLINI, E., GIARRATANO, A., NAVA, S., NAVALESI, P. & GREGORETTI, C. 2020. High flow nasal therapy versus noninvasive ventilation as initial ventilatory strategy in COPD exacerbation: a multicenter non-inferiority randomized trial. *Crit Care*, 24, 692.
- DE MATTEIS, S., JARVIS, D., DARNTON, L., CONSONNI, D., KROMHOUT, H., HUTCHINGS, S., SADHRA, S. S., FISHWICK, D., VERMEULEN, R., RUSHTON, L. & CULLINAN, P. 2022. Lifetime occupational exposures and chronic obstructive pulmonary disease risk in the UK Biobank cohort. *Thorax*.
- NJOKU, C. M., WIMMER, B. C., PETERSON, G. M., KINSMAN, L. & BEREZNICKI, B. J. 2022. Hospital Readmission Due to Chronic Obstructive Pulmonary Disease: A Longitudinal Study. *Int J Health Policy Manag*.
- THERAPEUTIC GUIDELINES LIMITED 2019. Therapeutic guidelines: antibiotic. Version 16. Melbourne: Therapeutic Guidelines Limited. (No changes made, updated to reflect updated guidelines.)
- YU, S., ZHANG, J., FANG, Q. & TONG, Z. 2021. Blood Eosinophil Levels and Prognosis of Hospitalized Patients with Acute Exacerbation of Chronic Obstructive Pulmonary Disease. *Am J Med Sci*.

## Citations removed (listed in alphabetical order)

- THERAPEUTIC GUIDELINES LIMITED 2014. Therapeutic guidelines: antibiotic. Version 15. Melbourne: Therapeutic Guidelines Limited.