

COPD-X Summary of Changes V2 69

Table of Contents

Snapshot of the evidence review cycle for V2 69 - December 2022	1
C: Case finding and diagnosis	2
O: Optimise function	3
P: Prevent deterioration	7
D: Develop a plan of care.....	8
X: Manage eXacerbations	9
New studies cited (listed in alphabetical order)	10
Citations Removed (listed in alphabetical order)	12

Snapshot of the evidence review cycle for V2 69 - December 2022

The latest update of The COPD-X Plan has been provided by Lung Foundation Australia following the October 2022 meeting of the COPD-X Guidelines Committee. There are **14** changes outlined in this summary.

2 = Case finding and confirm

7 = Optimise function

2 = Prevent deterioration

2 = Develop a plan of care

1 = Manage eXacerbations

3

out of

14

changes are significant and likely to have an impact on clinical practice.

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
C: Case finding and confirm diagnosis				
1	A systematic review of interventions targeting treatable traits were effective in improving HRQoL and were also associated with small to medium reductions in hospitalizations, 1-year all-cause mortality, dyspnoea, anxiety, and depression (Sarwar 2022) [evidence level I]. Meta-analysis of the 4 COPD-only studies demonstrated a significant improvement in SGRQ -5.82 (95% CI -9.17 to -2.47).	New sentence added to existing paragraph discussing results of a systematic review and meta-analysis.	Not directly related to a key recommendation.	P.19
C3. Assessing the severity of COPD				
2	A systematic literature review that included data from 76 studies confirmed that a past history of exacerbations is the most important predictor of future exacerbation risk (Hurst 2022) [evidence level I].	New sentence added to existing paragraph discussing results of systematic literature review.	Diagnosis of COPD should be accompanied by regular assessment of severity [evidence level III-2, strong recommendation].	P.30

O: Optimise function

CHANGE	SECTION	TYPE OF CHANGE	IF THERE IS A RELEVANT KEY RECOMMENDATION, THIS IS LISTED BELOW FOR EACH CHANGE	PAGE NUMBER
O3.2 Inhaled Corticosteroids				
3	<p>A systematic review of case-control and cohort studies also found that ICS use may increase the odds of nontuberculous mycobacterial [NTM] infection in chronic respiratory disease patients (OR = 3.93, 95% CI 2.12–7.27); high-dose ICS use (OR = 2.27, 95% CI 2.08–2.48) and fluticasone use (OR = 2.42, 95% CI 2.23–2.63) were in particular associated with increased odds of NTM infection. ICS use also increased the odds of TB infection at high-doses (OR = 1.70, 95% CI 1.56–1.86) and in COPD patients (OR = 1.45, 95% CI 1.29–1.63). When using ICS, clinicians should pay attention not only to TB infection but also to NTM infection and also the types and dose of ICS (You 2022) [evidence level III-2].</p>	<p>New citation and paragraph added discussing results of a systematic review of case-control and cohort studies.</p>	<p>Not directly related to a key recommendation.</p>	<p>P.47</p>

O4.2 Inhaled corticosteroids and long-acting beta₂-agonists and long-acting antimuscarinics in combination (ICS/LABA/LAMA)

4	<p>A meta-analysis of 60 RCTs (103,034 patients) suggested that compared with inhaled therapy without ICS, inhaled therapy containing ICS (Peto OR 0.90, 95% CI 0.84-0.97), especially triple therapy (Peto OR, 0.73, 95% CI, 0.59-0.91) was associated with a reduction in all-cause mortality in patients with COPD. Further subgroup analyses revealed that treatment duration >6 months (Peto OR 0.90; 95% CI 0.83-0.97), medium-dose (Peto OR 0.71, 95% CI 0.56-0.91), and low-dose ICSs (Peto OR 0.88, 95% CI 0.79-0.97), and budesonide (Peto OR, 0.75, 95% CI 0.59-0.94) were involved in this association. Eosinophil counts $\geq 200/\mu\text{L}$ or percentage $\geq 2\%$, documented history of ≥ 2 moderate and/or severe exacerbations in the previous year, GOLD stage III or IV, age ≥ 65 years, and BMI ≥ 25 were significant predictors, among which eosinophil count $\geq 200/\mu\text{L}$ (Peto OR 0.58, 95% CI 0.36-0.95) was the strongest predictor (Chen 2023) [evidence level I].</p> <p>Reduction in mortality with triple therapy in the IMPACT and ETHOS studies was mainly observed in the first 3 months after randomization. As all the patients recruited for these two trials were frequent exacerbators, and a proportion had ICS ceased prior to randomisation, it is possible that withdrawal from ICS could have been a factor in the observed difference in mortality in those randomised to receive an ICS-containing preparation (Suissa 2022). Therefore, not all patients with COPD will necessarily achieve a reduction in all-cause mortality as a consequence of ICS-containing triple therapy (Chen 2022) [evidence level I].</p> <p>In summary, triple therapy results in a lower rate of moderate or severe COPD exacerbations, and better lung function and HRQoL than dual therapies. COPD subgroups whose all-cause mortality risk may be reduced with the inhaled therapy containing ICS include those with eosinophil counts $\geq 200/\text{mL}$ or $\geq 2\%$, documented history of ≥ 2 moderate and/or severe exacerbations in the previous year, GOLD stage III or IV, age < 65 years old, and BMI ≥ 25.</p>	<p>New citations and paragraphs added to existing section describing results of a meta-analysis.</p>	<p>Optimise pharmacotherapy using a stepwise approach. [evidence level I, strong recommendation].</p>	P.54
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O6.1 Pulmonary Rehabilitation

5	<p>A systematic review and meta-analysis of 15 RCTs comparing home-based pulmonary rehabilitation of at least 4 weeks duration to usual care or centre-based pulmonary rehabilitation, demonstrated that home-based pulmonary rehabilitation is as effective as centre-based pulmonary rehabilitation in improving functional exercise capacity and quality of life compared to usual care (Uzzaman 2022) [evidence level I]. These systematic review findings are important because providing programs in community and home-based settings may enable greater access to pulmonary rehabilitation and overcome some of the barriers to program uptake and completion.</p>	<p>New citation and wording added to existing paragraph describing results of a systematic review and meta-analysis.</p>	<p>Non-pharmacological strategies (such as pulmonary rehabilitation and regular exercise) should be provided to all patients with COPD [evidence level I, strong recommendation].</p>	P.63
6	<p>In a Cochrane review including 15 studies, there was no difference between telerehabilitation and in-person pulmonary rehabilitation for exercise capacity measured by 6-minute walking distance (6MWD) (mean difference (MD) 0.06m, 95% CI -10.82m to 10.94m), quality of life measured by the St George's Respiratory Questionnaire (MD -1.26, 95% CI -3.97 to 1.45), or breathlessness measured by the Chronic Respiratory Disease Questionnaire dyspnoea domain score (MD 0.13, 95% CI -0.13 to 0.40). Telerehabilitation was associated with higher completion rates compared to in-person pulmonary rehabilitation (93% vs 70%). Ongoing maintenance telerehabilitation was associated with a greater 6MWD by 78.1m (95% CI 49.6m-106.6m) (Cox 2021) [evidence level I].</p>	<p>New citation added to existing paragraph describing results of a Cochrane review.</p>		P.63
7	<p>There is some evidence (n=2 RCT) that repeating a course of pulmonary rehabilitation within 12 months following an initial program may be beneficial (Burge 2022) [evidence level I].</p>	<p>New citation and wording added to existing paragraph discussing pulmonary rehabilitation.</p>		P.64

O6.6 Education and Self-Management

8	<p>A systematic review of self-management education for COPD (Schrijver 2022) concluded that self-management education is associated with improvements in HRQoL measured by the SGRQ, compared to usual care (mean difference -2.86 95% CI -4.87 to -0.85). This difference did not meet the MCID of 4 units however. The intervention group was also at a lower risk of at least one respiratory hospital admission, albeit the difference was small (OR 0.75, 95% CI 0.57 to 0.98). This translates into a Number Needed to Treat of 15 (95% CI 8-399) to prevent one respiratory related hospital admission over a follow up period of 9.75 months. There were also improvements in exercise capacity (6MWD), anxiety and depression, and antibiotic courses. However, because of the heterogeneity in interventions, study populations, follow-up time and outcome measures, data are insufficient to formulate clear recommendations regarding the format and content of self-management education programs for individuals with COPD.</p>	<p>New citation and wording added to existing paragraph discussing the results of a recent Cochrane review, superseding a 2007 Cochrane review.</p>	<p>Patients may benefit from self-management support [evidence level I, strong recommendation].</p>	P.68
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O10. Palliative and supportive care

9	<p>Retrospective data from a study including two Victorian hospitals (Smallwood 2018) demonstrated that in the last two years of life, only 18% of patients with severe COPD accessed specialist palliative care, with 6% prescribed opioids as outpatients, despite most having severe chronic breathlessness. Similarly, only 5% wrote an advance directive. In a substudy of the same population, Ross et al reported that investigation burden was still significant at end of life for patients dying in hospital with COPD, with many patients still undergoing diagnostic investigation even in the last 2 days of life (Ross 2021) [evidence level III-3].</p>	<p>New citation and paragraph added to present results of studies from patients in two Victorian hospitals.</p>	<p>Palliative care - ideally from a multidisciplinary team which includes the primary care team - should be considered early, and should include symptom control and addressing psychosocial issues [evidence level II, weak recommendation]</p>	P.96
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P: Prevent deterioration

CHANGE	SECTION	TYPE OF CHANGE	IF THERE IS A RELEVANT KEY RECOMMENDATION, THIS IS LISTED BELOW FOR EACH CHANGE	PAGE NUMBER
P8. Humidification and nasal high flow (NHF) therapy				
10	In a 12-month multi-centre study of just over 100 patients with severe COPD and resting hypercapnia on LTOT in Japan by Nagata (2022), reductions were found in annual moderate to severe exacerbation rates and days to first exacerbation in the group receiving high flow nasal oxygen in addition to long term oxygen therapy, but there were no changes in breathlessness scores, for example, between the groups, over the duration of the study. No sham treatment was given in these studies by Rea and Nagata, and in the 2022 Nagata study, hospitalisation rate was not reported. The arm without the high flow nasal cannula intervention had significantly higher combined moderate and severe exacerbations, which was the primary outcome of interest, by an adjusted odds ratio of 2.85 (95% CI 1.48-5.47). Hospital admissions were classed as severe exacerbations but were not significantly reduced (Nagata 2022) [evidence level II].	New citation and wording added to existing paragraph describing results of a multi-centre study.	Not directly related to a key recommendation.	P.110
P10. Oxygen therapy				
11	In a systematic review and meta-analysis of the effects of home oxygen (delivered either as LTOT or nocturnally) in patients with moderate hypoxaemia, six high quality studies were included. The results demonstrated the effect of home oxygen in reducing 3 year mortality was small or absent and the authors concluded the data did not support the widespread use of home oxygen in this population of patients with moderate hypoxaemia (Lacasse 2022) [evidence level I].	New citation and paragraph added describing results of a systematic review and meta-analysis	Not directly related to a key recommendation.	P.112

D: Develop a plan of care

CHANGE	SECTION	TYPE OF CHANGE	IF THERE IS A RELEVANT KEY RECOMMENDATION, THIS IS LISTED BELOW FOR EACH CHANGE	PAGE NUMBER
D3. Chronic Disease Self-management				
12	A systematic review and meta-analysis of nurse-led COPD interventions concluded that such interventions were associated with improvements in 6MWD, activity of daily living, and anxiety and depression, but failed to reduce the number of hospital admissions or improve HRQoL measured using the SGRQ. Hospital and respiratory nurse-led interventions were associated with the biggest change, compared to community (Aranburu-lmatz 2022) [evidence level II].	New citation and wording added to existing paragraph describing results of a systematic review and meta-analysis.	Patients may benefit from self-management support [evidence level I, strong recommendation].	P.124
13	A RCT reported in 2022 evaluated the effect of self-management strategies delivered by health care professionals compared to a dual intervention of self-management delivered by health care professionals and peer supporters (defined as patients with COPD and their family- caregivers who were nominated by pulmonary clinic and rehabilitation program staff). Of the 1061 patients identified as eligible, only 292 were randomised. There was no effect on the primary outcome of quality of life measured by the SGRQ at 6 months (unadjusted difference of 1.26 points with 95% CI -5.44 to 7.96, p=0.591), nor at nine months. The intervention did however improve the secondary outcome of COPD-related acute care events during the 6-month intervention (Aboumatar 2022) [evidence level II], signalling the potential role of peers and family carers in the management of COPD.	New citation and paragraph added describing results of a RCT.		P.124

X: Manage eXacerbations

CHANGE	SECTION	TYPE OF CHANGE	IF THERE IS A RELEVANT KEY RECOMMENDATION, THIS IS LISTED BELOW FOR EACH CHANGE	PAGE NUMBER
X3.2 Non-invasive ventilation <i>X3.2.1 Humidified nasal high flow therapy (hNHF)</i>				
14	<p>In a multi-centre RCT of patients from 16 hospitals in China admitted with AECOPD and mild hypercapnia (pH \geq 7.35 and PCO₂>45mmHg) there was no difference in the primary outcome of proportion of patients needing intubation in the HFNC group (AirVo2 started at 25L/min and increased to maximal tolerance with maximal humidification and maintaining SPO₂ 90-95%) versus the controlled oxygen group (low flow oxygen at 1-5L/min to maintain SPO₂ 90-95%). There was no difference between the groups in rate of treatment failure (15.8% versus 14.5%) and the most common reason for treatment failure in the HFNC group was intolerance, whereas in the controlled oxygen group it was need for NIV. The numbers of patients upgraded to NIV in both groups were comparable. However, the median duration from randomisation to commencement of NIV was longer in the HFNC group. Patients in the HFNC group had longer lengths of stay (9 v 8 days) and increased treatment costs (by 14.6%) compared to those on controlled oxygen therapy (Xia 2022) [evidence level II].</p>	<p>New citation and paragraph added describing results of RCT.</p>	<p>Not directly related to a key recommendation.</p>	<p>P.148</p>

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