

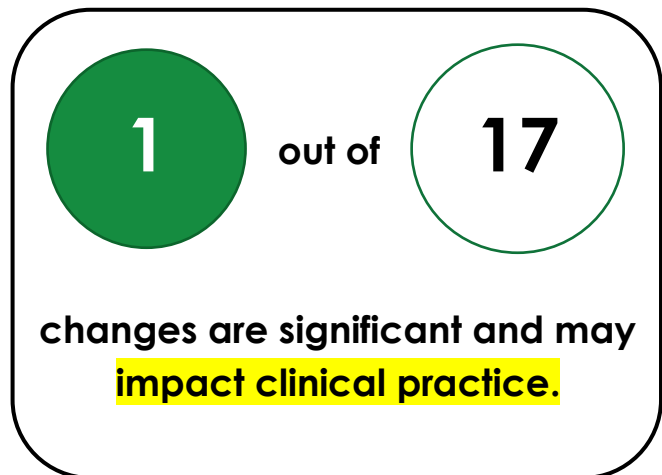
COPD-X Summary of Changes V2 75

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Snapshot of the evidence review cycle for V2 75 - June 2024

The latest update of the COPD-X Plan has been provided by Lung Foundation Australia following the June 2024 meeting of the COPD-X Guidelines Committee. There are **17** changes outlined in this summary.



The summary of changes for the evidence review cycle for V2.74 following the March 2024 meeting of the COPD-X Guidelines Committee can be found in the [Appendix](#).

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.

Introduction

Section Item #	Change	Type of change	Related Key Recommendation	Page
Acknowledgement of Country				
#1	<p>New section</p> <p>We acknowledge the Traditional Custodians of the many lands on which each iteration of the COPD-X Plan and all related resources have been developed. As the many beautiful landscapes including Rivers, Mountains, Seas, and winds that blow over their ancestral lands which were never ceded and remains in their continual custodianship, we extend our thanks to the Traditional Custodians of the lands for all future versions of COPD-X, and any supporting materials that it may inspire. We would also like to pay our respects to the Elders Past and Present for their courage and bravery in laying a firm foundation and for their wisdom and guidance that supports us in the work we undertake, and to future generations of Aboriginal and Torres Strait Islander Leaders and to our Aboriginal and Torres Strait Islander and non-Indigenous peoples.</p> <p>Karl Briscoe, Chief Executive Officer at National Association of Aboriginal and Torres Strait Islander Health Workers and Practitioners (NAATSIHWP)</p> <p>Recognising COPD-X Plan is a resource that is used binationally, we also acknowledge and respect Māori as tangata whenua and Te Tiriti o Waitangi partners in Aotearoa New Zealand.</p>	New section	N/A	4
Foreword				
#2	<p>New disclaimer</p> <p>However, our current approach to COPD diagnosis, treatment and management is based on recommendations largely drawn from non-First Nations populations. As applicability cannot be assumed, further evidence on the management and diagnosis of COPD is needed for First Nations people</p>	Revision per guidance from Lung Foundation Australia's First Nations Advisory Group.	N/A	9

C: Case finding and confirm diagnosis

Section Item #	Change	Type of change	Related Key Recommendation	Page
C2.5 COPD case finding				
#3	<p>New information discussing lung function tools for case finding.</p> <p>Simple lung function tools can assist practitioners in the case finding of individuals who have undiagnosed COPD. The devices measure the amount of exhaled air in the first 1 and 6 seconds of expiration (FEV₁, FEV₆) and calculate FEV₁/FEV₆, which is the ratio of the amount of air forcibly exhaled in the first second relative to the first 6 seconds. In a sample of over 800 non-COPD subjects at 45 years old from the Tasmanian Longitudinal Health Study cohort, lung function, particularly a low pre-bronchodilator FEV₁/FVC ratio in the lowest 10 percentile, was associated with a 36-fold increase chance of development of COPD by 53 years old (Tan 2024) [evidence level II]. This indicates that a low FEV₁/FVC ratio in this age group provides an early opportunity to identify those at particular risk of development of COPD in the following 8 years.</p> <p>As an alternative of population-based screening, evidence supports case finding by targeted screening using tools assessing lung function, clinical risk, and symptom burden.</p> <p>A systematic review and meta-analysis of 17 studies compared micro-spirometers, or two questionnaires, against post-bronchodilator spirometry, for accurately detecting COPD (Schnieders 2021) [evidence level I]. The overall area under the curve (AUC) of micro-spirometers was 0.84 (95% CI 0.80–0.89). For questionnaires the AUC for the COPD population screener (COPD-PS) questionnaire was 0.77 (95% CI 0.63–0.85) and the COPD diagnostic questionnaire (CDQ) was 0.72 (95% CI 0.64–0.78). Practice led symptom questionnaires of patients clinically suspected to have COPD, followed by diagnostic assessment, had the best diagnostic yields. Another review of 39 studies with a variety of case finding strategies including screening questionnaires (n=13), handheld flow meters (n=5) and direct invitation for diagnostic spirometry (n=30), found that active opportunistic case finding through primary care had greater chance of detecting undiagnosed cases of COPD compared with usual care, especially if targeting individuals at higher risk with pre-screening questionnaires (Haroon 2015). In a cluster-randomised controlled trial of general practices in the UK, routine practice identified fewer new cases of COPD, while an active targeted approach to case finding including mailed screening questionnaires before spirometry was found to be a cost-effective way to identify undiagnosed patients and had the potential to improve their health (Jordan 2016). A French randomised controlled trial in the primary care setting supported the utility</p>	<p>New citations (Tan 2024) and (Chapron 2023).</p> <p>Specified findings of an existing citation (Haroon 2015).</p>	N/A	28

	<p>of a symptom and risk factor questionnaire to identify patients who should be assessed with spirometry (Chapron 2023) [evidence level II]. These studies demonstrate the diagnostic yields of identifying patients who should undergo formal diagnostic assessment with spirometry using practice-led symptom questionnaires administered to patients clinically suspected to have COPD.</p>			
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O: Optimise function

Section Item #	Change	Type of change	Related Key Recommendation	Page
O5.2 Inhaler adherence				
#4	<p>New paragraph</p> <p>A systematic review of 26 studies involving people with asthma and COPD, seven were COPD specific. The aim of the review was to examine the cost consequences, cost-effectiveness, and budget impact of interventions that were designed to improve adherence to inhaled medications in asthma or COPD. The authors reported that interventions promoting adherence mostly had a positive impact on cost, and often resulted in reduced health care utilisation (vanBoven 2024) [evidence level I].</p>	<p>New citation (vanBoven 2024).</p>	<p>Regularly check inhaler technique and adherence [evidence level I, strong recommendation]</p>	55
O6.1 Pulmonary rehabilitation				
#5	<p>New paragraph</p> <p>Mobile app-based pulmonary rehabilitation has been investigated in a small number of clinical trials and summarised in a systematic review (Chung 2024) [evidence level I]. The evidence from the review was inconclusive due to the high heterogeneity in participants, study designs, format of apps, interventions, timing of delivery of mobile app-based pulmonary rehabilitation, as well as a high risk of bias of included studies. However, mobile app-based pulmonary rehabilitation is feasible, and it may be a useful treatment option when access to other modes of pulmonary rehabilitation is limited.</p>	<p>New citation (Chung 2024)</p>	<p>Refer to pulmonary rehabilitation to improve quality of life, exercise capacity, and reduce COPD exacerbations [evidence level I, strong recommendation]</p>	57

O6.5 Physical activity and sedentary behaviour

<p>#6</p>	<p>New paragraph</p> <p>A meta-analysis of 11 randomised controlled trials and quasi-experimental studies compared unsupervised physical activities and specific advice with usual care (Paixão 2024) [evidence level I]. All interventions were conducted at home, most with daily sessions, for 8-12 weeks. Walking was the most common component. The authors reported statistically significant, but not clinically significant, benefits of unsupervised physical activity in measures of dyspnoea and the 6-minute walk distance in people with COPD. Three studies measured the incremental shuttle walk distance and recorded a MD of 58.6m (95% CI 5.8 to 111.4) which was clinically significant. The four studies that assessed adverse effects found these were uncommon and occurred more frequently in the usual care group (most commonly an acute exacerbation of COPD). Nine studies reported dropouts, ranging between 7.1% to 38.5%. Unsupervised physical activity shows promise as a low-risk, low cost, simple to perform at home intervention to improve dyspnoea and exercise capacity. Unsupervised physical activity may be considered for individuals with COPD who cannot or do not want to participate in supervised interventions.</p>	<p>New citation (Paixão 2024)</p>	<p>Recommend non-pharmacological strategies such as pulmonary rehabilitation and regular exercise to anyone with COPD [evidence level I, strong recommendation]</p>	<p>61</p>
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O6.10 Nutrition

<p>#7</p>	<p>New passage in fruit and vegetables</p> <p>One RCT with n=81 participants measured the effects of dietary nitrate supplementation (in the form of nitrate-enriched beetroot juice) compared to nitrate depleted beetroot juice alone among a cohort with stable COPD and home systolic blood pressure (SBP) measurement greater than 130 mmHg (Alasmari 2024) [evidence level II]. After 12 weeks of once daily dietary nitrate-enriched beetroot juice, participants experienced a sustained reduction in BP by 4.5mm (95% CI -3.0 to -5.9), an improvement in 6MWT by 30.0m (95% CI 15.7 to 44.2), and improved measures of endothelial function. Despite these clinically significant findings, further studies in a range of settings are needed before this intervention can be widely recommended.</p>	<p>New citation (Alasmari 2024).</p>	<p>N/A</p>	<p>66</p>
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O7.4 Frailty in COPD

<p>#8</p>	<p>New paragraph</p> <p>A multicentre retrospective cohort study was conducted involving adult patients admitted Australian and New Zealand ICUs with a primary diagnosis of an exacerbation of COPD. Patients were assessed for frailty using the Clinical Frailty Scale (CFS). The primary outcome was survival up to four years after the ICU admission. Of 7,126 patients included in this analysis over half (54.1%, n=3,859) were living with frailty. Those with frailty were more likely to be female, were older, had a lower BMI and increased rates of, and more severe comorbidities. Mortality in the not-frail versus frail group at one and four years was 19.8% versus 40.4%, and 56.8% versus 77.3% respectively (p<0.001). At four years the median survival was significantly shorter for those with frailty (adjusted HR 1.66; 95% CI 1.54 to 1.80). These data highlight the importance of recognising frailty in COPD and implementing treatment strategies (Donnan 2023) [evidence level III-2].</p>	<p>New citation (Donnan 2023).</p>	<p>Recognise that comorbid conditions are common in patients with COPD [evidence level III-2, strong recommendation]</p>	<p>76</p>
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O7.11 Combined pulmonary fibrosis and emphysema

<p>#9</p>	<p>Citation added to existing paragraph</p> <p>Currently, no specific treatment exists for CPFE. Post-hoc data from nintedanib trials (INPULSIS (Richeldi 2014) and INPULSIS-ON (Crestani 2019), which included patients with concurrent emphysema, showed attenuation of rate of decline in forced vital capacity (FVC) in IPF with emphysema, similar to IPF without emphysema. An observational cohort study of real-world patients who were commenced on pirfenidone also showed similar rate of progression between CPFE and IPF without emphysema (Oltmanns 2014). Hence, antifibrotic therapy can be considered in CPFE, where presence of IPF is confirmed (Mackintosh 2024). Early referral for lung transplantation should be considered in patients with rapidly declining lung function.</p>	<p>New citation (Mackintosh 2024).</p>	<p>Recognise that comorbid conditions are common in patients with COPD [evidence level III-2, strong recommendation]</p>	<p>81</p>
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P: Prevent deterioration

P8. Humidification and nasal high flow (NHF) therapy				
#10	<p>New paragraph</p> <p>A systematic review and meta-analysis of 4 RCTs (n=440) with median follow-up of 12 months examined the effects of NHF in patients with stable hypercapnic COPD (Pitre 2023) [evidence level I]. All 4 RCTs included in the analysis (n=440) reported exacerbations, and 3 trials reported mortality (n=397; 31 deaths). Compared to standard care, NHF was found to reduce acute exacerbations (RR 0.77 [95% CI 0.66 to 0.89]; moderate certainty) and improve quality of life (MD in SGRQ 8.12 units lower [95% CI 13.30 to 2.95 lower]; low certainty) but did not reduce hospital admissions (RR 0.87 [95% CI 0.69 to 1.09]) or mortality in patients with COPD and chronic hypercapnia.</p>	New citation (Pitre 2023).	<p>Focus on reducing the risk of exacerbations to prevent deterioration [evidence level III-2, strong recommendation]</p>	102
#11	Amended mentions of high flow nasal cannula (HFNC) to nasal high flow (NHF) throughout document	Consistency	N/A	102
P9. Regular review				
#12	<p>New paragraph</p> <p>An English RCT block randomised 18 general practices to integration of respiratory healthcare professionals (either respiratory physician or physiotherapist) into general practice to deliver annual COPD review compared with standard of care (GP lead annual COPD review) (Patel 2024) [evidence level II]. At 12 months, the integration of a respiratory healthcare professionals into the annual COPD review increased guideline concordant COPD care (>80% adherence to recommendations in their COPD care bundle), when compared with usual care (92.7% vs 70.1% p<0.001) (OR 4.14, 95% CI 2.14 to 8.03). Further studies with larger cohorts in other healthcare settings are required before this approach can be recommended.</p>	New citation (Patel 2024).	<p>Regularly assess COPD symptoms and exacerbation risk [evidence level III-2, strong recommendation]</p>	103

D: Develop a plan of care

D1.9 Pharmacist				
#13	New passage	New citation (Nguyen 2024).		112
	<p>Clinical pharmacist-delivered education (15- 30 min) emphasising medication adherence, disease, and medication knowledge led to a significant improvement in self-reported medication adherence rate at 1 month compared to usual care (90.1% vs. 66.3%, $p < 0.001$) in an open-labelled, randomised, controlled trial in outpatients with physician diagnosed COPD attending a hospital in Vietnam (Nguyen 2024) [evidence level II]. Significant improvements in inhaler techniques and mMRC scores were also observed in the intervention arm, although there may have been an observation bias due to a lack of blinding of the assessors.</p>			

X: Manage eXacerbations

X2.2.2 Systemic corticosteroids for treatment exacerbations				
#14	New supporting reference	New citation (Koarai 2024).	Systemic corticosteroids reduce the severity of and shorten recovery from exacerbations (oral route, when possible; 30 to 50mg daily for 5 days) [evidence level I, strong recommendation]	131
	<p>Walters et al report that there is high-quality evidence that systemic corticosteroids reduce treatment failure (defined as additional treatment, hospital admission/re-admission for index episode, return to emergency department, unscheduled physician visit for the index episode), improve lung function, shorten recovery and reduce the severity of exacerbations of COPD (Walters 2014) [evidence level I]. Systemic corticosteroids reduced the risk of treatment failure by over half compared with placebo in nine studies (n=917) with median treatment duration 14 days, odds ratio (OR) 0.48 (95% CI 0.35-0.67). The number needed to treat to avoid one treatment failure is 9. Similar results were found in a more recent meta-analysis (Koarai 2024) [evidence level I]. There is no evidence that treatment with corticosteroids alters mortality.</p>			

<p>#15</p>	<p>Updated evidence</p> <p>There is emerging evidence that blood eosinophil levels could be used as a biomarker to determine which patients require oral corticosteroids for exacerbations of COPD. A small, single centre, double-blind randomised controlled trial used blood eosinophils as a biomarker to determine if prednisolone would be given for an exacerbation of COPD. In the intervention arm, only patients with blood eosinophils above 2% received prednisolone. In the standard arm all patients received prednisolone. The prednisolone dose was 30mg for 14 days and both groups received oral antibiotics. There was no difference in treatment failure or health status between the biomarker and standard groups (Bafadhel 2012). Bafadhel re-analysed data from 3 additional randomised controlled trials that examined the use of oral corticosteroids in COPD exacerbations (n=243) (Bafadhel 2014). Patients had blood eosinophil levels measured at the time of COPD exacerbation. Blood eosinophils \geq2% were a useful biomarker to determine which patients benefit from systemic corticosteroids. The trial designs had considerable heterogeneity. Further, larger studies with long-term follow up are required before any firm recommendations can be made. In a double-blind RCT in primary practice in the UK, patients with COPD with frequent exacerbations were randomised to blood eosinophil-directed treatment (point-of-care eosinophils \geq2%: prednisolone 30 mg daily for 14 days, or eosinophils $<$2%: placebo) versus standard care (prednisolone 30 mg daily for 14 days) (Ramakrishnan 2024) [evidence level II]. All patients also received doxycycline 200 mg daily for 7 days. In a modified intention-to-treat analysis, 144 exacerbations were studied in 93 participants. Blood eosinophil-directed treatment was non-inferior to standard care (RR 0.60 for treatment failure, defined at 30 days as re-treatment with antibiotics or steroids, hospitalisation, or death; 95% CI 0.33 to 1.04), and reduced oral steroid use by 33%. There were no differences in lung function or quality of life at 14 days. Whilst these results are promising for minimising overuse of prednisolone, additional studies with large numbers of patients, shorter courses of prednisolone and inclusion of hospital-based settings are required, before recommendations can be made for biomarker-stratified oral steroid therapy of COPD exacerbations in clinical practice. Point of care eosinophil testing is not routinely available in Australia, and the 14-day course of prednisolone is longer than what is currently recommended.</p>	<p>New citation (Ramakrishnan 2024) to replace discussion of 2 outdated citations (Bafadhel 2012, Bafadhel 2014).</p>	<p>Systemic corticosteroids reduce the severity of and shorten recovery from exacerbations (oral route, when possible; 30 to 50mg daily for 5 days) [evidence level I, strong recommendation]</p>	<p>132</p>
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X3.4.2 Exercise training during hospitalisation

#16	New section X3.4.2 Exercise training during hospitalisation <p>A systematic review and meta-analysis investigated whether initiating exercise training early during hospital admission for an exacerbation of COPD, versus not initiating exercise training during an admission, changes outcomes measured at discharge (Lai 2024) [evidence level I]. Studies conducted between December 2021 and updated in January 2024 were included if they measured exercise capacity, physical function or adverse effects at discharge, and had at least one group that was prescribed exercise training within 48 hours of hospital admission (experimental) and at least one group that received usual care which did not include prescribed exercise training (control). Analysis from 10 included studies (423 participants; mean FEV₁ range 26% to 50% predicted) measured outcomes collected at discharge to compare the experimental and control groups. The authors concluded that exercise training prescribed within 48 hours of hospitalisation improved exercise capacity (SMD 0.58, 95% CI 0.32 to 0.83; five studies, moderate effect, low certainty evidence) and physical function (SMD -0.54, 95% CI -0.86 to -0.22; four studies, moderate effect, low certainty evidence) compared to control. Though subgroup analysis for exercise capacity indicated that the size of the effect was not influenced by the method of training (aerobic exercise versus resistance training), resistance training on its own was shown to be effective in improving exercise capacity at discharge. Overall, exercise training during hospitalisation was considered safe, with no serious adverse events reported. The results of this review provides evidence supporting initiating exercise training on hospital wards in people admitted with an exacerbation of COPD.</p>	New citation (Lai 2024) as a new sub-section of retitled section X3.4		136
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X3.6 Pulmonary rehabilitation

#17	<p>Removed text</p> <p>Pulmonary rehabilitation should be offered to people with COPD following hospitalisation for an exacerbation of COPD. A systematic review of 17 studies (Puhan 2016) reported the effects of pulmonary rehabilitation in 1,477 participants who were in the recovery phase of a recent hospitalisation for an exacerbation of COPD. Rehabilitation was commenced between two days and two weeks after the exacerbation, and was provided in inpatient, outpatient, and home settings, with a program duration between four days and six months. Pulmonary rehabilitation significantly improved HRQoL and exercise capacity in the short term (median of five months for HRQoL and a median of three months for exercise capacity). Pulmonary rehabilitation also reduced hospital readmissions (pooled odds ratio 0.44, 95% CI 0.21–0.91, n=810 participants). The follow-up period for collection of hospitalisation data ranged from three to 18 months, with a median duration of nine months. There was no significant effect on mortality (pooled odds ratio 0.68, 95% CI 0.28–1.67).</p> <p>Updated evidence</p> <p>Pulmonary rehabilitation should be offered to people with COPD following hospitalisation for an exacerbation of COPD. A systematic review of 17 studies (Jenkins 2024) reported the effects of pulmonary rehabilitation in 1,724 participants following hospital discharge for an exacerbation of COPD. Rehabilitation was commenced as an inpatient in 6 studies, and as an outpatient rehabilitation program between discharge and 4 weeks post-discharge in 11 studies. Pulmonary rehabilitation reduced hospital re-admissions (OR 0.48, 95% CI 0.30 to 0.77), improved exercise capacity (6MWT MD 57m, 95% CI 29 to 86) improved health-related quality of life (SGRQ MD –8.7 points, 95% CI –12.5 to –4.9), and improved dyspnoea (CRQ-dyspnoea MD 1.0 points, 95% CI 0.3 to 1.7). There was no significant effect on mortality (odds ratio 0.75, 95% CI 0.47 to 1.20) [evidence level I].</p>	New citation (Jenkins 2024) to update from old citation (Puhan 2016).	Refer to pulmonary rehabilitation, particularly during the recovery phase following an exacerbation [evidence level I, strong recommendation]	137
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Appendix: Changes to Key Recommendations

Snapshot of the evidence review cycle for V2 74 - March 2024

The COPD-X Guidelines Committee dedicated the March 2024 meeting to auditing and reviewing the COPD-X Key Recommendations for clinical relevance and consistency of style. Discussions relating to the evidence review of this cycle (quarter 1 of 2024) were postponed to the following meeting.

The guidance for the Key Recommendations remained unchanged. However, the COPD-X Committee agreed to apply a consistent writing style across the Key Recommendations.

The summary of changes from COPD-X V2.73 to V2.74 comprises entirely of editorial changes to the COPD-X Key Recommendations. For example, where relevant, each Key Recommendation now includes a verb to indicate an instruction, action or subject. Occasionally, the order of Key Recommendations in the COPD-X Summary Table (pages 15-16 of COPD-X V2.75) were adjusted to reflect the order of the information presented throughout the document.

References for the Global Initiative for Chronic Obstructive Lung Disease (GOLD) and the Global Initiative for Asthma (GINA) were updated to their most recent publications ([GOLD 2024](#), [GINA 2023](#)).

Summary of changes

C: Case finding and confirm diagnosis

Section notes

- Adjusted the order # in Key Recommendations summary table
- Regular assessment (previously #5, moved up to #8) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 19	1	Smoking is the most important risk factor in COPD development (Fletcher 1977, Burrows 1977) [evidence level I, strong recommendation]	1	Smoking is the most important risk factor in COPD development (Fletcher 1977, Burrows 1977). [evidence level I, strong recommendation]	Nil change
15, 19	2	Smoking cessation reduces mortality in people with COPD [evidence level I, strong recommendation]	2	Smoking cessation reduces mortality. [evidence level I, strong recommendation]	Minor Linguistic or grammatical change
15, 24	3	Begin with a thorough history and examination for COPD as the first step to diagnosing COPD [evidence level III-2, strong recommendation]	3	A thorough history and examination is the first step in COPD diagnosis. [evidence level III-2, strong recommendation]	Minor Linguistic or grammatical change
15, 25	4	Confirm COPD with spirometry (post-bronchodilator FEV ₁ /FVC <0.7) [evidence level III-2, strong recommendation]	4	COPD is confirmed by the presence of persistent airflow limitation (post-bronchodilator FEV ₁ /FVC <0.7). [evidence level III-2, strong recommendation]	Minor Linguistic or grammatical change
15, 31	5	While a large increase in post-bronchodilator FEV ₁ (with greater confidence if increase is >15% and >400mL) might suggest asthma or coexisting asthma and COPD, consider patient history, pattern of symptoms, and further investigations to confirm diagnosis (GINA 2023) [evidence level III-2, strong recommendation]	6	If FEV ₁ increases >400 mL following bronchodilator, consider asthma, or coexisting asthma and COPD. [evidence level III-2, strong recommendation]	Moderate changes New reference (GINA 2023) Clarified definition of the cutoff values and added further considerations to align with updated asthma guidelines
15, 31	6	Further investigations may be necessary to confirm or exclude other conditions and assess COPD severity [evidence level III-2, strong recommendation]	7	Further investigations may help a) confirm or exclude other conditions (either coexisting or with similar symptoms to COPD) and b) assess the severity of COPD. [evidence level III-2, strong recommendation]	Minor Linguistic or grammatical change; adjusted instruction for clarity
15, 31	7	Consider referral to specialist respiratory services if needed [evidence level III-2, strong recommendation]	8	Referral to specialist respiratory services may be required. [evidence level III-2, strong recommendation]	Minor Included a verb to indicate instruction or action

C: Case finding and confirm diagnosis

Section notes

- Adjusted the order # in Key Recommendations summary table
- Regular assessment (previously #5, moved up to #8) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 29	8	Regularly assess COPD symptoms and exacerbation risk [evidence level III-2, strong recommendation]	5	Diagnosis of COPD should be accompanied by regular assessment of severity. [evidence level III-2, strong recommendation]	Moderate Adjusted order (this was previously Key Recommendation #5; it is now Key Recommendation #8) Clarified severity as “exacerbation risk” Included a verb to indicate instruction or action

O: Optimise function

Section notes

- Adjusted the order # in Key Recommendations summary table
- Comorbid conditions (previously #13, moved up to #10), long-term macrolides (moved to section P) and long-term non-invasive ventilation (moved to section P) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 36	9	Begin with a comprehensive assessment as the first step to optimising function [evidence level III-2, strong recommendation]	9	Assessment is the first step to optimising function. [evidence level III-2, strong recommendation]	Minor changes Included a verb to indicate instruction or action
15, 71	10	Recognise that comorbid conditions are common in patients with COPD [evidence level III-2, strong recommendation]	13	Comorbid conditions are common in patients with COPD. [evidence level III-2, strong recommendation]	Minor changes Adjusted order (this was previously Key Recommendation #13; it is now Key Recommendation #10) Included a verb to indicate instruction or action

O: Optimise function

Section notes

- Adjusted the order # in Key Recommendations summary table
- Comorbid conditions (previously #13, moved up to #10), long-term macrolides (moved to section P) and long-term non-invasive ventilation (moved to section P) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 54	11	Regularly check inhaler technique and adherence [evidence level I, strong recommendation]	11	Adherence and inhaler technique need to be checked on a regular basis. [evidence level I, strong recommendation]	Minor changes Linguistic or grammatical change
15, 36	12	Optimise pharmacotherapy using a stepwise approach [evidence level I, strong recommendation]	10	Optimise pharmacotherapy using a stepwise approach. [evidence level I, strong recommendation]	Nil change
15, 57	13	Refer to pulmonary rehabilitation to improve quality of life, exercise capacity, and reduce COPD exacerbations [evidence level I, strong recommendation]	15	Pulmonary rehabilitation improves quality of life and exercise capacity and reduces COPD exacerbations. [evidence level I, strong recommendation]	Minor change Included a verb to indicate instruction or action
15, 57	14	Recommend non-pharmacological strategies such as pulmonary rehabilitation and regular exercise to anyone with COPD [evidence level I, strong recommendation]	12	Non-pharmacological strategies (such as pulmonary rehabilitation and regular exercise) should be provided to all patients with COPD. [evidence level I, strong recommendation]	Minor change Included a verb to indicate instruction or action
15, 86	15	Lung volume reduction (surgical and endobronchial) can enhance lung function, exercise capacity and quality of life [evidence level I, weak recommendation]	16	Lung volume reduction (surgical and endobronchial) improves lung function, exercise capacity and quality of life. [evidence level I, weak recommendation]	Minor change For clarify of instruction
15, 89	16	Consider palliative care early, ideally from a multidisciplinary team, to control symptoms and to address psychosocial issues [evidence level II, weak recommendation]	14	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]	Minor changes Included a verb to indicate instruction or action

P: Prevent deterioration

Section notes

- Adjusted the order # in Key Recommendations summary table
- Long-term macrolides (previously in section O) and long-term non-invasive ventilation (previously in section O) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 93	17	Focus on reducing the risk of exacerbations to prevent deterioration [evidence level III-2, strong recommendation]	20	Preventing exacerbations has a key role in preventing deterioration. [evidence level III-2, strong recommendation]	Moderate change Adjusted order (this was previously Key Recommendation #20; it is now Key Recommendation #17) to align with order of information in COPD-X
15, 93	18	Emphasise smoking cessation as the most important intervention to prevent worsening of COPD [evidence level II, strong recommendation]	19	Smoking cessation is the most important intervention to prevent worsening of COPD. [evidence level II, strong recommendation]	Minor change Included a verb to indicate instruction or action
15, 99	19	Encourage vaccination to reduce risks associated with influenza, pneumococcal and SARS-CoV-2 (COVID-19) infection [evidence level I, strong recommendation]	21	Vaccination reduces the risks associated with influenza and pneumococcal infection. [evidence level I, strong recommendation]	Moderate changes Included COVID-19 to the list of recommended vaccinations per committee consensus Included a verb to indicate instruction or action
15, 100	20	Consider long-term macrolide antibiotics in people with moderate to severe COPD and frequent exacerbations [evidence level I, weak recommendation]	17	Long term macrolide antibiotics may reduce exacerbations in people with moderate to severe COPD and frequent exacerbations. [evidence level I, weak recommendation]	Moderate change Moved from section O to section P to align with order of information in COPD-X Adjusted order (this was previously Key Recommendation #17; it is now Key Recommendation #20)

P: Prevent deterioration

Section notes

- Adjusted the order # in Key Recommendations summary table
- Long-term macrolides (previously in section O) and long-term non-invasive ventilation (previously in section O) shifted the order # of some others in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
15, 104	21	Consider long-term oxygen therapy (>18 hours) for patients with COPD with resting hypoxaemia [evidence level I, strong recommendation]	23	Long-term oxygen therapy has survival benefits for COPD patients with hypoxaemia. [evidence level I, strong recommendation]	Minor change Defined long-term oxygen therapy as >18 hours Included a verb to indicate instruction or action
16, 107	22	Consider long-term non-invasive ventilation in people with stable COPD and hypercapnia to reduce mortality and hospital admissions [evidence level I, weak recommendation]	18	Long term non-invasive ventilation should be considered in people with stable COPD and hypercapnia to reduce mortality. [evidence level I, weak recommendation]	Moderate change Moved from section O to section P to align with order of information throughout COPD-X (this was previously Key Recommendation #18; it is now Key Recommendation #22) Included a verb to indicate instruction or action
16, 102	23	Mucolytics may reduce exacerbations in patients with COPD [evidence level I, strong recommendation]	22	Mucolytics may benefit certain patients with COPD. [evidence level I, strong recommendation]	Minor change Defined "benefit" as reduced exacerbations

D: Develop a plan of care

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
16, 108	24	Anticipate the wide range of needs in patients with COPD to facilitate good chronic disease care [evidence level I, strong recommendation]	24	Good chronic disease care anticipates the wide range of needs in patients with COPD. [evidence level I, strong recommendation]	Minor change Included a verb to indicate instruction or action
16, 108	25	Clinical support teams working with the primary healthcare team can enhance quality of life and reduce disability [evidence level III-2, weak recommendation]	25	Clinical support teams working with the primary healthcare team can help enhance quality of life and reduce disability for patients with COPD. [evidence level III-2, weak recommendation]	Nil
16, 114	26	Patients may benefit from self-management support [evidence level I, strong recommendation]	26	Patients may benefit from self-management support. [evidence level I, strong recommendation]	Nil
16, 124	27	Patients may benefit from support groups and other community services [evidence level III-2, weak recommendation]	27	Patients may benefit from support groups and other community services. [evidence level III-2, weak recommendation]	Nil
16, 119	28	Implement a COPD action plan to reduce risks associated with exacerbations, such as emergency department visits and hospital admissions [evidence level I, strong recommendation]	28	COPD exacerbation action plans reduce emergency department visits and hospital admissions. [evidence level I, strong recommendation]	Minor change Included a verb to indicate instruction or action

X: Manage eXacerbations

Section notes

- Adjusted the order # in Key Recommendations summary table
- Home management (previously #31 in V2.73, now #39 in V2.74) shifted the order # of other Key Recommendations in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
16, 125	29	Diagnose a COPD exacerbation based on changes in the patient's baseline dyspnoea, cough, and/or sputum that exceed normal day-to-day variations, are acute in onset , and may warrant a change in regular medication or hospital admission [evidence level III-2, strong recommendation]	29	A COPD exacerbation is characterised by a change in the patient's baseline dyspnoea, cough, and/or sputum that is beyond normal day-to-day variations, has acute onset, and may warrant a change in regular medication or hospital admission. [evidence level III-2, strong recommendation]	Minor change Amended wording from "has acute onset" to "are acute in onset" for clarity of instruction (i.e. to indicate to the reader that they should consider acute-onset <u>symptoms</u> when diagnosing an exacerbation) Included a verb to indicate instruction or action
16, 127	30	Diagnosing and treating exacerbations early may prevent hospital admission and delay COPD progression (Wilkinson 2004) [evidence level III-2, strong recommendation].	30	Early diagnosis and treatment of exacerbations may prevent hospital admission and delay COPD progression. [evidence level III-2, strong recommendation]	Minor change Included a reference (Wilkinson 2004) Included a verb to indicate instruction or action
16, 130	31	Initiate inhaled short-acting bronchodilators as a first-line treatment of exacerbations [evidence level I, strong recommendation]	32	Inhaled bronchodilators are effective for initial treatment of exacerbations. [evidence level I, strong recommendation]	Moderate change Defined short-acting bronchodilators as the first-line treatment recommendation Included a verb to indicate instruction or action
16, 132	32	Systemic corticosteroids reduce the severity of and shorten recovery from exacerbations (oral route, when possible; 30 to 50mg daily for 5 days) [evidence level I, strong recommendation]	33	Systemic corticosteroids reduce the severity of and shorten recovery from exacerbations. [evidence level I, strong recommendation]	Minor change Added instruction on type, dose and period of treatment recommendation Included a verb to indicate instruction or action
16, 133	33	Exacerbations with clinical features of infection (increased volume and change in colour of sputum and/or fever) benefit from antibiotic therapy (amoxicillin or doxycycline for 5 days) [evidence level I, strong recommendation]	34	Exacerbations with clinical features of infection (increased volume and change in colour of sputum and/or fever) benefit from antibiotic therapy. [evidence level I, strong recommendation]	Minor change Added instruction on type and period of treatment recommendation Included a verb to indicate instruction or action
16, 135	34	Use supplemental oxygen for hypoxaemia in COPD exacerbations, target SpO ₂ 88% to 92% to improve survival [evidence level II, strong recommendation]	36	When using supplemental oxygen for hypoxia in COPD exacerbations, target SpO ₂ 88–92% improves survival. [evidence level II, strong recommendation]	Minor change Included a verb to indicate instruction or action

X: Manage eXacerbations

Section notes

- Adjusted the order # in Key Recommendations summary table
- Home management (previously #31 in V2.73, now #39 in V2.74) shifted the order # of other Key Recommendations in this section

Revised version V2.74			Previous version V2.73		Description
Page	#	Key Recommendation	#	Key Recommendation	Summary of changes
16, 135	35	Controlled oxygen delivery (0.5 to 2.0 L/min) is indicated for hypoxaemia in patients with exacerbations [evidence level II, strong recommendation]	35	Controlled oxygen delivery (0.5-2.0 L/min) is indicated for hypoxaemia in patients with exacerbations. [evidence level II, strong recommendation]	Nil
16, 136	36	Non-invasive ventilation improves survival for people with COPD and acute hypercapnic respiratory failure [evidence level I].	37	Non-invasive ventilation improves survival for people with COPD and acute hypercapnic respiratory failure [evidence level I, strong recommendation]	Nil
16, 139	37	Refer to pulmonary rehabilitation, particularly during the recovery phase following an exacerbation [evidence level I, strong recommendation]	38	Consider pulmonary rehabilitation at any time, including during the recovery phase following an exacerbation. [evidence level I, strong recommendation]	Minor change Added more directive instruction (“particularly” instead of “including”) on when to refer to pulmonary rehabilitation Included a verb to indicate instruction or action
16, 140	38	The primary healthcare team should ensure that patients with COPD receive comprehensive follow-up care after they are discharged from hospital following an exacerbation [evidence level I, strong recommendation]	39	Patients with COPD discharged from hospital following an exacerbation should receive comprehensive follow-up led by the primary healthcare team. [evidence level I, strong recommendation]	Minor change Adjusted structure so the subject is at the start of the sentence.
16, 129	39	Coordinate multidisciplinary support to help treat COPD exacerbations for patients in the community setting receiving home management [evidence level I, weak recommendation]	31	Multidisciplinary care may assist home management of some patients with an exacerbation. [evidence level I, weak recommendation]	Moderate change Adjusted order (this was previously Key Recommendation #31; it is now Key Recommendation #39) Clarified meaning of “home management” to also include managing exacerbations in the community setting Included a verb to indicate instruction or action

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