



Supporting Information

Supplementary material

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Dabscheck E, George J, Hermann K, et al. COPD-X Australian guidelines for the diagnosis and management of chronic obstructive pulmonary disease: 2022 update. *Med J Aust* 2022; doi: 10.5694/mja2.51708.

Appendix 1

Methods

A MEDLINE systematic literature search is performed quarterly for new papers in COPD, emphysema and chronic bronchitis, encompassing systematic reviews, clinical trials, cohort and case-control studies. Guidelines committee members also propose studies for inclusion in the screening and subsequent review process, noting their awareness of key evidence being published in their respective areas of expertise. Search results are imported into bibliographic software and duplicates removed. The guidelines Co-chairs screen all abstracts for inclusion. Relevant papers are critically appraised by a committee member with expertise in that area utilising a shared template for subsequent review and consensus of the guidelines committee. The Committee is comprised of a multidisciplinary group of national COPD opinion leaders with expertise in evidence-based medicine, as well as Lung Foundation Australia staff who represent consumer priorities and lived experience perspectives in relevant discussions as the national peak consumer organisation. If a Committee member is a listed author on a selected study, this study is allocated to another member and this conflict declared during meeting discussion if being proposed for a change to the guidelines. When making changes to guideline recommendations, the Committee preferences randomised controlled trials and meta-analyses. The healthcare setting and patient population are also considered for relevance. Study methodology, bias, consistency of results, applicability to local practice and magnitude of benefit are all considered. Potential harms and side effects are also discussed and reported. The Committee discusses all potential guideline changes and always reaches a group consensus. Guideline updates are focused on changes that are likely to modify or influence practice. Changes involve reporting the level of evidence designation (NHMRC 2009; [https://www.nhmrc.gov.au/sites/default/files/images/NHMRC%20Levels%20and%20Grades%20\(2009\).pdf](https://www.nhmrc.gov.au/sites/default/files/images/NHMRC%20Levels%20and%20Grades%20(2009).pdf)). Any disagreement is resolved with discussion. Guideline updates are made quarterly. The GRADE system for appraisal of evidence is utilised (*Andrews J, Guyatt G, Oxman AD, Alderson P, Dahm P, Falck-Ytter Y, Nasser M, Meerpohl J, Post PN, Kunz R, Brozek J, Vist G, Rind D, Akl EA, Schünemann HJ. GRADE guidelines: 14. Going from evidence to recommendations: the significance and presentation of recommendations. J Clin Epidemiol. 2013;66(7):719-25*). All recommendations are linked to the key evidence used in making the recommendation and this evidence is routinely reviewed and updated. Evidence summaries and tables are provided in the guidelines.

Economic evaluation and funding implications are beyond the scope of the guidelines in their current format. The guidelines are not resourced to perform routine audit and analysis with regards to assessing the impact of the guidelines or guidelines adherence. However, independent investigators frequently use the guidelines to audit local practice. The COPD-X guidelines acknowledge the challenges with implementation and plans on further work in this area. Lung Foundation Australia, on behalf of the Guidelines Committee, have recently partnered with the Australian Commission of Safety and Quality in Health Care (ACSQHC) to improve COPD care through the development and promotion of a national clinical care standard for the management of COPD exacerbations. This will allow for audit and greater guideline utilisation.

The guidelines are endorsed by the Thoracic Society of Australia New Zealand (TSANZ). The TSANZ clinical care and resources sub-committee (comprised of subject matter experts) provides quarterly external review and considers key findings and updates and strength of recommendations. The reviewers provide written feedback that is addressed by the Co-Chairs and

expert members as applicable. Furthermore, within the Lung Foundation Australia, key stakeholders such as general practitioners are also invited to provide regular feedback.

With regards to stakeholder engagement, quarterly updates with key changes are emailed to all registered users. Lung Foundation Australia utilises social media to promote guideline updates. Key stakeholders and guidelines users have been surveyed about the guideline's strengths, weaknesses and applicability. The survey results have been presented at an international conference. The results have helped inform guideline development.

All members of the guidelines committee serve as volunteers. No funding body has any influence on content or recommendations. Where applicable, Lung Foundation Australia funds members' travel and accommodation for in-person guidelines meetings. All committee members complete annual conflict of interest declarations that are openly available. Any relevant potential conflict is addressed during the quarterly meetings. Lung Foundation Australia provides administrative and technical support to the guidelines committee.

Search strategy saved and undertaken quarterly with dates amended as per the date of the previous search:

Literature search strategy originally provided by Megan Neumann, Client Services Librarian at The Prince Charles Hospital, Brisbane and recently reviewed by Jana Waldmann, Manager (Acting) at The Prince Charles Hospital, Brisbane. The strategy is implemented by Lung Foundation Australia on a quarterly basis.

("pulmonary disease, chronic obstructive"[MeSH Terms] OR "emphysema"[MeSH Terms]) AND (systematic[sb] OR Clinical Trial[ptyp]) AND English[lang] AND ("2018/10/23"[Date - Completion] : "3000"[Date - Completion])

("pulmonary disease, chronic obstructive"[MeSH Major Topic] OR "emphysema"[MeSH Major Topic]) AND ("Cohort Studies"[MeSH Terms] OR "Case-Control Studies"[MeSH Terms]) AND English[lang] AND ("2018/07/26"[CDAT] : "3000"[CDAT])

(COPD[Title] OR Emphysema[Title] OR Chronic Obstructive Pulmonary Disease[Title] OR Chronic Bronchitis[Title]) AND (inprocess[sb] OR Publisher[sb]) AND ("cohort"[All Fields] OR "follow-up"[All Fields] OR "longitudinal"[All Fields] OR "prospective"[All Fields] OR "retrospective"[All Fields] OR "Case-control"[All Fields]) AND English[lang]

(COPD[Title] OR Emphysema[Title] OR Chronic Obstructive Pulmonary Disease[Title] OR Chronic Bronchitis[Title]) AND (inprocess[sb] OR Publisher[sb]) AND (systematic[All Fields] OR meta-analysis[All Fields] OR meta-analyses[All Fields] OR metaanalysis[All Fields] OR metaanalyses[All Fields] OR randomised[All Fields] OR randomized[All Fields] OR random[All Fields] OR trial[Title]) AND English[lang]

Table 1. Levels of evidence

NHMRC evidence level	Basis of evidence
A	Evidence obtained from a systematic review of all relevant randomised controlled trials.
B	Evidence obtained from at least one properly designed randomised controlled trial.
C	Evidence obtained from well-designed pseudorandomised controlled trials (alternate allocation or some other method).
C	Evidence obtained from comparative studies (including systematic reviews of such studies) with concurrent controls and allocation not randomised, cohort studies, case-control studies, or interrupted time series with a control group.
C	Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel group.
C	Evidence obtained from case series, either post-test or pre-test/post-test

NHMRC = National Health and Medical Research Council. The GRADE (Grading of Recommendations Assessment, Development and Evaluation) system was used to grade the strength of recommendations.¹

Reference

1 Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. *BMJ*. 2008; 336(7650): 924-6.