

Evidence Sources: Chronic Obstructive Pulmonary Disease Clinical Care Standard

2024

Introduction

The quality statements for the *Chronic Obstructive Pulmonary Disease Clinical Care Standard* were developed in consultation with the Chronic Obstructive Pulmonary Disease Clinical Care Standard Topic Working Group based on best available evidence and guideline recommendations.

Literature searches are conducted by the Australian Commission on Safety and Quality in Health Care (the Commission) at different stages during the development of a clinical care standard and include searching for current and relevant:

- Australian clinical practice guidelines, standards and policies
- International clinical practice guidelines
- Other high-level evidence, such as systematic reviews and meta-analyses.

Where limited evidence is available, the Commission consults with a range of stakeholders to explore issues and develop possible solutions.

An overview of the key evidence sources for the *Chronic Obstructive Pulmonary Disease Clinical Care Standard* is presented in Table 1. A full list of the evidence sources for each of the quality statements is also included.

Table 1: Overview of the key evidence sources for the Chronic Obstructive Pulmonary Disease Clinical Care Standard*

Evidence source	Relevance to the Quality Statement (QS)									
	QS 1. Diagnosis with spirometry	QS 2. Comprehensive assessment	QS 3. Education and self-management	QS 4. Vaccination and tobacco-smoking cessation	QS 5. Pulmonary rehabilitation	QS 6. Pharmacological management of stable COPD	QS 7. Pharmacological management of COPD exacerbations	QS 8. Oxygen and ventilatory support for COPD exacerbations	QS 9. Follow-up care after hospitalisation	QS 10. Symptom support and palliative care
Australian guidelines and standards										
Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: https://copdx.org.au/copd-x-plan .	✓	✓	✓	✓	✓	✓	✓		✓	✓
Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: https://www.tg.org.au .	✓					✓	✓	✓		✓
Therapeutic Guidelines. Antibiotic [Internet]. Melbourne: Therapeutic Guidelines Limited; 2019 April. Available from: https://www.tg.org.au .						✓	✓			
Thoracic Society of Australia & New Zealand. Standards for the delivery of spirometry for resource sector workers. Sydney: TSANZ; 2022.	✓									
Australian Technical Advisory Group on Immunisation. Australian immunisation handbook [Internet]. Department of Health and Aged Care; 2022 [cited 2023 Jun 30]. Available from: https://immunisationhandbook.health.gov.au .				✓						
Royal Australian College of General Practitioners. Supporting smoking cessation: a guide for health professionals. 2nd ed. Melbourne: RACGP, 2021.				✓						

Evidence source	Relevance to the Quality Statement (QS)									
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Alison JA, McKeough ZJ, Johnston K, McNamara RJ, Spencer LM, Jenkins SC, et al. Australian and New Zealand pulmonary rehabilitation guidelines. <i>Respirol.</i> 2017 May;22(4):800–19.					✓					
Australian Commission on Safety and Quality in Health Care. Antimicrobial stewardship clinical care standard. Sydney: ACSQHC; 2020.							✓			
Palliative Care Australia. National palliative care standards for all health professionals and aged care services. Canberra: Palliative Care Australia; 2022.										✓
International guidelines and standards										
Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease (acute exacerbation): antimicrobial prescribing Guideline [NG114] [Internet]. NICE; 2018 Available from: https://www.nice.org.uk/guidance/ng114 .							✓			

Evidence source	Relevance to the Quality Statement (QS)									
	QS 1. Diagnosis with spirometry	QS 2. Comprehensive assessment	QS 3. Education and self-management	QS 4. Vaccination and tobacco-smoking cessation	QS 5. Pulmonary rehabilitation	QS 6. Pharmacological management of stable COPD	QS 7. Pharmacological management of COPD exacerbations	QS 8. Oxygen and ventilatory support for COPD exacerbations	QS 9. Follow-up care after hospitalisation	QS 10. Symptom support and palliative care
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: https://www.nice.org.uk/guidance/qs10 .	✓				✓	✓		✓	✓	
Additional sources										
Barnett A, Beasley R, Buchan C, Chien J, Farah CS, King G, et al. Thoracic Society of Australia and New Zealand position statement on acute oxygen use in adults: 'Swimming between the flags.' <i>Respirology</i> . 2022 Feb 17;27(4):262–76.								✓		
Graham BL, Steenbruggen I, Miller MR, Barjaktarevic IZ, Cooper BG, Hall GL, et al. Standardization of spirometry 2019 update. An official American Thoracic Society and European Respiratory Society technical statement. <i>Am J Respir Crit Care Med</i> . 2019 Oct 15;200(8):e70–88.	✓									

* Only key Australian and International sources are included in this table. Other evidence sources are listed in the following tables for each quality statement.

EVIDENCE SOURCES FOR EACH QUALITY STATEMENT

Quality Statement 1: Diagnosis with spirometry	A person over 35 years of age with a risk factor and one or more symptoms of chronic obstructive pulmonary disease (COPD) receives high-quality spirometry to enable diagnosis. Spirometry is also performed for a person with a recorded diagnosis of COPD that has not yet been confirmed with spirometry.
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EVIDENCE SOURCES

Australian guidelines and standards
Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: https://copdx.org.au/copd-x-plan .
Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: https://www.tg.org.au .
Thoracic Society of Australia & New Zealand. Standards for the delivery of spirometry for resource sector workers. Sydney: TSANZ; 2022.
Thoracic Society of Australia & New Zealand. Standards for spirometry training courses: companion document to standards for the delivery of spirometry for resource sector workers. Chatswood, NSW: TSANZ; 2022.
National Asthma Council Australia. The spirometry handbook for primary care. Melbourne: National Asthma Council Australia; 2023.
International guidelines and standards
Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: https://www.nice.org.uk/guidance/qs10 .
Additional sources
Borg BM, Osadnik C, Adam K, Chapman DG, Farrow CE, Glavas V, et al. Pulmonary function testing during SARS-CoV-2: An ANZSRS/TSANZ position statement. <i>Respirology</i> . 2022 Sep;27(9):688–719.

Quality Statement 1: Diagnosis with spirometry	A person over 35 years of age with a risk factor and one or more symptoms of chronic obstructive pulmonary disease (COPD) receives high-quality spirometry to enable diagnosis. Spirometry is also performed for a person with a recorded diagnosis of COPD that has not yet been confirmed with spirometry.
Graham BL, Steenbruggen I, Miller MR, Barjaktarevic IZ, Cooper BG, Hall GL, et al. Standardization of spirometry 2019 update. An official American Thoracic Society and European Respiratory Society technical statement. <i>Am J Respir Crit Care Med</i> . 2019 Oct 15;200(8):e70–88.	

**Quality Statement 2:
Comprehensive
assessment**

A person with a confirmed COPD diagnosis receives a comprehensive assessment to determine their individual care needs. This includes assessing their symptoms and disease severity using a validated assessment tool, history and risk of exacerbations, and comorbidities. Follow-up assessment occurs at least annually.

EVIDENCE SOURCES

Australian guidelines and standards

Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: <https://copdx.org.au/copd-x-plan>.

International guidelines and standards

Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management | Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: <https://www.nice.org.uk/guidance/ng115>.

**Quality Statement 3:
Education and self-
management**

A person with COPD is supported to learn about their condition and treatment options. They participate in developing an individualised self-management plan that addresses their needs and treatment goals and includes an action plan for COPD exacerbations.

EVIDENCE SOURCES

Australian guidelines and standards

Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: <https://copdx.org.au/copd-x-plan>.

International guidelines and standards

Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management | Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: <https://www.nice.org.uk/guidance/ng115>.

Quality Statement 4: Vaccination and tobacco-smoking cessation	A person with COPD is offered recommended vaccinations for respiratory and other infections including influenza, pneumococcal disease and COVID-19. They are asked about their tobacco-smoking status and, if currently smoking, offered evidence-based tobacco-smoking cessation interventions.
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Australian guidelines and standards
Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: https://copdx.org.au/copd-x-plan .
Australian Technical Advisory Group on Immunisation. Australian immunisation handbook [Internet]. Department of Health and Aged Care; 2022 [cited 2023 Jun 30]. Available from: https://immunisationhandbook.health.gov.au .
Royal Australian College of General Practitioners. Supporting smoking cessation: a guide for health professionals. 2nd ed. Melbourne: RACGP, 2021.
International guidelines and standards
Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .

**Quality Statement 5:
Pulmonary
rehabilitation**

A person with COPD is referred for pulmonary rehabilitation. If the person has been hospitalised for a COPD exacerbation, they are referred to a pulmonary rehabilitation program on discharge and commence the program within four weeks.

EVIDENCE SOURCES

Australian guidelines and standards

Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: <https://copdx.org.au/copd-x-plan>.

Alison JA, McKeough ZJ, Johnston K, McNamara RJ, Spencer LM, Jenkins SC, et al. Australian and New Zealand pulmonary rehabilitation guidelines. *Respirol*. 2017 May;22(4):800–19.

International guidelines and standards

Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management | Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: <https://www.nice.org.uk/guidance/ng115>.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults | Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: <https://www.nice.org.uk/guidance/qs10>.

Additional sources

Puhan MA, Gimeno-Santos E, Cates CJ, Troosters T. Pulmonary rehabilitation following exacerbations of chronic obstructive pulmonary disease. *Cochrane Database Syst Rev*. 2016 Dec 8; 12(12): CD005305. doi: 10.1002/14651858.CD005305.pub4.

Ryrsø CK, Godtfredsen NS, Kofod LM, Lavesen M, Mogensen L, Tobberup R, et al. Lower mortality after early supervised pulmonary rehabilitation following COPD-exacerbations: a systematic review and meta-analysis. *BMC Pulm Med*. 2018 Sep 15;18(1):154.

**Quality Statement 6:
Pharmacological
management of
stable COPD**

A person with a confirmed COPD diagnosis is offered individualised pharmacotherapy in line with the COPD-X stepwise approach. Inhaler technique is demonstrated, assessed and corrected when starting treatment and regularly thereafter, including after any change in treatment or a COPD exacerbation.

EVIDENCE SOURCES

Australian guidelines and standards

Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: <https://copdx.org.au/copd-x-plan>.

Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: <https://www.tg.org.au>.

Therapeutic Guidelines. Antibiotic [Internet]. Melbourne: Therapeutic Guidelines Limited; 2019 April. Available from: <https://www.tg.org.au>.

International guidelines and standards

Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management | Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: <https://www.nice.org.uk/guidance/ng115>.

National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults | Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: <https://www.nice.org.uk/guidance/qs10>.

**Quality Statement 7:
Pharmacological
management of
COPD exacerbations**

A person having a COPD exacerbation receives short-acting bronchodilator therapy at the onset of symptoms and, if indicated, oral corticosteroids in line with the current COPD-X Guidelines. Antibiotics are only considered if criteria for prescribing are met, and they are prescribed according to evidence-based guidelines.

EVIDENCE SOURCES

Australian guidelines and standards
Australian Commission on Safety and Quality in Health Care. Antimicrobial stewardship clinical care standard. Sydney: ACSQHC; 2020.
Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: https://copdx.org.au/copd-x-plan .
Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: https://www.tg.org.au .
Therapeutic Guidelines. Antibiotic [Internet]. Melbourne: Therapeutic Guidelines Limited; 2019 April. Available from: https://www.tg.org.au .
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Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease (acute exacerbation): antimicrobial prescribing Guideline [NG114] [Internet]. NICE; 2018 Available from: https://www.nice.org.uk/guidance/ng114 .
Additional sources
Australian Commission on Safety and Quality in Health Care. AURA 2023: fifth Australian report on antimicrobial use and resistance in human health. Sydney: ACSQHC; 2023.

Quality Statement 8: Oxygen and ventilatory support for COPD exacerbations	A person experiencing hypoxaemia during a COPD exacerbation receives controlled oxygen therapy, ensuring that oxygen saturation levels are maintained between 88% and 92%. Non-invasive ventilation is considered in anyone with hypercapnic respiratory failure with acidosis.
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Australian guidelines and standards
Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: https://www.tg.org.au .
Barnett A, Beasley R, Buchan C, Chien J, Farah CS, King G, et al. Thoracic Society of Australia and New Zealand position statement on acute oxygen use in adults: ‘Swimming between the flags.’ <i>Respirology</i> . 2022 Feb 17;27(4):262–76.
Agency for Clinical Innovation. Non-invasive ventilation for patients with acute respiratory failure: clinical practice guide. Sydney: NSW Government; 2023.
International guidelines and standards
Global Initiative for Chronic Obstructive Lung Disease. Global strategy for the diagnosis, management, and prevention of chronic obstructive lung disease 2024 report. GOLD; 2024.
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .
National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: https://www.nice.org.uk/guidance/qs10 .
Additional sources
Kelly AM, Kyle E, McAlpine R. Venous pCO(2) and pH can be used to screen for significant hypercarbia in emergency patients with acute respiratory disease. <i>J Emerg Med</i> . 2002 Jan;22(1):15–19.
McCanny P, Bennett K, Staunton P, McMahan G. Venous vs arterial blood gases in the assessment of patients presenting with an exacerbation of chronic obstructive pulmonary disease. <i>Am J Emerg Med</i> . 2012 Jul;30(6):896–900.

Quality Statement 8: Oxygen and ventilatory support for COPD exacerbations	A person experiencing hypoxaemia during a COPD exacerbation receives controlled oxygen therapy, ensuring that oxygen saturation levels are maintained between 88% and 92%. Non-invasive ventilation is considered in anyone with hypercapnic respiratory failure with acidosis.
McKeever TM, Hearson G, Housley G, Reynolds C, Kinnear W, Harrison TW, et al. Using venous blood gas analysis in the assessment of COPD exacerbations: a prospective cohort study. <i>Thorax</i> . 2016 Mar;71(3):210–15.	

**Quality Statement 9:
Follow-up care after
hospitalisation**

A person who has been hospitalised for a COPD exacerbation is offered a follow-up assessment within seven days of discharge, facilitated by timely and effective communication between their hospital and primary care providers.

EVIDENCE SOURCES

Australian guidelines and standards

Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: <https://copdx.org.au/copd-x-plan>.

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National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in adults | Quality standard [QS10] [Internet]. NICE; 2011 [updated 2023 Sep 19]. Available from: <https://www.nice.org.uk/guidance/qs10>.

Quality Statement 10: Symptom support and palliative care	A person with COPD is offered symptom support and palliative care that meets their individual needs and preferences.
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Australian guidelines and standards
Yang I, George J, McDonald C, McDonald V, Ordman R, Goodwin A, et al. The COPD-X plan: Australian and New Zealand guidelines for the management of chronic obstructive pulmonary disease 2024. Version 2.75. Brisbane: Lung Foundation Australia; 2024. Available from: https://copdx.org.au/copd-x-plan .
Therapeutic Guidelines. Respiratory [Internet]. Melbourne: Therapeutic Guidelines Limited; 2020 December. Available from: https://www.tg.org.au .
Palliative Care Australia. National palliative care standards for all health professionals and aged care services. Canberra: Palliative Care Australia; 2022.
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National Institute for Health and Care Excellence. Chronic obstructive pulmonary disease in over 16s: diagnosis and management Guideline [NG115] [Internet]. NICE; 2018 [updated 2019 Jul 19]. Available from: https://www.nice.org.uk/guidance/ng115 .
Additional sources
Philip J, Collins A, Smallwood N, Chang YK, Mo L, Yang IA, et al. Referral criteria to palliative care for patients with respiratory disease: a systematic review. Eur Respir J. 2021 Mar 18;58(4).