

VA/DoD Clinical Practice Guidelines

MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE



VA/DoD Evidence-Based Practice

Provider Summary

Version 3.0 | 2021



VA/DoD CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Department of Veterans Affairs

Department of Defense

Provider Summary

QUALIFYING STATEMENTS

The Department of Veterans Affairs and the Department of Defense guidelines are based upon the best information available at the time of publication. They are designed to provide information and assist decision making. They are not intended to define a standard of care and should not be construed as one. Neither should they be interpreted as prescribing an exclusive course of management.

This Clinical Practice Guideline is based on a systematic review of both clinical and epidemiological evidence. Developed by a panel of multidisciplinary experts, it provides a clear explanation of the logical relationships between various care options and health outcomes while rating both the quality of the evidence and the strength of the recommendation.

Variations in practice will inevitably and appropriately occur when clinicians take into account the needs of individual patients, available resources, and limitations unique to an institution or type of practice. Every healthcare professional making use of these guidelines is responsible for evaluating the appropriateness of applying them in the setting of any particular clinical situation.

These guidelines are not intended to represent Department of Veterans Affairs or TRICARE policy. Further, inclusion of recommendations for specific testing and/or therapeutic interventions within these guidelines does not guarantee coverage of civilian sector care. Additional information on current TRICARE benefits may be found at www.tricare.mil by contacting your regional TRICARE Managed Care Support Contractor.

Version 3.0 – 2021

Table of Contents

Introduction	1
Recommendations	2
Algorithm	4
Module A: Management of COPD in Primary Care	5
Module B: Management of Acute COPD Exacerbations.....	6
Module C: Inhaled Corticosteroid Usage.....	7
Scope of the CPG	9
Methods.....	9
Guideline Work Group.....	11
Patient-centered Care	12
Shared Decision Making	12
References	13

Introduction

The Department of Veterans Affairs (VA) and Department of Defense (DoD) Evidence-Based Practice Work Group (EBPWG) was established and first chartered in 2004, with a mission to advise the Health Executive Committee “... on the use of clinical and epidemiological evidence to improve the health of the population ...” across the Veterans Health Administration (VHA) and Military Health System (MHS), by facilitating the development of clinical practice guidelines (CPGs) for the VA and DoD populations.⁽¹⁾ Development and update of VA/DoD CPGs is funded by VA Evidence Based Practice, Office of Quality and Patient Safety. The system-wide goal of evidence-based CPGs is to improve patient health and well-being.

In December 2014, the VA and DoD published a CPG for the Management of Chronic Obstructive Pulmonary Disease (2014 VA/DoD COPD CPG), which was based on evidence reviewed through February 2014. Since the release of that CPG, a growing body of research has expanded the evidence base and understanding of COPD. Consequently, a recommendation to update the 2014 VA/DoD COPD CPG was initiated in 2019.

This CPG provides an evidence-based framework for evaluating and managing care for patients with COPD toward improving clinical outcomes. Successful implementation of this CPG will:

- Assess the patient’s condition and collaborate with the patient, family, and caregivers to determine optimal management of patient care
- Emphasize the use of patient-centered care using individual risk factors and event history
- Minimize preventable complications and morbidity
- Optimize individual health outcomes and quality of life (QoL)

The full VA/DoD COPD CPG, as well as additional toolkit materials including a pocket card and provider summary, can be found at: <https://www.healthquality.va.gov/index.asp>.

Recommendations

The following evidence-based clinical practice recommendations were made using a systematic approach considering four domains per the GRADE approach (see Appendix A in the full VA/DoD COPD CPG). These domains include: confidence in the quality of the evidence, balance of desirable and undesirable outcomes (i.e., benefits and harms), patient values and preferences, and other implications (e.g., resource use, equity, acceptability).

Table 1. Recommendations

Topic	#	Recommendation	Strength ^a	Category ^b
Diagnosis & Classification	1.	We suggest post-bronchodilator spirometry to confirm clinical diagnosis of COPD.	Weak for	Reviewed, New-replaced
	2.	There is insufficient evidence to recommend for or against any specific clinical criteria to inform decision-making regarding advancing pharmacologic therapy for COPD.	Neither for nor against	Reviewed, New-added
Risk Reduction	3.	We recommend smoking cessation for prevention and risk reduction of COPD.	Strong for	Reviewed, New-replaced
	4.	We suggest routine vaccination for influenza and pneumococcal pneumonia for prevention and risk reduction of COPD exacerbations.	Weak for	Reviewed, New-replaced
	5.	We recommend offering inhaled long-acting muscarinic antagonists as first-line therapy in patients with symptomatic COPD.	Strong for	Reviewed, New-replaced
	6.	We recommend against offering an inhaled long-acting beta agonist as first-line therapy in patients with symptomatic COPD, unless a long-acting muscarinic antagonist is not tolerated or is contraindicated.	Strong against	Reviewed, New-added
	7.	We recommend against offering an inhaled corticosteroid in patients with symptomatic COPD as a first-line therapy.	Strong against	Not reviewed, Amended
	8.	For patients with moderate to severe obstruction who continue to report significant dyspnea or decreased quality of life despite using a long-acting muscarinic antagonist, we suggest adding a long-acting beta agonist to long-acting antimuscarinic agent therapy.	Weak for	Reviewed, New-replaced
	9.	If choosing dual therapy, we recommend against offering long-acting beta agonists with inhaled corticosteroids for patients with COPD.	Strong against	Reviewed, New-added
	10.	In patients with COPD who are on combination therapy with a long-acting antimuscarinic agent/long-acting beta agonist and continue to have COPD exacerbations, we suggest adding an inhaled corticosteroid as a third medication.	Weak for	Reviewed, New-replaced
	11.	There is insufficient evidence to recommend for or against the use of eosinophilia or suspicion of asthma-COPD overlap syndrome to guide choice of additional therapy.	Neither for nor against	Reviewed, New-added
	12.	We suggest considering withdrawal of inhaled corticosteroids in patients with COPD without moderate to severe exacerbations in the last two years.	Weak for	Reviewed, New-added

Topic	#	Recommendation	Strength ^a	Category ^b
First-line Therapy	13.	There is insufficient evidence to recommend for or against the use of N-acetylcysteine preparations available in the United States for patients with stable COPD who continue to have respiratory symptoms (e.g., dyspnea, cough).	Neither for nor against	Reviewed, Amended
	14.	There is insufficient evidence to recommend for or against the use of antibiotics for outpatient COPD exacerbations (C-reactive protein guided or not).	Neither for nor against	Reviewed, New-replaced
	15.	We recommend providing long-term oxygen therapy to patients with chronic stable resting severe hypoxemia (PaO ₂ <55 mm Hg and/or SaO ₂ ≤88%) or chronic stable resting moderate hypoxemia (PaO ₂ 56 – 59 mm Hg or SaO ₂ >88% and ≤90%) with signs of tissue hypoxia (hematocrit >55%, pulmonary hypertension, or cor pulmonale).	Strong for	Not reviewed, Not changed
	16.	We suggest against routinely offering ambulatory long-term supplemental oxygen for patients with chronic stable isolated exercise hypoxemia, in the absence of another clinical indication for supplemental oxygen.	Weak against	Reviewed, Not changed
	17.	In patients with COPD, we suggest starting or continuing cardio-selective beta-blockers only in those who have a cardiovascular indication for beta-blockers (e.g., heart failure with reduced ejection fraction or recent myocardial infarction).	Weak for	Reviewed, Amended
	18.	We suggest offering a supported self-management program that includes a written action plan with exacerbation management, smoking cessation, and exercise.	Weak for	Reviewed, New-replaced
	19.	We suggest offering telehealth support that includes telemonitoring and/or mobile applications.	Weak for	Reviewed, New-replaced

^a For additional information, see Grading Recommendations in the full VA/DoD COPD CPG.



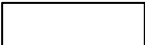

^b For additional information, see Recommendation Categorization and Appendix D in the full VA/DoD COPD CPG.

Algorithm

This CPG’s algorithm is designed to facilitate understanding of the clinical pathway and decision making process used in managing patients with COPD. This algorithm format represents a simplified flow of the management of patients with COPD and helps foster efficient decision making by providers. It includes:

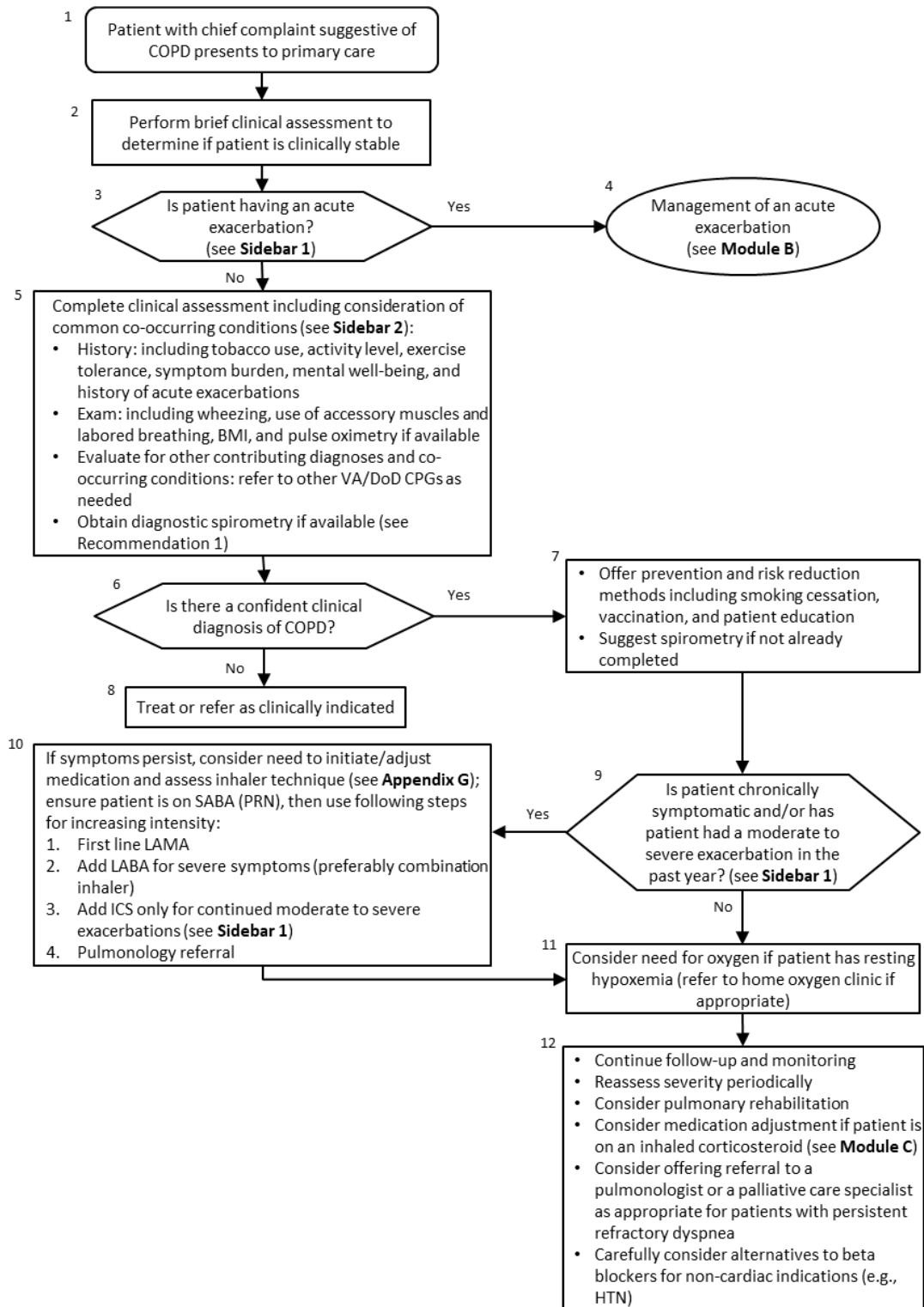
- An ordered sequence of steps of care
- Decisions to be considered
- Recommended decision criteria
- Actions to be taken

The algorithm is a step-by-step decision tree. Standardized symbols are used to display each step, and arrows connect the numbered boxes indicating the order in which the steps should be followed.⁽²⁾ Sidebars provide more detailed information to assist in defining and interpreting elements in the boxes.

Shape	Description
	Rounded rectangles represent a clinical state or condition
	Hexagons represent a decision point in the process of care, formulated as a question that can be answered “Yes” or “No”
	Rectangles represent an action in the process of care
	Ovals represent a link to another section within the algorithm

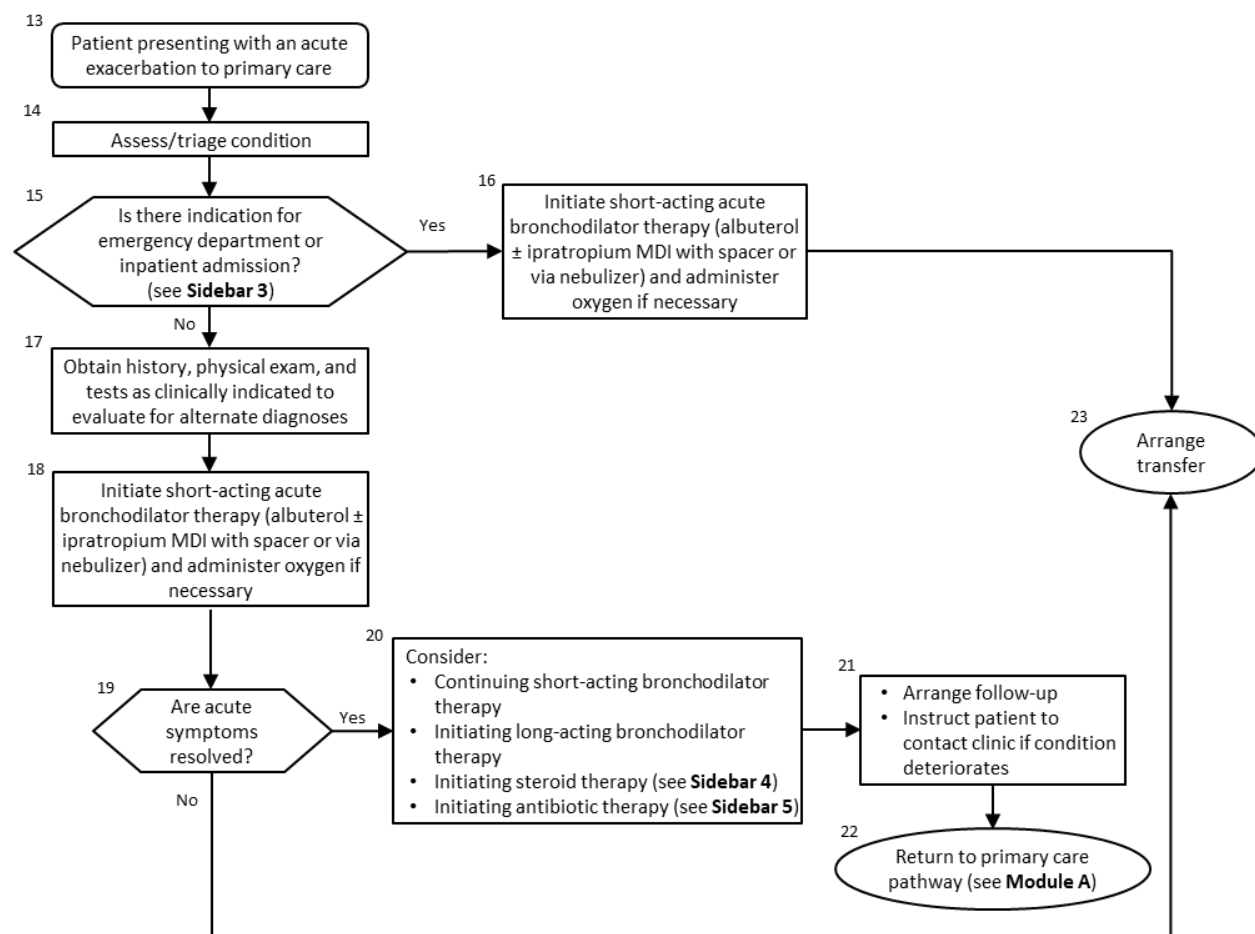
For alternative text descriptions of the algorithm, please refer to Appendix J in the full VA/DoD COPD CPG.

Module A: Management of COPD in Primary Care



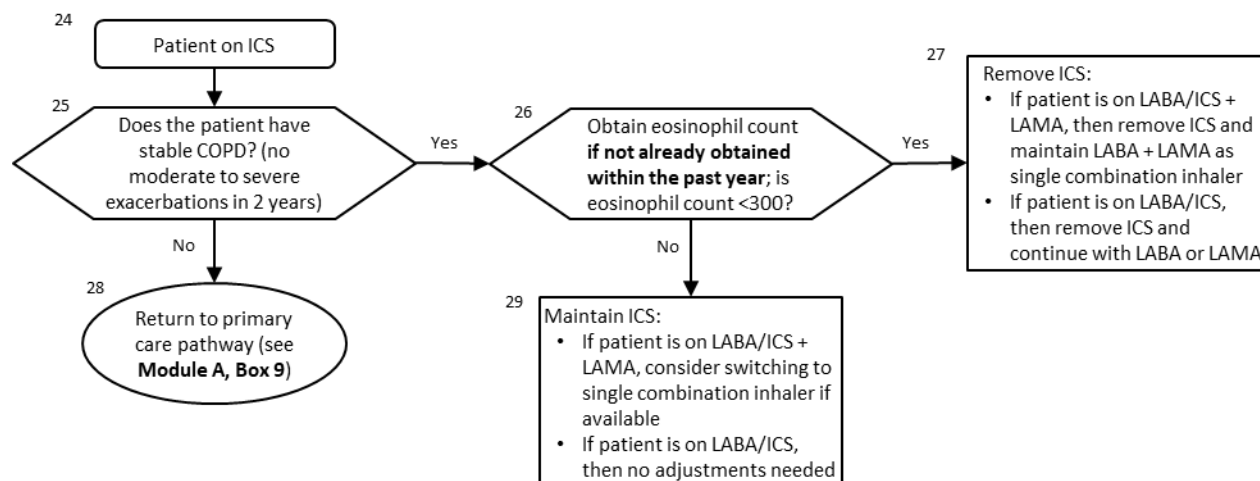
Abbreviations: BMI: body mass index; COPD: chronic obstructive pulmonary disease; CPG: clinical practice guideline; HTN: hypertension; ICS: inhaled corticosteroid; LABA: long-acting beta 2-agonist; LAMA: long-acting antimuscarinic agent; PRN: pro re nata (as needed); SABA: short-acting beta 2-agonist; VA/DoD: Department of Veterans Affairs/Department of Defense

Module B: Management of Acute COPD Exacerbations



Abbreviations: MDI: metered-dose inhaler

Module C: Inhaled Corticosteroid Usage



Abbreviations: COPD: chronic obstructive pulmonary disease; ICS: inhaled corticosteroid; LABA: long-acting beta 2-agonist; LAMA: long-acting antimuscarinic agent

Sidebar 1: Definition of Exacerbations

Increased dyspnea above day-to-day variability with or without change in sputum amount or color. Moderate to severe exacerbations are those that require antibiotics and/or systemic corticosteroids. Patients with exacerbation within the past six months would be considered to have “severe COPD.”

Abbreviations: COPD: chronic obstructive pulmonary disease

Sidebar 2: Common Co-Occurring Conditions

- CVD
- CHF
- Pulmonary embolism
- Sleep disorders
- Poor nutritional status (both under and over nutrition)
- Gastroesophageal reflux
- Depression
- Anxiety

Abbreviations: CHF: congestive heart failure; CVD: cardiovascular disease

Sidebar 3: Criteria for Possible Admission

- Accessory muscle use
- Tachypnea
- Hypoxemia or hypercapnia above baseline
- Failure to respond to initial therapy
- Clinical judgment

Sidebar 4: Initiating Steroid Therapy

Oral glucocorticoid:

- 30 – 40 mg daily prednisone equivalent for 5-7 days
- No benefit in higher doses
- Generally no benefit in longer duration

Abbreviations: mg: milligrams

Sidebar 5: Initiating Antibiotic Therapy

Antibiotic choices:

- Amoxicillin
- Amoxicillin/clavulanate
- Azithromycin
- Doxycycline
- Second generation cephalosporin
- Trimethoprim/sulfamethoxazole (TMP-SMX)
- Reserve broader spectrum antibiotics for severe or specific risk

Abbreviations: SMX: sulfamethoxazole; TMP: trimethoprim

Scope of the CPG

This CPG is based on published clinical evidence and related information available through February 2020. It is intended to provide general guidance on best evidence-based practices (see Appendix A in the full VA/DoD COPD CPG for additional information on the evidence review methodology). This CPG is not intended to serve as a standard of care.

This CPG is intended for use by VA and DoD primary care providers (PCPs) including physicians, nurse practitioners, physician assistants, nurses, dietitians, pharmacists, social workers, and others involved in the healthcare team caring for patients with COPD. Additionally, this CPG is intended for community-based clinicians involved in the care of Service Members, beneficiaries, or Veterans with COPD.

The patient population of interest for this CPG is patients with COPD who are eligible for outpatient care in the VA or DoD healthcare delivery systems and those who receive outpatient care from community-based clinicians. The population includes Veterans as well as deployed and non-deployed active duty Service Members and their dependents. Regardless of care setting, any patient in the VA and DoD healthcare system should have access to this CPG's recommended interventions.

Methods

The methodology used in developing this CPG follows the *Guideline for Guidelines*, an internal document of the VA and DoD EBPWG updated in January 2019 that outlines procedures for developing and submitting VA/DoD CPGs.⁽³⁾ The *Guideline for Guidelines* is available at <http://www.healthquality.va.gov/policy/index.asp>. This CPG also aligns with the National Academy of Medicine's (NAM) principles of trustworthy CPGs (e.g., explanation of evidence quality and strength, the management of potential conflicts of interest [COI], interdisciplinary stakeholder involvement, use of systematic review, and external review).⁽⁴⁾ Appendix A in the full VA/DoD COPD CPG provides a detailed description of the CPG development methodology.

The Work Group used the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach to craft each recommendation and determine its strength. Per the GRADE approach, recommendations must be evidence-based and cannot be made based on expert opinion alone. The GRADE approach uses the following four domains to inform the strength of each recommendation: confidence in the quality of the evidence, balance of desirable and undesirable outcomes, patient values and preferences, other considerations as appropriate (e.g., resource use, equity) (see Grading Recommendations in the full VA/DoD Abbreviation CPG).⁽⁵⁾

Using these four domains, the Work Group determined the relative strength of each recommendation (*Strong* or *Weak*). The strength of a recommendation is defined as the extent to which one can be confident that the desirable effects of an intervention outweigh its undesirable effects and is based on the framework above, which incorporates the four domains.⁽⁶⁾ A *Strong* recommendation generally indicates *High* or *Moderate* confidence in the quality of the available evidence, a clear difference in magnitude between the benefits and harms of an intervention, similar patient values and preferences, and understood influence of other implications (e.g., resource use, feasibility).

Using these elements, the Work Group determines the strength and direction of each recommendation and formulates the recommendation with the general corresponding text (see [Table 2](#)).

Table 2. Strength and Direction of Recommendations and General Corresponding Text

Recommendation Strength and Direction	General Corresponding Text
Strong for	We recommend ...
Weak for	We suggest ...
Neither for nor against	There is insufficient evidence to recommend for or against ...
Weak against	We suggest against ...
Strong against	We recommend against ...

It is important to note that a recommendation's strength (i.e., *Strong* versus *Weak*) is distinct from its clinical importance (e.g., a *Weak* recommendation is evidence-based and still important to clinical care). The strength of each recommendation is shown in the [Recommendations](#) section.

Recommendation categories were used to track how the previous CPG's recommendations could be reconciled. These categories and their corresponding definitions are similar to those used by the National Institute for Health and Care Excellence (NICE, England).[\(7, 8\)](#) The categories and definitions can be found in [Table 3](#).

Table 3. Recommendation Categories and Definitions^a

Evidence Reviewed	Recommendation Category	Definition
Reviewed^b	New-added	New recommendation
	New-replaced	Recommendation from previous CPG was carried forward and revised
	Not changed	Recommendation from previous CPG was carried forward but not changed
	Amended	Recommendation from previous CPG was carried forward with a nominal change
	Deleted	Recommendation from previous CPG was deleted
Not reviewed^c	Not changed	Recommendation from previous CPG was carried forward but not changed
	Amended	Recommendation from previous CPG was carried forward with a nominal change
	Deleted	Recommendation from previous CPG was deleted

^a Adapted from the NICE guideline manual (2012) [\(7\)](#) and Garcia et al. (2014) [\(8\)](#)

^b The topic of this recommendation was covered in the evidence review carried out as part of the development of the current CPG.

^c The topic of this recommendation was not covered in the evidence review carried out as part of the development of the current CPG.

Abbreviation: CPG: clinical practice guideline

Guideline Work Group

Table 4. Guideline Work Group and Guideline Development Team

Organization	Names*
<i>Department of Veterans Affairs</i>	Amir Sharafkhaneh, MD, PhD (Champion)
	W. Claibe Yarbrough, MD (Champion)
	Andrew Buelt, DO
	Donald Curran, MD, MSc
	Jennifer Ellis, BSN, RN
	Jaime Halaszynski, LCSW
	Meredith Hall, DPT
	Christina Nguyen, RRT
	Andrew Philip, MD, FACP, FCCP
	Catherine Staropoli, MD
	Karlye Trevino, PharmD, BCPS
<i>Department of Defense</i>	MAJ Nathan L. Boyer, MD, FCCS (Champion)
	LTC Brian M. Cohee, MD, FACP (Champion)
	Curtis J. Aberle, MSN, FNP-BC
	CPT Dominique Gamble, DPT
	Maj Joshua A. Radel, PharmD, BCPS
<i>Office of Evidence Based Practice, Quality and Patient Safety Veterans Health Administration</i>	M. Eric Rodgers, PhD, FNP-BC
	James Sall, PhD, FNP-BC
	Rene Sutton, BS, HCA
<i>Office of Evidence Based Practice U.S. Army Medical Command</i>	Corinne K. B. Devlin, MSN, RN, FNP-BC
	Lisa Jones, BSN, RN, MHA, CPHQ
<i>The Lewin Group</i>	Clifford Goodman, PhD
	Erika Beam, MS
	Ben Agatston, JD, MPH
	Charlie Zachariades, MSc
	Shaina Haque, MPH
	Jessica Pham, BA
<i>ECRI</i>	Jim Reston, PhD, MPH
	Stacey Uhl, MS
	Becky Rishar, MSLIS
	Nancy Sullivan, BA
<i>Sigma Health Consulting</i>	Frances Murphy, MD, MPH
	Jim Smirniotopoulos, MD
<i>Anjali Jain Research & Consulting</i>	Anjali Jain, MD
<i>Duty First Consulting</i>	Rachel Piccolino, BA
	Mary Kate Curley, BA

*Additional contributor contact information is available in Appendix H in the full VA/DoD COPD CPG

Patient-centered Care

Guideline recommendations are intended to consider patient needs and preferences and represent a whole/holistic health approach to care that is patient-centered, culturally appropriate, and available to people with limited literacy skills and physical, sensory, or learning disabilities. VA/DoD CPGs encourage providers to use a patient-centered, whole health/holistic health approach (i.e., individualized treatment based on patient needs, characteristics, and preferences). This approach aims to treat the particular condition while also optimizing the individual's overall health and well-being.

Regardless of the care setting, all patients should have access to individualized evidence-based care. Patient-centered care can decrease patient anxiety, increase trust in clinicians, and improve treatment adherence.^(9, 10) A whole/holistic health approach (<https://www.va.gov/wholehealth/>) empowers and equips individuals to meet their personal health and well-being goals. Good communication is essential and should be supported by evidence-based information tailored to each patient's needs. An empathetic and non-judgmental approach facilitates discussions sensitive to sex, culture, ethnicity, and other differences.

Shared Decision Making

This CPG encourages providers to practice shared decision making. Shared decision making was emphasized in *Crossing the Quality Chasm*, an Institute of Medicine (IOM) (now NAM) report, in 2001.⁽¹¹⁾ Providers must be adept at presenting information to their patients regarding individual treatments, expected risks, expected outcomes, and levels and/or settings of care, especially where there may be patient heterogeneity in risks and benefits. The VHA and MHS have embraced shared decision making. Providers are encouraged to use shared decision making to individualize treatment goals and plans based on patient capabilities, needs, and preferences.

References

1. U.S. Department of Veterans Affairs/Department of Defense Health Executive Committee (HEC). Evidence Based Practice Work Group Charter [updated January 9, 2017]. Available from: www.healthquality.va.gov/documents/EvidenceBasedPracticeWGCharter123020161.pdf.
2. Society for Medical Decision Making Committee on Standardization of Clinical Algorithms. Proposal for clinical algorithm standards. *Med Decis Making*. 1992;12(2):149-54. Epub 1992/04/01. PubMed PMID: 1573982.
3. U.S. Department of Veteran Affairs, Department of Defense. Guideline for Guidelines: Veterans Health Administration, Office of Quality & Performance, Evidence Review Subgroup [updated January 29, 2019]. Available from: <http://www.healthquality.va.gov/policy/index.asp>.
4. Ransohoff DF, Pignone M, Sox HC. How to decide whether a clinical practice guideline is trustworthy. *JAMA*. 2013;309(2):139-40. Epub 2013/01/10. doi: 10.1001/jama.2012.156703. PubMed PMID: 23299601.
5. Andrews JC, Schunemann HJ, Oxman AD, Pottie K, Meerpohl JJ, Coello PA, et al. GRADE guidelines: 15. Going from evidence to recommendation-determinants of a recommendation's direction and strength. *J Clin Epidemiol*. 2013;66(7):726-35. Epub 2013/04/11. doi: 10.1016/j.jclinepi.2013.02.003. PubMed PMID: 23570745.
6. Andrews J, Guyatt G, Oxman AD, Alderson P, Dahm P, Falck-Ytter Y, et al. GRADE guidelines: 14. Going from evidence to recommendations: The significance and presentation of recommendations. *J Clin Epidemiol*. 2013;66(7):719-25. Epub 2013/01/15. doi: 10.1016/j.jclinepi.2012.03.013. PubMed PMID: 23312392.
7. National Institute for Health and Care Excellence. The guidelines manual. London: National Institute for Health and Care Excellence, 2012.
8. Martinez Garcia L, McFarlane E, Barnes S, Sanabria AJ, Alonso-Coello P, Alderson P. Updated recommendations: An assessment of NICE clinical guidelines. *Implement Sci*. 2014;9:72. Epub 2014/06/13. doi: 10.1186/1748-5908-9-72. PubMed PMID: 24919856.
9. Robinson JH, Callister LC, Berry JA, Dearing KA. Patient-centered care and adherence: Definitions and applications to improve outcomes. *J Am Acad Nurse Pract*. 2008;20(12):600-7. Epub 2009/01/06. doi: 10.1111/j.1745-7599.2008.00360.x. PubMed PMID: 19120591.
10. Stewart M, Brown JB, Donner A, McWhinney IR, Oates J, Weston WW, et al. The impact of patient-centered care on outcomes. *J Fam Pract*. 2000;49(9):796-804. Epub 2000/10/14. PubMed PMID: 11032203.
11. Institute of Medicine. Crossing the quality chasm: A new health system for the 21st century. Washington DC: National Academies Press, 2001.

*Access to the full guideline and additional resources are available
at the following link:*

<https://www.healthquality.va.gov/guidelines/CD/copd/>

