Quality Standards

Chronic Obstructive Pulmonary Disease

Care in the Community for Adults

Health Quality Ontario

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Summary

This quality standard addresses care for people with chronic obstructive pulmonary disease (COPD), including the assessment of people who may have COPD. It provides guidance on the diagnosis, management, and treatment of COPD in community-based settings. The scope of this quality standard applies to primary care, specialist care, home care, and long-term care.

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About Quality Standards

Health Quality Ontario, in collaboration with clinical experts, patients, residents, and caregivers across the province, is developing quality standards for Ontario.

Quality standards are concise sets of statements that will:

- Help patients, residents, families, and caregivers know what to ask for in their care
- Help health care professionals know what care they should be offering, based on evidence and expert consensus
- Help health care organizations measure, assess, and improve their performance in caring for patients

The statements in this quality standard do not override the responsibility of health care professionals to make decisions with patients, after considering each patient's unique circumstances.

How to Use Quality Standards

Quality standards inform clinicians and organizations about what high-quality health care looks like for aspects of care that have been deemed a priority for quality improvement in the province. They are based on the best available evidence.

They also include indicators to help clinicians and organizations assess the quality of care they are delivering and identify gaps and areas for improvement. These indicators measure processes, structures, and outcomes.

In addition, tools and resources to support clinicians and organizations in their quality improvement efforts accompany each quality standard.

For more information on how to use quality standards, contact **qualitystandards@hqontario.ca**.

About This Quality Standard

Scope of This Quality Standard

This quality standard addresses care for people with chronic obstructive pulmonary disease (COPD), including the assessment of people who may have COPD. It provides guidance on the diagnosis, management, and treatment of COPD in community-based settings. The scope of this quality standard applies to primary care, specialist care, home care, and long-term care. This quality standard does not address care provided in an emergency department or hospital inpatient setting for the management of acute exacerbations of COPD.

In 2015, Health Quality Ontario and the Ministry of Health and Long-Term Care published an updated *Quality-Based Procedures: Clinical Handbook for COPD (Acute and Postacute)*,[1] a document that provides guidance on the care of people with COPD while they are in hospital and after being discharged. The COPD quality standard aligns with this clinical handbook, which can be used in conjunction with the quality standard.

In partnership with in the Ontario Palliative Care Network, Health Quality Ontario has also developed the quality standard *Palliative Care: Care for Adults With a Progressive, Life-Limiting Illness*,[2] which can be used together with the COPD quality standard throughout the care journey of people with COPD. It is common for people with COPD to also have other health conditions. Health Quality Ontario has quality standards for some of these conditions, such as dementia, heart failure (in development), and asthma (in development). All quality standards are available at hqontario.ca.

Terminology Used in This Quality Standard

In this quality standard, "caregiver" refers to an unpaid person who provides care and support to a person with COPD. This may be a family member, friend, or anyone identified by the person with COPD. The term "primary care provider" refers to a family physician or nurse practitioner. "Interprofessional care" occurs when multiple health care professionals from different professional backgrounds work together to provide comprehensive health services for a person by working with the person and their family, caregivers, and community to deliver the highest quality of care across settings.[3]

Why This Quality Standard Is Needed

Chronic obstructive pulmonary disease (COPD) is a progressive illness characterized by irreversible or partially reversible airflow obstruction in the lungs.[4,5] The main risk factor for COPD is current or past tobacco smoking.[4,5] The condition is characterized by progressive shortness of breath, often associated with cough or sputum production, resulting in decreases in exercise tolerance, the ability to carry out activities of daily living, and quality of life.[4-6] As the disease progresses, many people with COPD have more frequent or more severe acute exacerbations of COPD, also called flare-ups or lung attacks.[4,5]

Worldwide, COPD is a leading cause of morbidity and mortality. The disease results in a social and economic burden that is both substantial and increasing. Despite declining smoking rates in Ontario, COPD is one of the most common chronic conditions. The overall estimated prevalence of physician-diagnosed COPD in Ontario was 11.1% to 11.8% in 2014/15 (COPD Cohort, Institute for Clinical Evaluative Sciences, 2014/15).[7] In addition, more people are living with COPD in Ontario than in the past: The prevalence of COPD increased by 36.6% from 1996/97 to 2014/15.[7] However, it is also estimated that only 45% of people with COPD have received spirometry testing to confirm their diagnosis. In 2016/17, this varied between 36.8% in the North East local health integration network (LHIN) and 53.6% in the Central LHIN (Physician-Billed Services, Institute for Clinical Evaluative Sciences, 2016/17).

People with COPD also frequently require health care services.[7] COPD is the second-most common reason for hospitalization in Ontario, after childbirth (Hospital Morbidity Database and Ontario Mental Health Reporting System, Canadian Institute for Health Information, 2014–2016). However, there is also variation across LHINs in the rate of hospitalizations and emergency department visits attributable to COPD. In 2014/15, there was a 2.2-fold difference between the highest rate of hospitalization (37.6 per 1,000 person-years in the North West LHIN) and the lowest rate (17.3 per 1,000 person-years in the Central LHIN). Also in 2014/15, the rate of emergency department visits was 5 times higher in the North East LHIN (52.5 per 1,000 person-years) than in the Mississauga Halton LHIN (10.5 per 1,000 person-years).[7] In Ontario, from 2008 to 2011, people with COPD accounted for 24% of hospitalizations, 24% of emergency department visits, 21% of ambulatory care visits, 30% of home care services, and 35% of long-term care residence places.[8] In 2011, the total economic burden of COPD in Ontario, comprising direct and indirect costs, was estimated to be $3.9 billion (direct health care costs alone were estimated to be $3.3 billion).[9]

Although COPD is a progressive illness, there are significant opportunities to improve the quality of life of people with the disease through the delivery of high-quality health care. As most people with COPD are not diagnosed until the disease is well advanced, earlier identification and testing of symptomatic individuals

at risk of developing COPD is an essential first step in managing this chronic condition.[10] The goals of COPD management include slowing the progression of airflow limitation; reducing the frequency and severity of and treating acute exacerbations; relieving symptoms such as breathlessness and anxiety; improving exercise tolerance, the ability to carry out activities of daily living, and overall health status; managing comorbidities; and reducing mortality.[4]

Principles Underpinning This Quality Standard

This quality standard is underpinned by the principles of respect and equity.

People with COPD should receive services that are respectful of their rights and dignity and that promote self-management in alignment with the chronic disease management framework for Ontario.[11]

People with COPD should be provided services that are respectful of their gender, sexual orientation, socioeconomic status, housing, age, background (including self-identified cultural, linguistic, ethnic, and religious backgrounds), and disability. Equitable access to the health system also includes access to culturally safe care. Language, a basic tool for communication, is an essential part of safe care and needs to be considered throughout a person's health care journey. For example, in predominantly English-speaking settings, services should be actively offered in French and other languages.

Health care professionals should be aware of the historical context of the lives of Indigenous peoples throughout Canada and be sensitive to the impacts of intergenerational trauma and the physical, mental, emotional, and social harms experienced by Indigenous people, families, and communities.

A high-quality health system is one that provides good access, experience, and outcomes for everyone in Ontario, no matter where they live, what they have, or who they are.

How Success Can Be Measured

The COPD Quality Standard Advisory Committee identified a small number of overarching goals for this quality standard. These have been mapped to indicators that may be used to assess quality of care provincially and locally.

How Success Can Be Measured Provincially

In this section, we list indicators that can be used to monitor the overall success of the standard provincially given currently available data. If additional data sources are developed, other indicators could be added.

Process indicators:

- Percentage of people with COPD whose diagnosis is confirmed by spirometry
- Percentage of people hospitalized for COPD who had an in-person follow-up assessment with a physician within 7 days of discharge
- Percentage of people with COPD who have filled a prescription for long-acting bronchodilator therapy (measurable for people aged 65 years and older only)

Outcome indicators:

- Percentage of people with COPD with one or more urgent acute-care visits for COPD in the past year:
  - Emergency department visits
  - Nonelective hospitalizations
- Percentage of people with COPD who smoke cigarettes daily

In addition to the overall measures of success, each quality statement within the standard is accompanied by one or more indicators. These indicators are intended to guide the measurement of quality improvement efforts related to the implementation of the statement.

How Success Can Be Measured Locally

You may want to monitor your own quality improvement efforts and assess the quality of care you provide to people with COPD. It may be possible to do this using your own clinical records, or you might need to collect additional data. We recommend the following indicators to measure the quality of care patients are receiving; these indicators cannot be measured provincially using currently available data sources:

- Percentage of people with COPD whose disease has a low or medium impact on their life (stratification: low, medium, high, and very high impact)
- Percentage of people with moderate to severe COPD who have access to a pulmonary rehabilitation program (stratification: community-based and inpatient rehabilitation)

To assess the equitable delivery of care, the statement-specific indicators and the overall indicators can be stratified by patient socioeconomic and demographic characteristics, such as income, education, language, age, sex, and gender.

Quality Statements in Brief

QUALITY STATEMENT 1:
Diagnosis Confirmed With Spirometry

People clinically suspected of having COPD have spirometry testing to confirm diagnosis within 3 months of developing respiratory symptoms.

QUALITY STATEMENT 2:
Comprehensive Assessment

People with COPD have a comprehensive assessment to determine the degree of disability, risk of acute exacerbation, and presence of comorbidities near the time of diagnosis and on an annual basis. The severity of airflow limitation, as initially determined by spirometry testing to confirm diagnosis, is reassessed when people's health status changes.

QUALITY STATEMENT 3:
Goals of Care and Individualized Care Planning

People with COPD discuss their goals of care with their future substitute decision-maker, their primary care provider, and other members of their interprofessional care team. These discussions inform individualized care planning, which is reviewed and updated regularly.

QUALITY STATEMENT 4:
Education and Self-Management

People with COPD and their caregivers receive verbal and written information about COPD from their health care professional and participate in interventions to support self-management, including the development of a written self-management plan.

QUALITY STATEMENT 5:
Promoting Smoking Cessation

People with COPD are asked about their tobacco-smoking status at every opportunity. Those who continue to smoke are offered pharmacological and nonpharmacological smoking cessation interventions.

QUALITY STATEMENT 6:
Pharmacological Management of Stable COPD

People with a confirmed diagnosis of COPD are offered individualized pharmacotherapy to improve symptoms and prevent acute exacerbations. Their medications are reviewed at least annually.

QUALITY STATEMENT 7:
Vaccinations

People with COPD are offered appropriate influenza and pneumococcal vaccinations.

QUALITY STATEMENT 8:
Specialized Respiratory Care

People with a confirmed diagnosis of COPD are referred to specialized respiratory care when clinically indicated, after receiving a comprehensive assessment and being offered treatment in primary care. This consultation occurs in accordance with the urgency of their health status.

QUALITY STATEMENT 9:
Pulmonary Rehabilitation

People with moderate to severe, stable COPD are referred to a pulmonary rehabilitation program if they have activity or exercise limitations and breathlessness despite appropriate pharmacological management.

QUALITY STATEMENT 10:
Management of Acute Exacerbations of COPD

People with COPD have access to their primary care provider or a health care professional in their care team within 24 hours of the onset of an acute exacerbation.

QUALITY STATEMENT 11:
Follow-Up After Hospitalization for an Acute Exacerbation of COPD

People with COPD who have been hospitalized for an acute exacerbation have an in-person follow-up assessment within 7 days after discharge.

QUALITY STATEMENT 12:
Pulmonary Rehabilitation After Hospitalization for an Acute Exacerbation of COPD

People who have been admitted to hospital for an acute exacerbation of COPD are considered for pulmonary rehabilitation at the time of discharge. Those who are referred to a pulmonary rehabilitation program start the program within 1 month of hospital discharge.

QUALITY STATEMENT 13:
Palliative Care

People with COPD and their caregivers are offered palliative care support to meet their needs.

QUALITY STATEMENT 14:
Long-Term Oxygen Therapy

People with stable COPD who have clinical indications of hypoxemia receive an assessment for and, if needed, treatment with long-term oxygen therapy.

1

Diagnosis Confirmed With Spirometry

People clinically suspected of having COPD have spirometry testing to confirm diagnosis within 3 months of developing respiratory symptoms.

Background

It is estimated that of all people with COPD worldwide, between 60% and 80% have not been diagnosed.[12] Both over- and under-diagnosis are possible with this condition.[1,12] Overdiagnosis can happen when the diagnosis is based only on a person's medical history and physical examination and not verified by spirometry testing. In this situation, a person may not actually have COPD. Overdiagnosis may lead to patient anxiety, the overuse of medications, and medication-related adverse effects without potential for benefit.[1,12,13] Under-diagnosis can occur when symptoms and risk factors are ignored or unrecognized by health care professionals and/or people with COPD, and when spirometry testing is not performed.[1,12,13] Spirometry is the only way to accurately measure the airflow obstruction of the lungs characteristic of COPD; therefore, it should be performed to confirm a diagnosis of COPD.[14] In Ontario, it is estimated that only 45% of people with COPD have received spirometry testing to confirm their diagnosis of COPD (Physician-Billed Services, Institute for Clinical Evaluative Sciences, 2016/17).

BACKGROUND CONTINUED

When a person clinically suspected of having COPD is unable to undergo spirometry testing, the use of a simple questionnaire can be considered, along with a comprehensive assessment (see Statement 2), to guide the development of an individualized care plan (see Statement 3) and pharmacological management (see Statement 6). Every attempt should be made to ensure the COPD diagnosis can be confirmed with spirometry, especially if any changes in the person's condition suggest they may be able to undergo spirometry testing.

Sources: Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6]

What This Quality Statement Means

For People With COPD

If you have respiratory symptoms that don't go away, your health care professional should talk with you about having a breathing test called spirometry (also called a lung function test or a pulmonary function test). This test is done to confirm whether or not you have COPD. Spirometry determines if there is an airflow blockage in the lungs and, if there is a blockage, how severe it is.

For Clinicians

Administer or order spirometry testing for people with at least one respiratory symptom and one risk factor for COPD to definitively confirm a diagnosis of COPD. Testing should be performed before and after the administration of an inhaled bronchodilator and should occur within 3 months of a person developing respiratory symptoms.

For Health Services

Ensure that health care professionals in primary care and community-based settings have access to spirometers that regularly undergo quality control and calibration to meet ATS and ERS specifications. Ensure that health care professionals are trained in administering and interpreting the results of spirometry testing.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Clinically suspected

People are clinically suspected of having COPD if they have at least one respiratory symptom and one risk factor for COPD as defined below.

Respiratory symptoms

Respiratory symptoms include the following:

- Persistent shortness of breath that worsens with activity and/or exercise
- Chronic cough
- Regular sputum production
- Recurrent respiratory infections
- Chronic wheezing
- Chest tightness
- Activity and/or exercise limitation owing to breathlessness

Risk factors

Current or past tobacco smoking is the most common risk factor for COPD. Additional risk factors include the following:

- Exposure to second-hand smoke
- Exposure to occupational lung irritants, such as dust, vapours, fumes, gases, and other chemicals
- Childhood factors, such as low birthweight, recurrent respiratory infections, and other lung development issues

Quality Indicators

Process Indicator

Percentage of people clinically suspected of having COPD who have undergone spirometry testing to confirm diagnosis within 3 months of developing respiratory symptoms

- Denominator: total number of people clinically suspected of having COPD
- Numerator: number of people in the denominator who have undergone spirometry testing to confirm a diagnosis of COPD within 3 months of developing respiratory symptoms
- Data sources: local data collection (to identify denominator and to identify spirometry testing conducted by nonphysicians and by physicians who did not bill the Ontario Health Insurance Plan [OHIP]); OHIP Claims Database (to identify testing date for spirometry testing conducted by physicians who billed OHIP)

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Risk factors (continued)

- Exposure to significant air pollution
- Family history of COPD
- Genetic predisposition (alpha-1 antitrypsin deficiency)
- History of asthma
- Use of biomass fuels for indoor heating or cooking without proper ventilation

Spirometry

Spirometry is a lung function test that measures airflow, including forced vital capacity (FVC), which is the volume of air forcibly exhaled from the point of maximal inspiration, and forced expiratory volume in 1 second (FEV1), which is the volume of air exhaled during the first second of the FVC measurement. Reference values to interpret the test are based on age, height, sex, and race. Spirometry results are presented as a percentage of the predicted value or as an absolute with upper and lower limits of normal (LLN). To diagnose COPD, testing should be administered and results interpreted by trained health care professionals using spirometers that regularly undergo quality control and calibration to meet American Thoracic Society (ATS) and European Respiratory Society (ERS) specifications.[16,17]

BACKGROUND CONTINUED

Structural Indicator

Local availability of spirometry testing

- Data source: local data collection

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Spirometry (continued)

Spirometry should be performed before and after the administration of an inhaled bronchodilator.[18] A post-bronchodilator FEV1/FVC ratio of less than 0.7 or less than the LLN confirms a diagnosis of COPD.[1,5] It is important to consider the spirometric overlap that exists between COPD and asthma, including the finding that many people with a confirmed diagnosis of COPD meet the FEV1 reversibility criteria required for an asthma diagnosis and that the post-bronchodilator FEV1/FVC ratio can also be reduced in asthma.

2

Comprehensive Assessment

People with COPD have a comprehensive assessment to determine the degree of disability, risk of acute exacerbation, and presence of comorbidities near the time of diagnosis and on an annual basis. The severity of airflow limitation, as initially determined by spirometry testing to confirm diagnosis, is reassessed when people's health status changes.

Background

A comprehensive assessment can assist in ensuring accurate diagnosis and appropriate management, ruling out other causes of symptoms, and determining prognosis.[5] Despite being essential to confirming a diagnosis of COPD, the presence of airflow limitation confirmed by spirometry is insufficient on its own to provide an accurate assessment of a person's symptoms, their health-related quality of life, or their health care needs.[5] In addition to the severity of airflow limitation, the essential components of a comprehensive assessment for a person with COPD help determine the following[5]:

- The degree of disability based on the impact of COPD symptoms on the person's life
- The risk of future acute exacerbations of COPD
- Other health conditions the person may have

This information is used to inform individualized care planning (see Statement 3) and pharmacological management (see Statement 6).[6] It should be collected and documented as soon as possible following diagnosis and then at least annually or when changes in the person's health status warrant reassessment. Spirometry testing does not need

BACKGROUND CONTINUED

to be performed every year; however, the severity of airflow limitation should be reassessed if there are any significant changes in the person's health status.

In some cases, such as when the severity of symptoms seems disproportionate to the severity of airflow limitation or when comorbidities are suspected, additional assessments and/or referral to specialized respiratory care (see Statement 3) should be considered. Examples of additional assessments include the following:

- Alpha-1 antitrypsin deficiency testing
- Anxiety assessment (e.g., via the GAD-7)
- Arterial blood gases or pulse oximetry
- Blood testing (e.g., complete blood count, blood gases, renal function, electrolytes)
- Body mass index calculation
- Bone mineral density testing
- Chest X-ray
- Computed tomography (CT) scan
- Depression assessment (e.g., via the 9-item Patient Health Questionnaire [PHQ-9])
- Echocardiography
- Electrocardiography
- Optometric or ophthalmologic exam to test for glaucoma and cataracts
- Sputum cytology

Sources: Canadian Thoracic Society, 2007[4] | Canadian Thoracic Society, 2017[19] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6]

What This Quality Statement Means

For People With COPD

If you have been diagnosed with COPD, your health care professional should thoroughly examine you. They should ask you about your physical health, your mental health, your medical history, what medications you're taking, how you spend your time, and how you're feeling. You may also need tests at a hospital, lab, or clinic, like blood tests or breathing tests.

For Clinicians

Perform a comprehensive assessment with people who have been diagnosed with COPD near the time of diagnosis and at least once a year thereafter. Recently completed investigations and testing, such as spirometry, should not be repeated unless clinically indicated. All results should be documented and used to inform care.

For Health Services

Ensure systems, processes, and resources are in place in primary care and community-based settings for health care professionals to carry out comprehensive assessments of people with COPD. This includes access to spirometry and standardized assessment tools.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Comprehensive assessment

A comprehensive assessment includes a medical history, physical exam, medication reconciliation, nutrition assessment, and the evaluation and documentation of the severity of airflow limitation, degree of disability, risk of acute exacerbation, and presence of comorbidities.

Degree of disability

The degree of COPD-related disability depends on symptom severity and can be measured using a number of instruments, including, but not limited to, the following:

- Clinical Frailty Scale (CFS)
- COPD Assessment Test (CAT)
- COPD Control Questionnaire (CCQ)
- Medical Research Council (MRC) Dyspnea Scale
- Tests of exercise capacity (e.g., 6-minute walking test, shuttle walk test, gait speed)

Risk of acute exacerbation

The risk of acute exacerbation can be assessed by obtaining a history of past acute exacerbations of COPD, including their timing, frequency, and severity, and any associated hospitalizations. Severe and worsening airflow obstruction, based on spirometry results, and the presence of chronic bronchitis are associated with a higher risk of acute exacerbation of COPD.

Quality Indicators

Process Indicators

Percentage of people with COPD whose degree of disability has been evaluated within the past 12 months

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator whose degree of disability has been evaluated in the past 12 months
- Potential stratification: initial assessment or regular follow-up
- Data source: local data collection

Percentage of people with COPD whose risk of acute exacerbation of COPD has been reviewed within the past 12 months

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator whose risk of acute exacerbation of COPD has been reviewed within the past 12 months
- Potential stratification: initial assessment or regular follow-up
- Data source: local data collection

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Comorbidities

The following conditions are common in people with COPD and should be considered in assessment and care planning:

- Asthma
- Cardiovascular disease (e.g., arrhythmia, heart failure, hypertension, ischemic heart disease, peripheral vascular disease, stroke)
- Cognitive impairment (e.g., dementia)
- Gastroesophageal reflux
- Lung cancer
- Metabolic disease (e.g., diabetes, metabolic syndrome, obesity)
- Mental illness (e.g., anxiety, depression)
- Musculoskeletal disorders (e.g., osteoarthritis)
- Osteoporosis
- Pulmonary embolism
- Sleep apnea
- Substance use disorders (e.g., tobacco)

QUALITY INDICATORS CONTINUED

Percentage of people with COPD who have had an evaluation of comorbidities within the past 12 months

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who have had an evaluation of comorbidities within the past 12 months
- Potential stratification: initial assessment or regular follow-up
- Data source: local data collection

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Airflow limitation

The severity of airflow limitation is measured with spirometry. The percentage predicted FEV1, relative to reference values based on age, height, sex, and race, is used to classify the severity of airflow limitation into one of the following categories:

- Mild: FEV1 ≥ 80%
- Moderate: 50% ≤ FEV1 < 80%
- Severe: 30% ≤ FEV1 < 50%
- Very severe: FEV1 < 30%

3

Goals of Care and Individualized Care Planning

People with COPD discuss their goals of care with their future substitute decision-maker, their primary care provider, and other members of their interprofessional care team. These discussions inform individualized care planning, which is reviewed and updated regularly.

Background

People with COPD should be engaged in discussions about their goals of care and should actively participate in planning their care as much as they would like. Future substitute decision-makers and caregivers should also be involved in such discussions and care planning as appropriate. These discussions and the comprehensive assessment (see Statement 2) inform individualized care planning. The purpose of individualized care planning for people with COPD is to optimize disease management and to discuss changes in care that might be needed as a person's disease progresses.[6]

For more information on goals of care and advance care planning, including the role of the substitute decision-maker, please see the quality standard *Palliative Care: Care for Adults With a Progressive, Life-Limiting Illness*.[2]

BACKGROUND CONTINUED

The health care needs of people with COPD change over time according to the progression and severity of their disease. As such, many different skills may be required to provide high-quality care for people with COPD.[1,20] Depending on a person's needs and the stage of their disease, this care may be provided by a single health care professional with a variety of skills, such as a primary care provider, or multiple health care professionals with different training and skills. The person with COPD, their caregivers, and their health care professionals make up an interprofessional care team.

Sources: Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20] | Ontario Health Technology Advisory Committee, 2012[21]

What This Quality Statement Means

For People With COPD

Your health care professionals want to get to know you well. The more they know about you and your goals, the better they can help create a care plan and provide support that meets your physical, psychosocial, and spiritual needs.

You are at the centre of your care, and you should have a say in planning your care. If you want, your family members, other chosen caregivers, or substitute decision-maker can also be involved.

It's important to make sure you know who your substitute decision-maker will be if you become incapable of making health decisions for yourself. By law, Ontario's *Health Care Consent Act* automatically assigns a substitute decision-maker for you, but you can change who your substitute decision-maker is by preparing a legal document called "Power of Attorney for Personal Care." Once you have confirmed who your substitute decision-maker is, talk with them regularly about your wishes, values, and beliefs. This will help them make the right decisions for you, if needed. If your wishes change, keep them informed.

You will get care for COPD from your primary care provider (family doctor or nurse practitioner). But you may also see a number of different health care professionals with different skills in caring for people with COPD, like a respirologist (a doctor who specializes in lung health), nurse, occupational therapist, respiratory therapist, pharmacist, physiotherapist, or social worker. Together with you and your chosen caregivers, these health care professionals make up your care team.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Goals of care

A person's goals of care are their overall priorities and health expectations for care; these are based on their personal values, wishes, beliefs, and perception of quality of life, and what they characterize as meaningful and important.[22] Examples of goals of care include prolonging life, relieving suffering, optimizing quality of life, maintaining control, achieving a good death, and getting support for caregivers, family, and loved ones.[23] Goals of care are not the same as health care decisions or consents for treatments. Typically, discussions of goals of care should precede health care decision-making and giving consent for treatment.

As outlined in the Ontario *Health Care Consent Act*, "health care consent" refers to making an informed decision regarding treatment made by a mentally capable person or their substitute decision-maker with the support of a health care professional.[24] A health care professional proposing treatment must obtain informed consent from the capable person, or from their substitute decision-maker if they do not have the mental capacity. To obtain consent, this discussion must address the person's present condition (i.e., the context); available treatment options; the risks, benefits, and side effects of treatment options; alternatives to treatment; and the likely consequences of not having the treatment.[24]

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

You should see your health care professional once or twice a year, or more often if your COPD symptoms are more severe. These regular appointments let your health care professional see how you are doing and make changes to your care if needed. These appointments also give you and your caregivers the chance to ask questions about COPD or the care you're getting.

For Clinicians

Engage people with COPD in discussions about their goals of care, and involve them in care planning. If caregivers are involved in the person's care, they should also be included in these discussions with the person's permission. These discussions can also be a good opportunity to discuss advance care planning and the role of the substitute decision-maker. Ensure that people with COPD receive interprofessional care from health care professionals who can meet their physical and mental health needs.

For Health Services

Ensure that systems, processes, and resources are in place for people with COPD to access necessary care and receive interprofessional care based on their needs. Ensure that primary care providers have the knowledge and resources to be able to refer people to interprofessional care when needed.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Substitute decision-maker

A substitute decision-maker is a person who makes care and treatment decisions on another person's behalf if or when that person becomes mentally incapable of making decisions for themselves.[22] The substitute decision-maker makes decisions based on their understanding of the person's wishes or, if these are unknown or not applicable, makes choices that are consistent with the person's known values and beliefs and in their best interests.In advance care planning, a mentally capable person identifies their substitute decision-maker by confirming the automatic substitute decision-maker from the hierarchy list in the *Health Care Consent Act* or by choosing someone else using a document called "Power of Attorney for Personal Care."[24] A "Power of Attorney for Personal Care" is a legal document in which one person gives another person the authority to make personal care decisions on their behalf if they become incapable.[22] A "Power of Attorney for Personal Care" is for personal care decisions (e.g., health care, nutrition, safety). Financial and property decisions are made through a "Continuing Power of Attorney for Property."

Quality Indicators

Process Indicators

Percentage of people with COPD who discussed their goals of care with their interprofessional care team

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who discussed their goals of care with their interprofessional care team (including their substitute decision-maker, primary care provider, and other members of their care team)
- Data source: local data collection

Percentage of people with COPD seen in primary care for COPD at least once in the past 12 months

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator seen in primary care for COPD at least once in the past 12 months
- Potential stratification: symptom severity
- Data sources: local data collection (to identify denominator and to identify visits to nonphysicians and by physicians who did not bill OHIP); OHIP Claims Database (to identify visits by physicians who billed OHIP)

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Individualized care planning

Individualized care planning is the process of establishing a care plan and a written document describing a person's health needs and goals of care, and the care that will be provided to meet these needs and goals, including appropriate referrals to specialized care or other interprofessional care. A copy of the care plan is provided to the person with COPD and their caregivers. A care plan is not the same as a decision or consent for treatments, nor is it the same as instructions to guide self-management, also known as a self-management plan or action plan. Individualized care planning should be reviewed and updated at least 1 to 2 times per year, or more frequently if needed.

Interprofessional care team

An interprofessional care team includes a primary care provider, multiple health care professionals with different training and skills, the person with COPD, and their caregivers. Interprofessional care occurs when multiple health care professionals with different areas of expertise provide comprehensive health services by working with patients, their caregivers, and communities to deliver the highest quality of care across settings.[3]

QUALITY INDICATORS CONTINUED

Percentage of people with COPD who report that their primary care provider always involves them in decisions regarding their care

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who report that their primary care provider always involves them as much as they want in decisions regarding their care
- Data source: local data collection
- Sample survey question: When you see your primary care provider or someone else in their office, how often do they involve you as much as you want in decisions about your care and treatment? (Response options: Always, Often, Sometimes, Rarely, Never, It depends on who I see and/or what I am there for, Not using or on any treatments/not applicable, Don't know, Refused)[25]
- Exclusions: Those who respond "It depends on who I see and/or what I am there for," "Not using or on any treatments/not applicable," "Don't know," or "Refused"

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Interprofessional care team (continued)

In addition to primary care, interprofessional care for people with COPD may include, but is not limited to, the following:

- Respiratory therapy and respiratory education
- Respirology or other specialist care
- Care coordination or case management
- Caregiver support
- Home care
- Kinesiology
- Nutrition support
- Occupational therapy
- Palliative care
- Pharmacy
- Physiotherapy
- Rehabilitation and/or clinical psychology
- Social work, psychology, psychiatry, or other psychosocial support
- Spiritual or religious support

4

Education and Self-Management

People with COPD and their caregivers receive verbal and written information about COPD from their health care professional and participate in interventions to support self-management, including the development of a written self-management plan.

Background

Interventions to support self-management aim to inform, educate, and motivate people with COPD to adopt sustained behaviour change and confidently develop skills to better manage their symptoms and their disease.[26] As part of interventions to support self-management, health care professionals should provide people with COPD and their caregivers with verbal and written information about COPD and how to manage the condition.[27] They should also work together with people with COPD and their caregivers to develop and update an individualized, written self-management plan or COPD action plan.
A copy of the self-management plan should be given to the person with COPD. The use of a written self-management plan on its own, without education and ongoing support provided by a trained health care professional, cannot be recommended at this time owing to inconsistency in the evidence for safety and effectiveness.[1]

A consensus definition of self-management intervention for COPD has been proposed; however, there is limited evidence regarding the information that should be provided or the timing and frequency of interventions.[26] The following topics are considered essential for discussions with people with COPD and their caregivers:

BACKGROUND CONTINUED

- Information about the nature of COPD and disease progression
- Managing acute exacerbations using an individualized, written self-management plan that includes information regarding when to seek help from a health care professional, what medications to take, and how to cope effectively with setbacks and relapses (see Statement 10)
- The importance of smoking cessation and information regarding available smoking cessation interventions (see Statement 5)
- Medications used to manage COPD, proper inhaler device technique, and the importance of adhering to maintenance therapy (see Statement 6)
- The importance of avoiding lung irritants, including second-hand smoke, chemicals, outdoor air pollution, and indoor air pollution (e.g., from burning wood and other biomass fuels)
- Breathlessness symptom management, including breathing and chest clearance techniques
- The importance of stress and anxiety management
- Developing and maintaining healthy behaviours, such as physical activity and exercise, healthy eating, adequate sleep, vaccinations, and hand hygiene
- Available social and community supports, including formal support groups, and the importance of being socially connected
- Information about available palliative care support to improve quality of life

Sources: American College of Chest Physicians and Canadian Thoracic Society, 2015[28] | Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20] | Ontario Health Technology Advisory Committee, 2012[21]

What This Quality Statement Means

For People With COPD

Your health care professional should explain COPD to you, including how the disease will progress, what can be done to help you, and what you can do to take care of yourself.

You can also learn more about COPD from other people who are living with COPD. This is sometimes called peer support. Peer support can happen in a formal group setting, or it can be informal, like when someone you know talks with you about their experience.

You, your caregivers, and your health care professional should work together to help you stay as healthy as possible and to know how to deal with flare-ups. One part of your care where you play an important role is called self-management. What you can do to take care of yourself will be described in a self-management plan or a COPD action plan. This plan describes your medications and how to take them, things you can do each day to stay healthy, and what to do if you experience a flare-up of your symptoms.

A big part of living well with COPD is taking care of yourself. Here are some things you can do:

- If you smoke, stop smoking
- Take your medications as prescribed by your health care professional
- Make sure you know how to use your inhaler and other medications properly
- Get vaccinations recommended by your health care professional
- Stay active and exercise
- Eat healthy foods

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Interventions to support self-management

According to a consensus definition, a self-management intervention for COPD is a structured but individualized plan to motivate, engage, and support people with COPD to positively adapt their health behaviours and develop skills to better manage their disease.[26] The goals of self-management are to optimize physical health; reduce symptoms and functional impairments; increase quality of life, including emotional and social well-being; and establish effective relationships with health care professionals, family, friends, and community.

The process requires iterative interactions between people with COPD and health care professionals trained in behaviour change techniques and health literacy–sensitive approaches to providing self-management interventions. The focus is on identifying needs and goals, formulating a plan to reach goals, and re-evaluating the plan as necessary.

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

- Get enough sleep
- Learn ways to manage stress
- Learn to recognize the signs of a flare-up and what to do if you have one
- If you are on oxygen therapy, use oxygen as prescribed by your health care professional
- Stay connected with family, friends, and your community
- Wash your hands frequently to help prevent catching a cold or the flu

For Clinicians

Provide interventions to support self-management to people with COPD and their caregivers. Work with people with COPD and their caregivers to create a written self-management plan, and ensure that it is accompanied by education and structured support to prevent or reduce the risk of a serious acute exacerbation of COPD. Provide people with COPD with information about and referrals to local respiratory education and exercise programs.

For Health Services

Ensure that people with COPD have access to health care professionals trained in providing interventions to support self-management of COPD, including, but not limited to, respiratory therapists and other health care professionals who are certified respiratory educators.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Written self-management plan

Also referred to as a COPD action plan, a written self-management plan is a written document developed together by people with COPD, their health care professionals, and their caregivers. It outlines a person's treatments and the strategies they should use daily and in the case of an acute exacerbation. It may include prescriptions or standing orders for medications. This plan should be used in conjunction with interventions to support self-management provided by a health care professional.

Quality Indicators

Process Indicators

Percentage of people with COPD who participate in one or more interventions to support self-management with their health care professional

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who participate in one or more interventions to support self-management with their health care professional
- Data source: local data collection

Percentage of people with COPD who have a written self-management plan

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who have a written self-management plan
- Data source: local data collection

Outcome Indicator

Percentage of people with COPD who report feeling confident in the self-management of their symptoms

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who respond “confident” or “very confident” to the following question: “How confident are you in your ability to manage your COPD symptoms?” (Response options: Very confident, Confident, Not confident, Not at all confident, Unsure)
- Potential stratification: those with or without a self-management plan
- Data source: local data collection

5

Promoting Smoking Cessation

People with COPD are asked about their tobacco-smoking status at every opportunity. Those who continue to smoke are offered pharmacological and nonpharmacological smoking cessation interventions.

Background

Past or current tobacco smoking is the most common risk factor for developing COPD.[5] Estimates suggest that as many as 30% to 36% of people with COPD are current smokers (Canadian Community Health Survey, 2016, Statistics Canada).[29] Smoking cessation is one of the most effective ways to slow the progression of the disease, reduce symptom severity, and prevent acute exacerbations.[4,5,28] Every encounter with a health care professional presents an opportunity to discuss smoking status and cessation with people who have COPD.[6,30] Smoking cessation interventions offered to a person with COPD should be aligned with the person's readiness for change. For those who have stopped smoking, the discussion should focus on any additional interventions that may be needed to support them in maintaining smoking cessation.

Sources: American College of Chest Physicians and Canadian Thoracic Society, 2015[28] | Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20]

What This Quality Statement Means

For People With COPD

If you smoke tobacco, your health care professional should talk with you about how important it is for your health for you to quit smoking. There are different types of treatment that can help, like counselling, nicotine replacement therapy, and other medications. You can talk with your health care professional to find the best options for you.

For Clinicians

Ask people with COPD about their tobacco-smoking status each time you see them. If they have stopped smoking, ask if they need any additional supports. If they still smoke or if they have started smoking again, use motivational interviewing techniques to encourage them to consider stopping. Offer appropriate smoking cessation interventions, including behavioural support, intensive counselling, medications, or referrals to other health care professionals and programs that offer these supports.

For Health Services

Ensure that pharmacological and nonpharmacological smoking cessation interventions are available in the community to help people with COPD stop smoking tobacco, such as the Ottawa Model for Smoking Cessation program.[31] Ensure that health care professionals are trained to provide tobacco cessation counselling, such as through the Training Enhancement in Applied Cessation Counselling and Health (TEACH) project.[32]

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Smoking cessation interventions

A range of pharmacological and nonpharmacological interventions are available to help people stop smoking tobacco. Options include, but are not limited to, the following:

- Behavioural support
- Intensive counselling (≥ 90 minutes per session)
- Motivational interviewing
- Nicotine replacement therapy products
- Pharmacotherapy (e.g., bupropion, varenicline)

Quality Indicators

Process Indicators

Percentage of people with COPD who smoke tobacco and who made a plan with a health care professional to stop smoking tobacco in the past 12 months

- Denominator: total number of people with COPD who smoke tobacco
- Numerator: number of people in the denominator who made a plan with a health care professional to stop smoking tobacco in the past 12 months
- Data source: local data collection

Percentage of people with COPD who smoke tobacco and who received counselling interventions to stop smoking tobacco in the past 12 months

- Denominator: total number of people with COPD who smoke tobacco
- Numerator: number of people in the denominator who received counselling interventions to stop smoking tobacco in the past 12 months
- Potential stratification: daily or occasional smoking
- Data sources: local data collection (for counselling provided by nonphysicians and by physicians who did not bill OHIP); OHIP Claims Database (for counselling provided by physicians who billed OHIP)

Percentage of people with COPD who smoke tobacco and who received a pharmacological intervention to stop smoking tobacco in the past 12 months

- Denominator: total number of people with COPD who smoke tobacco
- Numerator: number of people in the denominator who received a pharmacological intervention to stop smoking tobacco in the past 12 months
- Data sources: local data collection (for the denominator, those under 65 years of age, and to measure the use of medications not covered by the Ontario Drug Benefit Program, including over-the-counter medications such as nicotine replacement therapies); Ontario Drug Benefit Program (for those 65 years of age and older)

QUALITY INDICATORS CONTINUED

Structural Indicator

Local availability of smoking cessation interventions

- Data source: local data collection

Outcome Indicator

Percentage of people with COPD who smoke tobacco daily (lower is better)

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who report smoking tobacco on a daily basis
- Data source: local data collection
- Sample survey question (specific to smoking cigarettes; could be expanded to all tobacco products): At the present time, do you smoke cigarettes every day, occasionally, or not at all? (Response options: Daily, Occasionally, Not at all, Don't know, Refused)[33]
- Exclusions: Those who respond "Don't know" or "Refused"
- Note: This indicator is also included in the section "How Success Can Be Measured"

6

Pharmacological Management of Stable COPD

People with a confirmed diagnosis of COPD are offered individualized pharmacotherapy to improve symptoms and prevent acute exacerbations. Their medications are reviewed at least annually.

Background

Pharmacological management of symptomatic COPD generally requires that additional medications be added to a person's regimen in a stepwise way as symptoms progress.[19,28] Many people may not recognize symptoms or attribute them to COPD. Pharmacotherapy can help reduce the day-to-day symptoms of stable COPD and prevent or reduce the severity of acute exacerbations of COPD. The medications offered should be selected based on a comprehensive assessment (see Statement 2). Issues related to medication adherence, the ability of the person to use a medication delivery system, and the ability of the person to pay for medication should be considered. When offered pharmacological management, people with COPD should be taught when and how to properly use the medication and its delivery system, including inhaler technique and use of a spacer if applicable.[6] If different or additional medications are prescribed during an acute exacerbation of COPD, medication reconciliation should be a priority during follow-up once the acute symptoms have subsided (see Statements 10 and 11). Medication should be reviewed at least annually.

Sources: American College of Chest Physicians and Canadian Thoracic Society, 2015[28] | Canadian Thoracic Society, 2007[4] | Canadian Thoracic Society, 2017[19] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6]

What This Quality Statement Means

For People With COPD

Medications are an important part of managing COPD. They can help manage your day-to-day symptoms and also prevent and manage acute exacerbations of COPD, also called flare-ups.

Your health care professional should explain how and when to take your medications. If you are using an inhaler, your health care professional should also ask you to show them how you use it to make sure you are confident using it.

There are many different medications, including several types of inhalers, that can help you manage COPD. If you are not feeling well on your current medications, talk with your health care professional to see if there's another type of medication you can try.

For Clinicians

Prescribe medications to manage symptoms of stable COPD and prevent acute exacerbations in a stepwise fashion based on current treatment recommendations and algorithms according to findings from a comprehensive assessment.[5,19] Provide people with COPD clear instructions about when and how to properly use the medication and its delivery system. Provide instructions on proper inhaler technique and use of a spacer, if needed, and ask people to demonstrate how they use their inhaler to ensure proper technique, as applicable. This patient education technique is called "teach back."

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Individualized pharmacotherapy

A short-acting, fast-onset inhaled bronchodilator for immediate symptom relief should be offered to all people diagnosed with COPD. People with moderate to severe COPD, who do not have features of asthma, should be offered an inhaled long-acting bronchodilator—either a long-acting anti-muscarinic (LAMA) or long-acting beta-2-agonist (LABA). However, for people who also have asthma, initial pharmacological management should include maintenance therapy with an inhaler that combines a LABA and an inhaled corticosteroid (LABA/ICS) of low to moderate dose. Further pharmacotherapy should be individualized based on symptom severity and the frequency and severity of acute exacerbations according to current treatment recommendations and algorithms.[5,19] The person with COPD should be taught proper inhaler use and delivery device technique. When appropriate, the use of a spacer should be considered.

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Health Services

Ensure that systems, processes, and resources are in place and that education is provided for health care professionals to appropriately offer and prescribe medications to manage stable COPD.

Quality Indicators

Process Indicators

Percentage of people with COPD who receive short-acting bronchodilator therapy

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who receive short-acting bronchodilator therapy
- Potential stratification: disease severity
- Data source: local data collection
- Note: A proxy indicator that measures those who have filled a prescription for short-acting bronchodilator therapy could be measured using the Ontario Drug Benefit Program (for those 65 years of age and older)

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Individualized pharmacotherapy (continued)

If breathlessness persists or worsens, or if acute exacerbations occur frequently and/or are severe, additional inhaled pharmacologic treatment should be considered to help prevent acute exacerbations. Combination inhaled corticosteroid therapy with two long-acting bronchodilators in one inhaler (LAMA/LABA) should be tried first, followed by triple therapy with a LAMA and a LABA/ICS. ICS monotherapy is not indicated for the treatment of COPD, nor is LABA/ICS indicated as a first-line medication. In some cases, oral pharmacologic treatment may also be considered (e.g., mucolytics, macrolides, roflumilast, and theophylline).

QUALITY INDICATORS CONTINUED

Percentage of people with moderate to severe COPD who receive long-acting bronchodilator therapy

- Denominator: total number of people with moderate to severe COPD
- Numerator: number of people in the denominator who receive long-acting bronchodilator therapy
- Potential stratification: disease severity
- Data source: local data collection
- Note: A proxy indicator that measures those who have filled a prescription for long-acting bronchodilator therapy could be measured using the Ontario Drug Benefit Program (for those 65 years of age and older)

Percentage of people with COPD who receive inhaled corticosteroid monotherapy (lower is better)

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who receive inhaled corticosteroid monotherapy
- Data source: local data collection
- Note: A proxy indicator that measures those who have filled a prescription for inhaled corticosteroid monotherapy could be measure using the Ontario Drug Benefit Program (for those 65 years of age and older)

QUALITY INDICATORS CONTINUED

Percentage of people with COPD using their inhaled medication delivery system properly

- Denominator: total number of people with COPD who have been prescribed an inhaler
- Numerator: number of people in the denominator using their inhaled medication delivery system properly
- Potential stratification: type of delivery system
- Data source: local data collection

Percentage of people with COPD who have had their medications reviewed in the past 12 months, or more frequently if clinically indicated

- Denominator: total number of people with COPD who receive one or more medications
- Numerator: number of people in the denominator who have had their medications reviewed in the past 12 months, or more frequently if clinically indicated
- Data source: local data collection

7

Vaccinations

People with COPD are offered appropriate influenza and pneumococcal vaccinations.

Background

Influenza infection and pneumococcal disease, along with complications such as pneumonia, can worsen day-to-day symptoms for people with COPD and lead to acute exacerbations, hospitalization, and even death.[5] Annual influenza vaccination has been found to reduce the number of respiratory infections and the number of acute exacerbations experienced by people with COPD.[28] Annual influenza vaccination has also been found to reduce the number of hospitalizations owing to influenza and pneumonia and to reduce mortality rates among people with COPD.[5,6] Although there is less certainty in the evidence regarding pneumococcal vaccinations reducing the number of hospitalizations or the mortality rate among people with COPD, potential benefits include the prevention of community-acquired pneumonia and invasive pneumococcal disease.[5] Caregivers and family members of people with COPD should also be encouraged to receive appropriate influenza vaccinations.

Sources: American College of Chest Physicians and Canadian Thoracic Society, 2015[28] | Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20]

What This Quality Statement Means

For People With COPD

The flu and some infections, like pneumonia (a lung infection), can make COPD symptoms worse. You should be offered a flu shot every year. You should also be offered vaccines against pneumonia. Your caregivers and family members should also be encouraged to get vaccinated to help protect you.

For Clinicians

Ensure people with COPD are offered influenza vaccination annually and pneumococcal vaccinations based on their age and individual risk factors, as outlined in the NACI statements.[36-38]

For Health Services

Ensure the availability of influenza and pneumococcal vaccines in sufficient quantity in primary care and community-based settings. Ensure education is available to health care professionals regarding how these vaccines should be administered, when, and to whom.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Influenza vaccination[34,35]

Influenza vaccination should be offered annually to all people with COPD unless contraindications are present. People with immunosuppression (e.g., those receiving immunocompromising therapy such as long-term corticosteroids) and those who are 65 years of age or older should be offered a high-dose influenza vaccine.

Pneumococcal vaccinations[36-38]

Pneumococcal vaccinations should be offered to all people with COPD, unless contraindications are present. Both available vaccines should be considered according to National Advisory Committee on Immunization (NACI) statements and individual clinical indications, such as age and the presence of factors contributing to an increased risk of developing invasive pneumococcal disease (e.g., the use of immunocompromising therapy such as long-term corticosteroids).[36-38]

Quality Indicators

Process Indicators

Percentage of people with COPD who have received an influenza vaccination in the past 12 months

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who have received an influenza vaccination in the past 12 months
- Data sources: local data collection (for administration by nonphysicians and by physicians who did not bill OHIP); OHIP Claims Database (for administration by physicians who billed OHIP); Resident Assessment Instrument–Home Care (RAI-HC; for home care); Resident Assessment Instrument–Minimum Data Set (RAI-MDS; for long-term care)

Percentage of people with COPD who have received a pneumococcal vaccination

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator who have received a pneumococcal vaccination
- Data sources: local data collection (for administration by nonphysicians and by physicians who did not bill OHIP); OHIP Claims Database (for administration by physicians who billed OHIP)

8

Specialized Respiratory Care

People with a confirmed diagnosis of COPD are referred to specialized respiratory care when clinically indicated, after receiving a comprehensive assessment and being offered treatment in primary care. This consultation occurs in accordance with the urgency of their health status.

Background

People with COPD may require specialized care at different points in their care journey, depending on the knowledge and skills of their primary care provider or other members of the interprofessional care team, as well as changes in their health status. Before being referred to specialized respiratory care, people suspected of having COPD should typically undergo spirometry testing to confirm their diagnosis (see Statement 1), receive a comprehensive assessment (see Statement 2), and participate in discussions of goals of care and in individualized care planning (see Statement 3). They should also be offered pharmacotherapy (see Statement 6) and other relevant secondary prevention measures (see Statements 4, 5, 7, and 9).

In some cases, a phone or secure electronic consultation between a person's primary care provider and a specialist may be sufficient. Ongoing communication among the person with COPD, their primary care provider, other members of their interprofessional care team, and their specialist may help reassure the person with COPD, ensure referrals have been completed appropriately by the primary care provider, and confirm that referrals have been received and prioritized.

BACKGROUND CONTINUED

The referral should include the spirometry results, results from the comprehensive assessment, information about the person's individualized care plan (including goals of care), a copy of the person's written self-management plan, and the clinical indication for referral. This information will help to ensure people with COPD are seen according to the urgency of their health status and undergo only those investigations that have not already been completed.

Sources: Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20]

What This Quality Statement Means

For People With COPD

At some point, your health care professional may determine that you need to see a physician who specializes in lung health, usually a respirologist or sometimes a general internist, or a family physician or nurse practitioner with expertise in lung health.

Before you are referred to a lung specialist, your health care professional should thoroughly assess you and give you medication to help control your symptoms.

If you are referred to a lung specialist, your health care professional should let you know when your appointment with the specialist is. They should also let you know what they hear back from the specialist after your visit.

For Clinicians

Primary care: Confirm a person's diagnosis of COPD with spirometry and perform a comprehensive assessment before considering referral to specialized respiratory care. Provide a detailed referral, including spirometry results, comprehensive assessment results, the person's individualized care plan, a copy of the person's self-management plan, and the clinical indication for referral.

Specialized respiratory care: Communicate with the person's primary care provider to inform them of the timing of the referral response.

In certain circumstances, it may be appropriate or preferable for the consultation between primary care and specialized respiratory care to be held via phone or email.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Specialized respiratory care

Depending on the clinical indication, specialized respiratory care may be provided by a respirologist, a general internist with expertise in respiratory medicine, or a family physician or nurse practitioner with expertise in respiratory medicine or working within a specialized respiratory health clinic.

Clinically indicated

Clinical indications for referral to specialized respiratory care include, but are not limited to, the following:

- Accelerated decline in lung function
- Assessment required for any of the following:
  - Oral pharmacologic treatment (e.g., mucolytics, macrolides, roflumilast, and theophylline)
  - Long-term oxygen therapy
  - Pulmonary rehabilitation
  - Suitability for air travel in a person with hypoxemia
  - Surgery
- Complex comorbidities (see Statement 2)
- Frequent infections
- Hemoptysis
- Hypercapnia
- Onset of pulmonary hypertension

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Health Services

Ensure systems, processes, and resources are in place so that all people with COPD have timely access to specialized respiratory care when needed upon referral from their primary care provider.

Quality Indicators

Process Indicators

Percentage of people with COPD referred to specialized respiratory care when clinically indicated

- Denominator: total number of people with COPD with a clinically indicated reason for referral to specialized respiratory care
- Numerator: number of people in the denominator referred to specialized respiratory care
- Potential stratification: clinical indication (e.g., severe or recurrent acute exacerbations, frequent infections)
- Data sources: local data collection; specialist physician visits may be measured using the OHIP Claims Database

Wait time between specialized respiratory care referral and first specialized respiratory care consultation

- Definition: total number of days between referral for specialized respiratory care and first specialized respiratory care consultation
- Potential stratification: referral provider type, urgency of health status
- Data source: local data collection

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Clinically indicated (continued)

- Onset of symptoms at a young age or a family history of alpha-1 antitrypsin deficiency
- Patient request for second opinion
- Severe or very severe COPD
- Severe or recurrent acute exacerbations
- Severe symptoms disproportionate to airflow limitation
- Uncertain diagnosis

QUALITY INDICATORS CONTINUED

Percentage of people with COPD seen by a respirologist

- Denominator: total number of people with COPD
- Numerator: number of people in the denominator seen by a respirologist
- Potential stratification: symptom severity
- Data source: OHIP Claims Database

9

Pulmonary Rehabilitation

People with moderate to severe, stable COPD are referred to a pulmonary rehabilitation program if they have activity or exercise limitations and breathlessness despite appropriate pharmacological management.

Background

Pulmonary rehabilitation is an interdisciplinary intervention designed and individually tailored to optimize the physical and psychological condition of people with chronic respiratory conditions such as COPD.[17] Pulmonary rehabilitation should be offered to people with COPD who remain symptomatic despite appropriate pharmacological management (see Statement 6).[4-6,15] People who complete a pulmonary rehabilitation program benefit from participation in exercise programs to maintain function.[1]

Sources: Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20] | Ontario Health Technology Advisory Committee, 2015[39]

What This Quality Statement Means

For People With COPD

It's important for your health that you stay active and exercise. You can talk with your health care professional about what kinds of exercise would be good for you and what medications can help you stay active. Your health care professional can also give you information about local programs on lung health and exercise.

If you are taking your medications as directed but still have trouble being active and often feel breathless, your health care professional may suggest that you try a pulmonary rehabilitation program.

Pulmonary rehabilitation programs are designed for people with COPD. They are offered in a hospital or clinic in the community. These programs teach you about COPD to help you understand and manage your symptoms. They include a personalized, supported exercise program to improve your breathing, increase your fitness, and make it easier to do your daily activities. They also provide emotional and peer support.

If you take a pulmonary rehabilitation program, your health care professional should work with you to find ways to stay active once the program is over.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Moderate to severe, stable COPD

The severity of stable COPD can be classified based on severity of airflow limitation and degree of disability[4]:

- Severity of airflow limitation (as percentage predicted)
  - Mild: FEV1 ≥ 80%
  - Moderate: 50% ≤ FEV1 < 80%
  - Severe: 30% ≤ FEV1 < 50%
  - Very severe: FEV1 < 30%
- Degree of disability (e.g., based on MRC Dyspnea Scale rating)
  - Mild: Breathlessness from COPD when walking at a quick pace on level ground or walking up a slight hill (MRC grade 2)
  - Moderate: Shortness of breath from COPD causing the person to stop after walking about 100 metres (or after a few minutes) on level ground (MRC grades 3–4)
  - Severe: Shortness of breath from COPD resulting in the person being too breathless to leave the house or breathless when dressing or undressing (MRC grade 5), or the presence of chronic respiratory failure or clinical signs of right heart failure

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Clinicians

Discuss the option of pulmonary rehabilitation with people with moderate to severe, stable COPD, and refer them to pulmonary rehabilitation programs as appropriate. In cases of long wait times to begin a pulmonary rehabilitation program, provide people with COPD with information about and referrals to local respiratory education and exercise programs.

For Health Services

Ensure the availability of pulmonary rehabilitation programs for people with moderate to severe, stable COPD who experience activity or exercise limitations and breathlessness despite appropriate pharmacological management.

Quality Indicators

Process Indicators

Percentage of people with moderate to severe COPD who experience activity or exercise limitations and breathlessness despite appropriate pharmacological management and who are referred to a pulmonary rehabilitation program

- Denominator: total number of people with moderate to severe COPD who experience activity or exercise limitations and breathlessness despite appropriate pharmacological management
- Numerator: number of people in the denominator who are referred to a pulmonary rehabilitation program

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Pulmonary rehabilitation

Pulmonary rehabilitation consists of supervised aerobic (endurance) and resistance (strength) training to increase exercise capacity and functional status. Other components include education and self-management, including behavioural interventions and nutrition and psychological support. Programs are multicomponent, interdisciplinary, and individualized, and run for at least 6 to 8 weeks.[1,17]

A person's eligibility for enrolment includes clinically stable, symptomatic COPD with increased breathlessness and reduced activity levels despite appropriate pharmacological treatment; no evidence of poorly controlled cardiovascular, neurological, or musculoskeletal conditions that might limit participation; ability to understand instructions; and a willingness to participate.

QUALITY INDICATORS CONTINUED

- Exclusions: those ineligible to participate in a pulmonary rehabilitation program
- Data source: local data collection

Percentage of people with COPD who are eligible for enrolment in a pulmonary rehabilitation program and who begin the program

- Denominator: total number of people with COPD who are eligible for a pulmonary rehabilitation program
- Numerator: number of people in the denominator who begin a pulmonary rehabilitation program
- Data sources: local data collection (for community-based rehabilitation); National Rehabilitation Reporting System (NRS; for inpatient rehabilitation)

Percentage of people with COPD who begin a pulmonary rehabilitation program and complete the program

- Denominator: total number of people with COPD who begin a pulmonary rehabilitation program
- Numerator: number of people in the denominator who completed a pulmonary rehabilitation program (attended ≥ 70% of sessions)
- Data sources: local data collection (for outpatient hospital-based or community-based rehabilitation); NRS (for inpatient rehabilitation)

Structural Indicator

Local availability of pulmonary rehabilitation programs

- Data source: local data collection

10

Management of Acute Exacerbations of COPD

People with COPD have access to their primary care provider or a health care professional in their care team within 24 hours of the onset of an acute exacerbation.

Background

For people with COPD, an acute exacerbation of COPD is the primary reason for unscheduled medical visits, hospitalization, and, when severe, death.[4] Even after people with COPD are stabilized, these episodic symptom flare-ups impact health status, including a decrease in lung function and a reduction in health-related quality of life.[4] Typically, exacerbations occur when people with COPD have respiratory infections. Sometimes, the cause of an exacerbation is exposure to triggers in the environment such as air pollution or temperature changes. Other times, the cause of an exacerbation is unknown.[28]

Some people will receive their initial diagnosis of COPD during or following an acute exacerbation. All people with COPD should be made aware of the early signs and symptoms of an acute exacerbation so that they can take steps to prevent it from getting worse should they experience one (see Statement 4). Caregivers should also be aware of these signs and symptoms, and the signs and symptoms should be noted in the person's self-management plan.

BACKGROUND CONTINUED

Regardless of the self-management plan or action plan they have established with their health care professionals, all people with COPD should be able to contact a health care professional in their care team within 24 hours of the onset of an acute exacerbation (worsening respiratory symptoms that last at least 48 hours). During an acute exacerbation or a suspected exacerbation, the health care professional should obtain a complete history to help determine and clarify the cause of the worsening symptoms.[10] In some cases, timely access to a health care professional who can provide structured support to assist the person with their self-management plan may prevent the need for an emergency department visit or hospital admission. However, more severe exacerbations of COPD require an emergency department visit or admission to hospital.

Source: Advisory committee consensus

What This Quality Statement Means

For People With COPD

It is important to know when you are having a flare-up of your symptoms so that you can prevent it from getting worse. You might be starting to have a flare-up if you experience one or more of the following symptoms:

- You are more out of breath than usual
- You are coughing more than usual
- You are coughing up more mucus than usual
- There is a change in the thickness or colour of your mucus
- There is blood in your mucus

Over time, many people with COPD get to know the early signs and symptoms of a flare-up. Some people find that they start feeling generally unwell, need to rest more, have difficulty sleeping, lose their appetite, or become confused, restless, and lose interest in things. People who have health conditions in addition to COPD sometimes notice that their nonrespiratory symptoms get worse first.

If you experience a flare-up, follow the instructions in your written self-management plan or COPD action plan. If your symptoms last 48 hours or get worse, contact your health care professional right away.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Access

Access to a person's primary care provider or member of their interprofessional care team may be in person or via telephone, telemedicine, or secured electronic communication.

Acute exacerbation of COPD[4,28]

An acute exacerbation of COPD is characterized by a worsening of respiratory symptoms, such as breathlessness, cough, and sputum production (purulent or nonpurulent), that is more severe than the day-to-day variation in symptoms that a person with COPD is accustomed to and that lasts at least 48 hours. The severity of an acute exacerbation is categorized according to the treatment required:

- Mild: requires treatment with inhaled bronchodilators only, outside the hospital
- Moderate: requires treatment with inhaled bronchodilators, antibiotics, and/or corticosteroids, usually outside the hospital
- Severe: may be associated with acute respiratory failure; requires treatment in hospital (emergency department visit with possible admission to hospital)

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Clinicians

Explain to people with COPD the signs and symptoms of an acute exacerbation so they know what steps to take should they experience one. Ensure people with COPD know who on their care team to contact in the event of an acute exacerbation and that they have the appropriate contact information. Ensure that people with COPD are able to contact a member of their care team within 24 hours of the onset of an acute exacerbation.

For Health Services

Ensure resources and processes are in place so that people with COPD have access to primary care within 24 hours of the onset of an acute exacerbation.

Quality Indicators

Process Indicator

Percentage of people with COPD who experienced an acute exacerbation and who had access to their primary care provider or a health care professional in their care team within 24 hours of the onset of the exacerbation

- Denominator: total number of people with COPD who experienced an acute exacerbation
- Numerator: number of people in the denominator who had access to their primary care provider or a health care professional in their care team within 24 hours of the onset of the acute exacerbation
- Data source: local data collection

QUALITY INDICATORS CONTINUED

Outcome Indicator

Percentage of people with COPD who experienced an acute exacerbation who were satisfied with the wait time to see their primary care provider or a member of their interprofessional care team during the exacerbation

- Denominator: total number of people with COPD who experienced an acute exacerbation
- Numerator: number of people in the denominator who answered “very good” or “excellent” to the question: “How would you rate the length of time between making your appointment and the visit you just had?” (Response options: Poor, Fair, Good, Very good, Excellent)
- Data source: local data collection

11

Follow-Up After Hospitalization for an Acute Exacerbation of COPD

People with COPD who have been hospitalized for an acute exacerbation have an in-person follow-up assessment within 7 days after discharge.

Background

Transitions from hospital are important events that can introduce the risks of breakdown in a person's care and of crucial information being lost or miscommunicated. It is important for people with COPD who are leaving hospital to have a discharge plan in place that is shared with their primary care provider and other members of their interprofessional care team, as appropriate, including those in hospital and those in the community.[1] Many people with undiagnosed COPD receive treatment for the first time during an acute episode rather than for the early symptoms of the disease,[40] and some receive their initial diagnosis during or following hospitalization for an acute exacerbation of COPD. Therefore, an in-person follow-up after hospitalization for an acute exacerbation presents an important opportunity to ensure people with COPD receive the care they need to manage their disease as effectively as possible.

In-person follow-up should occur within 7 days of discharge, and, if needed, follow-up in specialized respiratory care (see Statement 8) should occur within 30 days of discharge.[1,5] People with complex health needs may also benefit from earlier (e.g., within 48 hours) and more frequent (e.g., every few weeks) follow-up.[1,5]

Sources: Advisory committee consensus | Health Quality Ontario, 2015[1]

What This Quality Statement Means

For People With COPD

If you have been hospitalized for a flare-up, you should see your primary care provider or another member of your interprofessional care team within 7 days of leaving the hospital. This lets your health care professional check how you're doing and make any needed changes to your care plan. Some changes to your care plan might include:

- Prescribing different medications
- Involving other health care professionals in your care, like a lung specialist
- Suggesting that you try a pulmonary rehabilitation program

At this visit, you can also ask questions to make sure you understand what has happened to you and what you need to do to take care of yourself.

For Clinicians

See people with COPD who have been hospitalized for an acute exacerbation as soon as possible after discharge to complete a follow-up assessment. For primary care, follow-up should occur within 7 days of discharge. For specialist care, if needed, follow-up should occur within 30 days of discharge. For people with complex needs, consider earlier (e.g., within 48 hours) and more frequent (e.g., every few weeks) follow-up.

For Health Services

Ensure systems, processes, and resources are in place in primary care, home and community care, and outpatient specialist clinics to carry out follow-up assessments of people with COPD who were recently hospitalized for an acute exacerbation.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

In-person follow-up assessment[1,5,15]

The initial in-person follow-up assessment may be with one of a number of different health care professionals with expertise in assessing someone with COPD after discharge from hospital. Such health care professionals include, but are not limited to, the following: family physicians; nurse practitioners; respiratory therapists; and other health care professionals who are certified respiratory educators, have respiratory health expertise, or have the role of care coordinator or case manager for people with COPD, such as occupational therapists, physiotherapists, pharmacists, and nurses (including rapid-response nurses who provide home care).

The follow-up assessment after hospitalization for an acute exacerbation of COPD should be individualized and related to the details of the hospitalization. Components of the follow-up assessment include, but are not limited to, the following:

- Reviewing relevant comorbidities identified during the hospitalization
- Updating and reconciling medications, including dose and frequency, and providing inhaler technique instruction (see Statement 6)
- Assessing barriers to coping at home or in long-term care, and assessing the need for or access to home and community care (see Statement 3)

Quality Indicators

Process Indicators

Percentage of people hospitalized for COPD who had an in-person follow-up assessment within 7 days of discharge

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator who had an in-person follow-up assessment within 7 days of discharge
- Data sources: local data collection (to identify follow-up with nonphysicians and with physicians who did not bill OHIP); Discharge Abstract Database (DAD; to identify denominator); OHIP Claims Database (to identify follow-up with physicians who billed OHIP)

Percentage of people hospitalized for COPD who had an in-person follow-up assessment in specialist care within 30 days of discharge

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator who had an in-person follow-up assessment in specialist care within 30 days of discharge
- Data sources: local data collection; DAD; OHIP Claims Database

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

In-person follow-up assessment[1,5,15] (continued)

- Ensuring spirometry testing has been done to confirm diagnosis and determine airflow limitation (see Statements 1 and 2)
- Offering education about COPD and self-management interventions (see Statement 4)
- Promoting smoking cessation (see Statement 5)
- Reviewing the need for vaccinations (see Statement 7)
- Ensuring a referral to pulmonary rehabilitation has been made (see Statement 12)
- Discussing goals of care and advance care planning as appropriate (see Statement 3)
- Assessing the need for referral to additional palliative care supports as appropriate (see Statement 13)
- If the person is discharged with oxygen, assessing the need for long-term oxygen therapy 30 to 90 days after discharge (see Statement 14)

QUALITY INDICATORS CONTINUED

Outcome Indicators

Percentage of people with COPD who visited an emergency department for COPD within 30 days of discharge for a previous hospitalization for COPD (lower is better)

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator who visited an emergency department for COPD (main or contributing problem) within 30 days of discharge from their index hospitalization
- Data sources: DAD; National Ambulatory Care Reporting System (NACRS)

Percentage of people readmitted to hospital for COPD within 3 months of discharge (lower is better)

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator readmitted to hospital for COPD (most responsible or contributing diagnosis) within 3 months of discharge from their index hospitalization
- Data source: DAD

12

Pulmonary Rehabilitation After Hospitalization for an Acute Exacerbation of COPD

People who have been admitted to hospital for an acute exacerbation of COPD are considered for pulmonary rehabilitation at the time of discharge. Those who are referred to a pulmonary rehabilitation program start the program within 1 month of hospital discharge.

Background

Following hospitalization for an acute exacerbation, people with COPD are likely to have worse lung function, symptoms, and quality of life than before; they are also at increased risk of having another acute exacerbation of COPD and of dying.[17] Activity and/or exercise limitations can last for weeks and months following discharge from hospital, and this physical inactivity increases the risks of negative health outcomes for people with COPD.[17]

When initiated early after discharge from hospital, pulmonary rehabilitation helps increase exercise tolerance, reduce symptoms, and improve the quality of life of people with COPD.[17,39] It also decreases hospital readmissions.[27]

BACKGROUND CONTINUED

Pulmonary rehabilitation is an interdisciplinary intervention designed and individually tailored to optimize the physical and psychological condition of people with chronic respiratory conditions such as COPD.[17] Pulmonary rehabilitation is recommended as the standard of care for people following hospitalization for an acute exacerbation of COPD (within 1 month of discharge from hospital). Despite this, in Ontario, pulmonary rehabilitation programs currently do not have enough capacity to serve all people with COPD who want to participate, and wait lists can be long.[41] From 2010 to 2015, between 500 and 600 people with COPD used inpatient rehabilitation services per year; however, data are not available on the use of hospital-based outpatient or community-based pulmonary rehabilitation programs (NRS, IntelliHealth 2016). People who complete a pulmonary rehabilitation program benefit from participation in exercise programs to maintain function.[1]

Sources: American College of Chest Physicians and Canadian Thoracic Society, 2015[28] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20] | Ontario Health Technology Advisory Committee, 2015[39]

What This Quality Statement Means

For People With COPD

If you have been discharged from the hospital after a flare-up, your health care professional should talk with you about trying a pulmonary rehabilitation program to help improve your symptoms and regain your strength so that you can get back to the activities you enjoy.

Pulmonary rehabilitation programs are designed for people with COPD. They are offered in a hospital or clinic in the community. These programs teach you about COPD to help you understand and manage your symptoms. They also include a personalized, supported exercise program to increase your fitness, and they provide emotional and peer support.

For Clinicians

For people with COPD being discharged from hospital for an acute exacerbation, discuss the option of pulmonary rehabilitation, and refer people with COPD to pulmonary rehabilitation programs as appropriate.

For Health Services

Ensure the availability of pulmonary rehabilitation programs for people with COPD who have recently been hospitalized for an acute exacerbation. Programs should have the capacity required to ensure that people with COPD who have recently been hospitalized for an acute exacerbation are able to begin a program within 1 month of discharge from hospital.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Pulmonary rehabilitation

Pulmonary rehabilitation consists of supervised aerobic (endurance) and resistance (strength) training to increase exercise capacity and functional status. Other components include education and self-management, including behavioural interventions, and nutrition and psychological support. Programs are multicomponent, interdisciplinary, and individualized, and run for at least 6 to 8 weeks.[1,17]

A person's eligibility for enrolment includes clinically stable, symptomatic COPD with increased breathlessness and reduced activity levels despite appropriate pharmacological treatment; no evidence of poorly controlled cardiovascular, neurological, or musculoskeletal conditions that might limit participation; ability to understand instructions; and a willingness to participate.

Quality Indicators

Process Indicators

Percentage of people discharged from hospital after an admission for COPD who are referred to a pulmonary rehabilitation program

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator who are referred to a pulmonary rehabilitation program
- Data source: local data collection

Percentage of people discharged from hospital after an admission for COPD who started a pulmonary rehabilitation program within 1 month of discharge

- Denominator: total number of people discharged from hospital after an admission for COPD (main or contributing diagnosis)
- Numerator: number of people in the denominator who start a pulmonary rehabilitation program within 1 month of discharge
- Data sources: local data collection (for community-based rehabilitation); DAD (for denominator); NRS (for inpatient rehabilitation)

Structural Indicator

Local availability of pulmonary rehabilitation programs

- Data source: local data collection

13

Palliative Care

People with COPD and their caregivers are offered palliative care support to meet their needs.

Background

As a progressive illness, COPD is characterized by progressive shortness of breath, often associated with cough or sputum production, resulting in decreases in exercise tolerance, the ability to carry out activities of daily living, and quality of life.[4-6] As the disease progresses, many people with COPD have more frequent or more severe acute exacerbations of COPD, also called flare-ups or lung attacks.[4,5] People with COPD and their caregivers should have access to individualized interprofessional care that includes a palliative approach to care, when necessary, to help enhance their quality of life throughout the course of their illness. As part of individualized care planning, people with COPD should also be engaged in discussions about their goals of care and advance care planning (see Statement 3).

Palliative care refers to the relief of suffering and improvement of the quality of living and dying, using a holistic approach.[22] Many different health care professionals, including primary care providers, respirologists, and other members of a person's interprofessional care team, use the knowledge and skills associated with a palliative care approach to address the person's physical, psychological, social, spiritual, and practical needs, as well as their associated expectations, hopes, and fears.

BACKGROUND CONTINUED

Palliative care does not focus just on end-of-life care but should be considered as the chronic illness progresses. People can receive a palliative approach to care from their primary care provider and other members of their interprofessional care team while actively receiving treatment for their disease. Palliative care also helps people with a progressive, life-limiting illness and their family prepare for and manage end-of-life choices, the process of dying, and coping with loss and grief.[22]

For more information on palliative care, please see the quality standard *Palliative Care: Care for Adults with a Progressive, Life-Limiting Illness.*

Sources: Canadian Thoracic Society, 2007[4] | Canadian Thoracic Society, 2017[19] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6]

What This Quality Statement Means

For People with COPD

Because COPD is a disease that does not go away, and can progress differently for each person, you and your caregivers should be provided with support to meet your physical, psychosocial, and spiritual needs. This support may include palliative care support.

Palliative care can help improve your quality of life at any stage of illness and is not just for end of life. For some people, it can begin around the time you are diagnosed with COPD to help manage your symptoms and the impact of your condition. You can receive COPD treatment and palliative care support at the same time.

Palliative care support can include health advice, resources, treatment, and other help from your health care professionals to help you manage symptoms like breathlessness and anxiety. It can come in many forms, like an office visit with one of your health care professionals, a telephone call with a registered nurse, a phone number to call when you are in pain or having trouble managing your symptoms, or a home visit.

For Clinicians

Ensure people with COPD and their caregivers have access to individualized interprofessional care that includes a palliative approach to care from diagnosis onward, as needed. Assess people with COPD to determine whether they would benefit from additional palliative care services. Perform and document a comprehensive, holistic assessment that considers the individual's diagnosis, disease progression, functional decline, treatment preferences, presence of pain and other symptoms, and other effects on the person's full range of needs. Assessment should be repeated regularly.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Palliative care support

The goal of a palliative approach to care is to help people achieve their best possible quality of life in the face of a progressive illness. Palliative care support consists of health advice, resources, treatment, and other assistance provided by a person's interprofessional care team to meet their needs, such as the management of severe symptoms of dyspnea and anxiety and the management of acute exacerbations, in accordance with the person's wishes, values, and beliefs. Support should be culturally relevant, and it can come in many forms, including an office visit with the person's primary care provider or specialist, a telephone call with a registered nurse, a phone number to call when pain or other symptoms are not well managed, or a home visit.[2]

Palliative care needs

Identifying the need for palliative care can occur as early as the time of diagnosis of a progressive illness. With education to build capacity, palliative care needs can be addressed by primary care providers through primary-level palliative care, as well as respirologists and other specialists involved in the person's care. Palliative care is not limited to the end-of-life phase, and it is not restricted to specific diseases or conditions. Palliative care needs can stem from any part of a person's full range of needs across domains of care associated with illness and bereavement at any stage of illness.[2,42,43]

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Health Services

Ensure that systems, processes, and resources are in place in the community to address the palliative care needs of people with COPD and their caregivers.

Quality Indicators

Outcome Indicators

Percentage of caregivers of people with COPD who received palliative care who state that they and their family members received as much help and support as they needed

- Denominator: total number of caregivers of people with COPD who received palliative care
- Numerator: number of people in the denominator who state that they and their family members received as much help and support as they needed
- Data source: local data collection
- A similar question is available in the CaregiverVoice Survey: Overall, do you feel that you and your family got as much help and support from home care services as you needed? (Response options: Yes, we got as much support as we needed; No, we did not get as much support as we needed, though we tried to get more; No, we did not get as much support as we needed, but we did not ask for more)[45]

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Palliative care needs (continued)

These domains of care include:

- Disease management (including symptom management)
- Caregiver support
- Physical
- Psychological
- Social
- Cultural[44]
- Legal
- Ethical[44]
- Spiritual
- Practical
- End-of-life
- Loss, grief

Examples of validated tools used for assessment may include the Edmonton Symptom Assessment System[43,44] and the Palliative Performance Scale. A comprehensive and holistic assessment considers a person's socio-cultural context and initial assessments should include inquiry about a person's mother tongue and language of preference.[2]

QUALITY INDICATORS CONTINUED

Percentage of people with COPD who lived in the community during their last 12 months, 3 months, and 1 month of life, who received at least one home care service, one health care professional home visit, or hospice care during that period

- Denominator: total number of people with COPD who died and who had lived in the community in the last 12 months, 3 months, and 1 month of their life
- Numerator: number of people in the denominator who, in their last 12 months, 3 months, and 1 month of life received one of the following:
  - Home care services (any and palliative-specific)
  - Health care professional home visits (currently only physician home visits are measurable)
  - Hospice care (currently not measurable)
- Data sources: local data collection (for home visits by nonphysicians and by physicians who did not bill OHIP and for hospice care); Continuing Care Reporting System (CCRS); DAD; Home Care Database (HCD); NACRS; NRS; OHIP Claims History Database (for home visits by physicians who billed OHIP); Registered Persons Database (RPDB)

14

Long-Term Oxygen Therapy

People with stable COPD who have clinical indications of hypoxemia receive an assessment for and, if needed, treatment with long-term oxygen therapy.

Background

In people with COPD and severe chronic resting hypoxemia, long-term oxygen therapy has been found to increase survival time; however, there is limited evidence of benefit for people who have moderate resting or exercise-induced hypoxemia only.[5,15] In addition, it has been found that "inappropriate oxygen therapy in people with COPD may cause respiratory depression."[6] Therefore, an assessment of the need for long-term oxygen therapy is essential before initiating this therapy in people with stable COPD. When initiating oxygen therapy, health care professionals should provide people with COPD with education on the proper and safe use of oxygen.

Sources: Canadian Thoracic Society, 2007[4] | Department of Veterans Affairs and Department of Defense, 2014[15] | Global Initiative for Chronic Obstructive Lung Disease, 2017[5] | Health Quality Ontario, 2015[1] | National Institute for Health and Care Excellence, 2010[6] | Ontario Health Technology Advisory Committee, 2012[20]

What This Quality Statement Means

For People With COPD

If your body is not getting enough oxygen when you breathe, you may need to start using oxygen at home. This is called oxygen therapy. To make sure oxygen therapy is right for you, your health care professional will have you take some tests to measure the level of oxygen in your blood. Oxygen is not used to treat breathlessness and should not be used unless you have low levels of oxygen in your blood. Oxygen can be supplied in different ways, like in a canister or a machine. Your health care professional will help you decide which option is best for you. Oxygen is usually delivered by a small tube with prongs that are placed in your nose. This is called a cannula. Sometimes oxygen is delivered through a mask. Some people with COPD take oxygen therapy for a short period of time while they recover from a flare-up, and other people with COPD take oxygen therapy on a long-term basis.

For Clinicians

Screen people with COPD using oximetry to determine if arterial blood gases should be measured to assess the need for long-term oxygen therapy. When initiating oxygen therapy, provide people with COPD with information regarding the proper and safe use of oxygen. Reassess the need for continued oxygen therapy 60 to 90 days following initiation and then at least once a year.

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Clinical indications of hypoxemia

Clinical indications of hypoxemia include one or more of the following:

- Very severe airflow obstruction (FEV1 < 30%)
- Bluish discolouration of skin or mucous membranes (cyanosis)
- Hematocrit > 55% (polycythemia or erythrocytosis)
- Physical exam findings suggestive of heart failure (cor pulmonale), including peripheral edema and raised jugular venous pressure
- Resting oxygen saturation ≤ 92% (screened with oximetry)

People with severe airflow obstruction (30% ≤ FEV1 < 50%) may also be considered for assessment, especially if oxygen saturation is less than 92% on oximetry.

Treatment with long-term oxygen therapy

Arterial blood gases should be used to assess the need for long-term oxygen therapy. Long-term oxygen therapy should be offered to people with stable COPD who have severe resting hypoxemia (arterial partial pressure of oxygen [PaO_2] ≤ 55 mmHg and/or arterial oxygen saturation [SaO_2] ≤ 88%).

WHAT THIS QUALITY STATEMENT MEANS CONTINUED

For Health Services

Ensure the availability of pulse oximeters and arterial blood gas testing to determine the need for long-term oxygen therapy. Ensure access to long-term oxygen therapy for people with COPD who need it.

Quality Indicators

Process Indicators

Percentage of people with stable COPD receiving long-term oxygen therapy whose oxygen saturation was measured with oximetry in the past 12 months

- Denominator: total number of people with stable COPD receiving long-term oxygen therapy
- Numerator: number of people in the denominator whose oxygen saturation was measured with oximetry in the past 12 months
- Data source: local data collection

Percentage of people with stable COPD receiving long-term oxygen therapy whose arterial blood gases were measured

- Denominator: total number of people with stable COPD receiving long-term oxygen therapy
- Numerator: number of people in the denominator whose arterial blood gases were measured
- Data source: local data collection

DEFINITIONS USED WITHIN THIS QUALITY STATEMENT

Treatment with long-term oxygen therapy (continued)

People with moderate resting hypoxemia (PaO_2 56–60 mmHg and/or SaO_2 89–90%) may also benefit from long-term oxygen therapy, especially if they have one of the following:

- Pulmonary hypertension
- Hematocrit > 55% (polycythemia or erythrocytosis)
- Physical exam findings suggestive of heart failure (cor pulmonale), including peripheral edema and raised jugular venous pressure
- Exercise limited by hypoxemia (SaO_2 ≤ 88%) that improves with supplemental oxygen[46]
- Nocturnal hypoxemia (SaO_2 ≤ 88%) ≥ 30% of the night[46]

People with exertional hypoxemia, as assessed by a standardized exercise test (SaO_2 ≤ 88%), may be eligible for long-term oxygen therapy if their exercise tolerance is restricted owing to severe breathlessness (≥ MRC grade 4) and improves with supplemental oxygen, and if they are motivated to use oxygen therapy to increase their activity level.[46]

Once long-term therapy has been initiated, oxygen should be used at least 15 to 20 hours a day.[4,6] The continued need for long-term oxygen therapy should be assessed with oximetry after 60 to 90 days and then at least once a year.

QUALITY INDICATORS CONTINUED

Percentage of people with stable COPD and at least one indication for long-term oxygen therapy who receive long-term oxygen therapy

- Denominator: total number of people with stable COPD and at least one indication for long-term oxygen therapy
- Numerator: number of people in the denominator who receive long-term oxygen therapy
- Potential stratification: disease severity
- Data sources: local data collection (for denominator); Assistive Devices Program (for numerator)

Structural Indicator

Local availability of long-term oxygen therapy assessments (pulse oximeters and arterial blood gas testing)

- Data source: local data collection

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About Health Quality Ontario

Health Quality Ontario is the provincial lead on the quality of health care. We help nurses, doctors and other health care professionals working hard on the frontlines be more effective in what they do – by providing objective advice and data, and by supporting them and government in improving health care for the people of Ontario.

We focus on making health care more effective, efficient and affordable through a legislative mandate of:

- Reporting to the public, organizations, government and health care providers on how the health system is performing,
- Finding the best evidence of what works, and
- Translating this evidence into clinical standards; recommendations to health care professionals and funders; and tools that health care providers can easily put into practice to make improvements.

For more information about Health Quality Ontario, visit hqontario.ca.

Quality Standards

Looking for more information?

Visit our website at **hqontario.ca** and contact us at **qualitystandards@hqontario.ca** if you have any questions or feedback about this guide.

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