Quality Standards

Heart Failure

Care in the Community for Adults

September 2018

CorHealth Ontario
Advancing cardiac, stroke and vascular care

Health Quality Ontario
Let's make our health system healthier

Summary

This quality standard addresses care for adults who have heart failure, including the assessment and diagnosis of people with suspected heart failure. It applies to community settings, including primary care, specialist care, home care, hospital outpatient clinics, and long-term care.

This quality standard does not address care provided in hospital emergency departments or inpatient settings. It does not discuss heart failure related to inherited cardiac conditions. It also does not address the prevention of heart failure, although it does provide guidance on risks and lifestyle factors that may affect the progression of heart failure.

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About Quality Standards

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

Quality standards are concise sets of statements that will:

- Help people and their families to know what to ask for in their care
- Help care providers 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 people

The statements in this quality standard do not override the responsibility of care providers to make decisions with individuals, after considering each person's unique circumstances.

How to Use Quality Standards

Quality standards inform care providers 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 care providers and organizations assess the quality of care they are delivering, and to identify gaps and areas for improvement. These indicators measure processes, structures, and outcomes.

In addition, tools and resources to support care providers 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 18 years of age or older who have heart failure, including the assessment and diagnosis of people with suspected heart failure. It does not address heart failure owing to congenital cardiac conditions. It also does not address the primary prevention of heart failure, although it does provide guidance on risks and lifestyle factors that may affect the progression of heart failure.

This quality standard applies to community settings, including primary care, specialist care, home care, hospital outpatient clinics, and long-term care. It does not address care provided in hospital emergency departments or inpatient settings. Health Quality Ontario and the Ministry of Health and Long-Term Care have developed the *Quality-Based Procedures: Clinical Handbook for Heart Failure (Acute and Postacute)* to provide guidance on hospital care for people with heart failure.[1]

This quality standard includes 10 quality statements on areas identified by CorHealth Ontario and Health Quality Ontario's Heart Failure Care in the Community Quality Standard Advisory Committee as having high potential to improve the quality of care in Ontario for people with heart failure.

Terminology Used in This Quality Standard

The New York Heart Association (NYHA) classification system describes heart failure symptoms. Below are the definitions for the four classifications[2]:

- Class I—no symptoms
- Class II—symptoms during ordinary activity
- Class III—symptoms with less than ordinary activity
- Class IV—symptoms at rest or with any minimal activity

The heart failure population can be divided into three major subpopulations based on ejection fraction:

- "Heart failure with reduced ejection fraction" (HFrEF) refers to a left ventricular ejection fraction that is less than or equal to 40%[3]
- "Heart failure with preserved ejection fraction" (HFpEF) refers to a left ventricular ejection fraction that is greater than or equal to 50%[3]
- "Heart failure with midrange ejection fraction" (HFmrEF) is a relatively new classification, referring to an intermediate group with a left ventricular ejection fraction of 41% to 49%[3,4]

Each quality statement applies to all three of these subpopulations, unless specifically mentioned in the text of the statement.

In this quality standard, "family" refers to family members, friends, or supportive people not necessarily related to the person with heart failure. The person with heart failure must give appropriate consent to share personal information, including medical information, with their family.

The term "care provider" is used to acknowledge the wide variety of providers who can be involved in the care of people with heart failure. The term includes both regulated health care professionals, such as dietitians, nurses, nurse practitioners, occupational therapists, pharmacists, physicians, physiotherapists, psychologists, and social workers, and unregulated health care providers, such as volunteer providers. Our choice to use "care provider" does not diminish or negate other terms that a person may prefer.

Why This Quality Standard Is Needed

Heart failure is a complex clinical syndrome characterized by the heart's inability to pump enough blood to meet the body's demands.[1] The most common symptoms of heart failure include shortness of breath, fatigue, and ankle swelling.[1] Heart failure is a progressive, ultimately fatal, condition: 50% of people with heart failure die within 5 years of diagnosis, and over 90% die within 10 years.[5] People with heart failure also often have multiple comorbidities: in Ontario, 37% of people with heart failure have four or more coexisting chronic conditions.*

In 2015 in Ontario, roughly 250,000 people had diagnosed heart failure, or about 1.8% of the province's entire population.* Prevalence varied across the province, from 134 per 10,000 in the Mississauga Halton Local Health Integration Network (LHIN) to 253 per 10,000 in the North East LHIN.* Heart failure is one of the five leading causes of hospitalization and 30-day readmissions, and the most common cause of hospitalization for people over age 65.[1] Health care utilization related to heart failure has a substantial economic impact: the Heart and Stroke Foundation estimates that heart failure accounts for $2.8 billion in Canadian health care spending each year.[6]

There are opportunities to improve care for people with heart failure in Ontario and to reduce the health system burden of this disease. A number of regional variations in heart failure care and outcomes have been identified across Ontario: for example, in 2015/16 among people hospitalized for heart failure, the percentage who received a recommended follow-up visit with a primary care provider within 7 days of hospital discharge ranged from 37% in the North West LHIN to 55% in the Central West LHIN. [1] There is also variation across LHINs seen in the rate of a follow-up visit with a cardiologist within 7 days of hospital discharge, ranging from 7.9% in North Simcoe Muskoka to 20.2% in Toronto Central.[1] The percentage of people who were readmitted to hospital within 30 days of discharge ranged from 18% in the Waterloo Wellington LHIN to 24% in the South East and North East LHINs.[1]

These regional differences in outcomes may be linked to variations in the care people with heart failure receive in the community. Based on evidence and expert consensus, the 10 quality statements that make up this quality standard provide guidance on high-quality care, with accompanying indicators to help care providers and organizations monitor and improve the quality of care.

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*Ontario Health Insurance Plan, National Ambulatory Care Reporting System, Discharge Abstract Database, and Registered Persons Database; provided by the Institute for Clinical Evaluative Sciences, 2015.

Principles Underpinning This Quality Standard

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

People with heart failure should receive services that are respectful of their rights and dignity and that promote shared decision-making. They should be given the same care and be treated with the same degree of respect and privacy as any other person.

People with heart failure 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.

Care providers should be aware of the historical context of the lives of Canada's Indigenous peoples 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 appropriate access, experience, and outcomes for everyone in Ontario, no matter where they live, what they have, or who they are.

People with heart failure benefit from care provided by a care provider or care team with the knowledge, skill, and judgment to provide evidence-based treatment for heart failure while also addressing all of their primary health care needs. The goal of heart failure management is to improve symptoms, function, quality of life, and also prognosis.

How Success Can Be Measured

The Heart Failure Care in the Community Quality Standard Advisory Committee has worked with CorHealth Ontario to identify 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 success provincially, given currently available data. If additional data sources are developed, other indicators could be added.

- Percentage of people with newly diagnosed heart failure who die:
  - For heart-failure-specific reasons within 30 days and 1 year of diagnosis
  - For any reason(s) within 30 days and 1 year of diagnosis

- Percentage of people with newly diagnosed heart failure who visit the hospital or emergency department:
  - For heart-failure-specific reasons within 30 days and 1 year of diagnosis
  - For any reason(s) within 30 days and 1 year of diagnosis

- Percentage of people with heart failure who are discharged from the hospital or emergency department and then readmitted:
  - For heart-failure-specific reasons within 30 days and 1 year of the index hospitalization
  - For any reason(s) within 30 days and 1 year of the index hospitalization

The majority of quality statements within this quality standard are accompanied by one or more indicators. A select few of the indicators that accompany quality statements have also been identified as being important for measuring success provincially, and have been included below:

- Percentage of people who report heart failure symptoms who receive an electrocardiogram and a chest x-ray (this indicator accompanies Quality Statement 1)

- Percentage of people who report heart failure symptoms who receive an echocardiogram (this indicator accompanies Quality Statement 1)

- Percentage of people who have HFrEF and NYHA class II to IV symptoms who are dispensed triple therapy (this indicator accompanies Quality Statement 5)

How Success Can Be Measured Locally

You may want to assess the quality of care you provide to people with heart failure and monitor your own quality improvement efforts. It may be possible to do this using your own clinical records, or you might need to collect additional data.

The indicators that accompany quality statements within this quality standard are intended to guide the measurement of quality improvement efforts related to the implementation of the statement. To assess the equitable delivery of care, the quality standard indicators can be stratified by patient or caregiver socioeconomic and demographic characteristics, such as income, education, language, age, sex, and gender.

Quality Statements in Brief

Quality Statement 1: Diagnosing Heart Failure
People suspected to have heart failure undergo an initial evaluation that includes, at minimum, a medical history, a physical examination, blood work, an electrocardiogram, and a chest x-ray. If appropriate, natriuretic peptide levels are tested to help formulate a diagnosis. If heart failure is confirmed or still suspected after these tests, an echocardiogram is then performed.

Quality Statement 2: Comprehensive Care Plan
People with heart failure and their families have a comprehensive care plan they develop in collaboration with their care providers. The care plan is reviewed at least every 6 months, and sooner if there is a significant change. It is made readily available to all members of the person's care team, including the person and their family.

Quality Statement 3: Empowering and Supporting People With Self-Management Skills
People with heart failure and their families collaborate with their health care providers to create a tailored self-management program, with the goal of enhancing their skills and confidence so that they can be actively involved in their own care.

Quality Statement 4: Physical Activity and Exercise
People with heart failure are informed of the benefits of physical activity. They are offered advice on types of exercises to consider, based on their abilities and activity goals.

Quality Statement 5: Triple Therapy for People With Heart Failure Who Have a Reduced Ejection Fraction
People with heart failure who have a reduced ejection fraction (HFrEF) and New York Heart Association (NYHA) class II to IV symptoms are offered pharmacological management with "triple therapy":

- An angiotensin-converting enzyme (ACE) inhibitor or an angiotensin II receptor blocker (ARB) if they cannot tolerate an ACE inhibitor
- A beta blocker
- A mineralocorticoid receptor antagonist (MRA)

People with HFrEF have their medications adjusted to target doses as tolerated. If their heart failure symptoms persist and their ejection fraction remains less than or equal to 40%, they have their ACE inhibitor or ARB replaced by an angiotensin receptor neprilysin inhibitor. People with HFrEF may require additional medications and are prescribed these as needed.

Quality Statement 6: Worsening Symptoms of Heart Failure
People with known heart failure who report worsening symptoms are assessed by a care provider and have their medications adjusted (if needed) within 24 hours.

Quality Statement 7: Management of Non-cardiac Comorbidities
People with heart failure are treated for non-cardiac comorbidities that are likely to affect their heart failure management.

Quality Statement 8: Transition From Hospital to Community
People who are hospitalized for heart failure receive a follow-up appointment for reassessment of volume status and medication reconciliation with a member of their community health care team within 7 days of leaving the hospital.

Quality Statement 9: Specialized Multidisciplinary Care
People who have been hospitalized for heart failure are offered a referral to specialized multidisciplinary care for heart failure.

Quality Statement 10: Palliative Care and Heart Failure
People with heart failure and their families are offered palliative care support to meet their physical, psychosocial, and spiritual needs.

Quality Statement 1: Diagnosing Heart Failure

People suspected to have heart failure undergo an initial evaluation that includes, at minimum, a medical history, a physical examination, blood work, an electrocardiogram, and a chest x-ray. If appropriate, natriuretic peptide levels are tested to help formulate a diagnosis. If heart failure is confirmed or still suspected after these tests, an echocardiogram is then performed.

Background

Heart failure diagnosis is based on a clinical assessment combined with appropriate testing that either supports or rules out its presence. There is no single test that confirms the presence of heart failure. Formulation of a diagnosis as soon as possible facilitates rapid symptom management and may help avoid hospitalization.

If an echocardiogram is not needed to help confirm a diagnosis of heart failure, one should be performed shortly after diagnosis to provide the information necessary for an appropriate treatment plan.[3,4]

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | American College of Cardiology Foundation/American Heart Association/Heart Failure Society of America, 2017[8] | Canadian Cardiovascular Society 2017[3] | European Society of Cardiology, 2016[4] | Institute for Clinical Systems Improvement, 2013[9] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Quality Statement

Medical history

A medical history should address, at a minimum, the following:

- Symptoms
    - Shortness of breath on rest and exertion
    - Orthopnea
    - Paroxysmal nocturnal dyspnea
    - Reduced activity tolerance
    - Fatigue, tiredness, increased time to recover after exercise
    - Ankle swelling
- Prior cardiac disease (e.g., coronary artery disease, valve disease, atrial fibrillation, myocardial infarction)
- Risk factors (e.g., diabetes, smoking, hypertension)
- Exacerbating factors
- Comorbidities
- Medications

Physical examination

A physical examination should include, at a minimum, the following:

- Vital signs
- Volume status
    - Weight gain
    - Jugular venous pressure
    - Peripheral edema (e.g., feet, ankles, legs, sacrum)
    - Hepatojugular reflex

- Cardiac assessment
  - Cardiac murmur
  - Laterally displaced apical pulse
- Chest examination
  - Reduced air entry and dullness to percussion at lung bases (pleural effusion)
  - Wheezing
  - Pulmonary crepitations
  - Note: with heart failure some may have relatively clear lungs on examination but can still have fluid overload

Blood work
When drawing blood samples, include, at a minimum, the following:

- Complete blood count
- Serum electrolytes (including calcium and magnesium)
- Blood urea nitrogen
- Serum creatinine
- Glucose
- Thyroid-stimulating hormone

Appropriate natriuretic peptide testing
Natriuretic peptide testing should be used judiciously, because it is costly and not always useful in the diagnosis of heart failure. However, it is useful when there is uncertainty about the cause of a person's dyspnea. For example, it should be used if a care provider is unsure about whether the dyspnea is caused by chronic obstructive pulmonary disease or heart failure. In such cases, a natriuretic peptide test would help rule out heart failure.[10]

What This Quality Statement Means

For People With Heart Failure

If you or your care provider think that you have heart failure, they should ask you about how much exercise you can do, how you are sleeping at night, and what medications you are currently taking. Your care provider should also do a physical examination, take blood samples, and order tests that give them images of your heart.

For Care Providers

People suspected to have heart failure should undergo an initial assessment that includes, at minimum, a medical history, a physical examination, blood work, an electrocardiogram, and a chest x-ray. After these tests, if you are still uncertain about the diagnosis or the cause of dyspnea, checking natriuretic peptides is appropriate and recommended. If you still suspect heart failure or if you have confirmed heart failure after these tests, an echocardiogram should be performed.

For Health Services

Ensure that systems and resources are in place to allow care providers to offer appropriate assessment for those suspected to have heart failure, including the availability of natriuretic peptide testing and echocardiograms.

Quality Indicators

Process Indicators

Percentage of people who report heart failure symptoms who receive an electrocardiogram and a chest x-ray

- Denominator: total number of people who report heart failure symptoms
- Numerator: number of people in the denominator who receive an electrocardiogram and a chest x-ray
  - Stratify by:
    - Both electrocardiogram and chest x-ray
    - Electrocardiogram only
    - Chest x-ray only
- Data sources: local data collection (to identify electrocardiograms and chest x-rays not billed by the Ontario Health Insurance Plan [OHIP]); Ontario Health Insurance Plan (to identify the denominator and electrocardiograms and chest x-rays billed by OHIP); Discharge Abstract Database, National Ambulatory Care Reporting System, Registered Persons Database (to identify denominator)

Number of days from when people report heart failure symptoms to when they receive an electrocardiogram and a chest x-ray

- Calculation: can be measured as mean, median, or distribution of the wait time (in days) from when people report heart failure symptoms to when they receive an electrocardiogram and a chest x-ray
  - Stratify by:
    - Both electrocardiogram and chest x-ray
    - Electrocardiogram only
    - Chest x-ray only
- Data source: local data collection

Percentage of people who report heart failure symptoms who receive an echocardiogram

- Denominator: total number of people who report heart failure symptoms
- Numerator: number of people in the denominator who receive an echocardiogram
- Data sources: local data collection (to identify echocardiograms not billed by OHIP); Ontario Health Insurance Plan (to identify echocardiograms billed by OHIP and the denominator); Discharge Abstract Database, National Ambulatory Care Reporting System, Registered Persons Database (to identify the denominator)
- Note: it is not expected that 100% of these people will receive an echocardiogram, because initial tests may rule out heart failure before they need an echocardiogram

Number of days from when people report heart failure symptoms to when they receive an echocardiogram

- Calculation: can be measured as mean, median, or distribution of the wait time (in days) from when people report heart failure symptoms to when they receive an echocardiogram
- Data source: local data collection
- Note: it is not expected that 100% of these people will receive an echocardiogram, because initial tests may rule out heart failure before they need an echocardiogram

Quality Statement 2: Comprehensive Care Plan

People with heart failure and their families have a comprehensive care plan they develop in collaboration with their care providers. The care plan is reviewed at least every 6 months, and sooner if there is a significant change. It is made readily available to all members of the person's care team, including the person and their family.

Background

A comprehensive care plan can help address the medical, social, and mental health concerns of the person with heart failure. Care providers should offer information about heart failure and assess the person's goals to determine which care to provide. The care plan must include comprehensive and up-to-date documentation. For example, the results of tests such as echocardiograms must be documented so that they can be reviewed regularly by the care team and used to provide appropriate care and treatment.

Sources: Advisory committee consensus (timing) | American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3]

Definitions Used Within This Quality Statement

Comprehensive care plan
When establishing a care plan with a person who has heart failure, care providers should, at minimum, address and document the following:

- Person's goals, including goals for palliative care (see Quality Statement 10)
- Immunizations (annual influenza vaccination and one-time pneumonia vaccination)
- Management of heart failure
- Management of cardiac and non-cardiac comorbidities (see Quality Statement 7)
- Comprehensive medication review, including potential financial burden for evidence-based medications
- Psychosocial factors
  - Sex-specific issues that are impacted by heart failure symptoms and medications, such as erectile dysfunction and decreased sexual desire
  - Socioeconomic concerns, such as income, medical costs (e.g., medications), and healthy food choices
- Mental health concerns, including depression and anxiety
- Education and self-management skills (see Quality Statement 3)
- Clinician follow-up and care coordination (see Quality Statement 9)
- Physical activity and exercise (see Quality Statement 4)
- Dietary concerns
- Secondary prevention of cardiovascular disease
- Counselling about the possibility of sudden death
- Advance care planning-substitute decision-maker (see Quality Statement 10)
- Addressing caregiver needs and goals

Significant change
This includes anything that has an impact on a person's physical, emotional, or psychological well-being and may affect their care plan and/or the resources they need, including the following:

- Psychosocial changes, including the death of a caregiver or spouse, or significant caregiver burden
- Mental health changes
- Worsening symptoms of heart failure
- Worsening physical health
- Recent hospitalization for heart failure
- Significant changes to medications

What This Quality Statement Means

For People With Heart Failure
Your care provider should work with you to make a care plan that addresses all of your needs. They should review this care plan with you at least every 6 months. If you choose, your family can also help you make your care plan.

For Care Providers
Complete a care plan as soon as possible with people who have been diagnosed with heart failure. Review the care plan at least every 6 months, and more frequently if there are any significant changes or a recent hospitalization. Adjust the plan until the person’s goals are met.

For Health Services
Ensure that systems, processes, and resources are in place to allow care providers to create and implement care plans for people with heart failure and to share care plans electronically among health professionals involved in a person's care.

Quality Indicators

Process Indicators

Percentage of people with heart failure who have a comprehensive care plan documented in their medical record

- Denominator: total number of people with heart failure
- Numerator: number of people in the denominator who have a comprehensive care plan documented in their medical record
- Data source: local data collection

Percentage of people with heart failure whose comprehensive care plan has been reviewed in the past 6 months

- Denominator: total number of people with heart failure who have a comprehensive care plan
- Numerator: number of people in the denominator whose comprehensive care plan has been reviewed in the past 6 months
- Data source: local data collection

Outcome Indicators

Percentage of people with heart failure (or their families) who report that their care provider always or often involves them in decisions about their care

- Denominator: total number of people with heart failure (or their families)
- Numerator: number of people in the denominator who report that their care provider always or often involves them in decisions about their care

- Data source: local data collection
- An example of a validated survey question that can be used to inform your local data collection is available in the Health Care Experience Survey[11]: “When you see your provider or someone else in their office, how often do they involve you as much as you want to be 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; No decisions required on care or treatment/not applicable; Don’t know; Refused). Exclusions: Those who answer, “It depends on who I see and/or what I am there for,” “No decisions required on care or treatment/not applicable,” “Don't know,” or “Refused”

Percentage of people with heart failure (or their families) who report that their care provider always or often gives them an opportunity to ask questions about recommended treatment

- Denominator: total number of people with heart failure (or their families)
- Numerator: number of people in the denominator who report that their care provider always or often gives them an opportunity to ask questions about recommended treatment
- Data source: local data collection
- An example of a validated survey question that can be used to inform your local data collection is available in the Health Care Experience Survey[11]: “When you see your provider or someone else in their office, how often do they give you an opportunity to ask questions about recommended treatment?” (Response options: Always; Often; Sometimes; Rarely; Never; It depends on who I see and/or what I am there for; Not using/on any treatments/not applicable; Don’t know; Refused). Exclusions: Those who answer, “It depends on who I see and/or what I am there for,” “Not using/on any treatments/not applicable,” “Don't know,” or “Refused”

Quality Statement 3: Empowering and Supporting People With Self-Management Skills

People with heart failure and their families collaborate with their health care providers to create a tailored self-management program, with the goal of enhancing their skills and confidence so that they can be actively involved in their own care.

Background

People with heart failure should acquire the expertise to participate in a tailored exercise program, understand their ideal diet, know how to identify symptom changes, and know how to react to those changes.[3] Promotion of self-management empowers people to take control of their condition and actively participate in achieving their best possible outcomes. Education and training through experiential learning, practice, and support should be tailored to the individual, taking into account possible cognitive deficits that are frequently associated with heart failure.[3,10]

Sources: Advisory committee consensus | American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3] | Institute for Clinical Systems Improvements, 2013[9] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Quality Statement

Self-management program
Information, support, coaching, and counselling about heart failure should be provided at each visit for at least 6 months after diagnosis and should include information on the following:

- Diagnosis and disease process
- Available treatment options, including the following:
    - Medications
    - Device therapies
    - Invasive procedures (surgical or interventional options)
- Recognizing signs and symptoms of worsening heart failure and when to seek help
- Elements of the care plan
- Care providers involved in implementing the care plan, and how and when to contact them
- Diet restrictions
- Physical activity and exercise
- Daily weights and when to inform care providers of a significant weight change
- Motivational interviewing for smoking and alcohol cessation, where applicable
- Stress management

What This Quality Statement Means

For People With Heart Failure
Your care provider should make sure that for the first 6 months after diagnosis, each of your appointments includes coaching to help you learn about managing your heart failure effectively at home. If you choose to have family involved in your care, they should also be given this information and coaching.

For Care Providers
Provide evidence-based information and coaching at each appointment related to heart failure. This coaching should be tailored to meet the person's learning needs in a format and at times that are most appropriate for them. If you are unable to provide this coaching, consider referring the person to an appropriate program. When family are involved in the person's care, and if the person consents, include family as much as possible in discussions and coaching.

For Health Services
Ensure that appropriate time and resources are available for care providers to counsel and coach people with heart failure.

Quality Indicators

Process Indicators

Percentage of people with heart failure who have a tailored self-management program documented in their medical record

- Denominator: total number of people with heart failure
- Numerator: number of people in the denominator who have a tailored self-management program documented in their medical record
- Data source: local data collection

Percentage of people with heart failure who have a tailored self-management program documented in their medical record that was developed in collaboration with their health care provider and their families

- Denominator: total number of people with heart failure who have a tailored self-management program documented in their medical record
- Numerator: number of people in the denominator whose tailored self-management program was developed in collaboration with their health care provider and their families
- Data source: local data collection

Percentage of people with heart failure (or their families) who receive information, support, coaching, and counselling about heart failure at each appointment for the first 6 months after diagnosis

- Denominator: total number of people with heart failure (or their families)
- Numerator: number of people in the denominator who receive information, support, coaching, and counselling about heart failure at each appointment for the first 6 months after diagnosis
- Data source: local data collection

Outcome Indicator

Percentage of people with heart failure (or their families) who report that they have the skills and confidence to be actively involved in their own care

- Denominator: total number of people with heart failure (or their families)
- Numerator: number of people in the denominator who report that they have the skills and confidence to be actively involved in their own care
- Data source: local data collection
- Note: this is a summary measure. If you wish to look at further dimensions of confidence, consider using the Self-Care of Heart Failure Index, a publicly available tool, which may be used to assess more specific measures of confidence (i.e., the person’s ability to keep themselves free of symptoms, follow treatment advice, and recognize changes in their health). Please refer to Section C of the tool.[12]

Quality Statement 4: Physical Activity and Exercise

People with heart failure are informed of the benefits of physical activity. They are offered advice on types of exercises to consider, based on their abilities and activity goals.

Background

Physical activity can improve functional status and quality of life for people with heart failure.[7,13] Through motivational interviewing, people with heart failure should be encouraged to set realistic and measurable goals and participate in exercise within the limits dictated by their symptoms.[3,10] If there is uncertainty about how to safely recommend exercises to meet a person's activity goals, a care provider such as a physiotherapist, with the skill and expertise to address these concerns, should be consulted.

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3] | European Society of Cardiology, 2016[4] | Scottish Intercollegiate Guidelines Network, 2016[10]

What This Quality Statement Means

For People With Heart Failure
Your care provider should explain the benefits of exercise to you. They should also work with you to create an exercise program that matches your abilities and goals. Depending on your plan, this could be anything from adding regular walking to your daily routine, to a structured exercise program. If your care provider is not sure which exercises are best for you, they may refer you to someone else with the appropriate expertise.

For Care Providers
Ensure that all people with heart failure are informed about the benefits of physical activity. Work with them to create a tailored exercise program that matches their goals and abilities, or, if you are uncertain about their safety, refer them to someone else who can help.

For Health Services
Ensure that systems and resources are in place to enable all care providers to teach people with heart failure about appropriate exercise.

Quality Indicators

Process Indicator

Percentage of people with heart failure (or their families) who report receiving advice about the benefits of physical activity and the types of exercises that match their abilities and activity goals

- Denominator: total number of people with heart failure (or their families)
- Numerator: number of people in the denominator who report receiving advice about the benefits of physical activity and the types of exercises that match their abilities and activity goals
- Data source: local data collection

Outcome Indicator

Percentage of people with heart failure who report that their physical activity program matches their abilities and activity goals

- Denominator: total number of people with heart failure
- Numerator: number of people in the denominator who report that their physical activity program matches their abilities and activity goals
- Data source: local data collection

Quality Statement 5: Triple Therapy for People With Heart Failure Who Have a Reduced Ejection Fraction

People with heart failure who have a reduced ejection fraction (HFrEF) and New York Heart Association (NYHA) class II to IV symptoms are offered pharmacological management with "triple therapy":

- An angiotensin-converting enzyme (ACE) inhibitor or an angiotensin II receptor blocker (ARB) if they cannot tolerate an ACE inhibitor
- A beta blocker
- A mineralocorticoid receptor antagonist (MRA)

People with HFrEF have their medications adjusted to target doses as tolerated. If their heart failure symptoms persist and their ejection fraction remains less than or equal to 40%, they have their ACE inhibitor or ARB replaced by an angiotensin receptor neprilysin inhibitor. People with HFrEF may require additional medications and are prescribed these as needed.

Background

Medications are the cornerstone of treatment for HFrEF.[9] If the person with HFrEF has no contraindications and agrees to treatment, they should be started on appropriate pharmacological management as soon as possible.

Special attention should be paid to signs such as electrolyte and creatinine levels, blood pressure, and heart rate, as well as symptoms such as dizziness and fatigue when adding or adjusting medications. Care providers should take into account the specialized skills and expertise that may be required when prescribing these medications. If providing these treatments is beyond the provider's expertise, they should consult or collaborate with a care provider who has the appropriate expertise.

Some people with an initial ejection fraction of less than or equal to 40% (and considered HFrEF) will experience an improvement in their ejection fraction to greater than 40% after medications have been optimized. These people are known to have "recovered" ejection fraction, but the indications for HFrEF medications still apply. In other words, they are still managed as people with HFrEF.[3]

Very few clinical trials on pharmacological management have been conducted in people who have heart failure with preserved ejection fraction (HFpEF) or heart failure with midrange ejection fraction (HFmrEF). Medications for these people should address underlying etiology, such as ischemia and hypertension, and should provide symptom relief for congestion and fluid overload.[3,7-9]

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | American College of Cardiology Foundation/American Heart Association/Heart Failure Society of America, 2017[8] | Canadian Cardiovascular Society 2017[3] | European Society of Cardiology, 2016[4] | Institute for Clinical Systems Improvements, 2013[9] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Quality Statement

Additional medications
Additional medications that may complement triple therapy in appropriate cases are:

- Digoxin
- Hydralazine/isosorbide dinitrate
- Ivabradine
- Loop diuretics

What This Quality Statement Means

For People With Heart Failure

When you and your care provider work on your care plan, your care provider should explain the different types of medications you will need and how they will help you. If you have heart failure with reduced ejection fraction, you should be offered medication that includes at least three different pills (called "triple therapy"). You may need other medications as well. Your care provider should explain how to use your medications, including how and when to take them.

For Care Providers

If a person has NYHA class II to IV symptoms, an ejection fraction of less than or equal to 40%, no contraindications, and agrees to treatment, start them on an ACE inhibitor or an ARB (if they cannot tolerate an ACE inhibitor), a beta blocker, and an MRA as soon as possible, depending on their tolerance. If their heart failure symptoms and low ejection fraction persist despite optimal triple therapy, replace their ACE inhibitor or ARB with an angiotensin receptor neprilysin inhibitor (ARNI). Consider digoxin, hydralazine/isosorbide dinitrate, ivabradine, and loop diuretics for people who would benefit from these medications. If a person's family is involved in their care, and if the person consents, the family should also be given information about appropriate medications and instructions on how to take them.

For Health Services

Ensure that systems, processes, and policies are in place to allow people with HFrEF and NYHA class II to IV symptoms to receive appropriate pharmacological therapy in a timely manner.

Quality Indicators

Process Indicator

Percentage of people who have HFrEF and NYHA class II to IV symptoms who are dispensed triple therapy

- Denominator: total number of people who have HFrEF and NYHA class II to IV symptoms
- Numerator: number of people in the denominator who are dispensed triple therapy:
  - Stratify by:
    - ACE inhibitor or ARB or ARNI; beta blocker(s); and MRA
    - ACE inhibitor or ARB or ARNI
    - Beta blocker(s)
    - MRA
- Data source: local data collection

- Note: it is not expected that 100% of these people will be on triple therapy; some people will have contraindications to certain medications

Number of days from when people are confirmed to have HFrEF and NYHA class II to IV symptoms to when they are dispensed triple therapy

- Calculation: can be measured as mean, median, or distribution of the wait time (in days) from when people are confirmed to have HFrEF and NYHA class II to IV symptoms to when they are dispensed triple therapy
  - Stratify by:
    - ACE inhibitor or ARB or ARNI; beta blocker(s); and MRA
    - ACE inhibitor or ARB or ARNI
    - Beta blocker(s)
    - MRA
- Data source: local data collection
- Note: it is not expected that 100% of these people will be on triple therapy; some people will have contraindications to certain medications

Quality Statement 6: Worsening Symptoms of Heart Failure

People with known heart failure who report worsening symptoms are assessed by a care provider and have their medications adjusted (if needed) within 24 hours.

Background

People with heart failure who report worsening symptoms such as orthopnea, shortness of breath on exertion, and edema should have same-day access to medication adjustment for relief of these symptoms.[4] Access to a health care provider can be in person or via telemedicine.[3,9]

Medication adjustments typically fall under the scope of practice of physicians and nurse practitioners. However, pathways, order sets, and medical directives may be used to allow other regulated health care providers (e.g., registered nurses, pharmacists, etc.) to adjust heart failure medications, and to do so remotely. In this way, it is possible to minimize the need for people to go to an urgent care centre or emergency department for assistance.

Sources: Advisory committee consensus | Institute for Clinical Systems Improvements, 2013[9]

What This Quality Statement Means

For People With Heart Failure
If you are feeling more tired or more short of breath, are having trouble sleeping, or your weight has gone up in the last few days, you should contact your care provider. Someone should assess you. You may need your medications changed to keep you from feeling worse, and if so, this should be done for you within 24 hours. It is better to make these changes when you first start feeling worse rather than waiting too long and needing to go to the hospital. Once you are feeling better, your care provider should talk with you about different ways to manage your heart failure at home to prevent this from happening again.

For Care Providers
If a person presents with worsening symptoms of heart failure, ensure that they are assessed rapidly so that medication adjustment can happen within 24 hours, if needed. This assessment can be done in person or via telemedicine.

For Health Services
Ensure that systems, processes, and resources are in place to allow care providers to offer same-day access to assessment and treatment in the community for worsening symptoms of heart failure. This includes having policies in place to enable physicians and nurse practitioners to adjust medications quickly for relief of symptoms.

Quality Indicators

Process Indicators

Percentage of people with heart failure who report worsening symptoms and who are assessed by a care provider within 24 hours

- Denominator: total number of people with heart failure who report worsening symptoms
- Numerator: number of people in the denominator who are assessed by a care provider within 24 hours
- Exclusion: people with heart failure who present at the hospital or emergency department
- Data source: local data collection

Percentage of people with heart failure who report worsening symptoms and who have their medications adjusted within 24 hours, if needed

- Denominator: total number of people with heart failure who report worsening symptoms and who need their medications adjusted
- Numerator: number of people in the denominator who have their medications adjusted within 24 hours
- Exclusion: people with heart failure who present at the hospital or emergency department
- Data source: local data collection

Quality Statement 7: Management of Non-cardiac Comorbidities

People with heart failure are treated for non-cardiac comorbidities that are likely to affect their heart failure management.

Background

People with heart failure should be given care that extends beyond heart failure. Optimal management of people with heart failure is complex, in part because heart failure is never a standalone condition.[7] Comorbidities—including non-cardiac comorbidities—can confound heart failure treatments, interfere with diagnosis, diminish quality of life, complicate management, increase risk of future deterioration, and lead to poorer prognosis.[4,14]

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | American College of Cardiology Foundation/American Heart Association/Heart Failure Society of America, 2017[8] | Canadian Cardiovascular Society 2017[3] | European Society of Cardiology, 2016[4] | Institute for Clinical Systems Improvements, 2013[9] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Quality Statement

Non-cardiac comorbidities
People with heart failure often have multiple comorbidities. The following list is not exhaustive, but does include common conditions in people with heart failure that can affect their care plan, treatment options, adherence to therapy, follow-up, and prognosis.[3] If a person with heart failure presents with signs or symptoms of any of these comorbidities, they should be assessed and managed to facilitate the treatment of their primary diagnosis of heart failure:

- Anemia and iron deficiency
- Frailty
- Cognitive impairment
- Dementia (see quality standards *Behavioural Symptoms of Dementia* and *Dementia Care in the Community*)
- Depression/anxiety (see quality standard *Major Depression*)
- Renal dysfunction
- Central and obstructive sleep apnea
- Chronic obstructive pulmonary disease (see quality standard *Chronic Obstructive Pulmonary Disease*)
- Diabetes

What This Quality Statement Means

For People With Heart Failure
Often people with heart failure have other illnesses that also need to be treated. Your family doctor, nurse practitioner, cardiologist, or heart specialist can provide your heart failure treatments. They may also help you manage other conditions, or they may connect you with other care providers who can help you with your care needs.

For Care Providers
Provide support and referrals to address a person’s non-cardiac comorbidities, if needed, including physical and mental health needs. If you are unable to provide care for these comorbidities, facilitate access to care by offering applicable referrals.

For Health Services
Ensure that systems, processes, and resources are in place to allow care providers to manage a person’s heart failure and any non-cardiac comorbidities. This includes making sure that care providers have the time and resources required to provide comprehensive physical and mental health care or refer. Pathways should be in place to facilitate referrals to health services when appropriate.

Quality Indicators

There are no recommended indicators for this quality statement.

Quality Statement 8: Transition From Hospital to Community

People who are hospitalized for heart failure receive a follow-up appointment for reassessment of volume status and medication reconciliation with a member of their community health care team within 7 days of leaving the hospital.

Background

People with heart failure cycle though periods of stability and instability, often leading to recurrent hospitalizations.[15] Prompt follow-up, coordinated services and good communication between providers and settings can improve outcomes during these transitions. A follow-up appointment with a member of the community health care team within 7 days of returning home can help ensure that a person is recovering well after a heart failure exacerbation and that any other medical conditions, including non-cardiac comorbidities (see Quality Statement 7), are being managed. Anyone who has been hospitalized for heart failure should also be considered for specialized multidisciplinary care (see Quality Statement 9).

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Quality Statement

Community health care team
This includes anyone who has the knowledge, skill, and judgment to reassess the person's volume status and provide medication reconciliation. This could include a registered nurse, a nurse practitioner, or a physician.

What This Quality Statement Means

For People With Heart Failure
You should have an appointment with a member of your community health care team within 7 days of returning home after a hospital admission for heart failure.

For Care Providers
You should be contacted before a person with heart failure is discharged from hospital, and a summary of the person's hospital stay should be sent to you. You should ensure that the person receives an appointment to see you within 7 days of leaving the hospital.

For Health Services
Ensure that systems, processes, and resources are in place to allow people who have been hospitalized for heart failure to have a follow-up appointment with a member of their community health care team within 7 days of discharge from a hospital, including timely transfer of the person's discharge summary.

Quality Indicators

Process Indicators

Percentage of people who were admitted to hospital for heart failure and who are seen by a member of their community health care team within 7 days of hospital discharge

- Denominator: total number of people who were admitted to hospital for heart failure
- Numerator: number of people in the denominator who are seen by a member of their community health care team within 7 days of hospital discharge
- Data sources: local data collection (to identify non-physician health care providers); Discharge Abstract Database, National Ambulatory Care Reporting System, Ontario Health Insurance Plan, Registered Persons Database (to identify physicians and specialists)
- This indicator is similar to one in *Quality Indicators for Congestive Heart Failure: Quality-Based Procedure*[16]

Percentage of people with heart failure who receive a reassessment of their volume status and a medication reconciliation during a follow-up appointment by a member of their community health care team within 7 days of hospital discharge

- Denominator: total number of people with heart failure who are seen by a member of their community health care team within 7 days of hospital discharge
- Numerator: number of people in the denominator who receive a reassessment of their volume status and a medication reconciliation
- Data source: local data collection

Quality Statement 9: Specialized Multidisciplinary Care

People who have been hospitalized for heart failure are offered a referral to specialized multidisciplinary care for heart failure.

Background

Specialized multidisciplinary care improves outcomes in people with heart failure, reducing mortality and hospitalizations, and improving quality of life.[17-19] This model of care includes a process that enables frequent follow-up and rapid access to specialized care.[19] Once people with heart failure have been stabilized with specialized care, they should be referred back to their primary care provider with a comprehensive care plan.[19]

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3] | European Society of Cardiology, 2016[4]

Definitions Used Within This Statement

Specialized multidisciplinary care
Care that is provided by a team that includes a physician (family physician, internist, or cardiologist), or nurse practitioner, a pharmacist, and a registered nurse. The team should include at least one care provider with specialized training in heart failure. This care should include, at minimum[7,19]:

- Education and counselling
- Medication management and adjustment
    - Early attention to signs and symptoms of fluid overload and fluid depletion
    - Promotion of self-care, including self-adjusted diuretic therapy when possible
- Emphasis on behavioural strategies to increase adherence
- Prompt follow-up after hospital discharge and periods of instability
- Increased access to clinicians
- Assistance with social and financial concerns
- Assessment and monitoring
- A collaborative cardiology and palliative approach (see Quality Statement 10)

What This Quality Statement Means

For People With Heart Failure

If you have been to the hospital for your heart failure, or if your care provider is worried that you may need extra attention for your heart failure management, they should offer you the chance to work with a team of care providers who specialize in heart failure. This team should work closely with you to manage your care, improve your quality of life, and help prevent future hospitalizations related to your heart failure.

For Care Providers

If you are caring for someone who has been hospitalized for heart failure, offer them a referral to a specialized multidisciplinary care team.

For Health Services

Ensure that systems, resources, and pathways are in place so that specialized multidisciplinary care teams are available to all people who have been hospitalized for heart failure.

Quality Indicators

Process Indicators

Percentage of people who have been hospitalized for heart failure who receive a referral for specialized multidisciplinary care for heart failure

- Denominator: total number of people who have been hospitalized for heart failure
- Numerator: number of people in the denominator who receive a referral for specialized multidisciplinary care for heart failure
- Data source: local data collection

Percentage of people who have been hospitalized for heart failure and are seen by a specialized multidisciplinary care team

- Denominator: total number of people who have been hospitalized for heart failure and who have received a referral for specialized multidisciplinary care for heart failure
- Numerator: number of people in the denominator who are seen by a specialized multidisciplinary care team
- Data source: local data collection

Number of days until people who have been hospitalized for heart failure are seen by a specialized multidisciplinary care team

- Calculation: can be measured as mean, median, or distribution of the wait time (in days) until people who have been hospitalized for heart failure are seen by a specialized multidisciplinary care team
- Data source: local data collection

Structural Indicator

Local availability of specialized multidisciplinary care for heart failure

- Data source: regional/provincial data collection method would need to be developed

Quality Statement 10: Palliative Care and Heart Failure

People with heart failure and their families are offered palliative care support to meet their physical, psychosocial, and spiritual needs.

Background

Heart failure is incurable and progressive, with a high mortality rate and a trajectory that can be erratic. Because heart failure is unpredictable, discussions about goals of care should be conducted as soon as possible following diagnosis. These goals should be documented and frequently reassessed.[3,10]

People with heart failure and their families should have access to a collaborative care approach that integrates cardiology with palliative care.[10] According to the Ontario Palliative Care Network, “a palliative approach to care focuses on meeting a person and their family’s full range of needs—physical, psychosocial, and spiritual—at all stages of a chronic progressive illness. It reinforces the person’s autonomy and right to be actively involved in their own care—and strives to give individuals and families a greater sense of control. It sees palliative care as less of a discrete service offered to dying persons when treatment is no longer effective, and more of an approach to care that can enhance their quality of life throughout the course of their illness or the process of aging.”[20]

For more information on palliative care, please see the quality standard *Palliative Care.*

Sources: American College of Cardiology Foundation/American Heart Association, 2013[7] | Canadian Cardiovascular Society 2017[3] | Scottish Intercollegiate Guidelines Network, 2016[10]

Definitions Used Within This Statement

Palliative care support
Palliative care support consists of health advice, resources, treatment, and other assistance provided by the health care team to meet a person’s palliative care needs. Support should be culturally relevant and can come in many forms. For people with heart failure, palliative care support includes, at minimum[10]:

- Active heart failure management in conjunction with symptom control
- Rationalization of medical therapy
- Advance care planning—substitute decision-maker
- Coordination of care
- Care delivered by a multidisciplinary team
- Communication across primary and secondary care

What This Quality Statement Means

For People With Heart Failure

If you have heart failure, you should be offered the palliative care supports you need.

For Care Providers

If the person you are caring for has heart failure, ensure that they have access to a collaborative cardiology and palliative care approach from diagnosis onward.

For Health Services
Ensure that systems, processes, and resources are in place in the community for care providers to address the palliative care needs of people with heart failure.

Quality Indicators

The following indicators closely align with indicators found in the quality standard *Palliative Care*.

Process Indicators

Percentage of people with heart failure whose comprehensive care plan identifies palliative care needs and who have discussions with a health care professional documented in their medical record about their goals for palliative care

- Denominator: total number of people with heart failure whose comprehensive care plan identifies palliative care needs (Quality Statement 2)
- Numerator: number of people in the denominator who have discussions with a health care professional documented in their medical record about their goals for palliative care
- Data source: local data collection

Percentage of people with heart failure and identified palliative care needs (or their families) who state that a health care professional helped them understand what to expect and how to prepare for each stage of their illness toward the end of life

- Denominator: total number of people with heart failure and identified palliative care needs (or their families)
- Numerator: number of people in the denominator who state that a health care professional helped them understand what to expect and how to prepare for each stage of their illness toward the end of life
- Data source: local data collection
- An example of a validated survey question that can be used to inform your local data collection is available in the CaregiverVoice Survey[21,22]: "Did your health care providers help you, the caregiver, understand what to expect/how to prepare for his/her death?" (Response options: Yes; No, I was not aware of these services, but I would have liked to use them; No, I was not aware of these services, but I was not interested anyway; No, I was aware of these services, but I was not interested anyway; Not sure)

Outcome Indicator

Percentage of people with heart failure and identified palliative care needs (or their families) who state that they are able to receive community palliative care support, including after-hours care, when needed

- Denominator: total number of people with heart failure and identified palliative care needs (or their families)
- Numerator: number of people in the denominator who state that they are able to receive community palliative care support, including after-hours care, when needed
- Data source: local data collection

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About Health Quality Ontario

Health Quality Ontario is the provincial advisor on the quality of health care. We are motivated by a single-minded purpose: **Better health for all Ontarians.**

Who We Are

We are a scientifically rigorous group with diverse areas of expertise. We strive for complete objectivity, and look at things from a vantage point that allows us to see the forest and the trees. We work in partnership with health care providers and organizations across the system, and engage with patients themselves, to help initiate substantial and sustainable change to the province's complex health system.

What We Do

We define the meaning of quality as it pertains to health care, and provide strategic advice so all the parts of the system can improve. We also analyze virtually all aspects of Ontario's health care. This includes looking at the overall health of Ontarians, how well different areas of the system are working together, and most importantly, patient experience. We then produce comprehensive, objective reports based on data, facts and the voices of patients, caregivers and those who work each day in the health system. As well, we make recommendations on how to improve care using the best evidence. Finally, we support large-scale quality improvements—by working with our partners to facilitate ways for health care providers to learn from each other and share innovative approaches.

Why It Matters

We recognize that, as a system there is much to be proud of, but also that it often falls short of being the best it can be. Plus, certain vulnerable segments of the population are not receiving acceptable levels of attention. Our intent at Health Quality Ontario is to continuously improve the quality of health care in this province regardless of who you are or where you live. We are driven by the desire to make the system better, and by the inarguable fact that better has no limit.

About CorHealth Ontario

CorHealth Ontario is an organization formed by the merger of the Cardiac Care Network of Ontario and the Ontario Stroke Network, with an expanded mandate spanning cardiac, stroke, and vascular care. CorHealth Ontario proudly advises the Ministry of Health and Long-Term Care, Local Health Integration Networks, hospitals, and care providers to improve the quality, efficiency, accessibility, and equity of cardiac, stroke, and vascular services for patients across Ontario. For more information, visit corhealthontario.ca.

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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