

QUALITY STANDARDS

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# Hypertension

Care in the Community  
for Adults

## Scope of This Quality Standard

This quality standard addresses care for adults aged 18 years or older who have been diagnosed with hypertension or who are at risk of developing hypertension. The quality standard focuses on the prevention, assessment, diagnosis, and management of hypertension in primary care, and in long-term care and other home and community care settings. Quality statements may also be applicable to specialist care settings, where appropriate. Quality statements may apply to pregnant people; however, the quality standard does not directly address or include special considerations for the diagnosis and management of hypertension in pregnancy.

## What Is a Quality Standard?

Quality standards outline what high-quality care looks like for conditions or processes where there are large variations in how care is delivered, or where there are gaps between the care provided in Ontario and the care patients should receive. They:

- Help patients, 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

Quality standards and their accompanying patient guides are developed by Ontario Health, in collaboration with health care professionals, patients, and caregivers across Ontario.

For more information, contact [QualityStandards@OntarioHealth.ca](mailto:QualityStandards@OntarioHealth.ca).

# Quality Statements to Improve Care: Summary

These quality statements describe what high-quality care looks like for people with hypertension.

## **Quality Statement 1: Culturally Responsive Hypertension Care**

People with hypertension or at risk for hypertension (and their families and caregivers) receive care from health care providers in a health care system that is culturally responsive and free from discrimination and racism. Health care providers work to build trust, address misconceptions about hypertension, remove barriers to accessing care, and provide equitable care.

## **Quality Statement 2: Accurate Measurement of Blood Pressure**

People receive automated office blood pressure measurement when in-office blood pressure measurement is performed.

## **Quality Statement 3: Out-of-Office Assessment to Diagnose Hypertension**

People with a high in-office blood pressure measurement receive ambulatory blood pressure monitoring to confirm a diagnosis of hypertension. Home blood pressure monitoring can be used if ambulatory blood pressure monitoring is not tolerated or not readily available, or if the patient prefers home monitoring.

## **Quality Statement 4: Health Behaviour Changes**

People with hypertension or at risk for hypertension receive information and supports for health behaviour changes that can reduce their blood pressure and risk of cardiovascular disease, including physical exercise, weight reduction, alcohol consumption, diet, sodium and potassium intake, smoking cessation, and stress management.

### **Quality Statement 5: Care Planning and Self-Management**

People with hypertension collaborate with their health care professionals and use shared decision-making to create a care plan that includes a target blood pressure range, goals for health behaviour change, medication selection and adherence, recommended diagnostic testing, management of concurrent conditions, and when to follow up.

### **Quality Statement 6: Monitoring and Follow-Up After a Diagnosis of Hypertension**

People with hypertension who are actively modifying their health behaviours but not taking blood pressure medication are assessed by their health care professional every 3 to 6 months. Shorter intervals (every 1 to 2 months) may be needed for people with higher blood pressure. People who have been prescribed blood pressure medication are assessed every 1 to 2 months until their target blood pressure has been met on 2 consecutive visits, and then every 3 to 6 months.

### **Quality Statement 7: Improving Adherence to Medications**

People who are prescribed blood pressure medication receive information and supports to help them take their medication regularly and as prescribed. At every follow-up visit for hypertension, they have discussions with their health care professionals about medication use, possible side effects, and any barriers they experience in taking their medications as prescribed.

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# Why This Quality Standard Is Needed

Hypertension is a common condition that affects nearly 25% of adult Canadians.<sup>1</sup> In Ontario, 18% of people aged 12 years and older (or more than 2 million Ontarians) and 47% of people aged 65 years and older reported having received a diagnosis of hypertension in 2021.<sup>2</sup> It is the most common modifiable risk factor for death or disability, and it can lead to cardiovascular morbidity, chronic kidney disease, complications affecting numerous organ systems (including the brain, heart, eyes, kidneys, and peripheral vasculature), and death.<sup>3</sup> Common risk factors for developing hypertension include obesity, smoking, alcohol use, a family history of hypertension, and conditions such as diabetes or high cholesterol.<sup>4,5</sup> Multimorbidity (i.e., having more than one chronic condition), including hypertension, negatively affects people's quality of life and significantly increases the risk of disability and mortality among older adults.<sup>6</sup>

In Canada, management of hypertension has improved greatly over the past 30 years.<sup>7</sup> However, 17% of people are unaware that they have hypertension, and the condition of one-third of those with hypertension is poorly managed.<sup>3</sup> In Ontario, the number of emergency department visits with a diagnosis of hypertension rose by 19% from 2017/18 to 2021/22. However, about half of those visits may have been avoidable, as they were for patients who were discharged home without being admitted to the hospital, an outcome that has been associated with low rates of subsequent early hypertensive complications and death (National Ambulatory Care Reporting System, Canadian Institute for Health Information, 2021/22).<sup>8</sup> High-quality hypertension management in primary care and home and community care settings is key to preventing these avoidable emergency department visits.

Hypertension disproportionately affects people from Black, Indigenous, South Asian, and Francophone populations; people from older age groups; women aged 65 years and older; and people living in rural and remote settings.<sup>9,10-13</sup> For example, in Ontario, people who are Black or South Asian are 3 times more likely to have hypertension than White people.<sup>4</sup>

In a Canadian study that looked at race, sex, and income, higher income was associated with a lower likelihood of hypertension for both Black and White women, but the opposite was true for Black men.<sup>14</sup> The Métis population in Ontario has a prevalence of hypertension that is 17% higher than the rest of the population.<sup>15</sup> Francophones in Ontario experience poorer health than Anglophones, including higher rates of hypertension.<sup>13,16</sup> Further, 15% of the Francophone population in Ontario are immigrants, and of those, 63.5% are from a racialized group.<sup>17</sup> People in older age groups are more likely to have poor hypertension management, leading to additional risks of mild cognitive impairment, dementia, and decline in physical function.<sup>4,11</sup> Potential reasons for differences in the prevalence and incidence of hypertension between racial or ethnic groups include biological differences in the mechanisms of blood pressure regulation, and environmental and behavioural characteristics (e.g., access to care, socioeconomic status, dietary habits, social network, stress, and health behaviours).<sup>18</sup> Furthermore, hypertension is unequally distributed by socioeconomic status, a fact that is attributable to factors such as access to healthy food, exercise, and primary care; the affordability of blood pressure medication; health literacy; and geographic location.<sup>9,19</sup> Although people who are homeless experience rates of hypertension similar to the general population, it often goes undiagnosed or untreated, contributing to poorer blood pressure management.<sup>20</sup>

The health care, social, and economic restrictions of the COVID-19 (coronavirus) pandemic (e.g., unforeseen effects on continuity of care and adherence to medication and recommended health behaviour changes, decreased physical activity, loss of income, social isolation, and increased frequency of depression and anxiety) had negative implications for cardiovascular health risk.<sup>21</sup> In addition, increased reliance on virtual care during the pandemic had significant equity implications: factors such as internet access, digital literacy, age, geographical location, language, and culture affected how certain populations received care for hypertension.<sup>21,22</sup> However, access to virtual care for the assessment, diagnosis, and management of hypertension presents a key opportunity to improve hypertension management and promote health equity.<sup>23</sup>

Health behaviour changes are recommended for the initial treatment of hypertension.<sup>24</sup> Traditionally, blood pressure medication has been recommended for adults with hypertension whose SBP and DBP remain above the target of < 140/90 mm Hg (< 130/80 mm Hg in adults with diabetes or SBP < 120 mm Hg in those with chronic kidney disease).<sup>24</sup> Findings from the SPRINT hypertension management trial found that compared with standard treatment (target SBP < 140 mm Hg), intensive treatment (target SBP < 120 mm Hg) resulted in a significant reduction in major adverse cardiovascular events.<sup>25,26</sup> Current Hypertension Canada guidelines<sup>24</sup> recommend a risk-based approach for treatment thresholds and blood pressure targets, emphasizing cardiovascular risk assessment when making decisions about blood pressure medications, and involving people in risk reduction via health behaviour changes such as weight loss, exercise, and diet in a culturally appropriate manner.

## Measurement to Support Improvement

The Hypertension Quality Standard Advisory Committee identified 5 overarching indicators to monitor the progress being made toward improving care for people with hypertension in Ontario.

### Indicators That Can Be Measured Using Provincial Data

- Percentage of people diagnosed with hypertension for at least 1 year who experience 1 or more stroke events in a given year
- Percentage of people diagnosed with hypertension for at least 1 year who experience 1 or more cardiovascular disease events in a given year
- Percentage of people with hypertension who have 1 or more unplanned acute care visits for hypertension in the past year. Stratify by:
  - Unscheduled emergency department visits
  - Nonelective hospitalizations
- Percentage of people with hypertension who are persistent in taking their blood pressure medication (measurable for people aged 65 years and older only)

## Indicator That Can Be Measured Using Only Local Data

- Percentage of people with hypertension who report that their blood pressure is within their target range in the past month



# Quality Statement 1: Culturally Responsive Hypertension Care

**People with hypertension or at risk for hypertension (and their families and caregivers) receive care from health care providers in a health care system that is culturally responsive and free from discrimination and racism. Health care providers work to build trust, address misconceptions about hypertension, remove barriers to accessing care, and provide equitable care.**

Source: Advisory committee consensus

## Definitions

**Risk for hypertension:** Risk factors for developing hypertension include older age; obesity; smoking; alcohol use; a family history of hypertension; conditions such as diabetes, chronic kidney disease, or high cholesterol; low level of consumption of fresh fruits and vegetables; and sedentary behaviour.<sup>4,5,24</sup>

**Culturally responsive care:** This refers to culturally appropriate and unbiased quality care. Culturally responsive care aims to reduce health disparities by creating a culturally safe environment, using cultural negotiation and considering the impact of culture on how people refer to and perceive time and space, how they perceive eye contact, and how they make dietary or food choices.<sup>27,28</sup> Such care is provided by health care providers who respect diversity in their patient population and have an awareness of cultural factors that can affect health and health care, including language, communication styles, beliefs, attitudes, and behaviours.<sup>28</sup>

**Discrimination:** This refers to an unfair action or decision toward a person or a group of people based on their age, race or ethnicity, gender, health status, migration or immigration, socioeconomic status, or other elements of their identity.<sup>29</sup> In addition to the social, emotional, and mental health effects of discrimination, such experiences can produce stress that dysregulates the cardiovascular system and reduces the body's ability to regulate blood pressure.<sup>30</sup>

**Racism:** This is the systemic discrimination that harms racialized populations and groups living with health-related social needs. It creates barriers to and disparities in accessing and receiving appropriate health care and community and social services for Black, Indigenous, South Asian, and other racialized populations.<sup>31-33</sup> Racism is often the result of institutional biases in organizational culture, policies, directives, practices, and procedures that may appear neutral but have the effect of privileging some groups and disadvantaging others.<sup>34</sup> It often involves labelling, devaluation, judgment, the social disqualification of a person based on their health condition, or a combination of these, leading to negative health outcomes.<sup>30</sup>

**Build trust:** Trust rests at the core of an effective relationship between a patient and their health care provider. It is built when the patient perceives their health care provider to be competent, responsible, caring, tactful, and ethical, while expressing attitudes and engaging in behaviours that demonstrate respect and value for the patient.<sup>35</sup> Trust has been associated with improvements in patient–provider communication, satisfaction with health care, adherence to medical treatments, use of health services, continuity of care, and self-rated health and blood pressure management.<sup>35</sup>

**Remove barriers to accessing care:** Health care providers and organizations should work toward removing systemic barriers that hinder or deter people (and their families and caregivers) from accessing health care and community and social services for the prevention, assessment, diagnosis, and management of hypertension. Such barriers include the following<sup>36,37</sup>:

- Difficulty in accessing a clinic or health care provider (e.g., lack of access to a primary care provider, inability to contact health care providers or clinics, inconvenient clinic hours, travel or transportation)
- Patient (and family or caregiver) lack of awareness or limited knowledge of hypertension and how to manage it
- Processes of care that prevent patients from receiving needed treatments and high-quality care (e.g., maltreatment or marginalization in the clinical setting; difficulty communicating with health care providers, owing to language barriers or providers’ inability to provide clear or sufficient information; difficulty accessing tools or care virtually via telemedicine or other technologies)
- Affordability or costs associated with health behaviour changes (see quality statement 4), blood pressure monitoring devices, and blood pressure medication

**Equitable care:** Equitable care requires that all people with or at risk for hypertension are given an equal opportunity to reach their fullest health potential via barrier-free access to high-quality clinical care. Ensuring equitable care involves addressing barriers in and beyond health care settings, including the social determinants of health (e.g., racism, discrimination, poverty). Equitable care is attained when people with or at risk for hypertension receive appropriate, timely interventions and no longer experience preventable complications because of discrimination.

## Rationale

In Ontario, many populations are disproportionately affected by hypertension, including Black, Indigenous, and South Asian populations; people living in low-income or rural and remote communities; Francophones; and people in older age groups, such as women aged 65 years and older.<sup>9,10-13</sup> These equity-deserving populations often experience worse hypertension-related health outcomes compared to other groups.<sup>38</sup>

Experiences of discrimination can vary and be based on sociodemographic factors (e.g., age, race and ethnicity, gender, health status, migration or immigration, socioeconomic status, or other elements of their identity).<sup>30</sup> Such experiences can impair blood pressure management and have been associated with trends related to the use of blood pressure medication and the trajectory of hypertension.<sup>30</sup> Health behaviour changes (see quality statement 4) and barriers associated with adherence to blood pressure medication (see quality statement 7) are important modifiable factors that contribute to racial or ethnic disparities in blood pressure management, often resulting in hypertension-related

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complications.<sup>35</sup> Patient trust in their health care provider has been found to be a predictor of adherence to recommended health behaviour changes and improved patient outcomes.<sup>35</sup>

When providing culturally responsive care, health care providers should ensure that their recommended health behaviour changes factor in patients' culturally based choices and preferences. Primary care providers who have been trained in providing culturally responsive and appropriate approaches to hypertension care acknowledge the importance of addressing a patient's culture when delivering care.<sup>38</sup> In particular, the use of culturally adapted hypertension education led to substantial improvements in patients' self-reported adherence to health behaviour changes, reduced blood pressure, and more prescription refills, suggesting improvements in medication adherence among those who participated in the intervention.<sup>39</sup>

## What This Quality Statement Means

### For People With or at Risk for Hypertension

Your health care providers should always treat you with respect and dignity, and listen to you. You should be cared for in a way that respects your culture, values, and beliefs, and that is free from discrimination. Your health care providers should work with you to understand your needs and any difficulties you face in accessing care.

### For Clinicians

Treat people with or at risk for hypertension (and their families and caregivers, where appropriate) with respect, dignity, and compassion, and work to establish trust. Ensure that you are equipped with the appropriate education, knowledge, and skills to provide care in a culturally responsive, antiracist, and anti-oppressive way that recognizes people's intersectional identities (see Appendix 4, Guiding Principles, *Intersectionality*). See each person as an individual, engage in active listening, work to understand their needs, and provide timely, high-quality care.<sup>40</sup> Be an advocate and an agent of change if structural factors of discrimination need to be addressed.

### For Organizations and Health Services Planners

At the provincial and local levels, ensure that health care and other community and social services are provided by a workforce knowledgeable in culturally responsive care to address the many needs of people with or at risk for hypertension. This includes engaging with other sectors, such as education, employment, and community-based services. Health care organizations have a responsibility to implement changes to care delivery that reduce structural barriers to care and engagement.

Ensure that providers in primary care and home and community care settings receive ongoing education and training in culturally responsive care. Ensure that the workforce represents the diversity of the population being served in terms of their racial, ethnic, and cultural backgrounds, and that care practices are culturally responsive, antiracist, and anti-oppressive.

Ensure that hypertension services are developed in partnership with the groups most affected by the social determinants of health (including racialized populations), to address their concerns and develop culturally responsive health care and community and social services. This process should be

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accompanied by a review of policies and procedures with the following aims: remove systemic barriers to accessing care and services; advance equity; address interlocking systems of social oppression; and recognize the intersectional identities of people with or at risk for hypertension (see Appendix 4, Guiding Principles, *Intersectionality*).<sup>40,41</sup>

For more information, see Ontario Health’s [Equity, Inclusion, Diversity and Anti-Racism Framework](#). To support the development of tailored services, consider using Ontario’s [Health Equity Impact Assessment Tool](#) for practical decision-making to support your equity analysis and address racism and anti-Black racism.

## Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hypertension who report receiving care from health care providers in a health care system that is culturally responsive and free from racism and discrimination
- Local availability of resources and training for health care providers in culturally responsive care

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 2: Accurate Measurement of Blood Pressure

**People receive automated office blood pressure measurement when in-office blood pressure measurement is performed.**

Sources: Department of Veterans Affairs and Department of Defense, 2020<sup>42</sup> | Hypertension Canada, 2020<sup>24</sup> | Kidney International, 2021<sup>43</sup> | National Institute for Health and Care Excellence, 2022<sup>44</sup>

## Definitions

**Automated office blood pressure measurement:** This is blood pressure measurement using a fully automated electronic device (with an appropriate cuff size for the person’s arm) that can record several readings as the person rests attended or unattended in a quiet area.<sup>24,42,44</sup> Staff taking blood pressure measurements include health care professionals or others with training in accurate blood pressure measurement. Hypertension Canada maintains a [list of recommended blood pressure devices](#).

**When in-office blood pressure measurement is performed:** Health care providers should aim to perform in-office blood pressure measurement at all appropriate patient visits, including new patient visits, periodic health exams, urgent office visits for neurological or cardiovascular issues, medication-renewal visits, and other visits at which they deem it appropriate to monitor blood pressure.<sup>42,45</sup>

## Rationale

Automated office blood pressure (AOBP) measurement is encouraged; it is the preferred method of blood pressure measurement in-office, because it provides more standardized and reproducible measurement than routine manual blood pressure measurement.<sup>24,46</sup> Accurate blood pressure measurement is essential for hypertension diagnosis, cardiovascular risk assessment, recommended interventions or medications, and monitoring of treatment effects.<sup>24</sup> Auscultation was once the most common method, and if it is performed properly, measurements are accurate. However, in practice people do not follow standardized methods regularly, and outside of clinical research studies, blood pressure measurements taken using auscultation are higher on average.<sup>24,47,48</sup> As well, the ability of AOBP measurement to record blood pressure readings without health care providers in the room can mitigate white-coat hypertension (i.e., when in-office blood pressure readings are elevated and out-of-office readings are normal; see quality statement 3).<sup>48,49</sup> Blood pressure measurements should be documented in the person’s medical record.

Although in-office blood pressure measurement can be used for initial assessment, a diagnosis of hypertension should be confirmed using out-of-office blood pressure measurement.<sup>24</sup> See quality statement 3 for further details on diagnosing hypertension.

## What This Quality Statement Means

### For People With or at Risk for Hypertension

Your blood pressure should be measured using an automated electronic device. Your health care provider should make sure that they use an arm cuff that fits you, and that you are seated quietly while the device takes several readings.

### For Clinicians

Use AOBP measurement whenever blood pressure is measured in-office. Health care professionals should be trained in standardized techniques and the interpretation of readings, and they should review their skills and performance periodically.<sup>24,44</sup> When measuring blood pressure, health care providers should consider the following:

- The office environment (temperature, comfort, privacy)
- The use of an appropriate cuff size (possibly a wrist cuff for large arm circumferences)<sup>24</sup>
- Patient position or posture<sup>44</sup>

### For Organizations and Health Services Planners

Ensure better access to primary care for people across Ontario to enable in-office blood pressure measurement, particularly in rural and remote settings. Ensure the availability of calibrated AOBP devices for in-office blood pressure measurement. Offer training in accurate blood pressure measurement to health care professionals and other relevant staff.

## Quality Indicator: How to Measure Improvement for This Statement

- Percentage of people who receive AOBP measurement when in-office blood pressure measurement is performed

Measurement details for this indicator, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 3: Out-of-Office Assessment to Diagnose Hypertension

People with a high in-office blood pressure measurement receive ambulatory blood pressure monitoring to confirm a diagnosis of hypertension. Home blood pressure monitoring can be used if ambulatory blood pressure monitoring is not tolerated or not readily available, or if the patient prefers home monitoring.

Sources: American College of Cardiology/American Heart Association, 2017<sup>5</sup> | Hypertension Canada, 2020<sup>24</sup> | Kidney International, 2021<sup>43</sup> | National Institute for Health and Care Excellence, 2022<sup>44</sup>

## Definitions

**High in-office blood pressure measurement:** Using AOBP measurement, the person's mean SBP is 135 to 179 mm Hg and their mean DBP is 85 to 109 mm Hg. Using non-AOBP measurement, the person's mean SBP is 140 to 179 mm Hg and their mean DBP is 90 to 109 mm Hg.<sup>24</sup>

**Ambulatory blood pressure monitoring:** An electronic device that is worn on the body to automatically measure blood pressure at regular intervals during normal daily activities. It is worn on a belt and is connected to a cuff around the arm. The device is worn for 24 hours or more.

**Home blood pressure monitoring:** An electronic device that is used to measure blood pressure in the home setting using an automatic cuff similar to the one used for in-office blood pressure measurement. Blood pressure is usually measured 2 times per day for 7 days.

## Rationale

Out-of-office blood pressure measurements are recommended to confirm a suspected diagnosis of hypertension.<sup>5</sup> There is evidence that ambulatory blood pressure monitoring (ABPM) has better predictive ability than in-office measurements, making it the preferred method for confirming a diagnosis of hypertension. Measurement with home blood pressure monitoring (HBPM) also has better predictive value than in-office measurements and can be used when ABPM is not tolerated or not readily available, or if the patient prefers home monitoring.<sup>24</sup>

If a person's in-office mean SBP is  $\geq 180$  mm Hg or mean DBP is  $\geq 110$  mm Hg (or both) using 3 readings during the same visit (AOBP or non-AOBP), then hypertension is diagnosed without an out-of-office assessment.<sup>24</sup> People who have asymptomatic DBP  $\geq 130$  mm Hg or who demonstrate features of hypertensive urgency or emergency (e.g., acute kidney injury, intracranial hemorrhage, acute ischemic stroke) should be diagnosed with hypertension and receive immediate management.

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If the person's average out-of-office blood pressure measurements are not high, white-coat hypertension should be diagnosed and pharmacological treatment should not be started.<sup>24</sup> Masked hypertension (blood pressure measurement is high at home but normal in the office – the opposite of white-coat hypertension<sup>24</sup>) can also be identified using ABPM or HBPM. Because of the high cost of the device and lack of coverage from the Ontario Health Insurance Plan (OHIP), ABPM is not widely accessible for people needing to confirm a diagnosis of hypertension.<sup>50</sup> Similar challenges are associated with HBPM, including the cost of the device, lack of coverage from OHIP, and use of inaccurate devices.

Special considerations for the diagnosis of hypertension in pregnant people are beyond the scope of this quality standard.

## What This Quality Statement Means

### For People With or at Risk for Hypertension

Stress during medical visits can affect your blood pressure, so measuring it during your everyday activities is a good way to get a more accurate reading. If your health care provider thinks you might have high blood pressure, they should offer you a device that measures your blood pressure many times over 24 hours, while you go about your daily activities. This is called “ambulatory blood pressure monitoring,” and it helps your health care provider confirm whether you have high blood pressure. If you do not want ambulatory blood pressure monitoring, or if it is not available, you can use a device that measures your blood pressure at home 2 times a day for 7 days instead. Your health care provider should give you information about the device you use and show you how to use it properly.

### For Clinicians

Offer ABPM to confirm a diagnosis of hypertension in people with an SBP of 135 to 179 mm Hg or a DBP of 85 to 109 mm Hg (or both) using AOBP measurement. Offer HBPM if ABPM is not tolerated, not readily available, or if the patient prefers it. Educate people with suspected hypertension about how to use the ABPM or HBPM device and how to record their blood pressure readings. Virtual modalities can be used to help people learn how to monitor their blood pressure accurately at home. To support people in selecting and using an HBPM device, consider referring them to Hypertension Canada's [Home Blood Pressure Log](#). HBPM and patient-reported results may be shared virtually by patients (and their families or caregivers) to assist in assessment and contribute to a diagnosis of hypertension.

### For Organizations and Health Services Planners

Ensure that ABPM or HBPM is accessible and affordable to confirm a diagnosis of hypertension for those with a high in-office blood pressure measurement. Ensure that health care providers know about and have access to available tools and resources so that they can support people who are using ABPM or HBPM devices to record their blood pressure measurements.



## Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with a high in-office blood pressure measurement who receive out-of-office blood pressure monitoring (ambulatory blood pressure monitoring or home blood pressure monitoring) to confirm a diagnosis of hypertension
- Local availability of ambulatory blood pressure monitoring

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 4: Health Behaviour Changes

**People with hypertension or at risk for hypertension receive information and supports for health behaviour changes that can reduce their blood pressure and risk of cardiovascular disease, including physical exercise, weight reduction, alcohol consumption, diet, sodium and potassium intake, smoking cessation, and stress management.**

Sources: American College of Cardiology/American Heart Association, 2017<sup>5</sup> | Hypertension Canada, 2020<sup>24</sup> | Kidney International, 2021<sup>43</sup> | National Institute for Health and Care Excellence, 2022<sup>44</sup>

## Definitions

**Risk for hypertension:** Risk factors for developing hypertension include older age; obesity; smoking; alcohol use; a family history of hypertension; conditions such as diabetes, chronic kidney disease, or high cholesterol; low level of consumption of fresh fruits and vegetables; and sedentary behaviour.<sup>5,24</sup>

**Information and supports:** This is the provision of advice, encouragement, and education for people with hypertension. It includes referral to community programs and services where appropriate.

**Physical exercise:** Aim for 30 to 60 minutes of moderate-intensity dynamic exercise (e.g., walking, jogging, cycling, or swimming) 4 to 7 days per week, in addition to the routine activities of daily living.<sup>24</sup> People can use a graded approach based on their overall health status and abilities.

**Weight reduction:** Maintaining a healthy body weight (waist circumference < 102 cm for men and < 88 cm for women, or body mass index 18.5 to 24.9 kg/m<sup>2</sup>) is recommended to prevent hypertension, and to reduce blood pressure in people with hypertension.<sup>24</sup> Weight-reduction strategies should use an interprofessional approach that includes dietary education, increased physical activity and exercise, and behavioural interventions.<sup>24</sup> Body mass index should not be the sole factor in determining the need for care or the level of care provided to maintain a healthy body weight.

**Alcohol consumption:** There is no safe limit for alcohol consumption to prevent hypertension.<sup>24</sup> People at risk for hypertension should be encouraged to abstain from alcohol or reduce their consumption to 2 drinks per day or less to prevent hypertension. Adults with hypertension who consume 2 or more drinks per day should be encouraged to reduce their alcohol intake; those who consume 6 or more drinks per day should limit their intake to 2 drinks per day or fewer.<sup>24</sup> For more information, see Ontario Health's [Problematic Alcohol Use and Alcohol Use Disorder](#) quality standard.<sup>51</sup>

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**Diet:** [The Dietary Approaches to Stopping Hypertension \(DASH\) diet](#) is recommended.<sup>5</sup> It emphasizes consumption of fruits, vegetables, low-fat dairy products, whole-grain foods rich in dietary fibre, and protein from plant sources, and it is low in saturated fat and cholesterol.<sup>24</sup> Consider a referral to a dietitian for people with hypertension or at risk for hypertension.

**Sodium intake:** Consider reducing or limiting sodium intake to 2,000 mg (5 g of salt or 87 mmol of sodium) per day.<sup>24,43</sup>

**Potassium intake:** In people who are not at risk for hyperkalemia, consider increased or sufficient dietary potassium intake.<sup>24</sup>

**Smoking cessation:** Quitting smoking can reduce the risk of cardiovascular disease for people with hypertension.<sup>5</sup> Offer appropriate pharmacological and nonpharmacological smoking-cessation interventions, including behavioural support, intensive counselling, motivational interviewing, nicotine replacement therapy products, medications, or referrals to other health care professionals and programs that offer these supports (such as the I).<sup>5,52</sup>

**Stress management:** When stress might be a contributor to high blood pressure, stress management should be considered as an intervention.<sup>24</sup>

## Rationale

Sustained health behaviour changes are effective in lowering blood pressure.<sup>5</sup> These changes may be enough to prevent hypertension, or to help people with hypertension meet their blood pressure targets, either on their own or in combination with pharmacological therapy.<sup>5</sup>

A person's social, economic, and physical environment can make it challenging to implement healthy behaviour changes.<sup>53</sup> Factors such as adequate housing, the availability of healthy food, and access to exercise can affect a person's ability to manage their risk for hypertension.<sup>54</sup> People from South Asian, Black, and Indigenous communities may also experience challenges with adopting certain recommended health behaviour changes because of cultural beliefs or practices.<sup>55,56</sup>

Health care professionals should provide advice, encouragement, and education to people with hypertension. Regular counselling and routine check-ins to assess adherence can contribute to success.<sup>24</sup> System-level policies can also help increase access to healthy foods and provide spaces and opportunities for physical exercise.<sup>5</sup> Encouraging people to regularly spend time in groups for support and encouragement can help them sustain health behaviour change. Health care professionals should be aware of culturally appropriate programs and services in their communities that support health behaviour change and offer relevant referrals. Health care professionals should consider referral to a dietitian for diet and nutrition changes.

## What This Quality Statement Means

### For People With or at Risk for Hypertension

Your diagnosis is the first step to managing your blood pressure and staying healthy. Your health care professionals should talk with you about changes you can make to lower your blood pressure, such as getting enough exercise, losing weight, avoiding alcohol or drinking less, changing your diet, stopping smoking, and reducing stress. They should give you information about programs and groups in your community that support these changes and align with your cultural values.

### For Clinicians

Ask people with hypertension or at risk for hypertension about their health behaviours, including physical exercise, alcohol use, diet, and stress management. Provide culturally appropriate information and education about changes that can reduce blood pressure. Work with people to set goals and connect them to programs and groups that support health behaviour changes. Consider referral to a dietitian.

### For Organizations and Health Services Planners

Ensure the availability of local programs or groups that support health behaviour changes for people with or at risk for hypertension. Ensure that health care providers have the necessary resources, training, and skills to provide culturally appropriate information and education to patients from diverse communities.

## Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hypertension or at risk for hypertension who report receiving information and supports for health behaviour changes that can reduce their blood pressure and risk of cardiovascular disease
- Local availability of culturally appropriate programs and services that support health behaviour changes for hypertension (including exercise programs, smoking-cessation programs, and access to a registered dietitian)

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 5: Care Planning and Self-Management

People with hypertension collaborate with their health care professionals and use shared decision-making to create a care plan that includes a target blood pressure range, goals for health behaviour change, medication selection and adherence, recommended diagnostic testing, management of concurrent conditions, and when to follow up.

Sources: American College of Cardiology/American Heart Association, 2017<sup>5</sup> | Hypertension Canada, 2020<sup>24</sup>

## Definitions

**Shared decision-making to create a care plan:** This is a process whereby health care professionals collaborate with people who have hypertension (and their families and caregivers, where appropriate) to create a care plan. It involves a shared approach to decision-making that offers the opportunity for people with hypertension to discuss what is important to them about treating or managing their condition in a way that is sensitive to their values and preferences and aligns with their needs and goals of care. Using this approach, health care professionals should<sup>57-59</sup>:

- Invite the person to participate (as well as their family or caregivers, if the person agrees)
- Consider factors that may affect a person’s involvement or ability to communicate (e.g., the language in which care is delivered, health literacy, or cultural or religious beliefs)<sup>60</sup>
- Provide evidence-based information about the potential benefits and harms of the medication (including side effects and drug interactions), as well as the risks of nonadherence
- Present medication options, including information about dosage, frequency, how the medication is taken, route of administration, and cost (if applicable) for each option
- Help people to evaluate the options based on their values and preferences
- Facilitate deliberation and decision-making to obtain informed consent
- Help implement decisions

For more information on involving people with hypertension (and their families and caregivers, where appropriate) in decisions about blood pressure medication selection and adherence, see Ontario Health’s [Medication Safety](#) quality standard.<sup>61</sup>

**Target blood pressure:** When identifying blood pressure targets, health care professionals are encouraged to use clinical judgment and shared decision-making to ensure the feasibility of the target in the patient’s broader clinical, social, and economic context.<sup>24</sup>

**Medication selection and adherence:** To promote adherence to medication and the best patient outcomes, medication selection should be individualized for people with hypertension. Medication selection should be based on individual patient characteristics such as existing comorbidities; it should not be based solely on their racial or ethnic background. Medication selection should also be made in alignment with the patient’s cultural beliefs, preferences, and values. (See quality statement 7 for more information on medication adherence.)

**Recommended diagnostic testing:** Recommended routine tests for people with hypertension include the following<sup>24</sup>:

- Urinalysis
- Blood chemistry (potassium, sodium, and creatinine)
- Fasting blood glucose, glycated hemoglobin, or both
- Serum total cholesterol; low density lipoprotein, high density lipoprotein (HDL), and non-HDL cholesterol; and triglycerides
- Standard 12-lead electrocardiography

Patients with hypertension and diabetes should be assessed for urinary albumin excretion, and all patients being treated for hypertension should be monitored according to the current Diabetes Canada guidelines for the new appearance of diabetes.<sup>24</sup>

## Rationale

People with hypertension should have a clear, detailed, and current evidence-based plan of care that includes their treatment and self-management goals, encourages effective management of concurrent conditions, and outlines timely follow-up with relevant health care professionals.<sup>5</sup> The care plan should reflect the person’s individual context, including their demographic information, health behaviours, and any other relevant determinants of health.<sup>5</sup> Implementing a care plan for hypertension is associated with a long-term reduction in blood pressure and improved success in meeting blood pressure targets.<sup>5</sup>

Using a shared decision-making approach to create a care plan presents a key opportunity to promote health equity and improve care by strengthening communication between the health care provider and patient (and their family or caregivers), and placing a greater emphasis on patient preferences in care plans.<sup>59</sup> Care plans should be communicated in person and in writing (printed or digital), and they should be shared with families and caregivers (with the person’s consent).

Health care providers can promote self-management knowledge and skills such as goal-setting, self-monitoring, and self-sufficiency in people with hypertension.<sup>5</sup> Self-management programs can use a variety of modalities, including individual or group education, written materials, phone calls, virtual care, or online resources. The timeline for reviewing the care plan will be based on individual factors: for example, higher blood pressure or risk of cardiovascular disease may require more frequent follow-up and review.

## What This Quality Statement Means

### For People With Hypertension

When you are diagnosed with high blood pressure, your health care professionals should work with you to give you information and a care plan that reflect your needs and goals. Your care plan should include information about you, your health, the medications you are taking, any tests you need to have, and when you should have a follow-up appointment. Your health care professionals should discuss your care plan with you in person and share it with you in writing.

### For Clinicians

Collaborate with the person with hypertension to develop a care plan that includes the following:

- Target blood pressure range
- Goals for health behaviour change
- Medication selection and adherence
- Recommended diagnostic testing
- Management of concurrent conditions
- When to follow up

Discuss the care plan with the person with hypertension (and their family or caregivers, where appropriate), and provide it in writing. How often the care plan is reviewed can vary depending on the person's risk factors and other individual factors.

### For Organizations and Health Services Planners

Provide tools, resources, and training to support health care professionals and people with hypertension in developing care plans.

## Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hypertension who have a written care plan
- Percentage of people with hypertension who report that their care plan is reviewed as needed
- Percentage of people with hypertension who report that their health care professional always or often involves them in decisions about their care

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 6: Monitoring and Follow-Up After a Diagnosis of Hypertension

People with hypertension who are actively modifying their health behaviours but not taking blood pressure medication are assessed by their health care professional every 3 to 6 months. Shorter intervals (every 1 to 2 months) may be needed for people with higher blood pressure. People who have been prescribed blood pressure medication are assessed every 1 to 2 months until their target blood pressure has been met on 2 consecutive visits, and then every 3 to 6 months.

Sources: American Academy of Family Physicians, 2022<sup>62</sup> | American College of Cardiology/American Heart Association, 2017<sup>5</sup> | Hypertension Canada, 2020<sup>24</sup> | Kidney International, 2021<sup>43</sup>

## Definitions

**Actively modifying health behaviours:** To reduce their blood pressure and risk of cardiovascular disease, people with hypertension can work with their health care professionals to make health behaviour changes, including increased physical exercise, weight reduction, decreased alcohol consumption, modified diet, modified sodium and potassium intake, smoking cessation, and stress management (see quality statement 4).

**Assessed:** Hypertension follow-up assessment should include the following<sup>5</sup>:

- Evaluation of blood pressure management
- Evaluation for orthostatic hypotension
- Monitoring of goals for health behaviour changes and progress toward those goals
- Monitoring for adverse effects from medication therapy
- Monitoring of medication adherence and dosage adjustment
- Laboratory testing (including electrolyte status and renal function)
- Other assessments of target organ damage

Assessments do not need to be completed by the same health care professional (i.e., physician, nurse practitioner, pharmacist, specialist physician) and can be offered in-office or virtually (if appropriate), but they should be completed in a coordinated way, and information should be shared with the primary care provider.



**Target blood pressure:** The treatment goal using non-AOBP measurement performed in office for people at low risk (i.e., no target organ damage or cardiovascular risk factors) is SBP < 140 mm Hg and DBP 90 mm Hg. Lower blood pressure targets (e.g., SBP < 130 mm Hg and DBP < 80 mm Hg) may be selected for people with hypertension and diabetes mellitus, those at risk of myocardial infarction, or based on patient preferences and values.<sup>24</sup> A treatment goal of SBP < 120 mm Hg using AOBP measurement should be considered for people aged 50 years and older at high risk of cardiovascular disease, people with hypertension and chronic kidney disease, or people aged 75 years and older.<sup>62</sup>

## Rationale

Follow-up visits after a diagnosis of hypertension are important to support and monitor goals for health behaviour changes, and to provide further information and education. Monitoring people's response to treatment and assessing their adherence to pharmacological and nonpharmacological (i.e., health behaviour change) interventions are other key aspects of follow-up.

Better access to primary care is associated with improved awareness of blood pressure and management of hypertension.<sup>63</sup> However, access to primary care is a challenge across Canada. In 2019, prior to the COVID-19 pandemic, it was reported that 4.6 million Canadians did not have access to primary care; since the pandemic, this number has increased significantly.<sup>64</sup> People from rural or remote, racialized, or low-income communities are less likely to have regular access to a primary care provider, despite the fact that they are likely to have more health care needs.<sup>64</sup> Indigenous populations in particular have a lower distribution of primary care providers in their communities, as well as higher provider turnover.<sup>65</sup>

The frequency of follow-up should consider overall cardiovascular risk and whether the person has started pharmacological therapy. People with higher initial blood pressure may need more frequent follow-up.<sup>24</sup> Shorter intervals between visits are also needed for people with symptoms of hypertension, severe hypertension, intolerance to blood pressure medications, or target organ damage.

When hypertension has been diagnosed at an emergency department visit, early follow-up care within 7 days has been associated with improved long-term use of evidence-based blood pressure medication.<sup>66</sup>

## What This Quality Statement Means

### For People With Hypertension

Your health care professional should follow up with you regularly if you have high blood pressure. They should see you every 3 to 6 months if you are working to lower your blood pressure by making changes such as getting more exercise, losing weight, or changing your diet. If you have started taking medication for high blood pressure, they should see you every 1 to 2 months until your blood pressure has been on target at 2 back-to-back visits.

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### **For Clinicians**

Provide follow-up every 3 to 6 months to people with hypertension who are actively modifying their health behaviours but not taking blood pressure medication. For people who have been prescribed blood pressure medication, provide follow-up every 1 to 2 months until their target blood pressure level has been met at 2 consecutive visits.

### **For Organizations and Health Services Planners**

Ensure that hypertension follow-up information is shared with people’s primary care teams, including physicians, nurse practitioners, or pharmacists where appropriate. Ensure that systems and processes are in place to allow people with hypertension to access primary care regularly.

## **Quality Indicators: How to Measure Improvement for This Statement**

- Percentage of people with hypertension whose blood pressure is in their target range who have a follow-up visit with their health care professional at least once every 6 months
- Percentage of people with hypertension whose blood pressure is higher than their target range who have a follow-up visit with their health care professional every 1 to 2 months

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Quality Statement 7: Improving Adherence to Medications

People who are prescribed blood pressure medication receive information and supports to help them take their medication regularly and as prescribed. At every follow-up visit for hypertension, they have discussions with their health care professionals about medication use, possible side effects, and any barriers they experience in taking their medications as prescribed.

Sources: American College of Cardiology/American Heart Association, 2017<sup>5</sup> | Hypertension Canada, 2020<sup>24</sup> | National Institute for Health and Care Excellence, 2022<sup>44</sup>

## Definitions

**Information and supports:** Information and recommended strategies to support improved adherence to blood pressure medications include the following<sup>24</sup>:

- Tailoring pill-taking to fit the person’s daily habits
- Simplifying medication regimens to once-daily dosing and prescribing for longer durations (e.g., 90 days)<sup>67</sup>
- Replacing multiple-pill combinations with single-pill combinations
- Using unit-of-use packaging (several medications to be taken together)
- Using an interprofessional team approach
- Encouraging greater patient responsibility and autonomy in monitoring blood pressure and adjusting prescriptions
- Educating patients (and their families and caregivers) about their disease and their treatment regimens
- Assessing adherence to pharmacological and nonpharmacological interventions at every visit
- Encouraging adherence to therapy using out-of-office contact (by phone, email, or other virtual modalities), particularly during the first 3 months of treatment
- Engaging and coordinating with pharmacists to improve monitoring of adherence to pharmacological therapy and goals for health behaviour change
- Using electronic medication adherence aids
- Using pharmacy programs such as refill reminders and automatic refills

**Barriers:** Barriers to medication adherence include the following<sup>24</sup>:

- Patient factors, such as knowledge, motivation, cultural beliefs around medication, and financial and social supports
- Drug factors, such as frequency of dosing, cost, and side effects
- Health care professional factors, such as lack of interest, lack of time to provide information about prescribed therapies, or lack of capacity to provide culturally appropriate care

## Rationale

Not taking blood pressure medications as prescribed is common and has been associated with poor blood pressure management and hypertension-related complications, such as stroke and cardiovascular death.<sup>5,24</sup> In Canada, over 18% of people who have been prescribed blood pressure medication do not have their hypertension managed, potentially due to a failure to take medications as prescribed.<sup>5</sup> Medication adherence rates may vary substantially in different populations.<sup>5</sup> Specifically, South Asian and Black populations have lower medication adherence rates than White populations.<sup>55,68</sup> The quality of communication between the health care provider and the patient (i.e., the length of the conversation, the physician's tone, and a patient-centred approach) is an important facilitator for medication adherence.<sup>68</sup> Factors such as language, health literacy, and cultural beliefs around medication, substantially influence medication adherence rates among racial/ethnic groups.

Using multiple support strategies is more effective than using one strategy, and medication adherence should be discussed and addressed before a change in medication or treatment intensity is considered for meeting blood pressure targets.<sup>5,44</sup>

## What This Quality Statement Means

### For People With Hypertension

Your health care professional should ask whether you are taking your blood pressure medication regularly, as prescribed. If you have difficulty taking your medication, they should give you information and support to help you take your medication as prescribed.

### For Clinicians

Discuss adherence to blood pressure medication with patients. Offer multiple support strategies to help people with hypertension improve their medication adherence and address any barriers they may face (e.g., the cost of the medication, stopping their medication when they feel fine, or cultural beliefs).

### For Organizations and Health Services Planners

Implement culturally appropriate support strategies for health care professionals and people with hypertension to improve blood pressure medication adherence.

## Quality Indicators: How to Measure Improvement for This Statement

- Percentage of people with hypertension who have been prescribed blood pressure medication and who feel involved in discussions about their medication, including its use, possible side effects, and barriers to taking it
- Percentage of people with hypertension who report taking their blood pressure medication as prescribed

Measurement details for these indicators, as well as overarching indicators to measure improvement for the goals of the entire quality standard, are presented in Appendix 2.

# Appendix 1: About This Quality Standard

## How to Use This Quality Standard

Quality standards inform patients, clinicians, and organizations about what high-quality care looks like for health conditions or processes deemed a priority for quality improvement in Ontario. They are based on the best evidence.

Guidance on how to use quality standards and their associated resources is included below.

### For People With Hypertension

This quality standard consists of quality statements. These describe what high-quality care looks like for people with hypertension.

Within each quality statement, we've included information on what these statements mean for you, as a person with hypertension.

In addition, you may want to download this accompanying [patient guide](#) on hypertension, to help you and your family have informed conversations with your health care providers. Inside, you will find information and questions you may want to ask as you work together to make a plan for your care.

### For Clinicians and Organizations

The quality statements within this quality standard describe what high-quality care looks like for people with hypertension. They are based on the best evidence and designed to help you know what to do to reduce gaps and variations in care.

Many clinicians and organizations are already providing high-quality evidence-based care. However, there may be elements of your care that can be improved. This quality standard can serve as a resource to help you prioritize and measure improvement efforts.

Tools and resources to support you in your quality improvement efforts accompany each quality standard. These resources include indicators and their definitions (Appendix 2). Measurement is key to quality improvement. Collecting and using data when implementing a quality standard can help you assess the quality of care you are delivering and identify gaps in care and areas for improvement.

There are also a number of resources online to help you, including:

- Our [patient guide](#) on hypertension, which you can share with patients and families to help them have conversations with you and their other health care providers. Please make the patient guide available where you provide care
- Our [measurement resources](#), including the technical specifications for the indicators in this quality standard, the “case for improvement” slide deck to help you to share why this standard

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was created and the data behind it, and our measurement guide containing supplementary information to support the data collection and measurement process

- Our [placemat](#), which summarizes the quality standard and includes links to helpful resources and tools
- Our [Getting Started Guide](#), which includes links to templates and tools to help you put quality standards into practice. This guide shows you how to plan for, implement, and sustain changes in your practice
- [Quorum](#), an online community dedicated to improving the quality of care across Ontario. This is a place where health care providers can share information and support each other, and it includes tools and resources to help you implement the quality statements within each standard
- [The Health Equity Impact Assessment tool](#), which can help your organization consider how programs and policies impact population groups differently. This tool can help maximize positive impacts and reduce negative impacts, with an aim of reducing health inequities between population groups

## How the Health Care System Can Support Implementation

As you work to implement this quality standard, there may be times when you find it challenging to provide the care outlined due to system-level barriers or gaps. These challenges have been identified and documented as part of the development of the quality standard, which included extensive consultation with health care professionals and lived experience advisors and a careful review of available evidence and existing programs. Many of the levers for system change fall within the purview of Ontario Health, and as such we will continue to work to address these barriers to support the implementation of quality standards. We will also engage and support other provincial partners, including the Ministry of Health or other relevant ministries, on policy-level initiatives to help bridge system-level gaps.

In the meantime, there are many actions you can take on your own, so please read the standard and act where you can.

## Appendix 2: Measurement to Support Improvement

The Hypertension Quality Standard Advisory Committee identified 5 indicators for this quality standard. These indicators can be used to monitor the progress being made to improve care for people with hypertension in Ontario. Some indicators are provincially measurable, and one can be measured using only locally sourced data.

Using data from these indicators will help you assess the quality of care you are delivering and the effectiveness of your quality improvement efforts. This standard includes numerous statement-specific indicators which are provided as examples; you may wish to create your own quality improvement indicators based on the needs of your population. We recommend that you identify areas to focus on in the quality standard and then use one or more of the associated indicators to guide and evaluate your quality improvement efforts.

Ontario Health is committed to promoting health equity and reducing disparities. We encourage collecting data and measuring indicators by various equity stratifications that are relevant and appropriate for your population, such as socioeconomic and demographic characteristics. These may include age, income, region/geography, education, language, race and ethnicity, gender, and sex. Please refer to Appendix 4, Guiding Principles, *Social Determinants of Health*, for additional equity considerations.

Our [measurement guide](#) provides more information and concrete steps on how to incorporate local measurement into your planning and quality improvement work. Our [technical specifications](#) provide supplementary information to support data collection and measurement for the overarching indicators, which measure improvement for the goals of the entire quality standard.

### Indicators That Can Be Measured Using Provincial Data

#### **Percentage of people diagnosed with hypertension for at least 1 year who experience 1 or more stroke events in a given year**

- Denominator: total number of people diagnosed hypertension for at least 1 year
- Numerator: number of people in the denominator who experience 1 or more stroke events in a given year
- Data sources: National Ambulatory Care Reporting System (NACRS; to identify ED visits for stroke); Discharge Abstract Database (DAD; for the denominator and to identify hospitalizations for stroke); Ontario Health Insurance Plan (OHIP) Claims Database (for the denominator); Registered Persons Database (RPDB; for the denominator)



**Percentage of people diagnosed with hypertension for at least 1 year who experience 1 or more cardiovascular disease events in a given year**

- Denominator: total number of people diagnosed with hypertension for at least 1 year
- Numerator: number of people in the denominator who experience 1 or more cardiovascular disease events a given year
- Data sources: NACRS (to identify ED visits for cardiovascular disease); DAD (for the denominator and to identify hospitalizations for cardiovascular disease); OHIP Claims Database, RPDB (for the denominator)

**Percentage of people with hypertension who have 1 or more unplanned acute care visits for hypertension in the past year. Stratify by:**

- **Unscheduled emergency department visits**
- **Nonelective hospitalizations**
- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who have 1 or more unplanned acute care visits for hypertension in the past year. Stratify by:
  - Unscheduled emergency department visits
  - Nonelective hospitalizations
- Data sources: NACRS (to identify ED visits); DAD (for the denominator and to identify hospitalizations); OHIP Claims Database, RPDB (for the denominator)

**Percentage of people with hypertension who are persistent in taking their blood pressure medications (measurable for people aged 65 years and older only)**

- Denominator: total number of people with hypertension aged 65 years and older
- Numerator: number of people in the denominator who have filled a prescription for any blood pressure medication to cover  $\geq 80\%$  of the days in the year
- Data source: DAD, OHIP Claims Database, RPDB (for the denominator); Ontario Drug Benefit Database (to identify prescriptions filled for those 65 years of age and older)

## Indicator That Can Be Measured Using Only Local Data

**Percentage of people with hypertension who report that their blood pressure is within their target range in the past month**

- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who report that their blood pressure is within their target range in the past month
- Data source: local data collection

## How to Measure Improvement for Specific Statements

### Quality Statement 1: Culturally Responsive Hypertension Care

**Percentage of people with hypertension who report receiving care from health care providers in a health care system that is culturally responsive and free from racism and discrimination**

- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who report receiving care from health care providers in a health care system that is culturally responsive and free from racism and discrimination
- Data source: local data collection

**Local availability of resources and training for health care providers in culturally responsive care**

- Description: availability of resources and training for health care providers in culturally responsive care in the health facility, region, or other setting of interest
- Data source: local data collection

### Quality Statement 2: Accurate Measurement of Blood Pressure

**Percentage of people who receive automated office blood pressure (AOBP) measurement when in-office blood pressure measurement is performed**

- Denominator: total number of people who have in-office blood pressure measurement
- Numerator: number of people in the denominator who receive AOBP measurement
- Data source: local data collection

### **Quality Statement 3: Out-of-Office Assessment to Diagnose Hypertension**

**Percentage of people with a high in-office blood pressure measurement who receive out-of-office blood pressure monitoring (ambulatory blood pressure monitoring or home blood pressure monitoring) to confirm a diagnosis of hypertension**

- Denominator: total number of people with a high in-office blood pressure measurement
  - Using AOBP measurement, the person’s mean systolic blood pressure is 135 to 179 mm Hg and their mean diastolic blood pressure is 85 to 109 mm Hg
  - Using non-AOBP measurement, the person’s mean systolic blood pressure is 140 to 179 mm Hg and their mean diastolic blood pressure is 90 to 109 mm Hg)
- Numerator: number of people in the denominator who receive out-of-office blood pressure monitoring (ambulatory blood pressure monitoring or home blood pressure monitoring) to confirm a diagnosis of hypertension
- Data source: local data collection

#### **Local availability of ambulatory blood pressure monitoring**

- Description: availability of ambulatory blood pressure monitoring in the health facility, region, or other setting of interest
- Data source: local data collection

### **Quality Statement 4: Health Behaviour Changes**

**Percentage of people with hypertension or at risk for hypertension who report receiving information and supports for health behaviour changes that can reduce their blood pressure and risk of cardiovascular disease**

- Denominator: total number of people with hypertension or at risk for hypertension
- Numerator: number of people in the denominator who report receiving information and supports for health behaviour changes that can reduce their blood pressure and risk of cardiovascular disease
- Data source: local data collection

**Local availability of culturally appropriate programs and services that support health behaviour changes for hypertension (including exercise programs, smoking-cessation programs, and access to a registered dietitian)**

- Description: availability of culturally appropriate programs and services that support health behaviour changes for hypertension (including exercise programs, smoking-cessation programs, and access to a registered dietitian) in the health facility, region, or other setting of interest
- Data source: local data collection

## Quality Statement 5: Care Planning and Self-Management

### Percentage of people with hypertension who have a written care plan

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

### Percentage of people with hypertension who report that their care plan is reviewed as needed

- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who report that their care plan is reviewed as needed
- Data source: local data collection

### Percentage of people with hypertension who report that their health care professional always or often involves them in decisions about their care

- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who report that their health care professional always or often involves them in decisions about their care
- Note: An example of a validated survey question that is similar to this indicator is found in the Health Care Experience Survey<sup>69</sup>: “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”
- Data source: local data collection

## Quality Statement 6: Monitoring and Follow-Up After a Diagnosis of Hypertension

### Percentage of people with hypertension whose blood pressure is in their target range who have a follow-up visit with their health care professional at least once every 6 months

- Denominator: total number of people with hypertension whose blood pressure is in their target range
- Numerator: number of people in the denominator who have a follow-up visit with their health care professional (e.g., physician, nurse practitioner, pharmacist, physician specialist) at least once every 6 months
- Data source: local data collection

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**Percentage of people with hypertension whose blood pressure is higher than their target range who have a follow-up visit with their health care professional every 1 to 2 months**

- Denominator: total number of people with hypertension whose blood pressure is higher than their target range
- Numerator: number of people in the denominator who have a follow-up visit with their health care professional every 1 to 2 months
- Data source: local data collection

**Quality Statement 7: Improving Adherence to Medications**

**Percentage of people with hypertension who have been prescribed blood pressure medication who feel involved in discussions about their medication, including its use, possible side effects, and barriers to taking it**

- Denominator: total number of people with hypertension who have been prescribed blood pressure medication
- Numerator: number of people in the denominator who feel involved in discussions about their medication, including its use, possible side effects, and barriers to taking it
- Data source: local data collection

**Percentage of people with hypertension who report taking their blood pressure medication as prescribed**

- Denominator: total number of people with hypertension
- Numerator: number of people in the denominator who report taking their blood pressure medication as prescribed
- Data source: local data collection
- Note: This indicator is also included in *Indicators That Can Be Measured Using Only Local Data*

## Appendix 3: Glossary

Term	Definition
<b>Adults</b>	People aged 18 years and older.
<b>Ambulatory blood pressure monitoring (ABPM)</b>	Monitoring using an electronic device that is worn on the body to automatically measure blood pressure at regular intervals during normal daily activities. It is worn on a belt and is connected to a cuff around the arm. The device is worn for 24 hours or more.
<b>Automated office blood pressure (AOBP) measurement</b>	Blood pressure measurement using a fully automated electronic device that can record several readings as the person rests attended or unattended in a quiet area. <sup>24</sup>
<b>Caregiver</b>	An unpaid person who provides care and support in a nonprofessional capacity, such as a parent, other family member, friend, or anyone else identified by the person with hypertension. Other terms commonly used to describe this role include “care partner,” “informal caregiver,” “family caregiver,” “carer,” and “primary caregiver.”
<b>Culturally appropriate care</b>	Care that incorporates cultural or faith traditions, values, and beliefs; is delivered in the person’s preferred language; adapts culture-specific advice; and incorporates the person’s wishes to involve family or community members. <sup>70</sup>
<b>Family</b>	The people closest to a person in terms of knowledge, care, and affection; this may include biological family, family through marriage, or family of choice and friends. The person defines their family and who will be involved in their care.
<b>Health care professionals</b>	Regulated professionals, such as nurses, nurse practitioners, occupational therapists, pharmacists, physicians, physiotherapists, psychologists, social workers, registered dietitians, and speech-language pathologists.
<b>Health care providers</b>	Health care professionals, as well as people in unregulated professions, such as administrative staff, behavioural support workers, patient transport staff, personal support workers, recreational staff, spiritual care staff, and volunteers.

<b>Term</b>	<b>Definition</b>
<b>Home blood pressure monitoring (HBPM)</b>	An electronic device used to measure blood pressure in the home setting using an automatic cuff, similar to the one used for in-office blood pressure measurement. Blood pressure is usually measured 2 times per day for 7 days.
<b>Primary care</b>	A setting where people receive general health care (e.g., screening, diagnosis, and management) from a regulated health care professional whom the person can access directly without a referral. This is usually the primary care physician, family physician, nurse practitioner, or other health care professional with the ability to make referrals, request biological testing, and prescribe medications. <sup>71,72</sup>
<b>Primary care provider</b>	A family physician (also called a primary care physician) or nurse practitioner.
<b>Racism</b>	The systemic discrimination that harms racialized populations and groups living with health-related social needs. It creates barriers to and disparities in accessing and receiving appropriate health care and community and social services for Black, Indigenous, South Asian, and other racialized populations. <sup>31-33</sup> Racism often involves labelling, devaluation, judgment, the social disqualification of a person based on their health condition, or a combination of these, leading to negative health outcomes. <sup>73</sup>
<b>Risk for hypertension</b>	Risk factors for developing hypertension include older age; obesity; smoking; alcohol use; a family history of hypertension; conditions such as diabetes, chronic kidney disease, or high cholesterol; low level of consumption of fresh fruits and vegetables; and sedentary behaviour. <sup>4,5,24</sup>
<b>White-coat hypertension</b>	Also referred to as the “white-coat effect,” this describes a discrepancy of more than 20/10 mmHg between clinic and average daytime ABPM or average HBPM readings at the time of diagnosis. <sup>44</sup>

## Appendix 4: Values and Guiding Principles

### Values That Are the Foundation of This Quality Standard

This quality standard was created, and should be implemented, according to the [Patient, Family and Caregiver Declaration of Values for Ontario](#). This declaration “is a vision that articulates a path toward patient partnership across the health care system in Ontario. It describes a set of foundational principles that are considered from the perspective of Ontario patients, and serves as a guidance document for those involved in our health care system.”

These values are:

- Respect and dignity
- Empathy and compassion
- Accountability
- Transparency
- Equity and engagement

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

### Guiding Principles

In addition to the above values, this quality standard is guided by the principles outlined below.

#### Acknowledging the Impacts of Colonization and Racism

Health care providers should acknowledge and work toward addressing the historical and present-day impacts of colonization and racism in the context of the lives of Indigenous Peoples, Black people, Francophones, and South Asian people throughout Canada.<sup>41</sup> This work involves being sensitive to the impacts of intergenerational and present-day traumas and the physical, mental, emotional, and social harms experienced by Indigenous Peoples, Black people, Francophones, South Asian people, racialized people, families, and communities, as well as recognizing their strength and resilience. This quality standard uses existing clinical practice guideline sources that may not include culturally appropriate care or acknowledge traditional beliefs, practices, and models of care relevant to Indigenous Peoples, Black people, Francophones, South Asian people, and other racialized people.

#### French Language Services

In Ontario, the *French Language Services Act* guarantees an individual's right to receive services in French from Government of Ontario ministries and agencies in [26 designated areas](#) and at government head offices.<sup>74</sup>



## Social Determinants of Health

Poverty and social isolation are 2 examples of economic and social conditions that influence people’s health, known as the “social determinants of health.” Other social determinants of health include employment status and working conditions, ethnicity, food security and nutrition, gender, housing, immigration status, social exclusion, and residing in a rural or urban area. Social determinants of health can have strong effects on individual and population health; they play an important role in understanding the root causes of poorer health. People with hypertension or at risk for hypertension may live under stressful social and economic conditions that may worsen their overall health and well-being.<sup>9</sup> Such conditions may include inadequate access to healthy food, exercise, primary health care, and affordable medication; poor working conditions; and lower health literacy.<sup>9,19</sup>

## Chronic Disease Self-Management

People with hypertension (and their families and caregivers) should also receive services that are respectful of their rights and dignity, and that promote shared decision-making and self-management.<sup>59</sup> Further, people should be empowered to make informed choices about the care and services that best meet their needs.<sup>57,60</sup> People with hypertension should engage with their care providers in informed, shared decision-making about their treatment options. Each person is unique and has the right to determine their own path toward health and well-being.<sup>59</sup>

## Integrated Care

People with hypertension should receive care via an integrated approach that facilitates access to interprofessional services from multiple health care providers of different professional backgrounds and across health care settings to provide comprehensive services.<sup>75,76</sup> Health care providers should work with patients, their families and caregivers, and communities to deliver the highest quality of care across settings.<sup>75</sup> Interprofessional collaboration, shared decision-making, coordination of care, and continuity of care (including follow-up care) are hallmarks of this patient-centred approach.<sup>77</sup>

## Intersectionality

Intersectionality refers to the differences in experiences with discrimination and injustice that people have based on social categorizations such as race or ethnicity, class, age, and gender, and the interaction of these experiences with compounding power structures (e.g., media, education system). These interconnected categorizations create overlapping and interdependent systems of discrimination or disadvantage.<sup>78-80</sup> For example, the stigma experienced by people with hypertension can vary depending on clinical and demographic characteristics such as racial or ethnic background and age, as well as other characteristics such as language barriers or perceived socioeconomic status. Understanding how the various aspects of people’s identities intersect can provide insights into the complexities of the processes that cause health inequities and how different people experience stigma and discrimination.<sup>30,81</sup>

## Strengths-Based Practice

A strengths-based practice actively involves the person and the care providers who support them in working together to achieve the person’s intended outcomes in a way that draws on the person’s strengths.<sup>82,83</sup> The person is recognized and acknowledged as the expert of their own lived

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experience, and the clinician is recognized as an expert in their discipline and in facilitating a conversation that reinforces the person’s strengths and resources.

## **Trauma-Informed Care**

Trauma-informed care is health care that reflects an understanding of trauma and the impact that traumatic experiences can have on human beings.<sup>84,85</sup> This approach does not necessarily address the trauma directly; rather, it acknowledges that a person may have experienced a previous traumatic event that may contribute to their current health concerns. It emphasizes the creation of an environment in which a person can feel comfortable disclosing trauma, and it involves understanding, respecting, and responding to the effects of trauma.<sup>85</sup>

# Acknowledgements

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Ontario Health also thanks Asif Ahmed, Executive Director, Hypertension Canada; Anna Stoutenburg, Senior Operations Coordinator, Hypertension Canada; Angelique Berg, former Executive Director, Hypertension Canada; and Jennifer Leung, former Clinical Specialist, CorHealth, for their contributions to the development of this quality standard.

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## About Us

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We are an agency created by the Government of Ontario to connect, coordinate and modernize our province’s health care system. We work with partners, providers and patients to make the health system more efficient so everyone in Ontario has an opportunity for better health and wellbeing. We work to enhance patient experience, improve population health, enhance provider experiences, improve value and advance health equity.

## Equity, Inclusion, Diversity, and Anti-Racism

Ontario Health is committed to advancing equity, inclusion and diversity and addressing racism in the health care system. As part of this work, Ontario Health has developed an [Equity, Inclusion, Diversity and Anti-Racism Framework](#), which builds on existing legislated commitments and relationships and recognizes the need for an intersectional approach. Unlike the notion of equality, equity is not about sameness of treatment. It denotes fairness and justice in process and in results. Equitable outcomes often require differential treatment and resource redistribution to achieve a level playing field among all individuals and communities. This requires recognizing and addressing barriers to opportunities for all to thrive in our society. For more information: [OntarioHealth.ca/about-us/our-people](https://OntarioHealth.ca/about-us/our-people)

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ISBN TBA (PDF)  
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