

Take urgent action diagnosing, treating, and controlling hypertension in older women

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Increased blood pressure is a leading risk of death, accounting for half of all cardiovascular disease (CVD).¹ Hypertension is both highly preventable and controllable.¹ Up to 80% of hypertension is directly, through excess sodium and deficient potassium, or indirectly, through obesity, related to diet. Preventing hypertension by healthy dietary policies (eg, reducing dietary salt) is highly cost-effective.¹⁻³ Further, controlling hypertension has the strongest evidence for benefit of any clinical intervention, and drug therapies are very cost-effective in individuals at moderate to high CVD risk (ie, >10% 10-year risk of CVD).^{1,4-6}

Canada has been a global leader in controlling hypertension,⁷ with the world's highest reported national rate of control since 2006.⁸ Unfortunately, since 2011, the hypertension control rate in older women has become lower than in older men, in contrast to nearly all other countries,⁹⁻¹² and there are disturbing tendencies in decreasing rates of hypertension awareness, treatment, and control in older Canadian women (Figure 1).¹⁰ Most disturbing, after decades of decline, are increases in the CVD death rates in Canada since 2010 (Figure 2).⁸ Some of the increases in CVD deaths are related to the increasing age of the population (Figure 3).⁸ The rest of the increase in CVD deaths is likely attributable to the well established modifiable causes of CVD not being effectively prevented and controlled (eg, hypertension, poor diet, obesity, etc).¹³ There has also been a rapid increase in disability-adjusted life-years owing to CVD since 2010, which will result in a considerable decline in quality of life for Canadians (Figure 4).⁸ Declining rates of hypertension control in women older than 60 years of age explains some of the increases in CVD, but the rate of CVD is also increasing in men, highlighting the need to control hypertension and other vascular risk factors in both sexes.⁸

This article highlights the need to diagnose and control hypertension in older women as a core standard of care. It is a reminder of the importance of hypertension in both men and women, and of the need for greater public health interventions to prevent and control hypertension. Globally, control of hypertension has been seen as a key to the prevention of noncommunicable disease (which is the cause of more than 80% of deaths in countries like Canada) and a core mechanism for enhancing primary care.^{4,6}

The World Health Organization and partners developed the HEARTS program to provide guidance to countries on how to implement best practices in

hypertension control and CVD prevention.⁴ The best practices include implementing simple interventions such as treatment algorithms—done in a highly systematic fashion—and incorporating registries with performance reporting at the clinic and clinician level.^{1,4,6}

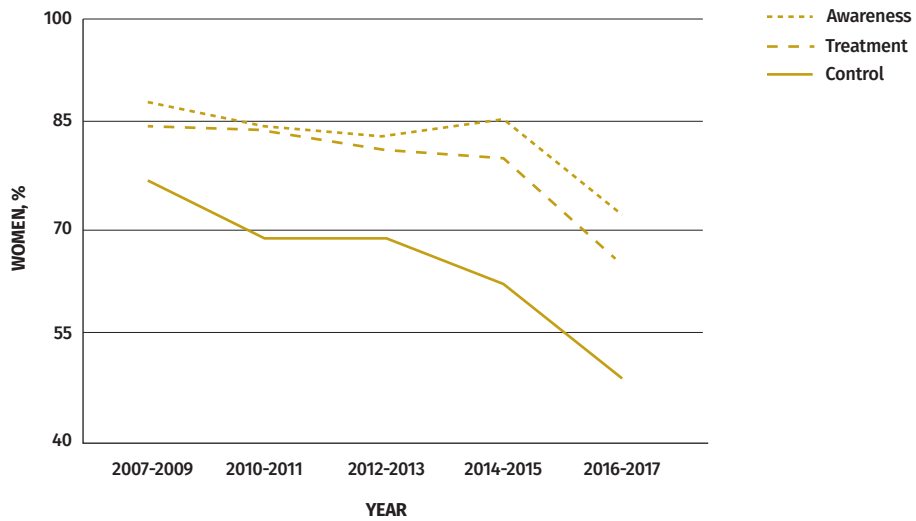
Identifying people with hypertension

Diagnosis of hypertension in older women is in decline.¹⁰ All adults should have their blood pressure assessed at all relevant clinical encounters.¹⁴ It is estimated that 9 in 10 people with normal blood pressure at age 55 to 65 will develop hypertensive readings if followed for an average lifespan.¹ For those with office systolic blood pressures of 130 to 139 mm Hg and diastolic blood pressures of 85 to 89 mm Hg, more than half will develop hypertension within 4 years.¹⁵ Therefore, people need regular blood pressure follow-up.¹⁴ Home blood pressure and ambulatory blood pressure monitoring are recommended to make the diagnosis of hypertension in those with high office readings.

Knowledge into practice

- Elevated blood pressure is a leading risk of death and disability in Canada
- Canada has been a world leader in hypertension control, but for the past decade hypertension control has been decreasing in older women
- Newer public health approaches to hypertension care have become global standards supported by the World Health Organization but have not been widely adopted in Canada
- The call to action requests family physicians to
 - systematically assess blood pressure in adults and to diagnose hypertension in those whose blood pressure is usually in a hypertensive range,
 - assess and optimize the management of associated cardiovascular risk factors,
 - treat those with hypertension to achieve hypertension control using standardized algorithms and take advantage of the accessibility, knowledge, and training of pharmacists to assess and intervene with people who are not adherent, and
 - use and encourage the use of hypertension registries to track hypertension awareness, treatment, and control
- To be successful at controlling hypertension, Canadian federal, provincial, and territorial governments need to take a leadership role and work with health care professional and scientific organizations to implement global best practices

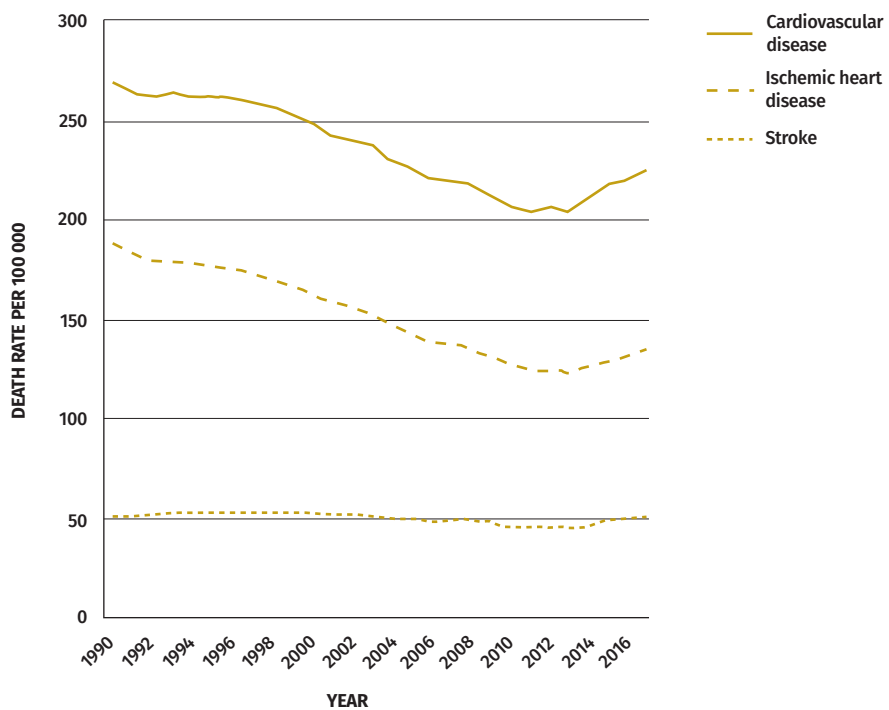
Figure 1. Hypertension awareness, treatment, and control rates among Canadian women, 2007 to 2017



Data from Leung et al.¹⁰

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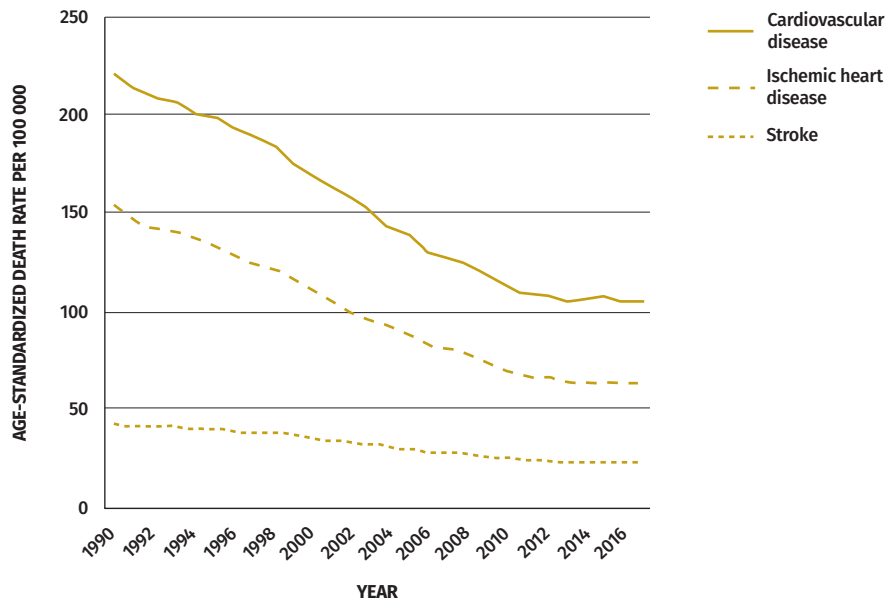
Figure 2. Cardiovascular death rates per 100 000 population in Canada, 1990 to 2017: The data show changes in the rate of cardiovascular disease (total, ischemic heart disease, and stroke) deaths in Canada from 1990 to 2017 using data from the Global Burden of Disease Study, 2017.



Data from the Institute for Health Metrics and Evaluation.⁸

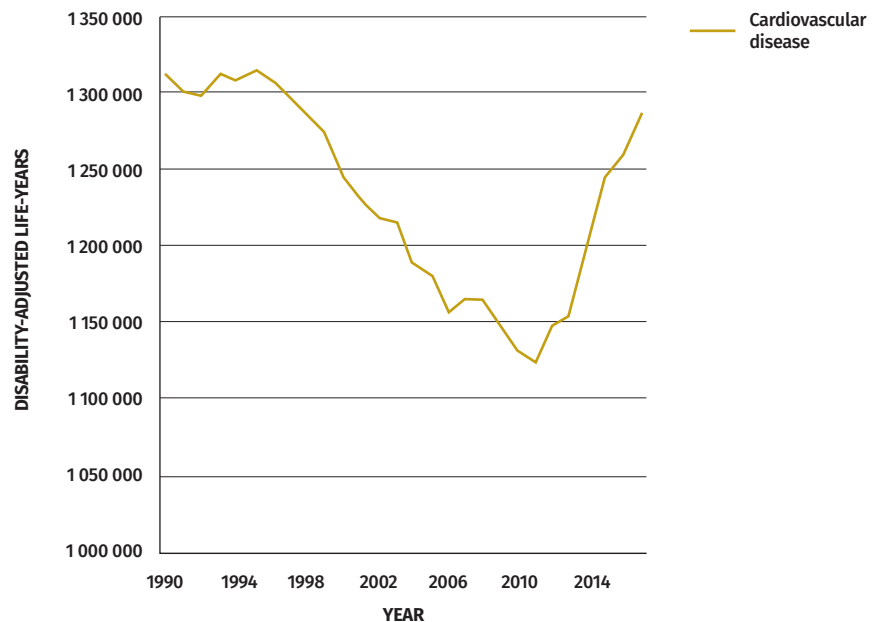
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Figure 3. Age-standardized cardiovascular death rates per 100 000 population in Canada, 1990 to 2017: The data show changes in the rate of age-standardized cardiovascular disease (total, ischemic heart disease, and stroke) deaths in Canada from 1990 to 2017 using data from the Global Burden of Disease Study, 2017.



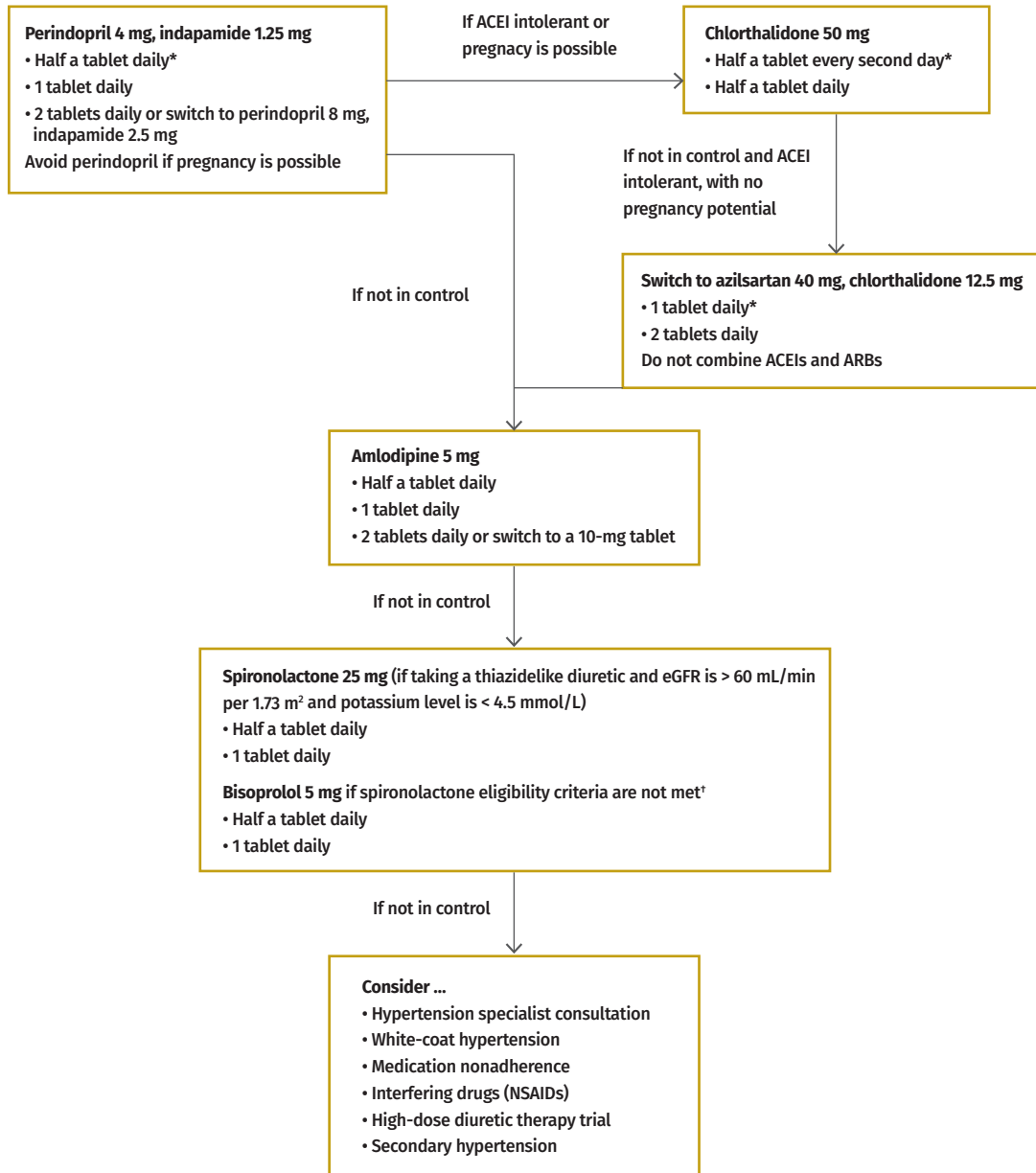
Data from the Institute for Health Metrics and Evaluation.⁸
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Figure 4. Disability-adjusted life-years due to cardiovascular disease in Canada, 1990 to 2017: The data show changes in disability-adjusted life-years due to cardiovascular disease in Canada using data from the Global Burden of Disease Study, 2017.



Data from the Institute for Health Metrics and Evaluation.⁸
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Figure 5. Example of a simple directive hypertension treatment algorithm: Treat most adults with confirmed hypertension to a target office BP of < 140/90 mm Hg (home BP of < 130/85 mm Hg). If the person has diabetes, the threshold is \geq 130/80 mm Hg, and the target goal is \leq 130/80 mm Hg. Consider initiating treatment at a systolic BP of \geq 130 mm Hg and lowering the systolic BP to \leq 120 mm Hg, measured using automated office BP devices, in those at high cardiovascular risk (eg, Framingham risk score of \geq 15%, or in men and women aged 75 or older). When feasible, in those whose treatment is stable, use fixed-dose drug combinations and higher-dose single tablets to minimize pill burden.



ACEI—angiotensin-converting enzyme inhibitor, ARB—angiotensin receptor blocker, BP—blood pressure, eGFR—estimated glomerular filtration rate, NSAID—nonsteroidal anti-inflammatory drug.

*If BP is \geq 20/10 mm Hg above target, start with a full tablet.

†Avoid β -blockers in patients with asthma and those taking insulin.

This algorithm is based in part on one developed by Kaiser Permanente.²⁶

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Home blood pressure, unattended automated office device (automated office blood pressure [AOBP]), and daytime ambulatory blood pressure device readings above 135/85 mm Hg are considered high.

Blood pressure misclassification is common and can lead to inappropriate management.¹⁶ When feasible, blood pressure measurement should be allocated to a nonphysician, as this results in less white-coat hypertension.^{17,18} The person measuring blood pressure should be trained and retrained and be certified in blood pressure measurement every 6 months. The measurement should be conducted using an accuracy-validated oscillometric device. A brief (20-minute) free online training and certification program for automated blood pressure measurement will be available shortly through Hypertension Canada (www.hypertension.ca). A list of validated devices available in Canada can be found at <https://hypertension.ca/bpdevices>. When aiming for systolic blood pressure targets of less than 120 mm Hg, an AOBP device that measures and averages several readings is recommended.¹⁴

Partnering with community programs that screen for hypertension can be useful. One Canadian program was associated with a reduction in CVD and has been adopted in several communities in Canada.¹⁹ Pharmacy-based screening and management has also been associated with enhanced hypertension control and might identify individuals who do not otherwise access the health care system.²⁰

Identifying and intervening on CVD risk

Most people with hypertension will have additional CVD risks that can include poor diet, physical inactivity, adiposity or obesity, smoking, excess use of alcohol, dyslipidemia, and diabetes.^{1,13} These risk factors need to be assessed and interventions need to be optimized.¹⁴

Team-based assessment, monitoring, and care. In Canada, people with hypertension often have suboptimal management of their other CVD risks and considerably higher mortality than those without hypertension, and this can be optimized for clinical risk factor management.^{21,22} In fact, in Canada, achievement of glucose and lipid targets is statistically significantly lower than in the United States.²¹ Comprehensive care such as that required by most people with hypertension is enhanced by team-based care with task sharing.²³

Treating to target. In those without other compelling considerations, when the usual office blood pressure is 140/90 mm Hg or higher, antihypertensive drug treatment should be prescribed.¹⁴ This is one of the most important preventive clinical interventions that can be done to reduce the risk of death and disability.¹⁴ A person with diabetes and an office blood pressure of 130/80 mm Hg or higher greatly benefits from antihypertensive therapy.¹⁴

More than 40% of deaths in people with diabetes are related to hypertension.²⁴ For individuals at high CVD risk, consider reducing the systolic blood pressure to less than 120 mm Hg (measured using an AOBP device).¹⁴

Treatment for most patients should be provided using a simple, standardized directive algorithm (ie, protocol), preferably one that recommends a fixed-dose, single-pill combination antihypertensive drug (**Figure 5**).^{4,25,26} Use of a standardized approach is associated with a lower death rate and improved hypertension control.²⁷ Individualized care should be reserved for those with contraindications to treatment in the algorithm, specific indications for alternative therapy, adverse effects, or unique clinical circumstances such as pregnancy.

Registries with reporting functions. Global standards of care now dictate the use of clinical registries with performance reporting functions to enhance hypertension control.^{1,28-30} The registries should be able to identify those adults who have not had blood pressure measured within a specified time frame (eg, 2 years), those diagnosed with hypertension, those not treated, and those who are treated but whose hypertension is not controlled. Reporting should be corrected for the expected number of adults with hypertension in the clinic. In a typical Canadian clinic, about 23% of adults should have been registered as having hypertension.³¹ Registries are used as learning tools, and clinics and clinicians with high performance can teach clinics and clinicians with lower hypertension control rates.

A Kaiser Permanente program achieved a 90% hypertension control rate using a registry with reporting functions, team-based care, and a simple directive algorithm.³²

Discussion

At the World Health Assembly in 2011, national governments agreed to reduce uncontrolled blood pressure by 25% by the year 2025.³³ Subsequently, the World Health Organization and partners developed the HEARTS program as a implementation resource for control of CVD, with a focus on hypertension control.⁴ In the Americas, many national governments are playing leadership roles implementing HEARTS. The HEARTS program specifically includes use of simple directive treatment algorithms and registries with reporting functions, which have not been widely adopted in Canada.^{25,34} Implementation of the interventions in HEARTS has been associated with hypertension control rates as high as 90% in clinics, and with a doubling of population hypertension control in just 1 year in Cuba.^{32,35}

Canada, once the world leader, is stepping backward, at least for older women.^{10,11} The federal government needs to rethink its policies to address the main causes and risks of death and disability in Canada and help support the implementation of global best practices for hypertension and other modifiable health risks.

Given that health care delivery is largely a provincial and territorial responsibility, the federal government needs to play a leadership and coordinating role. Canadian governments need to adopt a public health approach to the prevention and control of hypertension and, once again, collaborate with the health and scientific sector on monitoring, evaluation, and implementation.

Family physicians working in health care teams can play a central role in enhancing hypertension control. Most Canadian adults visit their physician at least once a year and have their blood pressure measured routinely. Applying a diagnostic algorithm to those with high readings is critical. Older Canadian women are more likely than not to have hypertension with elevated CVD risk and would benefit from antihypertensive therapy.¹³ Using a standard treatment algorithm and a registry with performance reporting is now a global standard of care for hypertension that Canadian family doctors should adopt. Further, family physicians hold a range of health management positions and can influence or implement key policies to enhance health care delivery. Family physicians, in addition, provide continuing professional education, graduate, and undergraduate education, making them key opinion leaders who can alter the practices of other health care professionals. Adopting what are now understood to represent global standards of care will not only reduce CVD death and disability in one of our more vulnerable groups—older women—but also all Canadians. 🌿

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Contributors

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