

# Hypertension - Guideline Presentation

## Speaker deck

### OVERVIEW

We will review the following:

1. Background on Hypertension
2. Methods of the CTFPHC
3. Recommendations and Key Findings
4. Implementation of Recommendations
5. Conclusions
6. Questions and Answers

### CTFPHC BACKGROUND

#### CTFPHC Working Group Members:

The Hypertension Working Group included members from the Canadian Task Force on Preventive Health Care (CTFPHC), Public Health Agency of Canada (PHAC), the Evidence Review and Synthesis Centre (ERSC) at McMaster University and representatives from Canadian Hypertension Education Program (CHEP).

- Dr. Patrice Lindsay (Chair)
- Dr. Richard Birthwhistle
- Dr. Michel Joffres
- Dr. Don McKay (CHEP representative)
- Dr. Lyne Cloutier (CHEP representative)
- Dr. Sarah Connor Gorber\*

\*non-voting member

#### Screening for Hypertension BACKGROUND

##### Background

Hypertension is present in an estimated 4.6 million Canadian adults, or 19% of the adult population. The prevalence of hypertension is nearly identical between men (19.7%) and women (19.0%) but rises rapidly with age, from 2% of 20-39 year olds to 53% of 60-79 year olds.

Hypertension is a risk factor for stroke, myocardial infarction, and other diseases. The cause of hypertension is thought to be multifactorial. Obesity, sedentary lifestyle, poor diet with excess intake of salt and alcohol are major contributors. The usual screening test for hypertension is measurement of blood pressure as part of routine medical practice.

## Screening for Hypertension

Hypertension is screened using any blood pressure measurement by any equipment in any setting. Methods of blood pressure measurement include office blood pressure measurement, home blood pressure measurement, and ambulatory blood pressure monitoring.

## Screening for Hypertension

### **METHODS**

The CTFPHC is an independent panel of clinicians and methodologists with expertise in prevention, primary care, literature synthesis, and critical appraisal. The mandate of the CTFPHC is to evaluate the latest evidence in preventive health care research for use in primary care practice across Canada.

The Hypertension Working Group is composed of three CTFPHC members and two non-voting members of the Canadian Hypertension Education Program (CHEP) who received support from PHAC science officers to establish the guidelines research questions and analytical framework.

The Evidence Review and Synthesis Centre (ERSC) at McMaster University independently undertook a systematic review of literature based on this analytical framework, and prepared a systematic review of the evidence with GRADE tables. The ERSC consulted with field experts during this process and participated in working group and CTFPHC meetings.

## CTFPHC Review Process

The CTFPHC review process is composed of an (i) internal review process and an (ii) external review process. The internal review process involves the guideline working group, the full CTFPHC, PHAC science officers and ERSC staff.

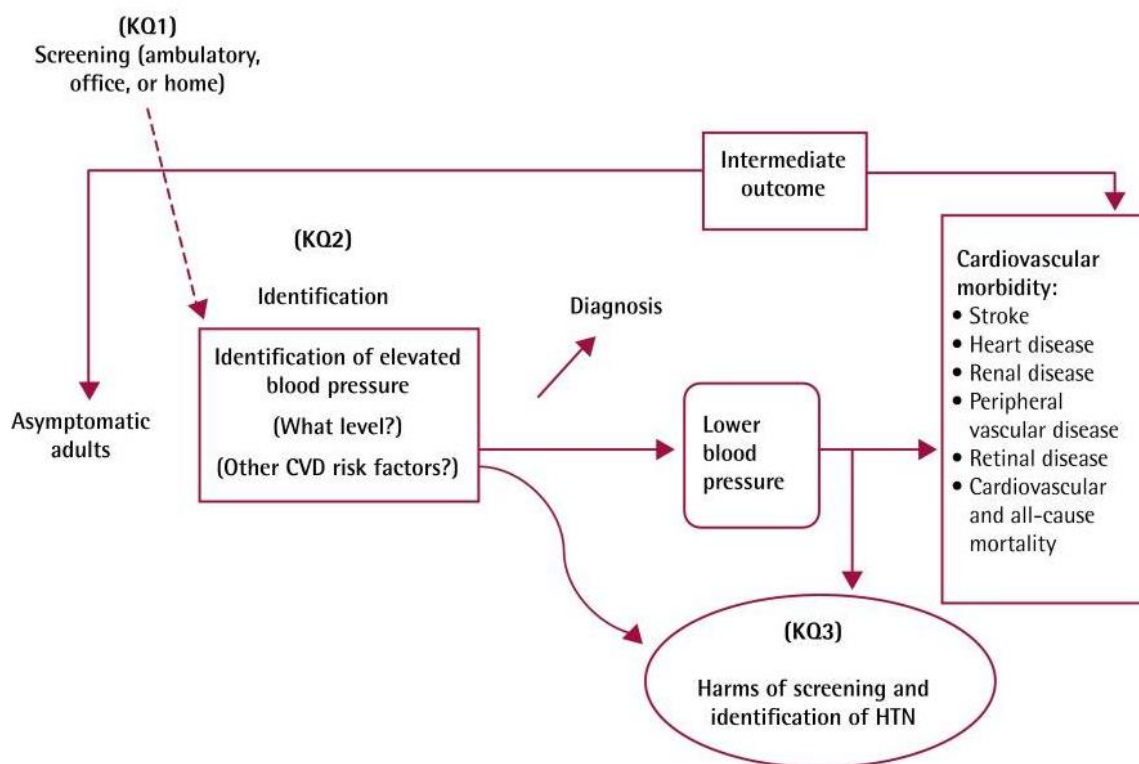
The external review process involves a review of the guidelines by key stakeholders from generalist and disease specific organizations, and federal, provincial and territorial stakeholder groups.

## Research Questions

The systematic review for screening for hypertension (ambulatory, office or home blood pressure measurements) included three key research questions (with two sub-questions) and six supplemental or contextual questions.

For more detailed information please access the systematic review [www.canadiantaskforce.ca](http://www.canadiantaskforce.ca)

## ANALYTICAL FRAMEWORK: SCREENING



The analytical framework outlines the scope of the evidence review and guideline recommendations. The purpose of the analytical framework is to show practicing physicians what the guideline includes and does not include and to visually display the relationship between the key concepts.

This guideline applies to asymptomatic adults 18 years and older, including subsets with higher than average risk of hypertension, cardiovascular risk, and average baseline blood pressure. Note that this framework does not include management of diagnosed hypertension, as it is beyond the scope of the CTFPHC mandate. As outlined in the

analytical framework, this guideline looks at the impact of screening (ambulatory, office, or home) for hypertension on identification of elevated blood pressure, diagnosis, lower blood pressure as an intermediate outcome, and other clinically relevant outcomes including morbidity, cardiovascular mortality, and all-cause mortality. The framework also depicts the associated harms of screening (e.g. false positives or false negative diagnosis, anxiety, psychosocial impact, and economic costs).

## ELIGIBLE STUDY TYPES

The primary population of interest for the hypertension screening guideline was adults 18 years and older without pre-existing hypertension and including subsets with higher than average risk of hypertension, cardiovascular risk, and average baseline blood pressure.

Studies in both English and French were included.

Studies on the treatment of hypertension were restricted to randomized control trials, systematic reviews, and observational studies with case control and cohort groups that were conducted in primary care settings or supervised by a primary care practitioner. Patient important outcomes and the scales used to measure such outcomes were based on those selected and prioritized by Canadian clinicians and policymakers.

## GRADE METHODOLOGY

### How is Evidence Graded?

The CTFPHC utilizes the GRADE system for providing clinical practice guideline recommendations based on a systematic review of the available evidence. The **GRADE** acronym stands for: **G**radings of **R**ecommendations, **A**ssessment, **D**evelopment and **E**valuation.

The GRADE system is composed of two main components:

1. **The quality of the evidence:** The quality of the evidence measures the degree of confidence that the available evidence correctly reflects the theoretical true effect of the intervention or service. It is graded as high, moderate, low or very low based on how likely further research is to change our confidence in the estimate of effect.
2. **The strength of recommendation:** The strength of the recommendation (strong/weak) is based on the quality of supporting evidence, the degree of uncertainty about the balance between desirable and undesirable effects, the degree of uncertainty or variability in values and preferences, and the degree of uncertainty about whether an intervention represents a wide use of resources.

## How is the Strength of the Recommendations Determined?

The strength of the recommendations (strong or weak) is based on four factors:

1. The quality of the supporting evidence
2. The certainty about the balance between desirable and undesirable effects
3. The certainty or variability in the values and preferences of individuals
4. The certainty about whether the intervention represents a wise use of resources

## Interpretation of Recommendations

Implications	Strong, Recommendation	Weak, Recommendations
For patients	Most individuals would want the recommended course of action; Only a small proportion would not.	The majority of individuals in this, situation would want the suggested course of action but many would not.
For clinicians	Most individuals should receive the intervention.	Recognize that different choices will be appropriate for individual patients; Clinicians must help patients make management decisions consistent with values and preferences.
For policy makers	The recommendation can be adapted as, policy in most situations.	Policy making will require substantial debate and involvement of various stakeholders.

This is a standard GRADE table which outlines how weak or strong recommendations should be interpreted and implemented by different groups or stakeholders. It is important to consider the strength of the recommendations when interpreting the CTFPHC guidelines for implementation in clinical practice, for policy, or for patients in decision making.

## Screening for High Blood Pressure in Canadian adults

### **RECOMMENDATIONS & KEY FINDINGS**

## HYPERTENSION 2012 GUIDELINES

This guideline provides recommendations for practitioners on preventive health screening in a primary care setting. These recommendations update the CTFPHC hypertension guidelines developed in 1984, which were last reviewed in 1994. Since 1984, the CTFPHC has recommended blood pressure measurement during regular physician visits. These recommendations are re-affirmed and consistent with recommendations from the Canadian Hypertension Education Program (CHEP), the US Preventive Services Task Force (USPSTF) and the Canadian Stroke Network.

This updated guideline applies to asymptomatic adults aged 18 years and older who have not been previously diagnosed with hypertension.

## SCREENING FOR HYPERTENSION

1. We recommend measuring blood pressure at all appropriate primary care visits for adults 18 years and older who do not have a confirmed diagnosis of hypertension (*strong recommendation; moderate quality evidence*).

**Basis of the recommendation:** This recommendation places a high value on indirect evidence which indicates screening can effectively lead to hypertension diagnosis, and that diagnosis can lead to effective treatment, which results in decreased incidence of cardiovascular disease and stroke. It also places a high value on the fact that no studies were found to indicate that screening was not effective or was potentially harmful. As there is currently no evidence to recommend an appropriate screening interval, the CTFPHC defers to CHEP which recommends screening at all appropriate visits.

2. We recommend that blood pressure be measured according to the current techniques described in the CHEP recommendations for office and out-of-office blood pressure measurement (*strong recommendation; moderate quality evidence*).

**Basis of the recommendation:** The 2012 CHEP recommendations for office and ambulatory blood pressure measurement have been critically appraised by the CTFPHC to assess the quality of the guideline development process, and have been found to meet the CTFPHC criteria for robust rigorously-developed guidelines.

3. We recommend using CHEP criteria for assessment and diagnosis of hypertension in those who are found to have an elevated blood pressure during screening (*strong recommendation; moderate quality evidence*)

**Basis of the recommendation:** The 2012 CHEP recommendations for assessment and diagnosis of high blood pressure have been critically appraised by the CTFPHC to assess the quality of the guideline development process, and have been found to meet the CTFPHC criteria for robust, rigorously-developed guidelines.

Appropriate primary care visits may include new patient visits, periodic health exams, urgent office visits for neurological or cardiovascular related issues, medication renewal visits and other visits where the primary care practitioner deems it an appropriate opportunity to monitor blood pressure. It is not necessary to measure blood pressure on every patient at every office visit if not clinically indicated.

## Benefits of Screening

The CTFPHC found moderate quality evidence (one RCT) indicating that community based screening leads to decreased incidence of myocardial infarction and congestive failure in individuals older than 65 years compared to usual practice. No direct evidence shows that hypertension screening leads to reductions in blood pressure. Substantial indirect evidence indicates diagnosing patients with hypertension leads to treatment and treatment leads to improved patient outcomes, including reductions in blood pressure.

## Harms of Screening

The CTFPHC found no studies evaluating the critical or important harms of screening for hypertension. Recognizing that baseline risk will vary among subgroups, there is currently not enough evidence to develop screening recommendations for high and low risk populations.

## Screening for Hypertension

### IMPLEMENTATION OF RECOMMENDATIONS

## Resources

Costs were not a major factor in determining CTFPHC recommendations as there are no direct costs associated with blood pressure measurement. Minimal resources required for blood pressure testing include the time of patient and practitioner.

## Values and Preferences for Screening

The CTFPHC found no studies on patient values and preferences for blood pressure screening; however, indirect evidence indicates benefits of screening are highly valued. Due to this gap in the literature, patient values and preferences were inferred by the clinical experience of working group members for blood pressure measurement.

## KT TOOLS

The CTFPHC creates KT tools to support the implementation of guidelines into clinical practice. A clinical algorithm and a poster for clinicians have been developed for the hypertension guideline. After the public release, these tools will be freely available for download in both French and English on the website: [www.canadiantaskforce.ca](http://www.canadiantaskforce.ca).

## Screening for Hypertension

### CONCLUSIONS

#### Conclusions

The CTFPHC recommends continued blood pressure screening in adults 18 years and older at all appropriate primary care visits. As there is no evidence to recommend an appropriate screening interval, the CTFPHC defers to the CHEP guidelines, which recommends screening at all appropriate visits.

#### Research Gaps

The CTFPHC recommends more research for groups who access health care less frequently and may not be as likely to be aware of their hypertension or have it appropriately controlled. Studies examining the effects of differing screening intervals to determine how often to screen specific populations would also be beneficial. Further, research is needed to determine the age at which hypertension screening should begin and how often adolescents should have their blood pressure measured.

#### Update: CTFPHC Mobile App Now Available

The app contains guideline and recommendation summaries, knowledge translation tools, and links to additional resources.

Key features include the ability to bookmark sections for easy access, display content in either English or French, and change the font size of text.



## Update: CTFPHC on Social Media

The CTFPHC is venturing into social media. A Twitter policy and strategy is currently being developed and CTFPHC Twitter is expected to be released sometime in 2016. Please check the CTFPHC website for updates: <http://canadiantaskforce.ca/>.

## More information

For more information on the details of this guideline or to access the KT tools please refer to the evidence review in the resources section of the website [www.canadiantaskforce.ca](http://www.canadiantaskforce.ca).