



CLINICAL ISSUES IN HYPERTENSION

CANADIAN COALITION FOR HIGH BLOOD PRESSURE PREVENTION AND CONTROL
COALITION CANADIENNE POUR LA PRÉVENTION ET LE CONTRÔLE DE L'HYPERTENSION ARTÉRIELLE

A Mounting Risk: Hypertension and the World Health Report 2002

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risks are quantified by the estimated effect on mortality and disability-adjusted life years (DALYs). One DALY is equivalent to one healthy year lived. Therefore, mortality at a young age has a greater effect on DALYs than death at an older age.

The report acknowledges major advances made to improve health, but also raises concerns about new issues.

Many health threats can be categorised as ones of excess; these are the leading causes of death and disability in the developed world and among the wealthy. Health threats associated with deficiency remain the leading causes of death in the underdeveloped world and among the poor. Malnutrition is still a leading risk for death in underdeveloped countries, while obesity is one of the top 10 risks for death in the developed world. The developing nations face both communicable and non-communicable disease health threats. In particular, they seem increasing-

The World Health Organisation (WHO) has a broad mandate to address health threats around the world. In October 2002, the WHO released the results of one of its largest research projects, "The World Health Report 2002."¹ The report is an outline of the best available evidence on risks to health. The

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ly vulnerable to diseases of excess, as they lack the resources to utilise individualised approaches to disease/risk management. In this article, the hypertension aspects of the WHO's World Health Report are summarised.

A major threat

Most people recognise that hypertension is a significant health hazard in Canada. One in five adult Canadians has hypertension and the rate is over one in two in elderly Canadians.² Even if normotensive at age 50, the risk of becoming hypertensive in the future is 90%.³ There are difficulties identifying those with hypertension; over 40% are unaware their blood pressure (BP) is high. There are also enormous challenges in controlling hypertension, as only 13% of hypertensive Canadians are controlled to recommended target BP levels (*i.e.*, < 140/90 mmHg in general and < 130/80 mmHg in people with diabetes).² Given these difficulties and knowing the close link between hypertension and cardiovascular morbidity and mortality, hypertension has been targeted as a major issue requiring a national approach to prevention and control.⁴

Perhaps more surprising, however, is that the WHO specifically identifies hypertension as one of the major health threats and estimates it to be

the third leading risk for health deterioration (as assessed by DALY) worldwide.

Over 7 million deaths per year are attributed to elevated BP. About 50% of cardiovascular diseases, 69% of cerebrovascular diseases, and 49% of ischemic heart diseases are also attributed to elevated BP. In particular, the most feared and resource-intensive complication, stroke, is largely attributable to hypertension.

In developed countries, such as Canada, it is estimated that 24% of female deaths and 20% of male deaths are attributed to elevated BP, making BP the first and second leading risk associated with mortality in women and men respectively (Table 1). BP remains the leading risk

associated with DALYs in women, but is third behind tobacco and alcohol in men. Even in developing countries, hypertension is one of the leading risks for disability and mortality.

Current trends suggest an increase in cardiovascular deaths of more than 25% in the next 20 years.

How can hypertension be such a risk?

Many will wonder how hypertension could be such an important risk to health? The WHO recognises a strong association between BP and cardiovascular disease, even when BP is in the normotensive range. The report indicates that over 12 million people die of cardiovascular disease every year. Of the world's population, 50% to 60% would have reduced risk of cardiovascular

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Table 1

Five leading risk factors for mortality in men and women in North America

Women	Men
Blood pressure	Tobacco
Cholesterol	Blood pressure
Overweight	Cholesterol
Tobacco	Overweight
Low fresh fruit and vegetable consumption	Low fresh fruit and vegetable consumption

*factors shown in decreasing order

World Health Organisation: The World Health Report 2002. Geneva, Switzerland.

Table 2

Key elements for blood pressure control

1. Assess blood pressure at all appropriate visits.
2. Individualise lifestyle modification to prevent and control hypertension.
3. Assess for other cardiovascular risks and develop a global cardiovascular risk reduction strategy.
4. Treat patient's blood pressure to recommended targets (< 140/90 mmHg in general and < 130/80 mmHg in patients with diabetes or renal disease).
5. Use appropriate combinations of pharmacotherapy to achieve target blood pressures.
6. Enhance patient adherence by assessing adherence at each visit and by taking measures to prevent and treat non-adherence.

Campbell NR, Drouin D, Feldman RD: The 2001 Canadian hypertension recommendations: Take-home messages. CMAJ 2002; 167(6):661-8.

disease by lowering BP close to the optimal level, defined as a systolic pressure of < 115 mmHg. However, even in countries like Canada, where there are substantial resources to provide individual care, hypertension control is poor. Therefore, its strong association with cardiovascular disease, its high prevalence, and its poor control result in hypertension being one of the biggest health risks in the world.

The report does not outline comprehensive strategies to reduce the burden of disease associated with hypertension, but confirms that mod-

ifiable causes of hypertension include high salt and alcohol intake, obesity, and low physical activity. These factors contribute to the increase in BP with age. As a result, the WHO report calls for population-based strategies to lower BP. It also calls for the adoption of policies and programs which would promote reduced salt additives to food, reduced sugars and saturated fat in the diet, increased consumption of fresh fruits and vegetables, and regular physical activity. The report also calls for more research and better surveillance of the health risks.

What can be done to reverse the trend?

The WHO report also finds more than 50% of cardiovascular deaths to be preventable in five years with simple and cost-effective strategies. Unfortunately, current trends sug-



gest an increase in cardiovascular deaths of more than 25%, rather than any decrease, in the next 20 years. Action is required to reverse the current trends and to reduce cardiovascular disease.

Reduction in the addition of sodium to food by the food industry is highlighted as a cost-effective strategy. Drug therapy with dual treatment of a diuretic and beta blocker is also outlined as highly cost-effective in treating systolic pressures > 140 mmHg in developed, but not all developing, countries. Lack of access to affordable medications is a major issue facing the developing world.

The critical steps for clinicians to follow to reduce morbidity and mortality from hypertension are shown in Table 2.

Many of the report suggestions are aimed at government. But what about physicians and other health-care professionals? Proposed health promotion and disease prevention plans are viewed by some in the health-care sector as competition for resources. Few health professional organisations lobby for health promotion resources and policy change, and some, individually and collectively, even advocate against the allocation of resources towards community

programs and policies aimed at preventing disease. While most health-care organisations have health as a high priority in vision statements and strategic objectives, few resources are allocated towards achieving the stated visions and objectives. The majority of

resources are allocated to disease management rather than prevention.

♥ Practical Point

The WHO's World Health Report can be purchased for a nominal fee. Ordering forms are available at

♥ www.who.int/whr/en/



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Getting the government involved

In Canada, we are aided by a national strategic plan to prevent and control BP.⁴ The Canadian Hypertension Education Program (CHEP) was initiated as part of the strategy through a joint effort of the Canadian Hypertension Society, the Canadian Coalition for High Blood Pressure Prevention and Control, the Heart and Stroke Foundation of Canada, Health Canada, and the College of Family Physicians of Canada.⁵ Most physicians will be familiar with the regular summaries and education programs associated with CHEP.^{6,7} However, to prevent hypertension and to reduce the risk of cardiovascular disease requires intersectoral system changes at community, provincial, and federal levels. A significant effort by the health-care profession will be required to convince the different levels of government of the need to adopt an overall approach to reduce non-communicable disease. Hopefully, the World Health Report will be broadly read and acted on by health-care professionals, policy makers, and governments. 

Take-home message

- The most recent WHO World Health Report has highlighted hypertension as one of the major health threats worldwide.
- 50% to 60% of cardiovascular disease is caused by high blood pressure.
- Lifestyle modifications, including diet and exercise, can help reduce risk.
- Health-care professionals should encourage all levels of government to grant resources to disease prevention and health promotion.

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