Canada Chair in Hypertension Prevention and Control

1: Initiatives to Improve Public and Patient Education on Hypertension and to Prevent Hypertension by Reducing Dietary Sodium

By Norm RC Campbell and Selina Omar

In the early 2000s, Blood Pressure Canada, the Canadian Hypertension Society and the Canadian Institute for Health Research developed a proposal to fund a leadership position for prevention and control of hypertension in Canada. The project was co-funded by sanofi-aventis Canada, the Canadian Hypertension Society and the Canadian Institute for Health Research.

As the recipient of the initial five-year funding, Norm Campbell proposed four major initiatives: 1) increase public and patient self-efficacy to prevent and manage hypertension; 2) decrease the prevalence and incidence of hypertension by reducing dietary sodium; 3) increase the interdisciplinary dissemination and partnership of the Canadian Hypertension Education Program (CHEP) and develop a CHEP business plan; and 4) develop a national surveillance program for hypertension.

The initiatives have received strong support. The hypertension community, the Public Health Agency of Canada, the Heart and Stroke Foundation of Canada, some provinces, and many Canadian healthcare professional and scientific organizations have implemented programs that address the initiatives. In this report, we discuss progress made on the first two initiatives in the first two years of the Hypertension Chair, noting that many of the activities are the work of, and led by, other like-minded individuals and organizations. The second two initiatives will be the focus of a later report.

Improving Self-efficacy of the Public to Prevent Hypertension and of Patients with Hypertension to Manage Hypertension

A multi-pronged approach was developed by Blood Pressure Canada and partner organizations to sustain a public and patient hypertension-education program. The approach uses development of a variety of educational tools specifically for different public and patient audiences (Table 1) and broad dissemination of material through healthcare professionals, healthcare-professional journals, lay-public journals, and via online resources (www.hypertension.ca, www.heartandstroke.ca/BP), specifically looking for potential opportunistic media releases based on new research as well as the annual World Hypertension Day releases.

The different tools are available online at www.hypertension.ca. Train-the-Trainer sessions are used to train healthcare professionals to use tools for public and patient education. Blood Pressure Canada has developed a Task Force with 24 interdisciplinary members to aid the development, dissemination, and evaluation of tools to enhance public and patient self-efficacy. Multiple partner organizations have contributed significantly. The Heart and Stroke Foundation, for example, has developed a sophisticated website to provide individualized advice and tracking for patients with hypertension (www.heartandstroke.ca/BP). Of note, provincial Heart and Stroke Foundations are following the lead of Ontario and making hypertension a priority. The Public Health Agency of Canada (PHAC) has funded Blood Pressure Canada to develop educational tools for ethnic minorities, links and resources for community-based hypertension programs, and tools to enhance the interaction of healthcare professionals and patients. Of notable importance, PHAC collaboration with Statistics Canada and members of Blood
Pressure Canada has led the development of a national survey to examine knowledge, attitudes, practices, sources of information, and barriers to care. The survey results will be representative of Canadians with hypertension and are expected in 2009-2010. The survey will be repeated periodically to monitor progress and assess knowledge gaps.

Particular projects of interest include the development of annually updated public recommendations for the management of hypertension, a public-awareness DVD, a standardized slide presentation for use by healthcare professionals in educating the public, and a resource centre for community-based hypertension projects (www.bpcommunityexchange.net). A comprehensive patient-education DVD is planned. Education of politicians is an important part of the program and several meetings have been held with politicians and government officials. It is expected that a more informed public will not only aid in the detection and management of hypertensive individuals, but will also encourage policy changes required to prevent hypertension.

### Reducing the Prevalence of Hypertension by Decreasing Salt Additives in Food
Hypertension is expected to increase in prevalence dramatically throughout the world and effect 30% of the adult population. Awareness, treatment and control of hypertension have dramatically improved in Canada. To avoid the need to treat very large proportions of the population with drugs, a concerted effort to prevent hypertension is required. A mandate of the Hypertension Chair is to lead an effort to reduce dietary sodium. Well recognized scientific groups have concluded that the current levels of dietary sodium are unsafe and cause hypertension. Canadian policy has called for reduced dietary sodium for several decades but the lack of a concerted health-sector lobby has hindered efforts to reduce dietary sodium in Canada and around the world.

---

### Table 1

<table>
<thead>
<tr>
<th>Resource</th>
<th>Content</th>
<th>Availability</th>
</tr>
</thead>
</table>
| 2008 patient recommendations            | • Blood-pressure basics  
                                           • Blood-pressure targets  
                                           • Lifestyle changes  
                                           • Salt intake  
                                           • Diagnosis of hypertension  
                                           • Home monitoring  
                                           • Medication adherence | www.hypertension.ca  
                                           www.heartandstroke.ca |
| Online personalized BP plan             | • Self-assessment tool:  
                                           − to identify risk of heart disease and stroke  
                                           − to provide tips, advice and support to help prevent or control high blood pressure  
                                           − to create a personalized action plan for healthy living | www.heartandstroke.ca/bp |
| World Hypertension Day                  | • Brochures and posters  
                                           • Public awareness campaigns in most Canadian cities | www.worldhypertensionleague.org |
| DASH diet                               | • Facts about the DASH Eating Plan  
                                           • Healthier eating with DASH  
                                           • Getting started with DASH  
                                           • Heart-healthy recipes  
                                           • Tips on how to make healthier meals  
                                           • A word about fats | www.nhlbi.nih.gov/bhp/prevent/h_eating/h_eating.htm |
| Canada’s Food Guide                     | • Food Guide basics: choosing foods  
                                           • Using the Food Guide and choosing foods  
                                           • Maintaining healthy habits | www.hc-sc.gc.ca/fn-an/food-guide-alimmtation/index_e.html |
| Dietitians of Canada                    | • Eat well, live well:  
                                           − tips, resources, tools  
                                           − EATracker | www.dietitians.ca |
| Online health and fitness calculators   | • Body mass index  
                                           • Waist:hip ratio  
                                           • Smoking cost  
                                           • Optional weight calculator | www.healthtoolsonline.com/health-fit.html |

With permission of Blood Pressure Canada.
Initial efforts were to increase the prominence of sodium in Canada’s Food Guide to Healthy Eating. A lobby by 10 major national healthcare and scientific organizations was organized. The Food Guide was revised to increase the prominence of dietary sodium as a health issue of equal importance to sugar and saturated fats (www.hc-sc.gc.ca/fn-an/food-guide-aliment/index_e.html). A strategic planning committee with representation from seven national organizations was developed to form strategies for government and food industry action. This committee has assisted Blood Pressure Canada in the development of a policy statement calling on the Canadian government and food industry to reduce sodium additives to food and for healthcare-professional organizations to educate Canadians and their membership about the risks. The policy statement (available at www.hypertension.ca/BPC) called for specific actions with timelines by government and the food sector and was signed by most major national healthcare professional and scientific organizations that are involved in cardiovascular disease in Canada. The Dietitians of Canada organized a meeting of the food sector, government and health sector to discuss issues around dietary sodium which resulted in an informal agreement to collaborate to reduce sodium additives to food. A request was made by the health and food sector for government oversight of the process to reduce dietary sodium. The Canadian government announced the formation of an inter-sectoral workgroup that has now met twice, conceptually agreed on terms of reference and is performing background data-finding to support the effort. The strategy to reduce sodium additives and educate the public is the next step for the workgroup. Many of the organizations that signed the policy statement have organized clinical and scientific sessions at regional and national meetings and/or published information to their membership on dietary sodium. Specific studies have been conducted to estimate the impact on hypertension and cardiovascular disease of high dietary sodium in Canada.\(^4\)\(^5\) Notably, a reduction in dietary sodium is estimated to reduce hypertension by about 30\%, cardiovascular disease by almost 9\% and healthcare costs by roughly $2 billion per year.

Blood Pressure Canada has formed an 18-member workgroup to develop tools to educate the public and healthcare professionals about the health risks of sodium. This has resulted in the development of several educational tools and publications made available to healthcare professionals and the public (available at www.hypertension.ca), as well as multiple media releases (through the Canadian Stroke Network and the Heart and Stroke Foundation of Canada). A grant from PHAC will allow the development of comprehensive summaries and educational material on dietary sodium.

Many groups have become active in the effort. Notably, the Canadian Stroke Network has recently launched a sodium website to consolidate information on sodium (www.sodium101.ca) and provincial governments are now considering regulations to limit high-sodium foods within their jurisdictions. Although several food companies reported starting to reduce sodium additives to food, objective monitoring is required to ensure there is a broad reduction in sodium additives to food.

Blood Pressure Canada plans to independently monitor and report on the sodium content of specific foods that are high in sodium. Around the world, there has been increased interest in reducing sodium additives to food. The reduction, however, will take many years and sustained oversight and interest from the health community.

Some Thoughts

The last two years have laid the foundation for a comprehensive, sustained public- and patient-education program on hypertension and for a reduction in dietary sodium in Canada. Much work remains to ensure the programs are sustainable and meet the comprehensive needs of the Canadian population. It is hoped that the development of the National Cardiovascular Strategy will assist in sustaining successful programs like those outlined. Over the past two years, hypertension has gained prominence in many organizations and this has resulted in several important initiatives. In particular, there has been a substantive increase in hypertension activity by the Heart and Stroke Foundation of Canada, the provincial Heart and Stroke Foundations (particularly in Ontario), the Canadian Stroke Network, the Public Health Agency of Canada, Health Canada, Statistics Canada, and provincial governments. Healthcare-professional organizations, especially the Canadian Pharmacists Association, the Canadian Council of Cardiovascular Nurses and the College of Family

A mandate of the Hypertension Chair is to lead an effort to reduce dietary sodium. Well recognized scientific groups have concluded that the current levels of dietary sodium are unsafe and cause hypertension. Canadian policy has called for reduced dietary sodium for several decades but the lack of a concerted health-sector lobby has hindered efforts to reduce dietary sodium in Canada and around the world.

continued on page 7
Physicians of Canada, have markedly increased their involvement in hypertension-related activities, largely through Blood Pressure Canada and CHEP. The Canadian Hypertension Society has increased its role in prevention and clinical management of hypertension, providing more content at the annual meeting, resources, collaboration and visibility.

The marked increase in independent activities comes with a loss of ability to coordinate and lead. Nevertheless, the Chair recognizes that the resulting increase in capacity is required for prevention and control of hypertension on a national level. Recently, it has become evident that Ontario has the lowest prevalence of hypertension in the developed world and has by far the highest rate of treatment and control. Other data indicate these findings are likely to reflect those of the Canadian population. To continue to benefit the health of Canadians, programs must continue to evolve to stay ahead of and take advantage of the rapid and profound changes occurring in healthcare in Canada. The future is challenging but bodes well to prevention and control of hypertension.

References:

Norm RC Campbell, MD, FRCPC, and Selina Omar, MA, Departments of Medicine, Community Health Sciences and Pharmacology and Therapeutics, University of Calgary, Libin Cardiovascular Institute of Alberta.

Hypertension in the Very Elderly
Continued from page 2

Almost 75% of subjects randomized to active treatment received the diuretic + ACE inhibitor combination. Recall that earlier studies in older subjects with systolic hypertension showed thiazide diuretics were beneficial unless hypokalemia or arrhythmias ensued. In HYVET, the diuretic + ACE inhibitor combination could have avoided these deleterious effects and could explain the reduction in total mortality observed in this study compared to previous studies. Active treatment with a diuretic and an ACE inhibitor could also have reduced the risk of heart failure, since the combination has been proven efficacious in trials of patients with this condition.

The HYVET-COG substudy, aimed at identifying a reduction in the incidence of dementia in subjects enlisted in the HYVET trial, was also recently published. Evaluation of cognitive function using the Mini Mental State Examination (MMSE) hypothesized a 33% reduction of risk in favor of active treatment. However, after a median follow-up period of 2.2 years, no significant difference was observed between the two study groups for all types of dementia evaluated.

Do the results from the HYVET trial allow us to say that it is beneficial and safe to treat arterial hypertension in subjects aged 80 years or older? The results show benefits in reduction of events like total mortality, mortality from stroke and heart failure despite the absence of gains on the risk of dementia. Moreover, the study undermines previous studies that suggested treatment caused increased total mortality. This study allows us to recommend treatment of hypertension in subjects aged 80 years or older by aiming at a conservative BP target of < 150/80 mmHg. However, since the overall health of subjects in HYVET seems to have been better than that of the general population, we must very carefully apply treatment to more vulnerable very elderly hypertensive patients with a more precarious state of health.

References:

Luc Poirier, B. Pharm, M. Sc., Research Unit on Hypertension, CHUL (CHUQ), Quebec.