

Canada Chair in hypertension prevention and control: A pilot project

Norm RC Campbell MD FRCPC

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A five-year pilot project was initiated in Canada to fund an individual to lead the effort in improving hypertension prevention and control. As the initial recipient of the funding, the author's objectives were to provide leadership to improve the management of hypertension through enhancements to the Canadian Hypertension Education Program, to increase public knowledge of hypertension, to reduce the prevalence of hypertension by reducing dietary sodium additives and to develop a comprehensive hypertension surveillance program. The initiative has received strong support from the hypertension community, the Public Health Agency of Canada, the Heart and Stroke Foundation of Canada, and many Canadian health care professional and scientific organizations. Progress has been made on all objectives. The pilot project was funded by The Canadian Hypertension Society, the Canadian Institutes of Health Research and sanofi-aventis, in partnership with Blood Pressure Canada, and will finish in July 2011.

Key Words: *Education; Epidemiology; High blood pressure; Hypertension; Knowledge translation; Public health; Sodium; Surveillance*

The World Health Organization (WHO) estimates that sub-optimal blood pressure is the leading risk factor for death in developed countries such as Canada (1-4). The detection and management of hypertension in Canada and other countries is poor. Many people with hypertension are not receiving care, most are not treated and relatively few achieve the recommended blood pressure treatment targets (5). In 2000, Blood Pressure Canada developed a proposal for a 'Chair' to lead the effort to improve hypertension prevention and control. Over subsequent years, partnerships were forged with The Canadian Hypertension Society, the Canadian Institutes of Health Research and sanofi-aventis to provide salary support and limited operating funds for a 'Canadian Hypertension Chair' as a five-year pilot project. The Chair is unique because its focus is not on research, but rather on providing leadership for the prevention and control of hypertension. The initiative has had very strong support from the hypertension community, many health care professional organizations, the Heart and Stroke Foundation of Canada, the Canadian Stroke Network, as well as the Public Health Agency of Canada. In the present report, the author's goals and progress since becoming the Chair in July 2006 are outlined.

Le Canada : À la barre d'un projet pilote sur la prévention de l'hypertension artérielle et la normalisation de la pression artérielle

Un projet pilote d'une durée de cinq ans a vu le jour au Canada pour permettre à l'auteur, par l'obtention d'un financement, de grouper les forces vives du milieu afin d'améliorer la prévention de l'hypertension artérielle (HTA) et la normalisation de la pression artérielle. En tant que premier bénéficiaire du financement, l'auteur a pour but d'assumer la direction d'un groupe en vue d'améliorer la prise en charge de l'HTA par l'enrichissement du Programme d'éducation canadien sur l'hypertension, d'accroître les connaissances de la population sur l'HTA, de diminuer la prévalence de l'HTA en réduisant la quantité d'additifs au sodium dans l'alimentation et d'élaborer un programme intégré de surveillance de l'HTA. L'initiative a reçu un accueil très favorable de la collectivité vouée à l'hypertension, de l'Agence de santé publique du Canada, de la Fondation des maladies du cœur du Canada et de bien d'autres organisations professionnelles et scientifiques, au Canada, portant un intérêt particulier aux soins de santé. Des progrès ont été réalisés sur tous les plans. Le projet pilote est financé par la Société canadienne d'hypertension artérielle, les Instituts de recherche en santé du Canada et sanofi-aventis, en partenariat avec *Blood Pressure Canada*; le projet prendra fin en juillet 2011.

OBJECTIVES

The WHO has recommended three cost-effective strategies to reduce the burden of hypertension (1,2):

- improve the treatment and control of hypertension within the health care system;
- increase public education on hypertension to promote healthy lifestyles and ensure that individuals with hypertension are diagnosed (1,2); and
- reduce the average blood pressure in the population through public health activities and policy changes.

A specific public health strategy recommended by the WHO to reduce the prevalence of hypertension and reduce cardiovascular risk includes decreasing sodium additives to food (1,6-9). Furthermore, to determine the impact of programs aiming to improve the management of high blood pressure, a national hypertension surveillance program is required. As Chair (from July 2006 to 2011), the author's objectives are to lead the Canadian effort in implementing these strategies and developing a national hypertension surveillance system.

Departments of Medicine, Community Health Sciences, and Pharmacology and Therapeutics, University of Calgary, Libin Cardiovascular Institute of Alberta, Calgary, Alberta

Correspondence: Dr Norm RC Campbell, Libin Cardiovascular Institute of Alberta, Health Sciences Centre, University of Calgary, 3330 Hospital Drive Northwest, Calgary, Alberta T2N 4N1. Telephone 403-283-6151, fax 403-210-7961, e-mail hyperten@ucalgary.ca

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Improving the treatment and control of hypertension within the health care system

Suboptimal detection, management and follow-up of hypertension are frequent problems in Canada, and several surveys indicate large practice 'gaps' in the management of hypertension by health care professionals (10-18). The Canadian Hypertension Education Program (CHEP) is an extensive effort that was developed to improve clinical hypertension management in Canada (19-24). Specifically, CHEP was designed to produce evidence-based scientific recommendations that are annually updated, strongly supported by key opinion leaders, extensively disseminated, aided by a variety of implementation tools and techniques, and regularly evaluated. Because CHEP was designed as a continuous quality improvement process with cycles of planning, implementation and evaluation, it has been changing in response to successes and failures (21,25-27). More than 100 volunteers are currently members of the CHEP. The following specific changes to CHEP were proposed.

It was recognized that CHEP needed to become more efficient and business-like to sustain the program in the long term. In response, a business planning session was held by the CHEP executive (document available on request from Susan Carter at susanc@debutmed.com); mechanisms for regular communication have been developed among CHEP, The Canadian Hypertension Society and Blood Pressure Canada; and a new and enhanced joint hypertension Web site is under development, with a planned launch in May 2007. Furthermore, to reduce volunteer workload, CHEP plans to hire a bilingual coordinator to assist the current manager.

It was also recognized that to provide optimum care to hypertensive patients, there had to be increased involvement of nurses and pharmacists in the development of CHEP recommendations, and increased dissemination of CHEP material to nurses and pharmacists. Until 2006, CHEP had primarily focused on family physicians in its education programs. However, family physicians have a limited capacity to increase their workloads, and the increasingly accepted model for management of chronic diseases is multidisciplinary care (www.eicp-acis.ca) (28). Therefore, the Canadian Council of Cardiovascular Nurses, the Canadian Pharmacists Association and their members were actively engaged by CHEP. In particular, work groups have been formed to adjust the content and dissemination to meet discipline specific needs, and a formal needs assessment and an environmental scan to assess barriers to adequate care are being developed for nurses and pharmacists.

Last, the evolving hypertension surveillance program provides a unique opportunity to identify gaps in hypertension management. Therefore, it was proposed that CHEP develop specific education programs to fill identified care gaps. An early example was the finding that 10% of initial prescriptions for uncomplicated hypertension in elderly patients were for beta-blockers. CHEP had recommended against this practice, and based on the care gap, a specific educational tool was developed; the recommendation not to use beta-blockers as first-line therapy in this setting has been highlighted in CHEP care algorithms and slide sets. Future studies will determine whether clinical practice changed in response to the intervention. Recently, it was identified that the majority of younger Canadian adults diagnosed with hypertension were not receiving pharmacotherapy (29). A more extensive study is being conducted to determine the cardiovascular risk of this group, and will be followed by an assessment of the need for a focused

educational program to assess cardiovascular risk and improve the pharmacotherapy of younger Canadian adults.

It is expected that changes to CHEP will make it more efficient and sustainable, and allow it to have a greater impact on hypertension management in Canada.

Increasing public education on hypertension to promote healthy lifestyles and ensure that individuals with hypertension are diagnosed

Many studies have shown that increased public awareness through education leads to improvements in health behaviour (30). A relatively extensive but short-lived regional hypertension awareness program conducted by Blood Pressure Canada led to small improvements in public knowledge that were not sustained (31). However, observational studies have shown large increases in the awareness of hypertension associated with programs in the United States (National High Blood Pressure Education Program <www.nhlbi.nih.gov/about/nhbpep>) (32-34) and in North Karelia, Finland (North Karelia Project) (35). Both were extensive programs that were sustained for decades, and involved the education of both health care professionals and the public. Public education through mass media is very expensive and is, therefore, difficult to sustain. Less costly approaches are required to sustain a Canadian program in the absence of extensive government funding. Therefore, it was proposed to increase the knowledge of hypertension in the Canadian population by a sustained, broadly disseminated public education program provided by key local health care opinion leaders and supplemented by hypertension management recommendations tailored to the public. The recommendations are to be made available at a variety of education levels using different mediums for dissemination. Blood Pressure Canada has agreed to lead this process and has developed a task force to aid the development, dissemination and evaluation of tools to enhance public knowledge. The first meeting resulted in proposals for an extensive variety of activities and programs, including enhancing and working more closely with the activities of World Hypertension Day. More information on the task force will be available later this year (www.hypertension.ca). The first 'train-the-trainer' program was held in conjunction with The Canadian Hypertension Society in October 2006 (sponsored by Boehringer Ingelheim, Canada), and trained more than 80 key opinion leaders to use a public education PowerPoint (Microsoft Corp, USA) slide set. The slide set and lecture notes are available at <www.hypertension.ca>. 'Train-the-trainer' sessions for health care professional-patient encounters, based on patient books and brief encounter education tools, are under development.

The second approach is an annual translation of the professional recommendations into formats that are accessible to, and readily understood by, the general public. The second annual version is now available (www.hypertension.ca), and bulk orders may be obtained by writing Megan Smith at hyperten@ucalgary.ca. A shorter, simpler pilot version tailored to a high-risk ethnic population (with cultural and language translation for Indo-central Asian communities) is under development. Those interested in aiding the dissemination of the Indo-central Asian version in their community may make contact through hyperten@ucalgary.ca. The recommendations are also being published in a variety of journals, so interested health care professionals may use them in their practices and for the public.

It is expected that a more informed public will aid the detection and management of hypertensive individuals, but it will also encourage policy changes required to prevent and manage hypertension (36,37).

Reducing the prevalence of hypertension by decreasing salt additives in food

Extensive, well-documented reviews (1,38-42) on dietary sodium by well-recognized scientific groups have concluded that the current levels of dietary sodium are unsafe and should be reduced. The 2004 National Academy of Sciences report (43), commissioned by the American and Canadian governments to update nutritional recommendations for sodium, recommended that adult dietary sodium intake should be below 2300 mg/day; 1200 mg/day to 1500 mg/day was considered to be an adequate intake for optimal health. It is estimated that adult Canadians consume an average of 3500 mg of sodium each day (43). Like Canada, most westernized countries have developed policies that support reducing sodium additives (44); however, few countries have implemented those policies. The United Kingdom and Finland are exceptions that have successfully introduced policies and/or regulations to lower salt consumption in their population by reducing salt additives (www.actiononsalt.org.uk) (35,45). Finland initiated a program to reduce dietary sodium 30 years ago and has seen a large reduction in blood pressure and cardiovascular disease (46,47). Smaller-scale regional interventions have produced similar but smaller benefits (48-51). Unfortunately, the reports from recognized scientific organizations are relatively inaccessible and poorly publicized.

The development of a program to reduce dietary sodium in Canada was proposed. To support this effort, Blood Pressure Canada developed a task force, led by Dr Brian Penner, to develop tools to inform health care professionals and the public of the evidence and views of credible scientific organizations. A coalition of Canadian health care professional and scientific organizations was formed (the Sodium Strategic Planning Committee) to develop a policy statement and form the basis for a reduction in dietary sodium additives, and to develop broad strategies to aid the effort in reducing dietary sodium. Furthermore, a research team has been formed to determine the impact of high dietary sodium intake on the health of Canadians, and a worldwide policy scan is being conducted to determine which programs and policies have been introduced and are effective in other countries. An initial multisectoral meeting has been organized by food producers to discuss reducing dietary sodium. It is important that clinicians and scientists who are interested in hypertension become more aware of the scientific basis for reducing dietary sodium and assist in this effort.

A NATIONAL HYPERTENSION SURVEILLANCE PROGRAM

To assess the impact of hypertension on the health of Canadians, identify health care gaps in hypertension management and assess the potential impacts of interventions, it was proposed that the Chair lead the development of a national hypertension surveillance system. Health policy development requires surveillance data to make informed decisions on resource allocation and program development (1). Establishing the prevalence, awareness, treatment, and control rates of hypertension and the factors by which they are affected, as well as the tracking of changes in these parameters, are crucial to any national effort to prevent and control hypertension (1).

Unfortunately, surveillance systems around the world are poorly developed (1). The Canadian hypertension surveillance program was initiated by CHEP in 2003 with the support of the Public Health Agency of Canada, Statistics Canada, some provinces and many volunteers from academia (24). An overview of the program was published in *The Canadian Journal of Cardiology* last year (24). Completion of the surveillance program is expected in 2011, and currently, much of the work is developmental. However, some of the components have been completed, and several substantial changes in the management of hypertension have been observed following the initiation of CHEP (24,29,52-55).

CONCLUSIONS

The Canadian hypertension community, with financial support from The Canadian Hypertension Society, the Canadian Institutes of Health Research and sanofi-aventis, developed a pilot project to fund an individual to lead programs that enhance the prevention and management of hypertension in Canada. As the recipient of the five-year award, the author of the present paper proposed several goals that may have a major impact of the health of Canadians if supported by health care professionals, health care professionals and scientific organizations, government, and the Heart and Stroke Foundation of Canada. Less than one year into the term of the Chair, support has been very strong and significant progress has been made. If the 'leadership' Chair pilot project is successful, efforts need to be made to sustain the model and develop new leadership chairs in critical areas for health care advocacy.

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