Hypertension: Are you and your patients up to date?

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While there have been substantive efforts to improve treatment and control of hypertension in Canada, many individuals with hypertension remain unaware of their condition and many health care professionals are unaware of key hypertension management recommendations. The present article reviews the new Canadian strategic direction for increased knowledge translation and dissemination of information to patients and health care professionals by providing new, innovative and easily accessible resources for hypertension education in Canada. A multitude of resources that address the diverse learning needs of health care professionals and the general public are highlighted.

Key Words: Dissemination; Education; Educational resources; High blood pressure; Hypertension; Knowledge translation

The World Health Organization estimates elevated blood pressure to be the leading risk factor for death in the world (1). In part, this is because hypertension is common and because management of hypertension is suboptimal (2,3). Elevated blood pressure accounts for approximately two-thirds of strokes and approximately one-half of heart disease cases. Blood pressure increases with age and it is estimated that 90% of individuals will develop high blood pressure if they live to an average age (4). The World Health Organization and many national scientific and public health organizations have called for enhanced diagnosis, treatment and control of hypertension as a cost-effective way to reduce morbidity and mortality (1).

In an effort to improve treatment and control of hypertension in Canada by health care professionals, the Canadian Hypertension Education Program (CHEP) was formed in 1999 (5,6). This unique national program is an extensive collaborative approach used to improve the treatment and control of hypertension through knowledge translation. The program educates health care professionals with annual evidence-based recommendations on the diagnosis and treatment of hypertension, with the specific goal of improving hypertension treatment and control in Canada (7,8). Blood Pressure Canada (BPC) translates the recommendations into public and patient versions to assist the general public in understanding how these recommendations apply to their lives (9). A variety of learning tools (posters, summaries, handouts, pocket cards, standardized slide sets, etc) have been produced to meet the individualized needs of health care professionals and the general public. The hypertension educational tools are updated and disseminated annually through an ever-expanding national dissemination plan. Notably, the Canadian programs have been associated with large increases in the diagnosis and treatment of hypertension in Canada with corresponding reductions in cardiovascular event rates (10-13).

In Canada, approximately one-fifth of the adult population has hypertension (14). However, many individuals with hypertension remain unaware of their condition. Of those who are aware, many are

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Des efforts importants ont été consentis pour améliorer le traitement et le contrôle de l'hypertension au Canada, mais bien des personnes hypertendues ne sont pas conscientes de leur état et bien des professionnels de la santé ne connaissent pas les principales recommandations pour la prise en charge de l'hypertension. Le présent article passe en revue les nouvelles orientations stratégiques canadiennes pour améliorer le transfert du savoir et l'information aux patients et aux professionnels de la santé grâce à des ressources nouvelles, novatrices et facilement accessibles sur l'éducation à l'hypertension au Canada. Une multitude de ressources portant sur les divers besoins d'apprentissage des professionnels de la santé et du grand public sont également mises en valeur.

often untreated or undertreated (15). Part of the reason for inadequate diagnosis and treatment may be a lack of knowledge and awareness of hypertension on the part of many Canadians. The public have erroneous understandings of hypertension that could influence the prevention, detection, treatment and control of hypertension (16). Furthermore, a recent (unpublished) survey conducted by the Heart and Stroke Foundation found that many primary care professionals had not received and were unaware of the current hypertension recommendations, incorrectly answering basic knowledge questions on topics regarding the diagnosis and treatment of hypertension. Therefore, increasing knowledge translation and dissemination to patients and health care professionals will remain an important strategy to reduce the burden of high blood pressure in Canada (17).

Knowledge translation research has shown that multipronged approaches are more effective than any single intervention (18-20). CHEP and BPC have produced a multitude of resources to address the diverse learning needs of health care professionals and the public. In 2010, CHEP and BPC will focus on developing new, more efficient and effective ways of transferring information to health care professionals and people with hypertension. The present review highlights the new approaches and existing resources for hypertension education in Canada.

NEW EDUCATION PROGRAMS TO MAKE HYPERTENSION INFORMATION MORE ACCESSIBLE

Automatic updates of new hypertension information and resources
In 2010, health care professionals can sign up at www.htnupdate.ca to receive automated e-mail notices when new or updated hypertension resources are available for them or their patients. The new Web site allows health care professionals to stay informed without having to search the literature or Web sites for updates. Current resources are available to download immediately after signing up or they can be downloaded at any time at www.hypertension.ca/tools.

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TABLE 1
Health care professional resources

Resources	Description
Documents	
CHEP primary care booklet	Brief outline of hypertension management recommendations in a pocket booklet
Key messages	A one-page document highlighting the six major actions required by health care professionals to prevent and control hypertension
One-page summary	A one-page summary of the CHEP theme, key messages and new recommendations
Short clinical summary	A brief narrative clinical summary of the current CHEP recommendations with emphasis on what is new and what is important. Tables summarize key aspects of hypertension care
Short scientific summary	A brief narrative summary of what is new and what is important with an emphasis on the scientific basis for the recommendations. Tables summarize key aspects of hypertension care
CHEP specialist booklet	Contains the short scientific summary and the exact CHEP recommendations in a spiral pocket booklet
Full scientific manuscript	Detailed manuscripts that indicate the exact CHEP scientific recommendations for the management of hypertension with their scientific rationale. There are separate diagnostic and therapeutic manuscripts
PowerPoint* slides	
Public education slide set	A slide set intended to be used to develop a general presentation on hypertension to the public and/or to patients
Background slide set	A slide set that contains information on the health risks of hypertension and key therapeutic interventions
Methodology slide set	A slide set that outlines the methods CHEP uses to develop recommendations, the key messages and the theme for 2010
Diagnostic slide set	A slide set that outlines the diagnostic recommendations of CHEP as well as the key messages and theme for 2010
Treatment slide set	A slide set that outlines the treatment recommendations of CHEP as well as the key messages and theme for 2010
Blood pressure measurement slide set	A slide set that outlines the measurement recommendations for blood pressure, and includes advice on office, home and ambulatory blood pressure measurement
Outcomes slide set	A slide set that outlines the various surveillance methods used by CHEP as well as key outcomes associated with CHEP. Ongoing hypertension management gaps are featured
Hypertension resources slide set	A new slide set that outlines all of the Canadian hypertension resources available to health care professionals
Web sites	
www.hypertension.ca/tools	Download current resources for health care professionals and patients
www.htnupdate.ca	Sign up to be regularly updated on new and updated resources for health care professionals and patients, and educational opportunities for health care professionals
www.lowersodium.ca	Educational resources for health care professionals and patients on dietary sodium
Dietary sodium	
Short scientific summary	Importance of reducing dietary sodium with advice on how to reduce dietary sodium
Scientific summary	A longer document highlighting the evidence for lowering dietary sodium
Key messages	A one-page summary of the key messages highlighting the importance of lowering dietary sodium with brief intervention advice
Sodium slide sets	
Scientific and clinical slide set	A slide set intended to be used to develop a presentation for a clinical or scientific audience
Public slide set	A slide set intended to be used to develop a presentation on dietary sodium to a public and patient audience on hypertension
Sodium quiz	A short interactive slide set containing general knowledge questions about dietary sodium

*Health care professional resources can be downloaded from www.hypertension.ca/tools and www.lowersodium.ca. People who sign up at www.htnupdate.ca will be automatically notified when resources are updated or newly developed. CHEP Canadian Hypertension Education Program. *Microsoft Corporation, USA*

Interactive Internet-based lectures on hypertension

An interactive lecture series on clinically important hypertension topics will be launched on the Internet so that health care professionals can learn and interact with top national hypertension experts. The lecture series will feature important clinical topics provided by national experts, and provide an opportunity to ask questions and make comments. The lectures can be watched wherever there is Internet access. Health care professionals are encouraged to sign up at www.htnupdate.ca to be notified when these interactive Internet lecture series begin.

Developing community hypertension champions

CHEP will continue to expand a program to train community leaders in hypertension. Individuals who have signed up at www.htnupdate.ca will be notified of such 'train-the-trainer' sessions and workshops planned in various communities. Through train-the-trainer sessions, community leaders (such as family physicians, nurses, pharmacists, etc) are trained to become 'hypertension champions', and further assist in the dissemination of information and resources to their colleagues, patients and the general public.

The BPC Knowledge Exchange Network is another initiative that has developed a toolbox of resources for cardiovascular health awareness and other chronic disease prevention programs across Canada. A Web site (www.bpccommunityexchange.net) provides the resources to health care professionals and community leaders. Health care professionals who are interested in developing similar community interventions are encouraged to visit the Web site.

Making sure patients are well informed and up to date

BPC has developed an association for Canadians with high blood pressure. Patients with hypertension are encouraged to sign up for 2010 membership at www.mybpsite.ca. They will receive notices of updated and new educational resources, a regular newsletter, discount coupons to encourage a healthy lifestyle, lectures and, in the future, personalized health care professional advice. Members will be able to request new hypertension resources and provide feedback on current blood pressure resources.

More targeted hypertension knowledge translation programs

CHEP and BPC have assisted the Public Health Agency of Canada and Statistics Canada to develop a comprehensive outcomes

TABLE 2
Resources for Canadians who have hypertension

Resources	Description
Documents, PowerPoint* slides and DVDs	
Brief hypertension recommendations	A brochure summarizing hypertension and its management for people with hypertension or those at risk. It is based on the 2010 CHEP theme for health care professional management recommendations
Public hypertension recommendations	A four-page pamphlet on hypertension and its management for people with hypertension or those at risk. The summary is based on the 2010 CHEP health care professional management recommendations. The 2007 recommendations are available in four Indo-Asian languages and cultural translations
Hypertension in diabetes	A four-page pamphlet on hypertension and its management for people who have hypertension and diabetes. The summary is based on the 2010 CHEP health care professional management recommendations
How to measure your blood pressure at home	A one-page summary of how to purchase and use a home measurement device
Home measurement of blood pressure	A more detailed four-page summary of how to purchase and use a home measurement device
Measuring blood pressure the right way	A poster and small card that outlines pictorially the key steps to measuring blood pressure properly at home
Blood pressure home measurement DVD	One short and one long summary video on how to measure your blood pressure at home as well as how to purchase and use devices for home measurement of blood pressure
Public education DVD (<i>Hypertension: The Silent Killer</i>)	One short and one long summary video on hypertension for the public, or those with or at risk of having hypertension
Brief hypertension action tool	A set of three tools with instructions for a health care professional educator to engage a patient more fully in their care. Action tool 1 takes 4 min and it defines blood pressure, why a patient needs to be concerned if they have high blood pressure, and the risks of hypertension. Action tool 2 takes 10 min and motivates a patient to think about changing his or her lifestyle. Action tool 3 takes 7 min and talks about home measurement and recording of blood pressure as well as information on medication
Hypertension public education slide set	A slide set intended to be used by a knowledgeable health care professional in developing a presentation on hypertension for the public or for people with hypertension
Dietary sodium: Documents and PowerPoint* slide sets	
Public education dietary sodium slide set	A slide set intended to be used by a knowledgeable health care professional in developing a presentation on dietary sodium for the public or for people with hypertension
Get the facts	A one-page summary on the importance of reducing dietary sodium and the key mechanisms to reduce dietary sodium
Short summary	A very short summary of why reducing dietary sodium is important and how to reduce dietary sodium
Booklet	A more detailed summary of why it is important to reduce dietary sodium and tips on how to reduce dietary sodium for the more interested consumer
Brochure: Beyond the salt shaker	Information on lowering your sodium intake and quick tips for improving your health
Quiz	A PowerPoint* slide set with a short series of questions and answers for people to use to test their sodium knowledge
Web sites	
www.mybpsite.ca	To join a hypertension association and be regularly updated on hypertension resources and materials that are available
www.hypertension.ca/bpc	To download patient-related resources
www.hypertension.ca/chs	To examine the different home blood pressure measuring devices that have passed international accuracy standards, which are available in Canada, and have been approved by the Canadian Hypertension Society
www.lowersodium.ca	Patient and health care professional information on dietary sodium
www.sodium101.ca	Public information on dietary sodium
www.heartandstroke.ca/bp	For an individualized action plan for lifestyle change and monitoring of blood pressure
www.nhlbi.nih.gov/hbp/prevent/h_eating.htm	For detailed information on following the Dietary Approaches to Stop Hypertension (DASH) diet
www.bpccommunityexchange.net	The Blood Pressure Canada Knowledge Exchange Network collects the results of cardiovascular health awareness and other chronic disease prevention programs across Canada, making the information accessible to health care professionals and community leaders through this Web site

*Resources for Canadians with hypertension can be downloaded from www.hypertension.ca/tools and www.lowersodium.ca. People who sign up at www.htnupdate.ca will be automatically notified when resources are updated or newly developed. CHEP Canadian Hypertension Education Program. *Microsoft Corporation, USA*

research program to assess ongoing care gaps. This has identified clinical care gaps that require specific education interventions such as the inadequate treatment and control of hypertension in people with diabetes. Therefore, a new extensive knowledge translation program on management of hypertension is being developed for health care professionals who care for people with diabetes. In addition, resources are being developed for diabetic patients. In 2010, results from three new national hypertension surveys will be released. We expect that data on knowledge and care gaps from these surveys will help guide the development of new and revised knowledge translation programs.

Existing hypertension education resources for health care professionals and the public

A variety of learning tools (posters, summaries, handouts, pocket cards, standardized slide sets, etc) have been produced to meet the individualized needs and levels of interest of health care professionals, patients and the general public. Tables 1 and 2 display current hypertension resources that are available for health care professionals and people with hypertension. Health care professionals and patients can also access a variety of resources on how to reduce dietary sodium intake (detailed information is available at www.lowersodium.ca or www.sodium101.ca).

CONCLUSION

Although CHEP and BPC provide a successful model for improving hypertension management, there is still much more to be done to further reduce premature cardiovascular death and disability by improving hypertension management. Evidence-based education on hypertension and its causes, prevention and treatment options is critical to enhance awareness of hypertension, and to assist in advocating health policy and regulation to improve hypertension prevention (20). CHEP and BPC are developing a series of innovative new programs to try to enhance hypertension knowledge translation and dissemination.

In addition to the program to aid knowledge dissemination to patients and health care professionals, CHEP and BPC are planning to develop specific committees for advocacy and policy development in 2010. These committees will seek to aid health care system change at federal and provincial government levels to enhance the prevention and control of hypertension. Furthermore, CHEP and BPC are enhancing an existing committee that aims to encourage the development of community-based interventions for hypertension prevention and control (www.bpccommunityexchange.net). Finally, in 2010, CHEP, BPC and the Canadian Hypertension Society will merge to form a single national hypertension organization. The new organization – Hypertension Canada – will facilitate the effort to prevent and control hypertension through research, training and education.

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