THE CIHR CANADA CHAIR IN HYPERTENSION PREVENTION AND CONTROL REPORT 2006-2011

1) SUSTAIN AND ENHANCE THE CURRENT CHEP STRUCTURE AND ACTIVITIES: I indicated as Chair of CHEP, I would lead the enhancement of the structure of the CHEP to be more sustainable and efficient, that the program would be expanded to enhance the translation of hypertension knowledge to family physicians, nurses, pharmacists and other health care professionals.

I hosted a strategic planning session of the CHEP executive and steering committee in 2006 to aid this task. To aid CHEP adapt to the evolving multidisciplinary care model, the Canadian Council of Cardiovascular Nurses and the Canadian Pharmacists Association joined the College of Family Physicians of Canada on the CHEP Steering Committee in 2006. New nursing and pharmacy work groups were formed to address discipline-specific dissemination and implementation approaches and with the family physician work group, a discussion paper was produced on the synergistic and collaborative roles of the primary care disciplines (1). Dietitians joined committees focused on sodium and nutrition. I lobbied PHAC to fund a formal survey of the educational needs of nurses and pharmacists (HSF survey with PHAC funding-unpublished). The survey found that in additional to knowledge needs, many nurses and pharmacists did not receive, or were not aware of CHEP recommendations indicating more extensive dissemination of CHEP recommendations is required. Therefore I obtained a $245,000 grant to develop new more efficient methods of annually disseminating educational material were developed. The grant outlined a process to individualize and increase the electronic dissemination of CHEP recommendations, develop an internet-based lecture series is ongoing along with a community-based train-the-trainer program to increase the number of people who can educate others on the CHEP recommendations. On the Hypertension Canada website health care professionals can download current resources (www.hypertension.ca/tools) or sign up to have automated dissemination of hypertension related material as they are updated and developed each year (www.hntupdate.ca). A network of interested training programs and health care professional organizations was developed to disseminate hypertension educational material more systematically. Hypertension Canada is sustaining this program to transfer knowledge to health care professionals under the leadership of Sheldon Tobe since Oct 2009. CHEP has expanded to involve approximately 150 multi disciplinary health care professionals and scientists. In 2010 CHEP joined with Blood Pressure Canada and the Canadian Hypertension Education Program to form Hypertension Canada. I was one of the leaders in the amalgamation as Chair of CHEP and President of Blood Pressure Canada and chaired or co-chaired the transition committee during the merger. The merged organization has a full time Executive Director and new board structure. Although the long term financial model for sustaining Hypertension Canada still requires to be addressed the combined balanced budgets of Blood Pressure Canada and the Canadian Hypertension Education Program in their last year was approximately 1 million dollars.

2) DEVELOP A NATIONAL SURVEILLANCE (OUTCOMES RESEARCH) PROGRAM FOR HYPERTENSION AND ITS COMPLICATIONS: In collaboration with the PHAC, Statistics Canada, Provincial Ministries of Health and the Outcomes Research Task Force of CHEP, I indicated I would complete the formation of a national program to assess the prevalence, awareness, diagnosis, treatment and complications of hypertension.

There has been very substantive progress in this aspect of the proposal. The project involves developing analytic methods and enhancing a complex series of surveillance methods to assess what will ultimately form the most complete epidemiological picture of hypertension that any country has. The projects involve

1) developing analytic methods to examine a commercial data base (IMS) that allows rapid assessment of drug prescriptions and reasons for physicians visits over time.
2) use and enhancement of national questionaire surveys that assessment the measurement of blood pressure, diagnosis and treatment of hypertension. Administered annually to close to 100,000 Canadians, the Canadian Community Health Surveys provide both in depth self reported information and statistical power to assess results at the level of regions within provinces
3) The Canadian Health Measures Survey that provides measures of blood pressure and other important health parameters as well as in depth self reported information. The survey conducted every 2 years in about 5,000 Canadians is designed to produce national level data.
4) Development of a survey to assess the knowledge, attitudes and behaviors of Canadians with hypertension Canadian Community Health Surveys-hypertension module.
4) Development of the methods to examine changes in hypertension related outcomes (death and hospitalization) and
5) Developing the methods and collaborations necessary to link provincial administrative data to track the diagnosis, treatment and outcomes of all Canadians diagnosed with hypertension.

The work was largely accomplished by forming analytic teams within the Outcomes Research Task Force of CHEP (an expert group now of over 40 members), PHAC and Statistics Canada committees. IMS data has been used to track national and regional changes in antihypertensive drug prescriptions and visits to physicians for hypertension (2-4). The developmental phase of the IMS surveillance is complete. Changes in death and hospitalization from hypertension related vascular disease has been analyzed in relation to changes in antihypertensive drug prescriptions (5-7). The methods for assessing cardiovascular complications from hypertension are complete. The Canadian Community Health Survey (CCHS) and National Population Health Survey have been used to examine blood pressure measurement, hypertension diagnosis and treatment and Statistics Canada has added in new questions to assess lifestyle therapy of hypertension. The methods are being used to examine blood pressure measurement, hypertension diagnosis and treatment and characterize clinical care gaps (4;8-13). I chaired a committee to develop a new module of the CCHS to address the knowledge, attitudes, and practices of hypertensive Canadians. The first survey of over 6000 representative Canadians with hypertension has been completed and the results on home assessment of blood pressure and the attitudes and behaviors of people who believe their blood pressure is uncontrolled published (14;15). The first cycle of the Canadian Health Measures Survey that assesses blood pressures of Canadians was completed by Statistics Canada, and the major findings for hypertension published in Health Reports February 2010 (16). The findings show Canada has a stable prevalence rate of hypertension and had very large improvements in awareness, treatment and control rates. The second cycle is well underway and expected to be completed in 2011. I assisted Statistics Canada develop their methodology, chair the analytic team and continue to assess quality control in the blood pressure aspects of the survey. The project to link provincial administrative data has made very rapid progress. Validation studies of the diagnosis of hypertension using administrative data have been conducted in Nova Scotia, Quebec, Alberta and British Columbia and Ontario (17;18) and several publications using administrative data have been published (3;19-23). A national report from PHAC has examined the incidence, prevalence and mortality of diagnosed hypertension in Canada over the last 10 years and more manuscripts are being written for submission (24). A CIHR grant has been received to link administrative data from most of the provinces. An international collaboration is currently being formed to examine hypertension in Canada, the USA and UK. It is notable that the close cooperative collaboration between government and non government organizations in the development and analysis of the surveillance program is relatively unique. Hypertension Canada is sustaining the program under the leadership of

CHEP (Sheldon Tobe) and chaired by F McAlister and O Baclic. I continue to chair several of the subcommittees of the ORTF. Notably the development of the methods are just being completed and it is expected that the majority of the analyses and publications defining the epidemiology of hypertension in Canada will be forth coming.

3) INCREASE PUBLIC AWARENESS OF HYPERTENSION: I indicated I would lead a collaborative effort to improve patient self efficacy to prevent and control hypertension. This goal has developed very well. BPC developed a Public Education Task Force with over 30 members to develop and disseminate knowledge translation tools for people with hypertension (25;26). Public versions of the professional recommendations have been developed (now year 4) and are broadly disseminated in hard copy and via the internet. The Task Force has developed more than 10 new education resources as well as the public aspect of the hypertenison.ca website that receives a large number of visits (the resources can be viewed at www.hypertenion.ca/tools, the download page received over 50,000 visits in 2010). The tools including the public education slide set are annually updated. An extensive dissemination network has being developed based on identifying and disseminating to interested health care professional organizations and practitioners. The public recommendations have been published in lay and health care professional journals for distribution. Media releases including those on dietary sodium have been used to increase public awareness of hypertension. The effectiveness of the intervention will be monitored in part by the new CHHS survey module of hypertensive patient knowledge, attitudes and behaviors. Analysis of this survey is ongoing however early data indicate Canadians are well informed relative to people in other countries. Canadians can sign up to be regularly updated with the new hypertension resources at www.MyBPsite.ca and a national Hypertension Association for patients is being formed. Hypertension Canada is sustaining this program to improve the self efficacy to prevent and control hypertension under the leadership of Sheldon Tobe since Oct 2009.

4) REDUCE THE PREVALENCE OF HYPERTENSION BY ADVOCATING FOR POLICIES TO REDUCE THE INDISCRIMINATE ADDITION OF SALT TO FOOD BY THE FOOD SECTOR: I indicated I would develop a collaborative partnership of organizations and concerned scientists to lobby the federal government and food sector for policies to reduce the indiscriminate addition of salt to food.
This goal has also made good progress as there was little to no positive action on this topic in at least 10 years prior to 2006. In 2006, I organized a successful lobby of 10 national organizations was conducted to increase the prominence of sodium in Canada's Food Guide. Shortly thereafter I developed and chaired a National Strategic Planning Committee (NSPC) with 8 national health care organizations. The NSCP helped BPC develop a policy statement that included a call for Government and Industry to take action and responsibility for lowering dietary sodium. The Policy Statement was signed by 18 major national health organizations and had a media release. The NSPC met with major food producers in Canada and there was an agreement to collaborate to lower sodium additives to food and to jointly call for government oversight of the process. I jointly meet with Health Canada and the Food and Consumers Products of Canada (FCPC- umbrella organization representing 70% of Food Processors in Canada) Vice President to request government engagement. The release of the policy statement was shortly followed by Minister of Health announcing it would form an Intersectoral Canadian Work Group to oversee the lowering of sodium in Canadian diets. The Health Canada Work group has reported July 2010. I was an active member of the Steering Committee and its 4 sub committees. Analyses were conducted (published) on the effects of high dietary sodium on hypertension and cardiovascular disease in Canada and were the subject of media releases. I lobbied the Canadian Stroke Network to take on dietary sodium as the focus for prevention of stroke. The Canadian Stroke Network became a lead organization in

the effort to reduce dietary sodium, has a sodium website (www.sodium101.ca), developed multiple media releases and was very active on the Health Canada Sodium Work Group. The Heart and Stroke Foundation of Canada has also played a lead role, supported many media releases and has revised the Health Check program to require lower sodium levels in foods and to have further reductions in sodium levels over time to retain the Health Check Symbol. The CIHR had a workshop to address research gaps on dietary sodium and has had three multi institute calls for sodium based research. BPC received a major government grant to assist in the creation of educational material for the public on sodium and has also developed a website (www.lowersodium.ca) where these resources are located. Hypertension Canada is sustaining the education component of the program to reduce dietary salt under the leadership of Sheldon Tobe since Oct 2009.

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