HEART & STROKE FOUNDATION OF CANADA | FONDATION DES MALADIES DU CŒUR DU CANADA

HSFC CIHR Chair in Hypertension Prevention and Control 2011-2016, University of Calgary, Recipient: Norm Campbell MD, June 2014-2015-fourth year report; Grant PG-11-0531

PREAMBLE:

I feel honored to be the HSF CIHR Chair in Hypertension Prevention and Control (2011-2016). This is the 4th year report of my 5 year mandate. The successes to date have been dependent on the strong contributions of many individuals and to the collective effort and also the contributions of national health and scientific organizations (especially the member organizations of the Canadian Hypertension Advisory Committee). Further, Felicia Flowitt, the Communications Director and Tara Duhaney, the Policy Director of the Hypertension Advisory Committee have played important roles in many of the stated activities. This annual report builds on my prior reports.

SYNTHESIS AND RESEARCH PROBLEM:

Increased blood pressure is the world's leading risk for premature death and disability, causing vascular damage that results in ischemic heart disease, heart failure, strokes, kidney failure and other vascular diseases such as dementia. About half of blood pressure related deaths occur in those with 'normal' but not optimal blood pressure. The other half occur in those with clinically defined hypertension. The causes of increased blood pressure (e.g. unhealthy diet, physical inactivity, abdominal obesity, excess alcohol, etc.) are largely known and are preventable. The vast majority of hypertension (about 80%) is directly or indirectly (through obesity) caused by unhealthy eating. High dietary sodium is estimated to cause over 30% of hypertension. At the end of 2013, an estimated 7.4 million Canadians had hypertension and increased blood pressure was attributed to 36,500 deaths and over 500,000 disability adjusted life years (DALYs) in 2010. Hypertension was estimated to cost the Canadian health system an estimated $13 billion in 2010 with costs projected to double by 2020.

To date, many internationally recommended policy interventions to prevent increased blood pressure have not been implemented in Canada. A website tracks countries with notable policy activities and Canada has few population based policies listed (http://www.wcrf.org/int/policy/nourishing-framework). Treatments are available to prevent disease caused by high blood pressure. Although there has been much improvement in Canada, which now has the world's leading reported rates of hypertension control, there are still many Canadians with high blood pressure who are not diagnosed or adequately treated and the prevalence of hypertension is drifting higher.

The objective of the HSFC CIHR Chair in Hypertension Prevention and Control is to provide the leadership that is needed to align governments and non-governmental organizations in appropriate action to prevent and reduce high blood pressure and its associated diseases. A 'Pan Canadian Hypertension Framework' was designed to reduce the burden of high blood pressure in Canada (2011-2020). It set population health achievement targets and recommended actions to accomplish them. In my application, I indicated that the Framework would be used to guide me.

The major mechanism to achieve the 'Chair' mandate was the development of the Canadian Hypertension Advisory Committee (CHAC) representing national health charities and health care

professional organizations (Table 1). CHAC agreed to assist in operationalizing the Canadian Hypertension Framework, which was updated in 2012 based on their input. The committee prioritized the prevention of hypertension as its major function and, given that the majority of hypertension is caused by unhealthy eating, further prioritized advocating for healthy food policy as its major activity. Building partnerships to create supportive environments, evolving the healthcare system and strengthening community action were rated as second, third and fourth priorities, respectively.

Table 1: Organizations Represented on the Canadian Hypertension Advisory Committee

Organization
Canadian Association for Cardiovascular Prevention and Rehabilitation (CACPR)
Canadian Cardiovascular Society (CCS)
Canadian Council of Cardiovascular Nurses (CCCN)
Canadian Diabetes Association (CDA)
Canadian Medical Association (CMA)
Canadian Nurses Association (CNA)
Canadian Pharmacists Association (CPhA)
Canadian Society of Internal Medicine (CSIM)
Canadian Society of Nephrology
Canadian Stroke Network (CSN)
College of Family Physicians of Canada (CFPC)
Heart and Stroke Foundation (HSF)
Hypertension Canada (HC)
Public Health Physicians of Canada (PHPC)
Canadian Institute for Health Research- Institute of Circulatory and Respiratory Health (ex officio)

RESEARCH FINDINGS 2014-2015 (PLEASE SEE REFERENCES AND PRESENTATIONS FOR DETAILS IN THE APPENDIX)

1. FRAMEWORK COMMUNICATION AND DISSEMINATION

Operationalizing the Hypertension Framework is an ongoing priority. Many organizations have posted the framework and notified their members of the framework through various communications. The Framework and supporting resources (e.g., executive summary, slide deck, supporting publication) is housed on the website hypertensiontalk.com, created to support my Chair mandate. The Framework has been endorsed by the following organizations to date: Canadian Council of Cardiovascular Nurses, Canadian Nurses Association, Canadian Cardiovascular Society, Canadian Stroke Network, College of Family Physicians of Canada, the Heart and Stroke Foundation, Hypertension Canada and the Public Health Physicians of Canada. The Council of Chief Medical Officers of Health has further written a letter expressing their collective support for the Framework and a commitment to bringing forward its recommendations. The Framework is mainly utilized to guide the CHAC agenda. In 2014-15, Hypertension Canada requested that I lead an effort to evaluate the progress towards the 2020 targets in the Framework and to update recommendations on how to achieve the 2020 targets if required. I

am chairing a committee of content experts to develop a draft report for broad stakeholder input. Notably, new monitoring and surveillance data show that hypertension prevalence is increasing and that there is little substantive change in indicators of hypertension control. Hence, the 2020 population health achievement targets will not be met without substantive and rapid policy changes.

2. CHAC POLICY DEVELOPMENT

Many of the CHAC policies are supported by publications and talks I give on an ongoing basis (see appendix). In 2015, I worked with Hypertension Canada to incorporate questions on support for public policy into a public opinion survey. Although yet to be released, the survey shows a very high level of public support for CHAC policies (see Figure 1 - not for distribution). The high level of public support should bolster the political will of governments to adopt these healthy public policies.

For the sections below, all publications can be accessed at http://www.hypertensiontalk.com/position-statements/.

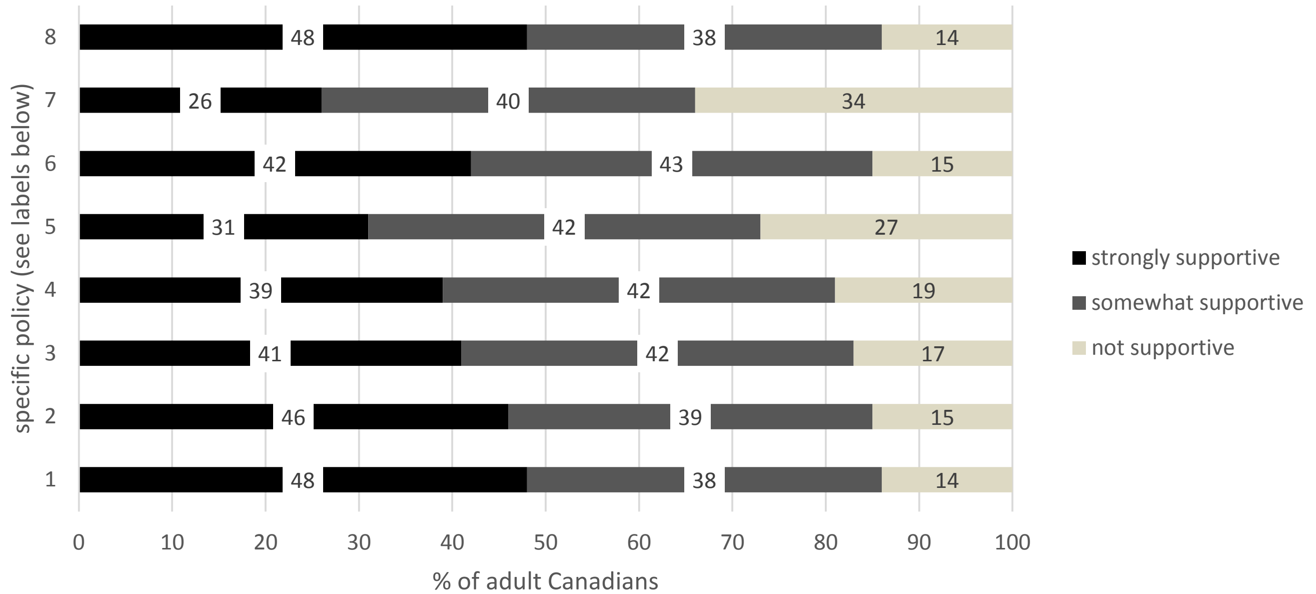

Figure 1: Canadians' support for healthy food policies

1 Legislation requiring food companies to reduce the amount of sodium in processed or packaged foods
2 Legislation requiring food manufacturers to put a health or warning ratings on the front of packaged foods that are high in unhealthy fats, sodium & sugar
3 Legislation requiring labels on the front of packaged foods to clearly indicate whether the food is healthy or not
4 Legislation restricting the marketing of high-fat, high-sugar, or high-salt foods and beverages directed at children and youth
5 Legislation restricting the marketing of ALL foods and beverages that are directed at children and youth
6 Legislation requiring schools and daycares to only provide healthy food and beverages on their premises
7 Recuperating health costs caused by eating unhealthy foods by adding a national tax on high-fat, high-sugar, or high-salt foods and beverages
8 Subsidizing the cost of healthy foods and beverages such as fresh fruits and vegetables to make it easier for people to buy them

2.1 Marketing unhealthy food to children

A national policy statement, *Restricting Marketing of Unhealthy Foods and Beverages to Children and Youth in Canada*, was developed and formally launched in 2012 through a media release. The statement is endorsed by 24 national and provincial organizations as well as the World Health Organization (WHO) Collaborating Centre on Nutrition Changes and Development (University of Montreal) (Table 2).

The focus in 2013-2014 was building awareness and support for the policy. Dissemination has included multiple summaries in CHAC member organization publications (Canadian Journal of Cardiology, Canadian Pharmacists Journal, Canadian Nurse and Canadian Journal of General Internal Medicine) and a slide set at HypertensionTALK. A summary is in press in the Canadian Family Physician Journal. In 2014-2015, a national effort led by the Canadian Obesity Foundation and the Heart and Stroke Foundation redeveloped a Pan Canadian Policy Position. The new position supports restrictions on 'marketing foods to children' and was launched with the "Stop Feeding off Kids" campaign during Heart Month in February. I took part in the discussions leading up to this position and, as HSFC CIHR Chair in Hypertension prevention and control, I have supported this campaign through social media and the Canadian Hypertension Advisory Committee and am advocating for this more comprehensive position.

Table 2: Restricting Marketing of Unhealthy Foods Endorsing Organizations

Canadian Association for Cardiovascular Prevention and Rehabilitation (CACPR)
Canadian Association of Pediatric Nephrologists
Canadian Cardiovascular Society (CCS)
Canadian Council of Cardiovascular Nurses (CCCN)
Canadian Dental Association
Canadian Diabetes Association (CDA)
Canadian Medical Association (CMA)
Canadian Nurses Association (CNA)
Canadian Pediatric Society (CPS)
Chronic Disease Prevention Alliance of Canada (CDPAC)
Canadian Public Health Association
Canadian Society of Internal Medicine (CSIM)
Canadian Society of Nephrology
Canadian Stroke Network (CSN)
College of Family Physicians of Canada (CFPC)
Heart and Stroke Foundation (HSF)
Hypertension Canada (HC)
Kidney Foundation of Canada
Public Health Physicians of Canada (PHPC)
Alberta Policy Coalition for Chronic Disease Prevention

Alberta Public Health Association
Coalition Poids
Canadian Society for Pharmacology and Therapeutics
World Health Organization Collaborating Centre on Nutritional Changes and development

2.2 Healthy food procurement

A *Call to Action to Buy and Sell Healthy Foods and Beverages* was finalized in 2014 and a summary is published in the Canadian Journal of Cardiology. Currently, 18 organizations have endorsed (Table 3) the call to action. You may recall from my last report to you that a systematic review of the evidence was published which showed that healthy food procurement interventions positively influence dietary behaviors.

A 'Four Star Food' initiative has been developed to facilitate the implementation of health food procurement policies at workplaces in order to improve the overall food environment. The program, which is based on global best practices, is largely self-supporting and allows workplaces to evaluate how healthy their eating environment currently is, while providing guidance and tools for making improvements. Built-in recognition will encourage workplaces to strive continually to meet Four Star objectives. Pending final consultations on an initial suite of supporting tools, the Four Star Food initiative will launch during the 2015-2016 reporting year. A previous version is currently available at 4starfood.ca. A secondary objective of the program will be to encourage governments to follow private sector leadership on improving eating environments for their employees and guests.

Table 3: Healthy Food Procurement Endorsing Organizations

Alberta Policy Coalition for Chronic Disease Prevention
Canadian Association of Cardiovascular Rehabilitation and Prevention
Canadian Association of Pediatric Nephrologists
Canadian Council of Cardiovascular Nurses
Canadian Diabetes Association
Canadian Medical Association
Canadian Nurses Association
Canadian Association on Gerontology
Canadian Society of Internal Medicine
Canadian Society of Nephrology
Canadian Society for Exercise Physiology
Canadian Stroke Network
Champlain Cardiovascular Disease Prevention Network
College of Family Physicians of Canada
Dietitians of Canada
Food Secure Canada

Heart and Stroke Foundation
Hypertension Canada

2.3 Healthy food policy

Consistent with the direction of the WHO, United Nations (UN) and other international food policy recommendations for improving diets, the *Call to Implement a Healthy Food Policy Agenda*, was published in 2013-14. This document is a short, overarching position statement calling for a full suite of healthy food and nutrition policies. It has been broadly supported by 17 organizations (see table 4). A summary of the policy has been sent to the Federal, Provincial and Territorial Ministers of Health and the Council of Chief Medical Officers of Health. The various federal political parties have expressed support for at least some recommended policies and Canadians are being asked to show their support to *Make Nutrition a Priority* in Canada: https://www.change.org/p/health-ministers-of-canada-make-nutrition-a-priority (see 3.9 below for additional details).

Table 4: Healthy Food Policy Supporting Organizations

Alberta Policy Coalition for Chronic Disease Prevention
Canadian Association of Cardiac Rehabilitation and Prevention
Canadian Council of Cardiovascular Nurses
Canadian Diabetes Association
Canadian Nurses Association
Canadian Pharmacists Association
Canadian Society of Internal Medicine
Canadian Medical Association
Canadian Society of Nephrology
Canadian Association of Pediatric Nephrologists
Canadian Stroke Network
College of Family Physicians of Canada
Dietitians of Canada
Food Secure Canada
Heart and Stroke Foundation
Hypertension Canada

2.4 Fiscal policies to increase healthy eating

A systematic review of evidence to examine if fiscal policies (a.k.a. targeted taxes on unhealthy food and targeted subsidies for healthy food) can increase healthy eating and/or discourage unhealthy eating has been published. Based on the review, a policy statement was developed by CHAC and has been published. Seeking political support for this statement was deferred because priority was given to item 2.3, the *Call to Implement a Healthy Food Policy Agenda*. Table 5 has the seven organizations that have currently expressed support. Support for fiscal policies was also included in the *Call to Implement a Healthy Food Policy* Agenda (item 2.3 above). There is an ongoing effort to obtain additional organizational support for this policy statement.

Table 5 Organizations currently supporting Fiscal policies to increase healthy eating

Canadian Society of Nephrology
Canadian Stroke Network
College of Family Physicians of Canada
Heart and Stroke Foundation
Hypertension Canada
Canadian Association of Pediatric Nephrologists
Canadian Nurses Association

2.5 Conflicts of Interest with the food sector

Conflicts of interest arise when actions taken or decisions made in a professional capacity may result in personal benefit. For example, if a packaged food manufacturer can increase his/her company's profitability by creating high-sodium foods of low nutritional quality, that person should be excluded from influencing decisions about sodium regulation. The need for a position statement relating to the impact of conflicts of interest on decision-making regarding heathy food policies is evidenced by the lack of transparency and lack of progress toward healthy food policies nationally. A position statement has been drafted by CHAC and the final call for support of this position statement by CHAC members was issued in May, 2015.

As noted last year, we published evidence of wide-spread conflicts of interest among members of the federal government's food policy committees. Global research indicates that conflicts of financial interest are associated with an undermining of science and public policy. It was noted (with dismay) that in 2015, the World Heart Federation (WHF) and Canadian Academy of Health Sciences co-sponsored a food policy symposium that undermined dietary sodium policy, which was not surprising given that the event was financially supported by several food processing companies. Perhaps more concerning, the WHF is proposing a 'White Paper' on dietary salt. The committee developing the White Paper is indicated to have a former advisory to the salt industry who has also acted as a paid witness to tobacco companies in lawsuits as co-chair. The current support for the policy statement is in table 6.

Table 6 Organizations currently supporting the 'conflicts of interest with the food sector policy'

Canadian Society of Nephrology
Canadian Council of Cardiovascular Nurses
Heart and Stroke Foundation
Hypertension Canada
Canadian Association of Cardiovascular Prevention and Rehabilitation

3.6 Research on diet as it relates to health and disease as well as for surveillance and monitoring of the impact of the food environment in Canada

There is an established need for a position statement advocating for research on diet and its association with disease as well as the need for enhanced surveillance and monitoring of impact of the food environment in Canada. A policy statement was developed and was sent out for consideration of support by CHAC members May, 2015. In Canada, there is little funding for research on nutrition relative to its impact on health. Further we have a markedly underdeveloped surveillance, monitoring and evaluation program for nutritional issues impacting Canadians' health. The current support is in table 7.

Table 7 Organizations currently supporting the call for research on diet

Canadian Society of Nephrology
Canadian Council of Cardiovascular Nurses
Heart and Stroke Foundation
Hypertension Canada
Canadian Association of Cardiovascular Prevention and Rehabilitation

2.7 Defining healthy and unhealthy foods

There is an established need to define healthy and unhealthy foods in Canada. A position statement on this subject was developed and sent out for consideration of support by CHAC members May, 2015. Defining healthy and unhealthy foods underlies many of public policies outlined herein. The current support is in table 8.

Table 8 Organizations currently supporting the call for defining healthy and unhealthy foods

Canadian Society of Nephrology
Canadian Council of Cardiovascular Nurses
Heart and Stroke Foundation
Hypertension Canada
Canadian Association of Cardiovascular Prevention and Rehabilitation

2.8 Improving food labelling, both of packaged food and in food service establishments

There are several groups actively engaged in calling for better food labeling including the Center for Science in the Public Interest. In addition, the Canadian Society of Internal Medicine has expressed an interest in developing a health sector position statement on this subject and HSF has itself mounted a campaign to improve the labelling of free sugars as the Government of Canada revises packaged food labels. In an effort to avoid duplication, CHAC has not developed a position statement at this time. Instead, support for such policy is expressed in the *Call to Implement a Healthy Food Policy Agenda* (item 2.3 above).

2.9 Communications and advocacy

In her role as Communications Director, Felicia Flowitt has helped to develop a communications strategy that will build public support for CHAC's positions and thus bolster advocacy efforts. Based on

the public opinion poll and the CHAC position statements described above, a campaign to 'Make Nutrition a Priority' was launched on May 19th, 2015. The campaign includes radio and video clips as well as news releases and a public online pledge for support: https://www.change.org/p/health-ministers-of-canada-make-nutrition-a-priority.

In the first week of the campaign, there were over 6.5 million video impressions and over 150,000 audio impressions. The 'Make Nutrition a Priority' pledge was sent to the federal Minister of Health and all health critics, with many continuing to express support for the policies proposed therein. Green Party Leader and MP Elizabeth May has personally signed and promoted the pledge, opening the door for further public support by Canada's elected representatives and driving consensus. At the time of writing, the pledge has received support from more than 650 Canadians, and will continue to be accelerated through the Federal election in October, 2015.

The goal of the campaign is to be able to demonstrate broad public support for healthy public policies for the government of the day, creating political will and a window of opportunity for political action. During the next reporting year we expect to launch all of the position statements that support the campaign and we will focus our efforts on advocating for their adoption with Canada's new government.

NON CHAC CANADIAN ACTIVITIES

3.1 Fact sheets on Hypertension and on dietary sodium

In partnership with Hypertension Canada, updated 2014 Fact Sheets on Hypertension and Dietary Sodium, respectively, in Canada were developed and are being promoted as a core resource on the hypertension.ca homepage. The Fact Sheets are also publicly available on the HypertensionTALK and will be updated regularly.

3.2 Digital and Social Media Presence (HypertensionTALK)

HypertensionTALK.com is a website that focuses on the position statements of CHAC, advocacy tools to support policy implementation, the initiatives of the HSFC CIHR Chair in Hypertension Prevention and Control, and the Sodium Science review (outlined below). The website is supported through other social media tools, including Twitter (@HyprtensionTalk) and Facebook (https://www.facebook.com/HypertensionTalk).

The website and its social media presence are used to support World Hypertension Day, World Salt Week, the campaign to Make Nutrition a Priority, and to draw attention generally to matters of public interest in the area of health and opportunities to take action. Since its launch, there has been a steady increase in traffic with over 61,000 page views since 2013 (~67 hits/day) and 15,600 unique visitors. Hypertension Talk's Klout score is 42, putting its social media influence in the same league as other Canadian Health influencers like Hypertension Canada, which has a Klout score of 43.

3.3 Sodium Reduction

Science of Salt Weekly

With funding from the Canadian Stroke Network and the George Institute of International Health (Sydney, Australia), I developed and am co-editor of a weekly med line update of clinical and

population sodium science that is disseminated in the format of an e-newsletter. In 2015 I committed $20,000 of my Hypertension Chair funding to sustain the *Science of Salt Weekly* for another two years in partnership with the George Institute of International Health (I will fund the first of the years given my funding runs out in a year). The weekly updates are housed on the Hypertension Chair website (http://www.hypertensiontalk.com/science-of-salt-weekly/). The Sodium Science project is supported by the WHO Coordinating Centre for Population Salt Reduction, the Pan American Health Organization WHO Salt Reduction Technical Advisory Group, The World Hypertension League and World Action on Salt and Health. Currently, a total of 332 people (a 40% increase over the last report) from more than a dozen countries are subscribed.

Updating evidence on dietary sodium reduction

To increase the impact of the weekly update of sodium science, we collated the first year's weekly reports into an annual report and published it in 2015 in the Journal of Clinical Hypertension. The Journal of Clinical Hypertension has agreed to consider the second year's summary of weekly reports, which will be prepared over this summer. Further, we are working with the Journal of Clinical Hypertension to publish updated reviews every two months.

3.4 Outcomes Research Task Force

I continue to be an active member of Hypertension Canada's Outcomes Task (ORTF). This year, surveillance data on hypertension has been submitted for publication and is being used to help update the Framework (see 1 above). The changes in key population health indicators for hypertension are in Table 9. I am involved in an effort to expand hypertension monitoring and surveillance to all vascular risk factors and to enhance monitoring and surveillance in Canada generally (see 3.6 above).

Table 9: Changes in hypertension indicators in the Canadian Health Measures Surveys.

Hypertension indicator	Year			
	2007-9	**2010-11**	**2012-13**	**2020 Target**
Hypertension prevalence	19.6%	21.8%	22.6%	**13%**
Adults in Canada are aware of the risk of developing hypertension and of the lifestyle factors that influence blood pressure *	?	?	?	**90%**
Adults in Canada are aware that high blood pressure increases the risk of major vascular disease (stroke, heart attack, dementia, kidney failure, heart failure).**	?	?	?	**85%**
People in Canada who have hypertension are aware of their condition.	83.4%	82.9%	84.3%	**95%**
Those with hypertension are attempting to follow appropriate lifestyle recommendations***	62-82%	?	?	**90%**
Canadians initially diagnosed with hypertension with normal BP while not on antihypertensive drug treatment	8.5%	11.1%	6.6%	**40%**
People unable to be successfully treated for hypertension through lifestyle therapy have appropriate drug therapy	79.9%	79.2%	79.6%	**87%**
People with hypertension have their blood pressure “under control”	65.9%	64.1%	68.1%	**78%**

* From the Hypertension Canada 2015 survey, 74% can correctly identify at least one risk factor (unaided) and 15% know all risk factors when aided

** From the Hypertension Canada 2015 survey there were 32% awareness of risk for dementia to a high of 87% awareness of risk of heart attacks and strokes

*** the percentages are for people following specific lifestyle recommendations from the SLCDC-htn module 2009

?- data unknown and not surveyed

4 INTERNATIONAL ACTIVITIES

In international activities I promote Canadian best practices to other countries and learn international best practices to share in Canada.

4.1 Sodium

Pan American Health Organization (PAHO) - WHO

On the international front, I Co-Chair a Technical Advisory Group (TAG) for PAHO-WHO on dietary salt and participate in its various subgroups. The TAG is intended to support countries’ development and implementation of sodium reduction policies throughout the Americas. I am also on the Steering

Committee and a member of the Salt Smart Consortium of governments, non-government organizations and the private sector, which was formed by PAHO to accelerate salt reduction activities in the Americas. In the reporting year, the TAG published a manuscript (N Campbell first author) and a technical report on how to develop targets and timelines for reducing salt in food products. The TAG and consortium subsequently developed a report and published a manuscript (N Campbell first author) on the setting of inaugural regional targets for the sodium content of common food categories. These targets have already been adopted by the government of Costa Rica. To my knowledge, these regional targets that impact most countries in the Americas are the only set of regional targets for the sodium content of foods, making them a ground-breaking achievement. The TAG documents are frequently used as the standards for implementing salt reduction interventions in other WHO areas of the world. The PAHO-WHO region has become one of the most advanced globally in developing policies to reduce dietary sodium, although many of the policies are still very recent and in early implementation or development.

4.2 Miscellaneous International Voluntary Activities relating to dietary salt

I have provided consultations at governmental meetings on salt reduction in the Americas and I am an International Advisory Committee member for dietary salt and sugar reduction for Hong Kong. I am also an external advisor to the Department of Health and the national office of the WHO in Iran for salt reduction. I am a member of the WHO Nutrition Advisory Group and review and regularly provide input on WHO nutrition policy.

4.3 Hypertension

I became the President of the World Hypertension League (WHL) in September, 2013. The League is a coalition of national hypertension organizations with a mandate for global hypertension prevention and control. I have attached a brief summary of my Presidency that is being published in the WHL newsletter Summer 2015 issue. My Presidency ends in September, 2015 and is followed by a three-year term as Past President, which is an executive position.

I am an external consultant to the Centers for Disease Control and Prevention (CDC) (USA)-PAHO Global Hypertension Control effort and also an external consultant to the England Hypertension Strategy.

5. PROVINCIAL- REGIONAL ACTIVITIES.

I am co-Chair of a vascular risk reduction initiative developed by four strategic clinical networks of Alberta Health Services. The Initiative has received over $4 million in funding and has seven innovative projects to improve the prevention of chronic disease through vascular risk reduction. It is hoped that the projects will improve the health and wellness of Albertans and that, if successful, the interventions can be adopted by other provinces. The initiative was stimulated in part by the Council of Canada where the Premiers agreed to prioritize the implementation of vascular risk reduction guidelines (a.k.a. C-Change guidelines).

RELATED PROJECT IMPLEMENTATION (SEE APPENDIX FOR PRESENTATION-BRIEFINGS, PUBLICATIONS, COMMITTEES, RECOGNITION)

- The HSF CIHR Chair program was greatly aided by Tara Duhaney Policy Director for the Chair and CHAC. Tara has facilitated and supported the policy development process by CHAC. Tara has a new position with Alberta Health Services as of May 2015. Felicia Flowitt joined CHAC as a Communications Director in 2014. Felicia has remarkably increased our ability to advocate for health public policies, which will be the focus on my final year as the HSF CIHR Chair in Hypertension Prevention and Control. The dissemination phase is expected to be more expensive than the previous years. I have held back funds for the preceding years to account for this.
- The implementation continues to be greatly aided by in-kind support from the CHAC member organizations. Most of the organizational members have been in direct contact with the President and Executives of their national organizations on an ongoing basis and have had full and rapid support.
- Hypertension Canada provides ongoing financial and in-kind assistance.
- The CHAC is in regular communication and has met twice a year. Detailed minutes are kept and available for review on request. CHAC member organizations have also assisted financially and with in- kind support. It is not expected that a face-to-face meeting of the CHAC will be required in 2015-2016.
- The University of Calgary has allowed me to reallocate $90,000 of the overall Chair award towards operating expenses, considerably assisting in the impact that I can have.

IMPACT

To date there is limited data on the impact of the interventions on the introduction of healthy public policy in Canada. While several provinces are introducing some aspects of the advocated policies there is no direct connection between the described work and the introduction of those policies. Surveys indicate strong public support for the policy approaches but again the connection of this support to the body of work is uncertain. There is very consistent health care sector organizational support for the proposed public policies and the relatively unified and consistent support may well in part relate to the Canadian Hypertension Advisory Committee activities described. A clear failure is the lack of movement towards the 2020 Pan Canadian Hypertension Framework targets.

RECOMMENDATIONS

1) HSF continuing to support the HSF CIHR Hypertension Chair through Manny Arango would be greatly appreciated.
2) It is expected that there will be increased need for communications as the effort moves into the dissemination phase 2015-2016 hence greater HSF communications support would facilitate this need.
3) HSF, as a member organization of the World Heart Federation (WHF), advocating to the WHF to act more socially and scientifically responsible in the area of dietary salt would be well received globally as would being more visible on this issue nationally.
4) Sustaining the HSF CIHR Chair funding to allow others the opportunity to provide leadership in hypertension prevention and control is my strongest recommendation.

APPENDIX (PUBLICATIONS, PRESENTATIONS, COMMITTEES, RECOGNITION, WHL 2015 ANNUAL REPORT)

PUBLICATIONS RELATED TO THE EFFORT JAN 2014 TO JUNE 2015 (NOTE THIS IS 1.5 YEARS AS I HAVE DIFFICULTY ASSESS WHAT WAS BEFORE JUNE AND AFTER JUNE AS I RECORD THE PUBLICATION BY YEAR NOT ½ YEAR)). ORIGINAL RESEARCH IN BOLD

1) Downs S, Christoforou A, Snowdon W, Dunford E, Hoesjkov P, Legetic B, Campbell N, Webster J. Setting targets for salt levels in foods: a five-step approach for low- and middle-income countries. Food Policy. In Press

2) **Weaver CG, Clement F, Campbell N, James MT, Klarenbach S, Hemmelgarn BR, Tonelli M, McBrien KA, for the Alberta Kidney Disease Network (AKDN) and the Interdisciplinary Chronic Disease Collaboration (ICDC). Health Care Costs Attributable to Hypertension: a Canadian Population-Based Cohort Study. Hypertension. In press.**

3) **Khalsa T, Campbell NRC, Redburn KA, Lemongoun D,Niebylski ML. A Needs Assessment of Sub Sahara African National Hypertension Organizations for Hypertension Prevention and Control Programs. J Clin Hypertension. In press.**

4) Campbell N, Gelfer M, Cloutier L, Lamarre-Cliche M, McLean D, Padwal R. Expediting the diagnosis of hypertension. The Canadian Hypertension Education Program 2015 recommendations. Canadian Journal of Internal Medicine. In press

5) **Trieu K, Hawkes C, Dunford E, Campbell N, Rodriguez-Fernandez R, Legetic B, Mclaren L, Barberio A, Neal B, Webster J. Salt reduction initiatives around the world - a systematic review of progress towards the global target. PLOS 1. In press.**

6) Al Hamarneh Y, Tsuyuki R, Campbell N. Death by Food: Why Pharmacists Should Care. Canadian Pharmacists Journal. In press

7) **Tsuyuki RT, Houle SKD, Charrois, TL, Kolber MR; Rosenthal MM, Lewanczuk R; Campbell NRC, Cooney D, McAlister FA. A randomized trial of the effect of pharmacist prescribing on improving blood pressure in the community: The Alberta clinical trial in optimizing hypertension (RxACTION). Circulation. AHA.115.015464**

8) Campbell NRC, Bovet P, Schutte A, Lemogoum D, Nkwescheu AS. High Blood Pressure in Sub-Saharan Africa: Why Prevention and Control are Urgent and Important. J Clin Hypertension. 2015; DOI: 10.1111/jch.12599

9) Campbell N, Touyz R, Lackland D, Redburn K, Niebylski M. Celebrate World Hypertension Day (WHD) on May 17, 2015, and Contribute to Improving Awareness of Hypertension. J Clin Hypertension: 23 MAR 2015 | DOI: 10.1111/jch.1254

10) **Ji C, Lu T, Dary O, Legetic B, Campbell NRC, Cappuccio F. Systematic Review of Studies Comparing 24-hour versus Spot Urine Collections for Estimating Population Iodine Intake. Revista Panamericana de Salud Pública/Pan American Journal of Public Health. In press.**

11) Campbell NRC, Lackland, DT, Lisheng L, Zhang X-H, Nilsson PM, Niebylski Ml for the World Hypertension League Executive The World Hypertension League: Where now and where to in salt reduction. Cardiovascular Diagnosis and Therapy. 2015;5:238-42. doi: 10.3978/j.issn.2223-3652.2015.04.08

12) Campbell N, Legowski B, Legetic B, Nilson, E, L'Abbé M. Inaugural maximum values for sodium in processed food products in the Americas. J Clin Hypertension. 2015 DOI: 10.1111/jch.12553

13) Campbell NC, Lackland, DT, Lisheng L, Zhang X-H, Nilsson PM, Redburn KA, Niebylski ML. The World Hypertension League Challenges Hypertension and Cardiovascular Organizations to Develop Strategic Plans for the Prevention and Control of Hypertension. J Clin Hypertension. 2015;17:325-7 DOI: 10.1111/jch.12557

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PRESENTATIONS AND BRIEFINGS RELATED TO THE MANDATE (JULY 2014 TO JUNE 2015)

June 2014- June 2015

2015

1) June 17: Hypertension Control in Canada. Cheshire and Merseyside teleconference, Champs Public Health Collaborative, UK

2) May 27: Population level dietary salt reduction initiative in the Americas. Canadian Public Health Association annual meeting. Vancouver BC

3) May 13: Reduction of sodium in foods – Experience in Pan-American region. Hong Kong International Symposium on Reduction of Sodium and Sugars in Foods.

4) March 23: Canada, World Hypertension League: Updates on Canada and WHL. Scaling up efforts. Global Standardized Hypertension Treatment Project. Centre for Disease Prevention and Control (USA) and the Pan American Health Organization. Miami Fl

5) March 14: Developing innovative careers in Medicine session. Internal Medicine residents retreat, University of Calgary.

6) Feb 23: Canadian Hypertension Prevention, Treatment, and Control in Successful Global Strategies. Webinar by US Center Centers for Disease Control and Prevention (CDC) and the Pan American Health Organization (PAHO). San Francisco Ca.

7) Feb 27: See this do that. CVD risk assessment workshop (repeated 2 x). Annual Scientific Assembly. Alberta College of Family Physicians. Banff

8) Jan 27: Nutrition and hypertension. At 'Improving the nutrition status of Albertans to prevent chronic diseases and bend the health care cost curve'. Edmonton Alberta

2014

9) Dec 13: How to improve Blood Pressure Control. WHL Strategic Approaches. 2014 Annual Scientific Sessions of the Asian Pacific Heart Association and Chinese Cardiologists Congress. Beijing

10) Dec 12: WHL strategic approaches and policy for BP control. World Hypertension League Asia Pacific Regional meeting 2014. Beijing

11) Dec 6: Strategic approaches to salt reduction and the role of NGOs. At the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting, first Congress on Hypertension in Cameroon. Douala, Cameroon

12) Dec 6: World Hypertension League strategic approaches to hypertension prevention and control. At the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting, first Congress on Hypertension in Cameroon. Douala, Cameroon

13) Dec 5: Introduction to hypertension prevention and control in Africa. In WHL sponsored workshop at the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting, first Congress on Hypertension in Cameroon. Douala, Cameroon

14) Dec 5: World Hypertension League Blood pressure screening resources. In WHL sponsored workshop at the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting first Congress on Hypertension in Cameroon. Douala, Cameroon

15) Dec 5: Blood pressure in the context of NCD prevention and control. In WHL sponsored workshop at the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress

of Hypertension in Africa, first World Hypertension League regional meeting first Congress on Hypertension in Cameroon. Douala, Cameroon

16) Dec 5: Health Risks of high dietary salt control. At the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting, first Congress on Hypertension in Cameroon. Douala, Cameroon

17) Dec 5: Opening Congress address. At the Pan African Hypertension Society, Pan African Cardiology Society, 7th Congress of Hypertension in Africa, first World Hypertension League regional meeting, first Congress on Hypertension in Cameroon. Douala, Cameroon

18) Nov 25: Dietary sodium. Canadian progress, challenges and solutions. Championing public health nutrition. 2014. Gatineau Canada.

19) Nov 16: Death by Food. University of Calgary. Main Campus health series

20) Nov 11: Salt and health. The need to act. Hong Kong. Intersectorial meeting sponsored by the Department of Health and Hygiene, Government of Hong Kong

21) Oct 28: Proposal for setting targets and timelines for the sodium content of foods in the America's. Salt Smart Consortium (Sponsored by the Department of Health Brazil and PAHO). Brasilia, Brazil.

22) Oct 22: Death by Food. Calgary Police Services. Calgary

23) Oct 17: Update on sodium reduction: new evidence, challenges and a way forward. Canadian Hypertension Congress. Gatineau Canada

24) Oct 1: Pathogenic foods. 1 hour Webinar for the Canadian Association of Cardiovascular Prevention and Rehabilitation.

25) Sept 29: Healthy Food Procurement. A call for national policy. A best practice presentation at: "Solutions For Change: Healthy Food Procurement and Nutrition Standards in Public Facilities. Edmonton Alberta

26) Sept 25: Hypertension Prevention and Control. Confederation of Alberta Faculty Associations (CAFA) Distinguished Academic Award Presentation. Edmonton

27) Sept 20: The critical role of the pharmacist in the evolution of the health system. Alberta Health Services, Rxeach Project, Leduc Alberta.

28) Aug 10: Hypertension prevention and control programs in Canada, ACMI (meeting with the 3 local medical schools). Bucaramanga, Colombia

29) Aug 11: Sodium, the evidence and the need to act. Bogota Columbia, Multisectorial meeting of government and civil society on dietary sodium

30) Aug 8: Canadian hypertension prevention and control programs. Lessons learned. The Association Procongreso of Internal Medicine. Cartagena, Colombia.

31) Aug 8: Hypertension the Global Burden. The Association Procongreso of Internal Medicine. Cartagena, Colombia.

32) July 13: Assessment of blood pressure. Medical University of South Carolina. Talk-video session for American Society of Hypertension. Educational series on Hypertension. Charleston SC

RELATED COMMITTEES

Alberta Health Services. Cardiovascular Health and Stroke Strategic Clinical Network, Core committee member 2012-
Co-chair Vascular Risk Reduction Initiative

Canadian Hypertension Advisory Committee

Inaugural Chair 2011-

Hypertension Canada
Outcomes Research Task Force; member
Representative to the World Hypertension League

Canadian Society of Internal Medicine
2006-2011 Representative to Canadian Hypertension Advisory Committee

Health Canada

2011- Food Expert Advisory Committee member

World Hypertension League
Executive Board member,2012-
President 2013-2015

Directorate of Food and Environmental Hygiene, Hong Kong
International Advisory Panel (IAP) member. 2014-2017

WHO Iranian office and Ministry of Health of Iran.
Member, International Advisory Board, Iran salt reduction program 2015-,

Public Health England
External consultant to the Blood Pressure Programme**,** 2014-

Centre for Disease Control, United States External consultant to the **Global Standardized Hypertension Treatment (GSHTP) Initiative**. 2015-

World Health Organization
World Health Organization, Nutrition Advisory Group Non Communicable Disease, (NutNCD group) 2012-2016

Pan American Health Organization/ World Health Organization
Technical Advisory Group to mobilize cardiovascular disease prevention through dietary salt control policies and interventions. 2012-2015, Co-Chair
Education-advocacy subgroup 2012- Member,
Science subgroup 2012-, Co-chair

Salt Smart Consortium
Steering committee member, (Consortium of private sector, government and non government organizations to reduce dietary salt in the America's led by the Pan American Health Organization). 2012-

Centre for Science in the Public Interest
Scientific Advisory board member for Nutrition Action Health Letter, 2012-

RECOGNITION
2015 Canadian Medical Association Frederic Newton Gisborne Starr Award
2014 Team Builder of the Year Award, Department of Medicine, the University of Calgary.

THE WORLD HYPERTENSION LEAGUE. PRESIDENT REPORT 2013-2015 REPORT

To have been President of the World Hypertension League (WHL) from Sept 2013 to Sept 2015 is a true honour and represents the pinnacle of my career. This is my last Presidents column. I have greatly enjoyed working with and learning from many highly committed individuals and especially the executive, board, council and work group members of the WHL. My life has become much richer from the many experiences I have had.

In the last two years, the WHL has had many transitions and faced many challenges in working towards the United Nations targets of reducing uncontrolled hypertension 25% and reducing dietary salt 30% by 2025.

From a governance perspective, the league moved its' office from Canada to United States, restructured to have a board that represents the major World Health Organization global regions, now has a staff with a Chief Executive Officer (Mark Niebylski) and a Population Health and Economics

Specialist (Kimbree Redburn), an Executive Treasurer, updated bylaws, governance policies on conflicts of interest, travel and publications and updated mission, vision, values, objectives and goals statements. Roles and responsibilities of the executive and board have been more clearly defined. A constantly updated work plan is maintained by the WHL staff. Official working relations with the World Health Organization (WHO) were renewed. To better address culture and languages, regional offices of the WHL have been opened in China (East Asia), Sub Sahara Africa, Latin America and India. There are early discussions to have regional offices in the Middle East, Balkans, and Eastern Europe. The WHL works in collaboration with member organizations, partner organizations (especially the International Society of Hypertension (ISH)) and various work groups. A needs assessment of global WHL member organizations was undertaken as well as a specific needs assessment on member organizations in Sub Sahara Africa.

To increase its impact, the WHL has focused on **strategic planning for hypertension control**, **increasing awareness of having a hypertension diagnosis** and on **reducing dietary salt.**
The WHL developed a template for strategic planning, a global call to action and fact sheet as well as a Sub Sahara Africa call to action and fact sheet, a manuscript on how to develop a regional/national call to action and fact sheet, a slide deck on strategies to prevent and control hypertension, a compellation of various national and regional hypertension strategies, and presented workshops and talks on strategic planning. Several of the resources were co-sponsored by the ISH. WHL executive members work to identify best practices in hypertension prevention and control to highlight in the Journal of Clinical Hypertension.

A blood pressure screening work group has developed videos, slide decks, written tools and resources to promote blood pressure screening, a policy statement supporting the transition from manual blood pressure assessment to automated blood pressure assessment and is assisting in pilot testing the blood pressure screening resources in multiple countries with diverse economies. The working group is now developing a three level certification program for 1) assessing blood pressure in screening programs, 2) running a blood pressure screening program and 3) training people to run blood pressure screening programs. World Hypertension Day (May 17th) has been dedicated specifically to improving awareness of the hypertension diagnosis and to promote screening of blood pressure from 2013 to 2018. Each year the WHL will seek to increase blood pressure screenings for World Hypertension Day. The Goal in 2015 was to have 1 million people screened and although the tally is not yet complete, 2.5 million blood pressure screenings have been reported.

A separate WHL working group developed recommended standards for analyzing blood pressure surveys.

To support reduction in dietary salt, the WHL in partnership with multiple international organizations lead the development of a call to action and fact sheet on dietary salt. Other WHL resources and actions include development of recommendations for standardized nomenclature on dietary salt, a call for quality research, collaboration in a weekly Medline science of salt update, development of a process to set recommended dietary salt research standards and to have regular literature reviews based on those standards, development of power point slide sets to support WHL positions and resources, and critic of weak research studies on dietary salt. The WHL is also partnering on a regular

update of literature on dietary salt in the Journal of Clinical Hypertension. The WHL supports the WHO recommendations for dietary salt to be less than 5 g (sodium 2000 mg)/day (with lower amounts in children proportional to their lower energy requirements) and the United Nations target of a reduction in dietary salt of 30% by 2025.

For communications, the WHL is very excited to now have official relations with the Journal of Clinical Hypertension (JCH)) which has a rapidly increasing impact factor. To support broad global dissemination of high quality evidence, the JCH is available to access free of charge. WHL also has a new editor of our newsletter (Professor Lawrie Beilin), reestablished connections with 25 WHL member organizations, and recruited 15 new member organizations. A new comprehensive website (whleague.org) has been established that hosts the growing number of WHL resources as well as links to many other important resources for hypertension prevention and control. Numerous publications, eight slide sets and two videos have been developed to support key WHL topics. With the assistance of Past Presidents and Secretary Generals, Georgiann Monhollen and Erika Pisch, a history of the WHL from its inception is being currently being written.

To recognize people and organizations who have had a substantive impact on preventing and controlling hypertension and in reducing dietary salt, the WHL developed a recognition program. Awards of notable achievement and excellence have been provided since 2014 to global leaders in all regions of the world. The WHL is also at the start of developing a Global leaders program to facilitate knowledge exchange and best practices between global leaders on hypertension prevention and control.

The conduct and indiscriminate publicity around low quality controversial research on dietary salt is endangering millions of lives each year and challenging global public health efforts. Best evidence estimates over 3 million deaths in 2010 from over consumption of salt along with 300 million people with hypertension and 61 million years of disability (DALYs). Much of the controversy appears commercially influenced and is driven by a small number of highly vocal dissident scientists, some of whom are financially conflicted or have ties to the salt industry or have conducted weak research and none of whom have substantive public health expertise. Although controversial research has been repeatedly dismissed by the careful systematic processes that develop national and international dietary salt guidance, it generates much publicity and confuses the public, policy makers and even scientists and clinicians who are not familiar with the details of scientific field. In 2015, the WHL lead the formation of a coalition of international and national health organizations to develop recommended standards for conducting clinical and population research on dietary salt and that will oversee systematic reviews of the evidence. The coalition has independent governance and will report recommended research standards in early 2016. Hypertension organizations are encouraged to host symposia that feature the best evidence from bench to population on dietary salt, and also the impact of low quality research and financial interests on research outcomes. Rather than catering to what is a largely a commercially driven debate featuring flawed research and obscure interpretations of science, hypertension and cardiovascular organizations should critically examine the systematic reviews of evidence and growing literature on the harms of high dietary salt.

The WHL has continued to face financial constraints and has yet to develop a viable long term business model for ongoing operations. There are several recent opportunities for global collaboration that are associated with funding that the WHL are pursuing and hope to be able to announce in 2015-16. The WHL executive is determined to maintain the WHLs' scientific integrity and not enter commercial agreements that undermine its' ability to act in the best interests of the global population.
Please visit the WHLeague.org for details of WHL activities. As my Presidency winds down I remain committed to be an active Past President on the WHL executive for the next 3 year. I have great confidence in Professor Dan Lackland who will be the new President Sept 2015 and take the WHL to new levels. I thank all the members of the WHL executive. I take special notice of Professor Liu Lisheng who has been a global force in hypertension prevention and control for 5 decades and is now stepping off the WHL executive having served for 10 years in various positions including being President for 7 years. I would also like to end with special recognition to our Chief Executive Officer, Mark Niebylski and Population Health and Economics Specialist, Kimbree Redburn who have brought the WHL to new levels of productivity and impact.

Norm Campbell MD
President, World Hypertension League