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President's Report

Fulfilling the Objectives of the CHS: 30 Years and Counting

By Rhian Touyz

It has been a pleasure to serve the Canadian Hypertension Society (CHS) as President over the past year. As I reflect on the activities of the CHS over the past 12 months, I find most encouraging to note that all of the objectives originally mandated for the Society in 1978—the year the Society was established—continue to be fulfilled.

It was 30 years ago at a meeting in Montebello that five objectives were defined including: 1) fostering effective approaches to the management of hypertension in Canada; 2) encouragement and coordination of research on hypertension in Canada; 3) provision of a forum for the presentation of hypertension research; 4) dissemination of information about hypertension to health professionals and to the public; and 5) cooperation with other Canadian, American and international societies with interests in hypertension. These objectives have been realized in large part through the outstanding annual scientific meetings at which the best of Canadian hypertension research is presented, through tremendous efforts at fundraising to ensure support for trainees, young researchers and established scientists through interactions with the Canadian Hypertension Education Program (CHEP) and Blood Pressure Canada (BPC), and through regular publications.

This year the annual meeting, organized by Pierre Moreau and Marc Servant, brought together the best of basic and clinical research in an integrated and comprehensive program to provide a forum for the presentation of hypertension research. This year I was delighted to have as my guest Professor Fred Luft from Berlin who gave the Presidential lecture entitled "Odd ideas about hypertension and target-organ damage." We were indeed fortunate and privileged to have Dr Luft share with us his insights on hypertension research. Through continued interactions with CHEP and BPC, physicians are provided with the most up-to-date guidelines for managing hypertension, and

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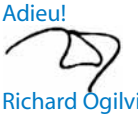
A Message From the Editor…

This quarterly bulletin of the Canadian Hypertension Society was initiated in June 1984 with Pavel Hamet as founding Editor. Pierre Larochelle succeeded him in November 1986 and I became Editor in December 1989. The 97th bulletin appearing in December 2008/January 2009 will likely be the last, at least in its current form.

The first 94 bulletins, plus a daily publication called *The ISH Reporter* printed during the International Congress Montreal 1990, were sponsored by various pharmaceutical firms with production support of STA HealthCare Communications Inc. as our publisher. Unfortunately, we no longer have financial support. Through the auspices of STA, the June, September and December 2008/January 2009 issues have been disseminated electronically as an email message to our membership and print versions appeared in *The Canadian Journal of Diagnosis* in English and in *Le Clinicien* in French.

We must thank STA and the various pharmaceutical firms that have supported this endeavor. I thank all of the Board members and authors who have helped maintain this bulletin over the past 24 years, especially for the 19 years that I had the privilege of being Editor. Readers are invited to visit *www.hypertension.ca/chs* for a link to STA and Hypertension Canada.

Adieu!



Richard Ogilvie, Editor

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President's Report

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information about hypertension is disseminated not only to healthcare providers but to the community at large.

One of the special characteristics of the CHS is its priority on supporting young researchers. This year, as in the past, many young scientists will be supported through trainee awards to pursue their careers in research. The CHS is truly grateful to the many pharmaceutical companies, including AstraZeneca, for supporting a new clinical research award, Boehringer Ingelheim for the provision of Trainee Education Awards for the 2007 and 2008 Annual Meeting, BMS/sanofi-aventis for partnering in our Summer Student Research Awards Program, and Pfizer for the continued support of Doctoral Research Awards. In addition we would like to thank the Canadian Institutes of Health Research (CIHR) for the continued partnership and renewal of our partnered peer-review agreement.

Thank you to our corporate members who supported the following activities at this year's annual meeting:

- Bristol-Myers Squibb (Presidential Lecture Support)
- Pfizer Canada (Pfizer CV Awards Annual Meeting; CHS/BPC/CHEP Session)
- Biovail (New Investigator Award & Breakfast Workshop)
- Boehringer Ingelheim (Symposium)
- Bayer (Symposium)
- Novartis (Distinguished Service Award)

In addition, we would like to express our appreciation to Abbott, Bayer, Boehringer Ingelheim and Schering-Plough for their generous support of the Healthcare Professional Symposium entitled "Managing Hypertension in Everyday Practice." This symposium was held at the Western Harbour Castle on October 25th and 26th.

New Initiatives

During my tenure as President there are two new CHS initiatives that I would like to highlight. First, the creation of the CHS Advancement Task Force, the objective of which is to provide recommendations to the Executive on fundraising strategies; and second, the formation of liaisons with international hypertension societies.

The Advancement Task Force was created because it was recognized that strong leadership and new approaches for fundraising are needed to ensure the financial security of the Society during our current and projected economically difficult times. Under the Chair of Ross Feldman and committee members Jacques de Champlain, John Floras, Pavel Hamet and Ernesto Schiffrin, useful and constructive insights and suggestions were put forward which will be followed through under the presidency of Mansoor Husain. I am extremely grateful to the Advancement Task Force for their valuable help.

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Canada Chair in Hypertension Prevention and Control

2: Initiatives to Enhance the Canadian Hypertension Education Program and to Develop a National Hypertension Surveillance Program

By Norm RC Campbell and Selina Omar

This is the second in a series of two reports on the Canada Chair in Hypertension Prevention and Control. The first report reviewed the creation of the Chair position, the effort to increase public and patient self efficacy to prevent and manage hypertension, and programs to decrease the prevalence of hypertension by reducing dietary sodium.[1] This report focuses on the effort to enhance the Canadian Hypertension Education Program (CHEP) and to develop a national surveillance program for hypertension. Of note, the Chair represents a leadership position that works with organizations and individuals in Canada to advocate for resources and coordinate hypertension initiatives.

Enhance the CHEP

CHEP is a comprehensive healthcare-professional education program intended to reduce cardiovascular disease in Canada through improved hypertension management.[2] CHEP annually updates evidence-based management recommendations that are extensively disseminated and aided by a variety of implementation tools and techniques.

With many changes in the structure and function of healthcare, it was recognized that CHEP needed to evolve. As a result, plans were developed to help sustain CHEP, regular communication venues were developed between Canadian hypertension organizations, and a new and enhanced hypertension website (*www.hypertension.ca*) was launched. To aid CHEP in adapting 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. New nursing and pharmacy workgroups were formed to address discipline-specific approaches and, with the family-physician workgroup, a discussion paper was produced on the synergistic and collaborative roles of the primary-care disciplines. A formal survey of the educational needs of nurses and pharmacists was conducted. The survey found that, in addition to knowledge needs, many nurses and pharmacists did not receive or were not aware of the CHEP recommendations, indicating that more extensive dissemination of the recommendations is required. Hence, CHEP is examining a new method of disseminating educational material that is based on the requests of individual primary-care healthcare professionals. The project to individualize and increase the dissemination of CHEP recommendations is being piloted in Alberta along with a community-based train-the-trainer program to increase the number of people who can educate others on the recommendations. CHEP is collaborating with Blood Pressure Canada in this initiative to aid the dissemination of educational resources to patients and the public.

To aid CHEP in adapting 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.

To ensure sustainability, CHEP is examining different support mechanisms in discussions within the Canadian Heart Health Strategy, and with federal and provincial governments. Strong collaboration with the Public Health Agency of Canada (PHAC) has lead to substantial resources and opportunities that have improved the function of CHEP Task Forces in the last two to three years. The support has facilitated face-to-face meetings of the Task Forces, the development of enhanced educational resources, the hiring of support staff, and access to national data resources and expertise.

National Surveillance Program

CHEP is collaborating with Statistics Canada, PHAC and several provinces to develop a comprehensive system for assessing the prevalence and management of hypertension. In 2008, the most noteworthy surveillance news came from the Ontario Heart and Stroke Foundation Blood Pressure Survey (ON-BP).[3] The survey indicated that Ontario had one of the lowest prevalence rates for hypertension in the developed world but also had the highest reported rates of awareness, treatment and control of hypertension in the world. It was also observed that, in Ontarians with hypertension and diabetes, blood pressure (BP) was less well treated and controlled than in those without diabetes. These findings have led CHEP to discuss collaborative action with PHAC, the Heart and Stroke Foundation of Canada and the Canadian Diabetes Association to develop extensive knowledge-translation tools and awareness on this topic in 2009.

The Canadian Health Measures Survey (CHMS) conducted by Statistics Canada is scheduled to report the national prevalence of hypertension, awareness, treatment, and con-

trol rates in its first round of analyses in 2009. Statistics Canada also added specific lifestyle questions to the Canadian Community Health Survey (CCHS), allowing biennial tracking of the use of lifestyle change to manage hypertension. Furthermore, the CCHS data on sodium consumption was rapidly assessed and published by Statistics Canada with a media release. The results were critical to increase awareness of high dietary sodium consumption in the Canadian population, thus aiding Blood Pressure Canada and other organizations to advocate for the need to reduce dietary sodium to prevent and control hypertension. PHAC recently commissioned a CCHS module to obtain detailed information on knowledge, attitudes, beliefs and behaviors of hypertensive Canadians. This module is being validated and the survey is scheduled to be conducted in 2009.

In 2008, the CCHS was analyzed to characterize hypertensive Canadians who had not had a BP measurement as well as those who were aware of having hypertension but were not pharmacologically treated. The profile of those less likely to have BP measured included the young, males, those without a regular physician, recent immigrants, visible minorities, and those who do not speak the official languages.[4] Moreover, hypertensive Canadians who were younger, male, had fewer visits to doctors, perceived themselves to be in excellent health, and who smoked were less likely to be treated with antihypertensive drugs.[5] While many young hypertensive Canadians may be at a low absolute cardiovascular risk, there was no trend to treat higher proportions of those who had more risk factors. These results will guide CHEP in developing education programs.

IMS Canada data is monitored on a regular basis to track changes in antihypertensive drug prescriptions and visits to physicians for hypertension.[6] Although antihypertensive prescription rates and physician visits continue to increase, the rates of increase are not as steep in the last two to three years. This is not surprising, given that the ON-BP results have indicated that fairly low percentages of hypertensive patients are currently unaware or aware and untreated.

CHEP continues to work with PHAC and provinces to use linked provincial administrative data to track the diagnosis, treatment and outcomes of hypertensive Canadians. Major progress occurred in 2008 when PHAC and provinces agreed to assess the prevalence and incidence of diagnosed hypertension using provincial administrative data based on diagnostic algorithms produced by K Tu and other CHEP members.

Although not complete, the outcomes research program that has been developed is arguably one of the most complete and complex national chronic management programs that exists. The program will greatly facilitate the development of new interventions and allow Canada to stay at the forefront of the world in prevention and control of hypertension.

Other Activities

The Hypertension Chair has regularly met with federal and provincial government officials and with the national and many of the provincial Heart and Stroke Foundations to increase awareness of hypertension as a health risk for Canadians. These meetings are crucial to the integration of hypertension with cardiovascular disease prevention initiatives in Canada.

Part of the Chair's activities includes highlighting Canadian activities to other countries. In this regard, the Chair has presented Canadian hypertension programs to the American Society of Hypertension (in 2007 and 2008), the Asian Pacific Hypertension Conference (in 2007), the World Hypertension League (in 2007), the International Hypertension Society (2008) and the European Society of Cardiology (in 2008). In general, many countries have expressed an interest in Canadian programs that are more organized and extensive than those in other countries. There is particular interest in CHEP and some countries have sent delegates to Canada in part to obtain more information on the program.

Closing Remarks

The Canadian Hypertension Chair represents an interesting experiment. The Chair—created

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BPC 2008 Certificate of Excellence

Blood Pressure Canada (BPC), formerly known as the Canadian Coalition for High Blood Pressure Prevention and Control, initiated its Certificate of Excellence program in 2006. According to the BPC website (available at *www.hypertension.ca/bpc/*), this award is given "annually to deserving individuals, organizations or programs that have made a unique and recent contribution to the awareness, prevention, or treatment of hypertension in Canada."

In 2008, as part of its Annual General Meeting held in conjunction with the Canadian Cardiovascular Congress in Toronto in October, BPC awarded a Certificate of Excellence to Dr. Denis Drouin, acknowledging his committment in disseminating and implementing the recommendations of the Canadian Hypertension Education Program (CHEP) over the past eight years.

The award was presented by Dr. Norm Campbell (on right in photo), President of BPC's Executive Committee and Chair of its Public Education Task Force.

CHS/Biovail New Investigator 2008

A Role for G-protein-coupled Receptor Kinases in Hypertension

By Robert Gros

Hypertension is the most common cardiovascular disease and remains an important risk factor for myocardial infarction, stroke, and renal failure. It has been estimated that 95% of all Canadians will develop hypertension if they live an average lifespan. Therefore a better understanding of the mechanism(s) involved in the development and/or maintenance of hypertension will be critical to gain better insight into the disease and perhaps enable the development of novel treatment strategies.

In hypertension, the basic hemodynamic abnormality is increased peripheral resistance, which reflects a combination of structural and functional factors. On a functional level, peripheral resistance is a delicate balance between factors that cause vasodilation and those that mediate vasoconstriction. In vascular smooth muscle cells (VSMCs), an important mechanism which mediates vasodilation are G-protein-coupled receptors (GPCRs) linked to adenylyl cyclase activation through the Gs-proteins (also known as the stimulatory G-protein). The beta-adrenergic receptor represents the prototypical vasodilatory receptor in VSMCs (although some of the beta-adrenergic-mediated vasodilation is endothelial-dependent). However, a number of other important GPCRs linked to adenylyl cyclase activation are also expressed in VSMCs including: adenosine, glucagon, bradykinin receptors and others. In endothelial cells, GPCRs linked to vasodilatory responses appear more complex and involve GPCRs linked to Gs (adrenergic receptors), Gi (muscarinic receptors) and Gq (endothelin-B receptors) resulting in release of vasodilatory mediators such as nitric oxide, endothelium-derived hyperpolarizing factor(s) or prostacyclin. On the vasoconstrictor side, GPCRs such as endothelin, alpha-adrenergic and angiotensin receptors (and others) are linked to the activation of phospholipase C and/or inhibition of adenylyl cyclase via the activation of Gq-proteins and/or Gi-proteins in VSMCs.

Defects in GPCR-mediated Vasodilation in Hypertension

The most consistently described vascular GPCR-related defects in human and animal models of hypertension is impairment in responses to activation of GPCRs linked to Gs-proteins, resulting in impaired vasodilation. Although enhanced activation of GPCRs linked to Gq- and/or Gi-proteins (mediating vasoconstriction) have been reported in animal models of hypertension, many investigators have focused on the GPCR/Gs-protein/adenylyl cyclase complex to explain this defect in receptor-mediated vasodilation during the hypertensive state. The impairment in GPCR-mediated vasodilation appears to be at the level of the receptor, since either direct-acting vasodilators (*e.g.,* nitroglycerin or nitroprusside) or vasodilators acting distal to the receptor (*e.g.,* forskolin or dibutyryl cyclic AMP) were not comparably impaired. This implies that impairment in GPCR-mediated vasodilation is a functional uncoupling of these GPCRs from the Gs-proteins. The efficiency with which GPCRs interact with their G-proteins is in part dependent on the phosphorylation state of the receptor. GPCR phosphorylation is mediated by several different kinases, including the second-messenger dependent protein kinases such as protein kinase A and protein kinase C and by members of the G-protein receptor kinase family (GRKs).

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GPCR Aactivation and Desensitization

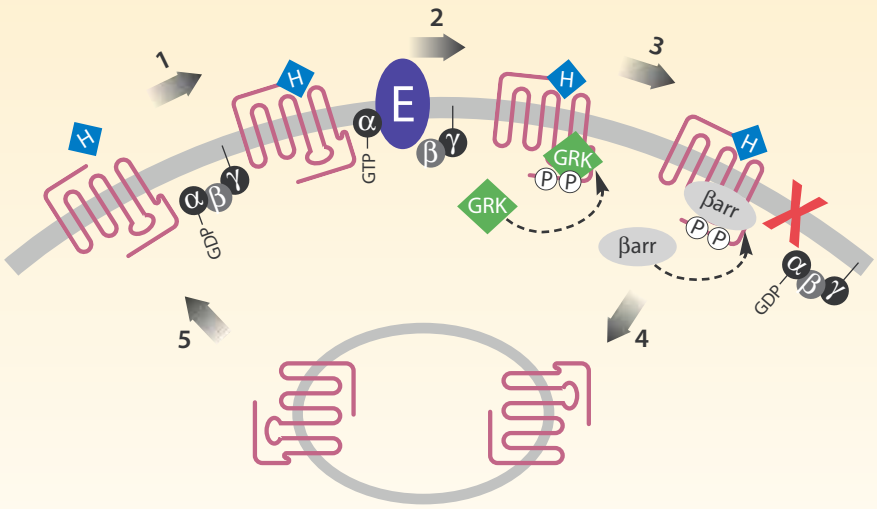
Activation of GPCRs following agonist binding induces a conformational change that promotes the exchange of GDP for GTP on the G_{α} subunit and allows the dissociation of the G_{α} and $G_{\beta\gamma}$ subunits (Figure 1). Subsequently these G-protein subunits will interact and regulate the activity of a number of other effector molecules, such as adenylyl cyclase, phospholipase C, ion channels, tyrosine kinases and many others. This conformational change also allows the GPCRs to bind one (or more) of the GRKs (Figure 1). The binding of GRKs to the agonist-occupied receptor promotes the phosphorylation and desensitization of the GPCR, which promotes the binding of cytosolic proteins termed β-arrestins to the receptor. This leads to a further uncoupling of GPCR from their G-proteins (Figure 1).

GPCR Kinase Family

To date, seven mammalian genes encoding GPCR kinases (GRK1-7) have been cloned. All GRKs are similar in molecular weight ranging from about 60-80 kDa and share a number functional and structural similarities including a highly conserved centrally located catalytic domain, an amino terminal domain that includes regions of homology to regulators of G-protein signaling proteins (RGS-like domain) and a carboxy-terminus domain of variable length which plays an important role in the cellular localization and/or translocation of the GRKs. Based on functional and sequence similarities, the GRK family has been divided into three subfamilies: a) the rhodopsin kinase subfamily (GRK1 and GRK7); b) the beta-adrenergic receptor kinase subfamily (GRK2 and GRK3); and c) the GRK4 subfamily (GRK4, GRK5 and GRK6). Five of the seven GRKs (GRK1, 4, 5, 6 and 7) are

Figure 1

Schematic of G-Protein-coupled Receptor (GPCR) Activation and Desensitization



1) Hormone (H) binding to GPCRs leads to a conformational change of the GPCR, which leads to GDP release from α-subunit of the G-protein and facilitates the binding of GTP. This in turn allows the separation of the G-protein (into α and βγ) subunits which are then able to interact with various effector molecules (E). **2)** Hormone (agonist)-occupied GPCRs also facilitate the binding of GRKs, which in turn phosphorylate and desensitize the GPCRs. **3)** GRK-phosphorylated GPCRs are then further uncoupled from their G-proteins by the binding of β-arrestins (βarr). **4)** Following β-arrestin binding GPCRs are subjected to internalization and de-phosphorylation in endosomes, and **5)** recycled back to the membrane.

located at the membrane and near activated GPCRs, whereas GRK2 and GRK3 are predominately located in the cytosol and undergo translocation and recruitment to the membrane following GPCR activation. GRK2, 3, 5 and 6 exhibit a more ubiquitous distribution in mammals, whereas GRK1, 4 and 7 display a more restricted expression pattern: GRK1 in retina and pineal gland; GRK4 mainly in testis and brain; GRK7 in cones. GRK2 and GRK5 have been detected in VSMCs at the protein level. In contrast, GRK4 and GRK6 were not detectable by RT-PCR in VSMCs.

Alterations in GRK Expression/Activity

Increased GRK expression and/or activity has been described in human and animal models of hypertension. We have previously demonstrated that GRK2 protein expression and activity was increased in human hypertension. This increase in GRK2 expression was correlated with reduced beta-adrenergic-stimulated adenylyl cyclase activity and increased blood pressure. In addition, we demonstrated that GRK2 protein expression was increased in the vasculature of spontaneously hypertensive rats (SHRs) and Dahl-salt-sensitive rats fed a high-salt diet. However, these studies only demonstrated an association and not a causal relationship between GRK2 expression and hypertension. Recently, a more direct relationship between increased GRK2 protein expression and blood pressure was demonstrated in transgenic mice with smooth muscle-specific expression GRK2. These mice demonstrated impaired beta-adrenergic-mediated vasodilation, impaired cAMP accumulation and a modest increase in blood pressure. As for GRK5, the other GRK isoform detected in VSMCs, previous studies have demonstrated up-regulation of GRK5 in aortae from rats following either angiotensin II- or norepinephrine-induced hypertension. In addition, a recent report described elevated blood pressure in transgenic mice with VSMC-specific overexpression of GRK5. In this model of hypertension Gs-mediated responses were decreased, whereas Gq- and/or Gi-mediated responses were increased, similar to that observed in other animal models of hypertension. Taken together, all these studies demonstrate a potential critical role for GRKs in the pathogenesis and/or maintenance of hypertension.

Where Do We Go From Here?

Although GRK2 and GRK5 have been implicated in the pathogenesis and/or maintenance of hypertension, important questions remain to be addressed. Why does increased GRK protein expression preferentially affect those GPCRs linked to vasodilation, as evident during the hypertensive state, since GRKs are capable of mediating the phosphorylation of many different GPCRs, including those linked to vasodilation and vasoconstriction? In addition, the contribution of selective GRK isoforms to the development and/or maintenance of the hypertensive phenotype is unclear. Therefore, ongoing studies in my laboratory are examining the role(s) of GRKs in regulating GPCR-mediated vascular function under physiologic and hypertensive conditions.

Conclusion

A better understanding of the regulation of vascular GPCRs by GRKs will enable the appropriate assessment of novel strategies for the treatment and/or prevention of hypertension and potentially other cardiovascular diseases linked to abnormal GPCR function and GRK regulation.

Additional Reading:

1. Feldman RD, Gros R. Defective vasodilatory mechanisms in hypertension: a G-protein-coupled receptor perspective. Curr Opin Nephrol Hypertens 2006; 15(2):135-40.
2. Gros R, Benovic JL, Tan CM, et al. G-protein-coupled receptor kinase activity is increased in hypertension. J Clin Invest 1997; 99(9):2087-93.
3. Gros R, Chorazyczewski J, Meek MD, et al. G-Protein-coupled receptor kinase activity in hypertension: increased vascular and lymphocyte G-protein receptor kinase-2 protein expression. Hypertension 2000; 35(1 Pt 1):38-42.
4. Harris DM, Cohn HI, Pesant S, et al. GPCR signalling in hypertension: role of GRKs. Clin Sci (Lond) 2008; 115(3):79-89.

Robert Gros, New Investigator, Heart and Stroke Foundation of Canada; Scientist, Vascular Biology Research Group, Robarts Research Institute; Assistant professor, Department of Physiology and Pharmacology, Schulich School of Medicine and Dentistry, University of Western Ontario, London, Ontario.

CHS Awards

CHS Rewards Deserving Researchers

CHS/CIHR (2008-2011) New Investigator Scholarship
- Michael K. Stickland, University of Alberta, 2008-2011
- Robert Gros, Robarts Research Institute (declined), 2007-2010
- Hope D. Anderson, St. Boniface Hospital Research Centre, University of Manitoba (declined), 2005-2008

CHS/CIHR Fellowships
- Emma T. Van der Westhuizen, Université de Montréal (Supervisor Michael Bouvier), 2008-2010
- Hiba Komati, IRCM (Supervisor Mona Nember), 2005-2008

sanofi-aventis/CHS/BPC Canadian Chair in Hypertension Prevention and Control
- Norm Campbell, University of Calgary, 2006-2011

Pfizer/CHS/CIHR Doctoral Award Graduate Studentships
- Ali Bouallegue, Université de Montréal (Supervisor Ashok Srivastava)
- Xioxia Wang, University of Saskatchewan (Supervisor Lily Wu)
- Carlos El Hader, Université de Montréal (Supervisors Pavel Hamet/Johanne Tremblay)
- Johanna Hannan, Queen's University (Supervisor Michael A. Adams)
- Md Shahrier B.Amin, Ottawa Heart Institute (Supervisor Frans H. Leenen)

Bristol-Myers Squibb & sanofi-aventis/CHS 2008 Summer Student Research Awards
- Dhiraj Dhanjani, University of Toronto (Supervisor Mansoor Husain)
- Ann Edwards, University of Alberta (Supervisor Sandra Davidge)
- Vanessa Falk, University of Alberta (Supervisor Denise Hemmings)
- Geoff Jarvie, University of British Columbia (Supervisor Simon Rabkin)
- Tyler Lamb, University of Saskatchewan (Supervisor Thomas Wilson)
- Sarah O'Connor, University of Ottawa (Supervisor Rhian Touyz)

Biovail/CHS New Investigator Award (Internal Award)
- Dr. Robert Gros, 2008)
- Dr. Marc Servant, 2007

Bristol-Myers Squibb/sanofi-aventis/CHS Presidential Award Lecture
- Dr. Frederich Luft, Max-Delbrück Center, Berlin, Germany, 2008
- Dr. John E. Hall, John Hall, University of Mississippi Medical Center, 2007

Boehringer-Ingelheim/CHS Annual Meeting Educational Grants 2007-08
- 68 Trainees are eligible for Educational Grants for the 2008 Annual Meeting
- Educational Grants were provided to 59 students in 2007

Novartis/CHS Distinguished Service Award
- Marcel Lebel, 2008
- Donald Smyth, 2007

Boehringer Ingelheim/CHS Annual Meeting Best Trainee Presentations
- 70 Trainees received an education award this year

Oral Presentation Prizes
- PDF: Catherine Lemarie, McGill University (Supervisor Ernesto Shiffrin)
- PHD (2): Johanna Hannan, Queen's University (Supervisor Michael Adams); Andreia Zago Chignalia, University of Ottawa (Supervisor Rhian Touyz)

Poster Presentation Prizes
- PDF (2): Subhadeep Chakrabarti, University of Alberta (Supvervisor Sandra Davidge); Talin Ebrahimian, University of Ottawa (Supervisor Rhian Touyz)
- PHD: Marie-Claude Lauzier, Laval University (Supervisor Darren Richard)
- MSC: Caroline Robillard, University of Montreal (Supervisor Denis de Blois)

President's Report

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Liaising with international hypertension societies has provided an important platform for the CHS to expand its profile and to enable members of the CHS to have "cross-talk" with members of other societies. In this regard, the CHS interacted with the American Society of Hypertension (ASH), where each Society had, at their respective annual meetings, joint CHS/ASH sessions. At the 2008 ASH meeting held in New Orleans, three CHS members, all of whom were previous recipients of the ASH young investigator award, were invited to give presentations of the progress of their research. In turn, the CHS invited Suzanne Oparil, President of ASH, to provide insights on "science as a career" for our young trainees. This special symposium took place at the trainee luncheon of the 2008 annual meeting. In addition, the CHS will support a CHS trainee to present an abstract at the 2009 Inter-American Society of Hypertension (IASH) meeting to be held in Brazil, in a joint IASH/CHS symposium. Finally, the CHS is grateful to the American Heart Association (AHA), which kindly donated the "Hypertension Primer" for distribution to all participants of the 2008 CHS meeting. Forming such liaisons between the CHS and the ASH, IASH and AHA should pave the way for continued successful interactions between the CHS and other hypertension societies, which should provide a platform for networking and interactions between hypertension researchers internationally.

Over the next year, there will be much activity in the final planning of ISH 2010, which is strongly supported by the CHS. Simon Rabkin, together with his organizing committee, is working hard to ensure a successful meeting and an exciting and stimulating scientific program. The 2010 CHS annual meeting will take place in conjunction with ISH 2010 in Vancouver.

Liaising with international hypertension societies has provided an important platform for the CHS to expand its profile and to enable members of the CHS to have "cross-talk" with members of other societies.

The CHS continues to be a strong, vibrant and dynamic Society with a growing membership. This year our membership increased by 75 new members. In addition, our corporate members continue to support the Society, with a current corporate membership of 14 members. There is a strong campaign to encourage new members and we look forward to growth, especially amongst our young scientists.

In closing, I would like to acknowledge the incredible support and hard work by the members of the Executive committee, without whose assistance and insights my presidency would have been very difficult. Jim van Huysse has done an outstanding job as secretary-treasurer, Pierre Moreau has worked tirelessly on the planning of the 2008 annual meeting, Venkat Gopalakrishnan has been an excellent liaison between the ISH 2010 organizing committee and the CHS, and Mansoor Husain, incoming President, has provided me with wonderful council. To all, I am extremely grateful. I would also like to express my sincere thanks to Kathy Christmas, who has done a sterling job in all the administrative aspects of the CHS. I have enjoyed my year as CHS President and look forward to continued lobbying for the Society and to working hard to ensure that the wonderful objectives of the CHS, defined 30 years ago, continue to be realized.

Rhian Touyz, MD, PhD, Ottawa Health Research Institute, The Ottawa Hospital, and the University of Ottawa.

Canada Chair in Hypertension

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by the Canadian Hypertension Society, Blood Pressure Canada, the Canadian Institute for Health Research and sanofi-aventis—provides funding for leadership in the prevention and control of hypertension. In just over two years of the inaugural Chair, major Canadian health organizations and governments have made substantive contributions with resources, personnel and energy. The Canadian pharmaceutical industry has also strongly supported the effort to treat and control hypertension. Although the Canadian Hypertension Chair concept initially appears to be effective, the funds for the Chair will be depleted in about two years. A recent donation from Bristol-Myers Squibb for $50,000 will help sustain the Chair position past 2011. The CIHR and the Heart and Stroke Foundation of Canada have each expressed interest in sustaining the Chair with a competitive five-year renewal. It is estimated that $3.5 million is required for a permanent endowment.

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1. Campbell NRC, Omar S. Initiatives to improve public and patient education on hypertension and to prevent hypertension by reducing dietary sodium. Hypertension Canada 2008; 97:3-7.
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6. Hemmelgarn BR, Chen G, Walker R, et al. Trends in antihypertensive drug prescriptions and physician visits in Canada between 1996 and 2006. Can J Cardiol 2008; 24:507-12.

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