

Research Consortium Workshop III to advance the Canadian Chiropractic Research Agenda

Dr. Kent Stuber, DC, MSc*

Dr. André Bussièrès, DC, FCCS (C), MSc, PhD(s)**

Dr. Allan Gotlib, BSc, DC§



Dr. Kent Stuber, DC, MSc



Dr. André Bussièrès, DC, FCCS(C),
MSc, PhD(s)



Dr. Allan Gotlib, BSc, DC

Introduction

The Consortium of Canadian Chiropractic Research Centres (CCCRC) was established in 1997 as a result of the Canadian Chiropractic Association's Task Force on Chiropractic Research in Canada. The CCCRC's purpose is to coordinate chiropractic research capacity in Canada and facilitate the development of new chiropractic knowledge through multi-disciplinary and multi-institutional collaboration, and its dissemination to health providers and health policy makers with eventual integration into the health care system.

Workshop I (2000)

In 2000, the CCCRC held its first Workshop (I) with leading researchers in chiropractic from the academic institutions of the CCCRC, as well as invited leading international researchers, in order to provide an opportunity for its members and invited participants to address the Canadian Institutes of Health Research (CIHR) mandate in the context of developing a chiropractic research agenda relevant to chiropractic sciences which was consistent with CIHR's statutory mandate.

The participants were drawn from national and inter-

* Calgary, Alberta. kjstuber@hotmail.com

** Département chiropratique, Université du Québec à Trois-Rivières, Trois-Rivières, Québec.

Population Health PhD program, University of Ottawa, Ottawa, Ontario. Andre.Bussieres@uqtr.ca

§ Director, Research Programs, Canadian Chiropractic Association. Editor, Journal of the Canadian Chiropractic Association. Assistant Secretary, Canadian Chiropractic Research Foundation. CMCC Homewood Professor. algotlib@ccachiro.org

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national university-based experts in the disciplines pertinent to chiropractic. Experts from Canada, the United States, England and Denmark participated. The workshop group was multi-disciplinary in nature, composed of chiropractor/scientists as well as scientists from other professions and disciplines. As a group, the participants combined expertise in the following areas: biomedical, clinical science, health system and services and social and cultural disciplines.

Workshop I established nine research priorities for the CCCRC which reflected the breadth of activity in this discipline. Investigations in chiropractic science apply to numerous important societal dimensions and economic burdens related to neuromusculoskeletal pain, illness, disability, arthritis and mobility, chronic disease and rehabilitation from tissue injury as well as to the maintenance of health.

Workshop II (2002)

In October 2002, Workshop II was funded by the Canadian Chiropractic Research Foundation (CCRF) and CIHR. Specifically four (4) CIHR Institutes provided support to advance a chiropractic research agenda and to harmonize with the CIHR.

Institute of Aging (IA)

Institute of Musculoskeletal Health and Arthritis (IMHA)
Institute of Neuroscience, Mental Health and Addiction (INMHA)

Institute of Population and Public Health (IPPH)

Keynote speakers included Dr. Mark Bisby PhD, CIHR Vice-President, Research Portfolio, Dr. Arne Ohlsson MD, FAAP, Director of the Canadian Cochrane Network and Center, Dr. Cy Frank MD, FRCS, Scientific Director, IMHA and Dr. Elizabeth Badley PhD, IMHA Advisory Board.

The Workshop II group was national, multi-disciplinary and multi-institutional in nature, composed of chiropractor/scientists as well as scientists from other professions and disciplines. The nine (9) research priorities were refined to identify three research streams that reflected the CCCRC intellectual research capacity and expertise which could most effectively address CIHR's mandate. The research capabilities at that time shaped three (3) research streams:

1. Spinal Biomechanics
2. Neurophysiology, and
3. Epidemiology.

Implementation Phase 2002–2009

Development of Research Capacity

One of the action steps arising from Workshop II included identifying strategic collaborative research training initiatives directed at building intellectual capacity in chiropractic that would support the research agenda and link new investigators with researchers across the CIHR pillars of research.

In the seven years since Workshop II, the CCRF with the assistance of CIHR has implemented a strategic program to dramatically increase the capacity of the chiropractic profession to undertake credible health research that would withstand the scrutiny of the scientific community and at the same time address Canada's economic burdens of health, injury, disability, mobility and disease.

The strategic program was designed to establish university-based Professorships/Chairs across Canada through two initiatives:

1. CCRF partnering with the CIHR Small Health Organizations Partnership Program (SHOPP), and
2. CCRF partnering directly with Canadian universities.

As a direct result of the CCRF strategic programming, many Chair, Professorship and Scientist positions have emerged to build intellectual research capacity in order to advance the Chiropractic Research Agenda (see below):

University of Alberta Canada Research Chair in Spinal Function

Dr. Greg Kawchuk DC, PhD
Common Spinal Disorders Laboratory
Faculty of Rehabilitation Medicine
University of Alberta

Funded by: Industry Canada, University of Alberta, Canada Foundation for Innovation and CCRF.

University of Toronto CCRF Scientist in Disc Biology

Dr. Mark Erwin DC, PhD
Division of Orthopaedic Surgery
The Spine Programme

University of Toronto
Toronto Western Hospital
Funded by: University Health Network, University of Toronto, Synthes and CCRF.

University of Toronto CCRF/CIHR Chiropractic Research Chair (transferred to Dalhousie)
Dr. Jill Hayden DC, PhD
Department of Health Policy, Management & Evaluation
University of Toronto
Funded by: Canadian Institutes of Health Research and CCRF.

University of British Columbia CCRF Professorship in Spine Biomechanics and Human Neurophysiology
Dr. Jean-Sébastien Blouin DC, PhD
CCRF/CIHR Chiropractic Research Chair
MSFHR Scholar Award
Faculty of Education
University of British Columbia
Funded by: Canadian Institutes of Health Research, University of British Columbia, CCRF, Michael Smith Foundation for Health Research.

McMaster University CCRF/CIHR Chiropractic Research Chair
Dr. Jason Busse DC, PhD
McMaster University
Funded by: Canadian Institutes of Health Research and CCRF.

UQTR Titulaire de la Chaire de Recherche en Chiropratique FRCQ
Dr. Martin Descarreaux DC, PhD
Université du Québec à Trois-Rivières
Funded by: Fondation de recherche chiropratique du Québec, Système Platinum, UQTR and the Canadian Chiropractic Association.

Upcoming Professorship – TBA
CCRF Professorship in Spine Biomechanics and Human Neurophysiology
University of Manitoba
Funded by: Manitoba Health, Manitoba Chiropractors' Association and CCRF.

University of Guelph
CCRF Professorship in Spine Mechanics and Human Neurophysiology
Dr. John Srbely DC, PhD
University of Guelph
Funded by: Ontario Chiropractic Association, University of Guelph and CCRF.

In addition, discussions are underway (all at different stages) to establish Professorships/Chairs at three additional universities.

Workshop III (2009)
Workshop III will take place in the fall of 2009 at a leading university in Canada. It is funded by CIHR (\$25,000), Canadian Chiropractic Association, Canadian Chiropractic Protective Association and the CCRF with matching funds.

The participants in Workshop III are the Consortial members and also the invited national university-based experts in those disciplines pertinent to chiropractic who will become new Consortial members (Appendix 1). This will expand the depth of the profession's collective intellectual capacity in the three research streams but also will require refining the current research streams to incorporate the breadth of new capacity and new streams. The workshop group is multi-disciplinary in nature, composed of chiropractor/scientists as well as scientists from other professions and disciplines and also a consumer representative. It is held that engagement of the public should improve the public's trust and confidence in the health care system.¹

Primary Goal of Workshop III

The primary goal of these Workshops has been to develop and continually refine a national chiropractic research agenda which is harmonious with CIHR and which will facilitate collaborative, multi-disciplinary health research in the emerging area of chiropractic science.

Rationale for Goal

A CCCRC Research Agenda that is aligned with CIHR, which is the major federal agency responsible for funding health research in Canada, will provide a clear focus and set the directions for future chiropractic collaborative health research in Canada. With CIHR's increased em-

phasis on partnerships, knowledge translation and collaboration with the end-users of research, the Consortium will undertake promising health research projects that will generate new knowledge, new perspectives and, ultimately, improved health for Canadians.

Objectives of Workshop III

Objective 1

- provide a two-day workshop for members of the CCCRC and relevant stakeholders to present the current innovative, multi-disciplinary state of the art research developments in the chiropractic discipline to further refine the CCCRC Chiropractic Research Agenda and ensure it is congruent with CIHR particularly the Institute of Musculoskeletal Health and Arthritis (IMHA), as well as the Institutes of Aging (IA), Health Services and Policy Research (IHSPR) and Neurosciences, Mental Health and Addiction (INMHA).

Objective 2

- incorporate new research capacity and new research streams and strengthen collaborative relationships by increasing membership in the Consortium with the addition of new university-based chiropractic researchers, and include health research institutes affiliated with an academic hospital to foster greater networking opportunities and develop cross disciplinary linkages.

Objective 3

- establish a strategic plan to transfer new knowledge to health providers, health policy makers and end-users while considering identified barriers to uptake and implementation.

Rationale for Objectives

The Consortial members to date have reported major successes in new discovery research, attracted very significant large competitive grants (CIHR, NSERC, MSFHR) and published high impact papers in the scholarly scientific literature.

For example, Dr. Mark Erwin DC, PhD holds the CCRF Scientist in Disc Biology at the University of Toronto. Dr. Erwin is the first ever to report the nature of the soluble factors produced by notochord cells, specifi-

cally including CTGF. This has important discovery implications in the treatment and prevention of degenerative disc disease which is a significant societal burden.

While the body of chiropractic knowledge is growing, this new knowledge is not being integrated into the health system. Effective transfer of new chiropractic knowledge to health providers, health planners and health policy makers then provides the basis for integration of chiropractic knowledge within the Canadian health care system with the potential of positively affecting Canada's economic burdens of health, injury, illness, disease and disability.

In transferring new research knowledge to health providers and health policy makers, the Consortium has held Symposia to disseminate information. From 1998 to 2007, five (5) Research Symposia have been organized to delineate a growing research capacity, foster a research culture within the chiropractic discipline in Canada, identify the profession's research strengths, and determine where the chiropractic discipline best fits into both the health research system and healthcare system. The first Research Symposium was held in November 1998 at the University of Calgary. Representatives of the CCCRC's member institutions gave keynote presentations. Dr. Mark Bisby PhD, Director of Programs at the Medical Research Council of Canada (now the CIHR) also gave a guiding keynote presentation. Subsequent symposia were held in 2000 in Toronto, 2002 in Toronto, 2004 in Montreal, and 2007 in Vancouver. These Symposia have generally attracted 100 to 250 attendees.

Aware of the significant challenges associated with effective dissemination of key findings from high quality synthesis and primary research, the CCCRC is welcoming experts in the field of knowledge translation (KT) and experienced public representatives. It is foreseen that these new collaborations will help establish a refined research agenda to improve upon dissemination/implementation of new knowledge involving risk factors and prognosis, prevention, and treatment of musculoskeletal disorders commonly seen by chiropractors. Research projects and grant applications are expected to result from this initiative with the aim to increase our understanding of potential barriers and facilitators, and to test tailored interventions.

Impact of the Workshop

The impact of achieving these objectives will:

- strengthen the collaborative linkages between current and new Consortial members with new research streams and catalyze highly relevant discovery research.
- facilitate the objectives of the CIHR Knowledge Exchange Task Force and accelerate the use of new chiropractic knowledge.
- create a vital link with the end-user and more fully engage patients/consumers who can make valuable contributions to a research agenda. Dr. Allan Gotlib has been the CCA representative to the CIHR KETF which is committed to the creation of a communication pathway linking researchers and key stakeholders. The Journal of the Canadian Chiropractic Association published a paper emphasizing this goal (Brachaniec M, Tillier W, Dell F. The Institute of Musculoskeletal Health and Arthritis Knowledge Exchange Task Force: An innovative approach to knowledge translation. JCCA 2006; 50(1):8–13.

Dissemination of Workshop Results

The organizers (AG, AB, KS) will compose a report of the results of the workshop for submission to the funding CIHR Institutes, CCRF, CCA, and the chiropractic profession at large. This report will be submitted to the Journal of the Canadian Chiropractic Association (of which AG is the Editor, and AB and KS are both Editorial Board members) for consideration of publication. JCCA is indexed in PubMed databases and this ensures global dissemination. All consortial members and invited attendees will be asked to review this report and provide comment. Attendees will be encouraged to report any new relationships or collaborations initiated as a result of attending this workshop. Reports created as a result of the workshop will also be distributed to other professional research organizations that take an interest in neuromusculoskeletal conditions.

Overall justification for the Workshop

According to a recent survey (unpublished data), less than ½% of the chiropractic profession in Canada is actively engaged in fulltime health research. The Canadian Chiropractic Research Foundation's (CCRF) strategic program addressed this inequity and has been tremendously successful in providing extraordinary opportunities to a small and historically under-represented profession. CCRF has

fostered a true research culture and provided a mechanism for new knowledge and new capacity to be integrated into *both*, the health research system and the health care system in Canada. This new intellectual capacity will build on our research strengths to the benefit of Canadians and their health.

Musculoskeletal conditions are extremely common and include more than 150 different diseases and syndromes, which are usually associated with pain and loss of function.⁹ It is now recognized that spinal pain, disability, injury and arthritis results in enormous social, psychological, and economic burden to Canadian society.^{10–16}

A Health Canada study revealed that musculoskeletal disorders ranked second after cardiovascular disease in terms of highest cost of burden of illness in Canadian society, at over 16.4 billion dollars or 10.2% of the total (direct and indirect) cost of illness in 1998.¹⁷ In 1998, morbidity costs due to long-term disability from musculoskeletal disorders totaled 12.6 billion dollars, 37.5% or 4.7 billion of which was due to back and spinal disorders alone. This figure is significantly higher than long-term disability costs related to all other diagnostic categories, including afflictions of the nervous system (4.1 billion), cardiovascular disease (3.2 billion) and mental disorders (2.2 billion).¹⁸

This musculoskeletal burden is made more urgent, given Canada's aging population and the increasing self reported prevalence of musculoskeletal disorders. Neck pain (NP) and back pain (BP) are common complaints in seniors, leading to impaired functional ability and decreased independence. A recent cross sectional study suggests between 10–20% of seniors over age 70 reported more than 30 days of NP or BP within the past year, with a significant proportion having diminished their physical activities due to NP (11%) or BP (15%) within the past year.² Furthermore, back pain and neck pain continue to be common and bothersome complaints even into extreme old age. A nationwide interview-based survey of Danish 100-year-olds indicates as many as 29% of women and 17% of men had experienced BP, and 23% of women and 19% of men had experienced NP during the past month. Furthermore, 21% had been bothered by BP either when moving, resting, or sleeping. Poor overall physical function, bad self-rated health, and higher depression score were associated with higher prevalence of back and neck pain.³

Chiropractors, well trained in health assessment, diagnosis, radiographic studies, health promotion, and illness prevention, may be well-positioned to provide many primary health-care services to aging patients.⁴ Descriptive analysis suggests over one third (34.7%) of patients treated by chiropractors in North America are over the age of 50 years old, with nearly 14% over age 65.^{5,6} While chiropractic care aims at reducing spinal pain and stiffness and at preserving mobility in the elderly, few studies have evaluated the effectiveness of spinal manipulative therapy in seniors.⁷ Considering it is estimated that, by the year 2025, approximately one third of individuals in developed countries will be over 60 years of age,⁸ it becomes imperative to foster new collaborations with Ca-

nadian researchers in the areas of clinical and biological sciences in order to help seniors maintain an active lifestyle and cope with their pain.

As our capacity to undertake high quality research grows, the profession is better positioned to investigate the research questions important to all Canadians. One such example is the recently published report by the Bone and Joint Decade 2000–2010 Task Force on Neck Pain and Its Associated Disorders, where a significant contribution was made by scientists with chiropractic training.¹⁹ It also provides the evidentiary basis to support the clinical treatment provided by Canada's 6,000 chiropractors to 4.5 million Canadians annually.

Appendix 1

Consortial Members current and proposed

Dr. Carlo Ammendolia, DC, PhD	University of Toronto
Dr. Jean-Sébastien Blouin, DC, PhD	University of British Columbia
Dr. Jean Boucher, PhD	Université du Québec à Montréal
Dr. Jason Busse, DC, PhD	McMaster University
Dr. David Cassidy, DC, PhD, Dr.Med.Sc.	University of Toronto
Dr. Pierre Côté, DC, PhD	University of Toronto
Dr. Simon Dagenais, DC, PhD	University of Ottawa
Dr. Martin Descarreaux, DC, PhD	Université du Québec à Trois-Rivières
Dr. James Dickey, PhD	University of Western Ontario
Dr. Mark Erwin, DC, PhD	University of Toronto
Dr. Jill Hayden, DC, PhD	Dalhousie University
Dr. Walter Herzog, PhD	University of Calgary
Dr. Gregory Kawchuk, DC, PhD	University of Alberta
Dr. Annalyn Mercado, PhD	University of Saskatchewan
Dr. Bernadette Murphy, DC, PhD	University of Ontario Institute of Technology
Dr. Jeff Quon, DC, PhD	University of British Columbia
Dr. John Srbely, DC, PhD	University of Guelph
Dr. Norman Teasdale, PhD	Laval University
Dr. Jay Triano, DC, PhD	CMCC
Dr. Gabrielle van der Velde, DC, PhD	University of Toronto

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