

HEALTH CLINICIAN-SCIENTISTS IN ACADEMIC HEALTH SCIENCE CENTRES: PROTECTING AN ENDANGERED SPECIES

Report on a national symposium



**Bonnie Stevens
Gwen Burrows
Margaret Keatings
Stephanie Atkinson
Shirine Riahi
Donald Mabbott
Karen Gordon**

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For more information contact: shirine.riahi@sickkids.ca

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1.0 Executive Summary: Key Concepts, Recommendations & Next Steps

- Health clinician-scientists (defined as any clinician-scientists other than physicians) are critical contributors to the health care system because they: (a) strategically design and evaluate practical, clinically-based treatments for the most pressing patient health issues; (b) enhance the translation of basic scientific discoveries to the bedside; (c) have credibility as research and clinical experts in their field, and can thereby influence policy and clinical decision-makers; and (d) enable better patient access to cutting edge treatments.
- Models for continuous funding of health clinician-scientist roles are required, including better partnerships and greater alignment of role definitions between academic health science centres, provincial and federal governments, universities, and professional regulatory bodies.
- Job descriptions for health clinician-scientists should clearly articulate the allocation of time for clinical practice, research, and teaching duties and form the basis for unified performance evaluations and tenure considerations in situations involving multiple reporting structures.
- Hospital and academic leaders must support the health clinician-scientist role and the incorporation of clinical research values into the organizational culture.
- Efforts are necessary to quantify the impact of health clinician-scientists and set benchmarks, as a means to (a) demonstrate to leadership and stakeholders the value of the role through data and standards, and (b) determine the ideal or critical mass of health clinician-scientists.
- Formal opportunities for health clinician-scientist training, as well as institutional efforts to integrate new health clinician-scientists into teams or introduce them to internal clinical and research collaborators, are important to address the issues of workplace isolation and the need for role models and mentorship.
- Next steps include the establishment of a national network to address sustainability issues for health clinician-scientists in academic health science centres.

2.0 Acknowledgements

The national symposium “Health Clinician-Scientists in Academic Health Science Centres: Protecting an Endangered Species” was organized by The Hospital for Sick Children and the Canadian Child and Youth Health Coalition (CCYHC) with a meeting grant (MHD106026) from The Canadian Institutes for Health Research (CIHR) and funding from the CCYHC. Symposium planning committee members included Bonnie Stevens, Gwen Burrows, Margaret Keatings, Norman Rosenblum, Donald Mabbott, Karen Gordon, and Shirine Riahi from The Hospital for Sick Children (SickKids), and Stephanie Atkinson from McMaster University.

3.0 Background

The symposium took place on Friday, November 26, 2010 in Toronto. The goal was to address the challenge of creating sustainable and stable career paths for health clinician-scientists in academic health science centres by: (a) sharing experiences and lessons learned; (b) strategizing on ways to demonstrate role value, establish sustainable funding models, and integrate research into health care delivery models; and (c) building partnerships to establish a national agenda. The symposium was based on the premise that to be successful, health clinician-scientists require Ph.D. level research skills in methodologies related to their specific research domain, post-doctoral research training, and protected time for research -- minimally 50% and optimally 70-80%. Fifty-five participants including leaders from government, universities, philanthropy, granting agencies, and adult and pediatric academic health science centres across Canada attended the day-long event. An outcome of the symposium was the initiation of a national dialogue that addressed the challenge of creating sustainable and stable career paths for health clinician-scientists.

4.0 Keynote Address

Michael Kramer, Scientific Director for the CIHR Institute of Human Development, Child and Youth Health (IHDCYH), gave the opening address highlighting the improvements in Canadian performance, relative to global indicators in the area of clinical research, after a decade of increased funding in the categories of grants, salaries, and training. CIHR offers clinician-scientist awards (i.e., training and faculty-level support) for physicians and dentists, but there is limited participation by these health professionals due to financial disincentives and inadequate role models. At present the clinician-scientist awards program excludes non-physician clinician-scientists, but there is greater recognition of the need for a critical mass of health professional clinician-scientists. Dr. Kramer shared potential solutions from CIHR to enhance support for clinician-scientists, including the new *CIHR Strategy on Patient Oriented Research (SPOR)* and increases in:

- health clinician-scientist awards
- support for randomized control trials
- theme-based networks
- infrastructure (including personnel)
- research budgets

Dr. Kramer asked for ideas for practice and policy change solutions, and how to build on local clinician-scientist funding models to have a broader impact.

5.0 Panel Discussions

In the first panel discussion, the experience of current health-clinician scientists was explored:

Four health clinician-scientists from academic health science centres across Canada, including Lynn Breau (Psychologist, Halifax), Liisa Holsti (Occupational Therapist, Vancouver), Deborah O'Connor (Registered Dietitian, Toronto), and Robert Schroth (Dentist, Winnipeg) shared their personal insights on: (a) the value and impact of their role in their respective academic health science centres, (b) how their role is supported and their multiple accountabilities, and (c) barriers and facilitators to their research practice. This panel was facilitated by Norman Rosenblum, Principal Investigator of the Canadian Child Health Clinician Scientist Program (CCHCSP), and Paediatric Nephrologist and Senior Scientist at SickKids.

The panelists conveyed how health clinician-scientists serve as the keystone between basic and clinical science, and the risks inherent in eliminating health professional clinician-scientist positions in academic health science centres. They described their struggle to find a home at academic health science centres and/or universities that provides secure career paths and stable funding to conduct clinical research. Funding for their positions is usually short-term and piecemeal from a variety of sources such as hospital operational budgets, hospital foundation support, academic appointments, and grants and awards. They lack a standardized role description that sets boundaries on their professional performance expectations and unifies their professional accountabilities to their multiple funders and professional regulatory bodies.

In the second panel discussion, six leaders (including the panel facilitator, Stephanie Atkinson) discussed their professional experiences with different health clinician-scientist funding models (i.e., academic, hospital, granting agency, and charitable/philanthropic models):

Dorothy Pringle, former Dean and Professor Emerita at the Faculty of Nursing, University of Toronto shared the history of nurse scientist models over the past three decades. Dr. Pringle highlighted the difficulty of retaining these positions in hospitals, where the nurse scientist often worked in isolation, versus losing them to universities where there is an ongoing need for academics and the lure of more secure tenure track career paths.

Linda Piazza, Director of Research and Health Policy at the Heart and Stroke Foundation (HSF) of Canada, talked about the gaps in grant and award support from health charities for novice and mid-career health clinician-scientists noting there is more support for research projects than personnel awards. The emphasis on high-impact publications in open competitions deters novice health clinician-scientists from competing and an emphasis on early career support overlooks the need for mid-career support.

Mary Ferguson-Paré, Vice-President, Professional Affairs and Chief Nurse Executive at the University Health Network (UHN) in Toronto, described how the UHN has created a stronger research culture over the past 9 years, including raising research funds to create more nurse clinician-scientist positions (i.e., securing 50% protected research time for all in-house PhD prepared Advanced Practice Nurses).

Martin Ferguson-Pell, Professor and Dean of the Faculty of Rehabilitation Medicine at the University of Alberta (U of A), described the integrated clinical-research model in the United Kingdom and how he has applied that philosophy to create more integrated clinician-scientist practice models for occupational therapists, physiotherapists, and speech language pathologists at U of A. In the UK, academic and clinical facilities are co-located, there is a centralized funding model, and research is part of the health care delivery culture. In an effort to allow rehabilitation clinician-scientists more time for research and practice in the clinical setting, Dr. Ferguson-Pell has alleviated heavy teaching loads by re-allocating funds to hire clinical teachers in dedicated teaching roles.

Judith Ritchie, Associate Director for Nursing Research at the McGill University Health Centre (MUHC), shared funding models composed of varying ratios of joint salary support from the hospital operating budget, hospital foundation, and university. These have been successfully used to support nurse scientists at MUHC in Montreal.

Stephanie Atkinson, Professor and Associate Chair, Research in the Department of Pediatrics, McMaster University, outlined current Canadian Child Health Clinician Scientists Program (CCHCSP) training awards for health clinician-scientists.

6.0 Strategy Session: Identifying Strategies and Priorities

Following the panel discussions, participants worked in three small groups to generate ideal funding model(s) for health clinician-scientists working in academic health science centres, and 2 or 3 strategies to achieve their models. The main points from the three discussion groups are summarized below:

Funding Models

- Sustained and partnered university-hospital funding models
 - salaried positions funded through hospital operating budgets and joint academic appointments
 - funding from each partner might depend on the extent to which the role is research focused versus clinically focused
- Clinician-scientist roles should be based in the clinical setting

Strategies

- Present an exciting vision for the clinician-scientist role in terms of how the role can advance health care delivery
 - educate others about the value of the clinician-scientist role
 - communicate the socio-economic impact of the role
 - use the media to share innovations
- Establish common values, partnerships and sustainability models for clinician-scientists at the national level
 - develop a national definition and model of care for the role that applies across provinces and institutions
 - engage professional licensing groups in this process
- Matched funding from hospitals for research and training awards, or agreement to support additional years post- award funding
 - collaborate to build follow-up funding into CIHR and other granting agency mandates
- Creation of more health clinician-scientist roles based in clinical settings
 - engage leadership at the senior executive level (or regional level for provincial health authorities) to champion the clinician-scientist role in all disciplines
 - incorporate the role into the hospital accreditation agenda
 - recruit health clinician-scientists based on strategic alignment with institutional priorities
 - enhance communication to better link roles and qualified individuals

7.0 Key Concepts and Recommendations

Key concepts and recommendations emanating from the symposium include:

- Health clinician-scientists are critical contributors to the health care system because they: (a) strategically design and evaluate practical, clinically-based treatments for the most pressing patient health issues; (b) enhance the translation of basic scientific discoveries to the bedside; (c) have credibility as research and clinical experts in their field, and can thereby influence policy and clinical decision-makers; and (d) enable better patient access to cutting edge treatments.
- Models for continuous funding of health clinician-scientist roles are required, including better partnerships and greater alignment of role definitions between academic health science centres, provincial and federal governments, universities, and professional regulatory bodies.
- Job descriptions for health clinician-scientists should clearly articulate the allocation of time for clinical practice, research, and teaching duties and form the basis for unified performance evaluations and tenure considerations in situations involving multiple reporting structures.
- Hospital and academic leaders must support the health clinician-scientist role and the incorporation of clinical research values into the organizational culture.
- Efforts are necessary to quantify the impact of health clinician-scientists and set benchmarks, as a means to (a) demonstrate to leadership and stakeholders the value of the role through data and standards, and (b) determine the ideal or critical mass of health clinician-scientists.
- Formal opportunities for health clinician-scientist training, as well as institutional efforts to integrate new health clinician-scientists into teams or introduce them to internal clinical and research collaborators, are important to address the issues of workplace isolation and the need for role models and mentorship.

8.0 Next Steps

The table below outlines knowledge (KT) translation activities planned following the symposium:

<u>Knowledge Translation Activity</u>	<u>Timeline</u>	<u>Comments</u>
1. Executive summary with presentation slides	Completed in February 2011	These documents were emailed to symposium invitees and participants for sharing with local stakeholders to generate awareness and interest in supporting the role. Anyone who would like to receive a copy of the summary should email: shirine.riahi@sickkids.ca.
2. Full event report	Completed in May 2011	The report will be distributed to symposium invitees and participants to share with their constituents.
3. Establishment of a national network to address sustainability issues for health clinician-scientists in academic health science centres	Fall 2011	The report authors will reach out to symposium invitees and participants who expressed an interest in joining a national network to continue the activities started at the symposium.
4. National consensus statement work	2011-2012	The network will develop a national consensus statement about the role that will be published in a national leadership journal or shared in some other national format.
5. Local environmental scans and evaluation of the health clinician-scientist role (initiated by individual institutions)	2011-2012	Study results shared by individual centres will strengthen arguments for the importance of the role in enhancing health care delivery and patient outcomes, and might lead to suggestions for a critical mass of health clinician-scientists.

9.0 Appendix A: Building Opportunities and Sustained Funding For Health Clinician-Scientists: Background Paper

Health Clinician-Scientists:

Continuous innovation and advancements in the health care field are necessary to address the numerous health related problems that remain unsolved for the population at large. These problems are multi-dimensional and interlinked. To address them, the health care system requires a critical mass of individuals from different health disciplines trained to conduct high quality clinically relevant research.

“Health clinician-scientists” are non-physician (MD) clinician researchers who maintain their clinical practice, while simultaneously developing and conducting a funded program of research (often as part of an interdisciplinary team). Health clinician-scientists include: nurses, occupational therapists, physiotherapists, psychologists, nutritionists, social workers, pharmacists, speech language pathologists, dentists, and others; all who have a significant role in caring for the patient and are well placed to identify clinically relevant research questions. They might pursue any area of health research activity including: clinical investigation in patients, health services research, outcomes research, and disease-oriented basic research. To be successful, they require Ph.D. level research skills in methodologies related to their specific research domain and usually at least two years of post-doctoral (or equivalent career development) research training. They also need protected time for research – minimally 50% and optimally 70-80%.

Health clinician-scientists (HCS) are “pivotal to asking the right questions and knowing how to answer them” and their strong ties to clinical practice make them “the true interface scientists” (CIHR, 2002, p. 7). Like their MD peers, HCS play a critical role in academic health science centres (AHSC) by conducting research that is informed by clinically relevant questions and ensuring that research results are translated into practice and policy effectively and efficiently.

The Problem:

Over the past decade or more, several academic centres have established, for the first time, doctoral training programs for non MD health professions; notably in nursing, rehabilitation sciences, clinical psychology, and pharmacy. In support of such trainees, funding programs have emerged through personnel awards from the Canadian Institutes of Health Research (CIHR) and its strategic training programs (e.g., Canadian Child Health Clinician Scientist Program, and Autism Network) with the end result of building capacity for HCS across the country. However, such investments in training and preparing these scientists for careers in clinical research, and any opportunities to benefit from their talent and skills, are negated when sustainable and stable career paths are not available following formal training forcing such highly skilled persons to forgo pursuing careers as clinician-scientists.

Current Issues:

Hospital Funding Models:

The Hospital for Sick Children (SickKids) and some other hospitals across Canada have developed a very successful funding model to support physicians and surgeons to engage in clinical research through the alternate funding plan (AFP). The AFP has led to a significant growth in the number and quality of physician-scientists over the past 10-15 years and similar initiatives are emerging in academic health centres across the country. However, SickKids and other AHSCs have no well-developed funding model to support other health care professionals pursuing careers as clinician-scientists.

The commitment and ability to fund health clinician-scientists varies from one AHSC to another. Many larger centres are committed to funding positions for a select few health care professionals. However, those who find positions are the exception rather than the rule, as Ministry of Health Operations’ budgets (i.e., **hospital operating budgets**) will not support significant protected research time for the vast

majority of clinician-scientists. Some positions have been justified by categorizing them under clinical initiatives (e.g., as clinical innovation) or by providing clinical titles (e.g., Clinical Academic Specialists), but the amount of protected research time varies and is usually less than ideal. This means that the institution, health professionals, and the public are not benefiting from the significant and unique contributions which could be made by clinician-scientists who are nurses, occupational therapists, physiotherapists, psychologists, nutritionists, social workers, pharmacists, speech language pathologists, and others who are Ph.D. prepared and/or have extensive research preparation.

Other Funding Models:

Funding for these roles may come from **philanthropy** (e.g., directed to general hospital foundation funds, given as directed donations to specific hospital departments or divisions, or provided as endowed chairs) and **research salary awards** (e.g., federal or provincial competitions and charitable foundation competitions). The latter solution in particular creates longer term problems as this *soft money* is only available for a limited term, usually 3-5 years, often does not cover start-up and equipment costs, and is available to only a very select few. Without a backup plan following the funding term, the clinician-scientist will not be able to continue with protected time for research and will need to revert to clinical activities only.

Many HCS perceive that the only viable choice for those who are interested in being researchers is taking a faculty position at a **university** and giving up or greatly minimizing their clinical practice. Although a few university departments/faculties have supported a clinician-scientist model, in these cases, time is usually split between a fairly significant teaching role, clinical practice, and research. This model works less well for junior faculty trying to establish themselves as researchers and has the potential to sever the important *bench to bedside to backyard* translational link between ongoing clinical practice and active research programs.

Demonstrating Value:

Most AHSCs will agree that HCSs play a valuable role in their organizations. However, due to limited resources and competition from other priority spending areas, HCS positions will depend on specific leadership or divisional support and priority decision-making. Demonstrating the value added to organizations by HCS in specific and measurable terms – e.g., through clinical efficiencies, clinical outcomes and cost savings – might further the case for establishing the position more permanently when hospitals, government, universities, granting agencies and other funding bodies are setting their priority spending areas.

Better Integrating Research into Hospital Care Delivery Models:

Research is not yet fully integrated into hospital care delivery models. Clinical research is still predominately viewed as separate from, or an adjunct to, clinical care instead of as an integrated part of the model of care. Some departments, such as oncology, are further along in integrating research and clinical care, where enrolment in a study *is* the standard of care and there are established departmental research units that screen every patient for their eligibility to participate in a research study. *Hospitals need to endeavour to foster a culture where clinical research is integrated in the delivery of clinical care.* Moving the research agenda forward within such a culture will help to improve clinical outcomes in the long-term and create a place for the role of health clinician-scientists in realizing these outcomes in hospitals.

Objectives of a National Health Clinician-Scientist Symposium:

Our goal is to initiate a national dialogue with leaders from various adult and pediatric AHSCs, the federal and provincial governments, universities, granting agencies, and other funding bodies to develop a plan to address the funding and career-development issues affecting the future viability of health clinician-scientists in Canada. The key objectives of a national symposium are to:

1. Share experiences and lessons learned in relation to supporting health clinician-scientists
2. Strategize ways to:
 - a. Demonstrate the value of the HCS role
 - b. Establish more sustainable funding models through creative partnerships
 - c. Better integrate research into health care delivery models
3. Build partnerships to establish a national HCS agenda
4. Develop a multi-year action strategy report that makes short-, medium-, and long-term recommendations to engage national and provincial governments on issues of adequate support for all clinician-scientists

Knowledge Exchange and Dissemination Plan:

The national symposium will promote new linkages between parties from different sectors and disciplines (see list below) that have a shared interest in the contributions and success of HCS roles. Through these new alliances, strategies will be developed and shared broadly in an effort to gain wider support and generate change.

- **Provincial ministries**
Relevant to discussions related to government support for HCS models
- **Adult and Pediatric Academic Health Science Centres**
Can address the successes and challenges in implementing HCS roles within hospital-university settings
- **Relevant AHSC affiliated university faculties (e.g., Pharmacy, Nursing, OT/PT, etc.)**
Departmental Chairs and Faculty Deans are important partners in bridging academia, research and clinical practice; will contribute to discussions related to joint academic-clinical-research models; can promote clinician-scientist career paths and training for future students
- **Health research funding agencies**
Includes both representatives from the charitable sector and government health research funding bodies. Important partners in discussions related to role funding.

Following the national symposium, the event organizers – SickKids and the Canadian Child and Youth Health Coalition (CCYHC) – will produce and disseminate an action strategy report that summarizes the event proceedings and findings and makes recommendations for next steps. Specific dissemination plans for the action strategy report include:

- On-line publication of the report on the CCYHC and SickKids websites
- Distribution to all symposium participants
- Distribution to CIHR and other national and provincial funders of clinical research
- Local presentations, webinars, webcasts and other forms of interactive communication

Organizers will also drive the implementation of recommendations contained in the action strategy.

Reference:

Institute of Circulatory and Respiratory Health on behalf of CIHR (2002). The clinician scientist: yesterday, today and tomorrow.

10.0 Appendix B: Agenda

**HEALTH CLINICIAN-SCIENTISTS IN ACADEMIC HEALTH SCIENCE CENTRES
PROTECTING AN ENDANGERED SPECIES: A NATIONAL SYMPOSIUM**

Friday, November 26, 2010
The Faculty Club, University of Toronto
41 Willcocks Street, Toronto, ON

*Time	Topic	Speaker	Duration
7:45 a.m.	<i>Registration and Breakfast (45 min.)</i>		
8:30 a.m.	Welcome, Overview, & Background	<i>Mary Jo Haddad Bonnie Stevens Gwen Burrows</i>	30 min.
9:00 a.m.	Keynote Address: <i>CIHR Vision for Supporting Clinical Research</i>	<i>Michael Kramer</i>	55 min.
9:55 a.m.	<i>Break (15 min.)</i>		
10:10 a.m.	Panel Discussion #1: <i>How clinician-scientists impact clinical outcomes, including the clinical benefits of participation in research</i>	<u><i>Norm Rosenblum (Chair)</i></u> 1. <i>Lynn Breau</i> 2. <i>Liisa Holsti</i> 3. <i>Deborah O'Connor</i> 4. <i>Robert Schroth</i>	90 min.
11:40 a.m.	<i>Lunch (60 min.)</i>		
12:40 p.m.	Panel Discussion #2: <i>Clinician-scientist funding models</i>	<u><i>Stephanie Atkinson (Chair)</i></u> 1. <i>Dorothy Pringle</i> 2. <i>Linda Piazza</i> 3. <i>Mary Ferguson-Paré</i> 4. <i>Martin Ferguson-Pell</i> 5. <i>Judith Ritchie</i>	80 min.
2:00 p.m.	<i>Break (15 min.)</i>		
2:15 p.m.	Strategy Breakout Session: <i>Identifying strategies and priorities</i>	<u><i>Facilitator(s)</i></u> <i>Stephanie Atkinson Gwen Burrows Donald Mabbott Norman Rosenblum Bonnie Stevens</i>	Small Group Work: 45 min. Plenary Group Work: 45 min. Total 90 min.
3:45 p.m.	Closing Remarks & Next Steps	<i>Bonnie Stevens and Gwen Burrows</i>	15 min.

Welcome Address

Mary Jo Haddad

Email: maryjo.haddad@sickkids.ca

Mary Jo Haddad was appointed President and CEO of The Hospital for Sick Children (SickKids) in November, 2004, after serving as Interim President and CEO. Since joining SickKids in 1984, she has held several leadership positions at SickKids prior to her appointment as President and CEO. These included Executive Vice-President and Chief Operating Officer, Chief Nurse Executive, Vice-President Child Health Services, and Director of Neonatology and Critical Care. An honors graduate of the Faculty of Nursing at the University of Windsor, Ms. Haddad earned a Masters in Health Science from the University of Toronto and has made numerous contributions to children's health in Ontario and internationally. Ms. Haddad holds a number of Board appointments and Chair roles including: Board Chair, MaRS Innovation; Chair, Council of Academic Hospitals of Ontario (CAHO); and Chair, Provincial Council for Maternal Child Health (PCMCH). Committed to lifelong learning and mentorship, she lectures at the University of Toronto, Department of Health Policy, Management and Evaluation, and at the University of Toronto, Rotman School of Business. She is a mentor for aspiring leaders from the Women's Executive Network and CITY Leaders: The Creative Institute for Toronto's Young Leaders. Ms. Haddad was appointed a Member of the Order of Canada in June 2010. She holds an honorary Doctor of Laws degree from the University of Windsor and is a recipient of the Premier's Award for Outstanding Achievement.

Keynote Speaker

Michael Kramer

Email: michael.kramer@mcgill.ca

Michael S. Kramer is James McGill Professor in the Departments of Pediatrics and of Epidemiology and Biostatistics at McGill University Faculty of Medicine. He has been a National Health Research Scholar and National Health Research Scientist of Health Canada's National Health Research and Development Program (NHRDP), a Chercheur-boursier senior (senior research scientist) of the Fonds de la recherche en santé du Québec (FRSQ), and a Distinguished Scientist of the Canadian Institutes of Health Research (CIHR). He has been principal investigator on several large, multicentre epidemiologic studies and randomized trials in the general area of maternal and child health. A member of four expert committees of the U.S. Institute of Medicine, in 1997-98 Dr. Kramer served as President of the Society of Pediatric and Perinatal Epidemiologic Research. From 1995-2001, he chaired the Steering Committee of the Canadian Perinatal Surveillance System and until May 2003, chaired the Institute Advisory Board of CIHR's Institute of Human Development and Child and Youth Health (IHDCYH). He currently serves as IHDCYH's Scientific Director. He has received operating grant support from the Medical Research Council (now CIHR) of Canada, NHRDP, NIH, FRSQ, and the March of Dimes. Dr. Kramer has authored or co-authored 20 books and monographs, and has published over 300 original articles. His systematic review of the evidence on the optimal duration of exclusive breastfeeding led directly to new infant feeding recommendations by WHO and the World Health Assembly. His current principal areas of research are the continued follow-up of Belarusian children from the Promotion of Breastfeeding Intervention Trial (PROBIT); the effects of increasing induction and cesarean delivery on birth weight, gestational age, and maternal/fetal/infant morbidity and mortality; and new epidemiologic and statistical methods for analysis of fetal growth, timing of birth, and fetal/infant mortality.

Panel #1

Lynn Breau

Email: l.breau@dal.ca

Lynn Breau is a Registered Psychologist who holds a CIHR New Investigator Award and is an associate professor with the School of Nursing at Dalhousie University where she is also cross-appointed to the Departments of Pediatrics and Psychology. She was awarded postdoctoral fellowships by the Canadian Pain Society/Canadian Anesthesiologists' Society and CIHR Child Health Clinician Scientist Program. Dr. Breau has conducted research about pain in people with intellectual disabilities for 14 years and has published widely in journals across disciplines. She recently developed psychological pain treatments for those with intellectual disabilities, and is currently looking at how children with intellectual disabilities try to cope with pain. Dr. Breau also works clinically with the Pediatric Complex Pain Team at the IWK Health Centre, a tertiary pediatric centre in Halifax. As part of a multidisciplinary team, she provides ongoing assessment and care for children who have complex chronic pain problems, both through individual therapy and group treatments.

Liisa Holsti

Email: liholsti@cw.bc.ca

Liisa Holsti is an assistant professor in the Department of Occupational Science and Occupational Therapy at the University of British Columbia and a clinician-scientist at the Child and Family Research Institute. She is the first occupational therapist in British Columbia to hold a Tier II Canada Research Chair. She is also the first in BC to be running an independent, interdisciplinary program of research in pediatrics. Dr. Holsti's research focuses on finding ways to assess and treat effectively pain and stress in preterm and critically ill infants in the NICU. Her long-term objective is aimed at improving the health of preterm infants by minimizing the impact of the NICU environment and painful/stressful procedures on the development of the brain. Dr. Holsti is also the UBC Centre Leader for the Canadian Child Health Clinician Scientist Program, a CIHR Strategic Training Initiative in Health Research.

Deborah L. O'Connor

Email: deborah_l.oconnor@sickkids.ca

Deborah O'Connor received her B.A.Sc. in Applied Nutrition at the University of Guelph and her MS and PhD in Nutritional Sciences at the University of Illinois. She received her clinical training at Kingston General Hospital. Dr. O'Connor was an Associate Professor in the Division of Applied Human Nutrition at the University of Guelph, and in the Department of Nutrition at The Ohio State University. She also served as the Group Leader for the Premature Infant Nutrition Research Group at Abbott Nutrition's global research headquarters in Columbus, Ohio. Dr. O'Connor is currently a Full-Professor in the Department of Nutritional Sciences, Faculty of Medicine, at the University of Toronto, and is a Senior Associate Scientist in the Physiology and Experimental Medicine Program at The Hospital for Sick Children. She is also the Director of Clinical Dietetics and Breastfeeding support at the same institution. Her research interests are in the area of maternal and infant nutrition, folate metabolism, and provision of human milk for very low birth weight infants. Currently, she is a member of the International Society of Research on Human Milk and Lactation, Coalition for Research in Women's Health and the American Society of Nutrition. She is currently serving on the Expert Advisory Group for revision of the National Nutrition Pregnancy Guidelines by Health Canada and on the Executive for the Canadian Nutrition Society.

Robert Schroth

Email: umschrot@cc.umanitoba.ca

Robert Schroth is presently an Assistant Professor in the Departments of Oral Biology & Preventive Dental Science (Faculty of Dentistry) and the Department of Pediatrics & Child Health (Faculty of Medicine) at the University of Manitoba and a member of the Manitoba Institute of Child Health. He currently holds the MMSF/MHRC Clinical Research Professorship in Population Medicine at the

University of Manitoba. Dr. Schroth is a dental clinician-scientist with a PhD in Community Health Sciences. His research focuses on the epidemiology of Early Childhood Caries in at-risk populations particularly among Aboriginal children. Some of his work has examined the role of prenatal factors, including vitamin D levels, on the oral health of infants and preschool children. He also co-leads a large early childhood oral health promotion and ECC prevention project in Manitoba, Healthy Smile Happy Child, which includes a considerable research and evaluation component.

Panel #2

Mary Ferguson-Paré

Email: mary.ferguson-pare@uhn.on.ca

Mary Ferguson-Paré is Vice-President, Professional Affairs and Chief Nurse Executive at University Health Network, which comprises Toronto General, Toronto Western and Princess Margaret Hospitals. She is an Associate Professor at the University of Toronto, Faculty of Nursing. Her previous experience includes progressive senior nursing management and executive positions in both the acute care and long-term care sectors; nursing education; and institutional and community nursing experience in Psychiatry, Addictions Therapy, Victorian Order of Nurses, Family Practice and Student Health. Dr. Ferguson-Paré graduated from the University of Toronto with a Bachelor of Science in Nursing, completed the CHA/CCHSE Health Services Management Program, became a Certified Health Executive with the Canadian College of Health Service Executives, graduated from the University of Minnesota with a Masters in Public Health, received an MA in Organization Development, and a Ph.D. in Human and Organizational Systems from the Fielding Institute, Santa Barbara, California, completed the Strategic Human Resource Management Program at Harvard and is a Fellow of The Wharton School of Business, University of Pennsylvania. Dr. Ferguson-Paré has focused her professional and academic activities on organization and management development within health care and the development of leaders who promote autonomous professional practice and a client centred approach to service. She is past President of the Academy of Canadian Executive Nurses, Ontario Nurse Executives, the Association of Nurse Executives of Metropolitan Toronto and the Registered Nurses Association of Ontario; a board member of the Canadian Nurses' Protective Society; a member of the Canadian College of Health Service Executives, the Nursing Leadership Network of Ontario, the College of Registered Nurses of British Columbia and Sigma Theta Tau International. During the SARS outbreak Mary served as a member of the Clinical Advisory Team for the Ministry of Health and Long Term Care. Later she was appointed to the National Advisory Committee on SARS and Public Health. Recently, she tabled a report and recommendations on innovation in nursing service delivery, improving the patient experience and outcome measurement based on her sabbatical learning derived from a journey through Scandinavia, Europe, Ireland and the United Kingdom. Dr. Ferguson-Paré is the recipient of the Distinguished Alumni Award, University of Toronto Faculty of Nursing, the Award of Excellence in Nursing Leadership, Ontario Hospital Association, and the National Nursing Leadership Award, Canadian College of Healthcare Executives.

Martin Ferguson-Pell

Email: martin.ferguson-pell@ualberta.ca

Martin Ferguson-Pell is a professor and Dean of the Faculty of Rehabilitation Medicine. His current research areas include: the biomechanics of wheelchair propulsion relating to the risk of upper extremity over-use injury; the identification of pathological changes in tissues subjected to prolonged ischemia using non-invasive techniques such as tissue reflectance and nuclear magnetic resonance spectroscopy; the influence of osteogenic mediators on the rate of bone demineralisation in the acute phase of spinal cord injury; the development of non-invasive techniques for the assessment of muscle fibre composition and muscle activity associated with functional electrical stimulation; and the design, development and evaluation of technologies for assisted living promoting increased independence and quality of life for people with functional limitations living in the community.

Linda Piazza

Email: lpiazza@hsf.ca

Linda Piazza is Director of Research at the Heart and Stroke Foundation of Canada, a position she assumed in June 2006. Linda is also currently acting Director of Health Policy. Ms. Piazza's background is in nursing and she has a Masters in Health Administration from the University of Ottawa. Ms. Piazza has extensive experience in administration of research programs at the national level. She is a past Executive Director of the Canadian Nurses Foundation, where she launched the Nursing Care Partnership clinical nursing research program in collaboration with the Canadian Health Services Research Foundation. In addition, Linda has worked many years in health policy at the Canadian Nurses Association and hospital administration at the Ottawa Hospital.

Dorothy Pringle

Email: dorothy.pringle@utoronto.ca

Dorothy (Dot) Pringle is professor emeritus at the University of Toronto where she was dean of nursing from 1988-1999. Her degrees are from McMaster University (BScN), the University of Colorado (MS, Psychiatric-Mental Health Nursing) and the University of Illinois (PhD, Gerontological Nursing). She has five honorary degrees, is a recipient of the Jeanne Mance Award from the Canadian Nurses Association for lifetime contributions to nursing and was invested as an officer of the Order of Canada in 2008. She is a fellow of the Canadian Academy of Health Sciences and a senior fellow of Massey College at the University of Toronto. She was the inaugural chair of the Institute Advisory Board of the CIHR Institute of Aging and a member of the Advisory Board from 2001-2009 and was Editor-in-Chief of the Canadian Journal of Nursing Leadership from 2004-2009. Her research has focused on the responsibilities and well-being of family caregivers of individuals with dementia and on the quality of daily life of cognitively impaired older people particularly those who live in long term care facilities and nurses' roles in enhancing daily life.

Judith Ritchie

Email: judith.ritchie@muhc.mcgill.ca

Throughout her career, Judith Ritchie has contributed extensively towards research on family-centred care, knowledge transfer, evidence informed decision making (EIDM) and health services research. As Associate Director for Nursing Research at the McGill University Health Centre since 2000, and a past President of the Canadian Nurses Association, she has spearheaded the implementation of best practice guidelines to manage pain, protect skin integrity among patients, and reduce the incidence of falls. She was the driving force behind creating the *Eureka! Fellowships*, which provide nurses with the resources and tools to conduct a research project that improves nursing practice. She also mentors clinicians and senior leaders in using EIDM. Among her many awards and honors, she received the *Queen's Jubilee Medal for Outstanding Service to Canada* in 2003 and the *Inaugural Excellence through Evidence Award* from the Canadian Health Services Research Foundation in 2010. Dr. Ritchie continues to bridge the worlds of clinical practice, policy, education and research with the launch of her *Nursing Research Centre - Knowledge, Innovation and Action*. Teams of nurse scientists and clinician-scientists, administrators, patients, families and students will co-create knowledge in specific clusters (e.g. cancer care, chronic illness management, nursing services). Doctorally prepared nursing research consultants will support staff in evidence-based practice and implementing small research projects.

Event Facilitators

Stephanie Atkinson

Email: satkins@mcmaster.ca

Stephanie Atkinson is Professor and Associate Chair (Research) in the Department of Pediatrics, and Associate Member in the Department of Biochemistry and Biomedical Sciences, Faculty of Health Sciences, McMaster University and Professional Staff in McMaster Children's Hospital. Dr. Atkinson's research explores nutrition, disease and/or drug exposures during fetal, neonatal and early childhood life as determinants of growth and development in childhood and as risk factors of chronic disease. Currently, she investigates early determinants of obesity, diabetes, and risk of cardiovascular disease and osteoporosis in children through a longitudinal birth cohort study. In related work, Dr. Atkinson co-leads the Canadian Birth Cohort Research Network initiative through the Maternal, Infant, Child and Youth Research Network (MICYRN). Currently, she is the Chairperson of the CIHR Institute of Nutrition, Metabolism and Diabetes (INMD) Institute Advisory Board, and member of the Scientific Advisory Council and Executive of Osteoporosis Canada, the Grants Advisory Committee of the SickKids Foundation, the executive of the Canadian Child Health Clinician Scientists' Program, and the Paediatric Expert Advisory Committee of Health Products and Food Branch of Health Canada.

Gwen Burrows

Email: gwen.burrows@sickkids.ca

Gwen Burrows is Director of Strategic Projects at The Hospital for Sick Children Research Institute. In that role, she works collaboratively with the Chief of Research and the Research Executive to develop and implement the strategic vision for the Research Institute, including developing the scope and approach to strategic projects, and implementing and evaluating the outcomes of these initiatives. From 2007-2010 she was also Executive Director of the Council for Canadian Child Health Research, whose members represent all Canadian academic health science centres across Canada with a focus on child and youth health research; over the past year, she also served on the Executive Committee for the Canadian Child and Youth Health Coalition. Ms. Burrows is also currently holds the volunteer position of President of the Couchiching Institute on Public Affairs, Canada's oldest public affairs institute. Before joining the Research Institute, Ms. Burrows directed the National Grants Program – a Canada-wide funding program for child health research – at SickKids Foundation, setting the strategic direction and funding strategy for that \$4 million program. In that role she was actively engaged in the development of a number of national initiatives including the Children and Youth Home Care Network, the Canadian Child Health Clinician Scientist Program, and the Funders Alliance for Children Youth and Families. Ms. Burrows has a Masters in Philosophy from Johns Hopkins University and a BA from McGill University.

Donald Mabbott

Email: donald.mabbott@sickkids.ca

Donald Mabbott (PhD) is an Associate Scientist in the Neuroscience & Mental Health Program of the Research Institute and Senior Manager, Academic Programs in the Department of Psychology at the Hospital for Sick Children, Toronto, Ontario. He is also an Assistant Professor in the Department of Psychology, University of Toronto. Dr. Mabbott received his Ph.D. in Developmental Psychology at the University of Alberta, and then completed a Post-Doctoral Fellowship in Paediatric Neuropsychology at the Hospital for Sick Children. As a clinical neuropsychologist, Dr. Mabbott provides pediatric neuropsychology services to children with brain tumours and their families dealing with learning problems and cognitive impairments associated with their disease. His research program is devoted to understanding and reducing the cognitive late effects of pediatric brain tumours. In this research he uses innovative brain imaging techniques (i.e., Diffusion Tensor Magnetic Resonance Imaging; Magnetoencephalography) and neuropsychological tests to study the impact of treatment for pediatric brain tumours on the structure and function of the brain. Dr. Mabbott's unique combination of clinical and research expertise on brain tumours, and their impact on children's brain development and learning,

places him in an exceptional position not only to conduct clinically relevant research but to translate this work into improved outcomes for children with brain tumours.

Norman Rosenblum

Email: norman.rosenblum@sickkids.ca

Norman Rosenblum is the Principal Investigator of the Canadian Child Health Clinician Scientist Program. He is Professor of Paediatrics, Physiology, and Laboratory Medicine and Pathobiology, and Canada Research Chair in Developmental Nephrology at the University of Toronto, and a Paediatric Nephrologist and Senior Scientist at The Hospital for Sick Children. A native of Glace Bay, Nova Scotia, Dr. Rosenblum received his MD degree from Dalhousie University and then completed postgraduate training in Pediatrics and Pediatric Nephrology at the Children's Hospital, Boston and postdoctoral research training with Bjorn Olsen in cell and molecular biology at Harvard Medical School. Since joining the University of Toronto in 1993, Dr. Rosenblum has pursued research aimed at defining molecular mechanisms that control formation of the normal and malformed kidney, the major cause of kidney failure during childhood. Dr. Rosenblum's research has been recognized with the 2004 Aventis Pasteur Research Award and the 2006 American Pediatric Society New Member Outstanding Science Award. Dr. Rosenblum is a past Chair of The Hospital for Sick Children Clinician Scientist Program. He initiated the formation of and has subsequently led the Canadian Child Health Clinician Scientist Program. Dr. Rosenblum served as Associate Chair of Paediatrics (Research) at the University of Toronto from 2001-2008 and now serves as Associate Dean, Physician Scientist Training. Dr. Rosenblum is the recipient of the 2009 Paediatric Academic Leadership-Clinical Investigator Award awarded by the Paediatric Chairs of Canada and the 2010 Maureen Andrew Mentor Award awarded by the Society for Pediatric Research.

Bonnie Stevens

Email: bonnie.stevens@sickkids.ca

Bonnie Stevens is the Signy Hildur Eaton Chair in Paediatric Nursing Research, Associate Chief Nursing, Research and Senior Scientist in the Research Institute at the Hospital for Sick Children. She is a Professor in the Lawrence S. Bloomberg Faculty of Nursing and Faculty of Medicine at the University of Toronto. She is also the Director of the University of Toronto Centre for the Study of Pain and Co-Director of the Centre for Pain at the Hospital for Sick Children. She earned her BScN from McMaster University, her MScN from the University of Toronto and her PhD from McGill University. Dr. Stevens held a Career Scientist Award from the Ontario Ministry of Health and has received the Premier's Research Excellence Award and the American Pain Society's Jeffrey Lawson Award for pediatric pain advocacy. Her current research is on the assessment and management of pain in infants at risk for neurological impairment and the effectiveness of knowledge translation (KT) strategies in changing pain practices of health professionals. She is the Principal Investigator of the CIHR Team in Children's Pain investigating KT interventions in 8 pediatric hospitals in Canada. She has over 200 publications and is the co-editor of the 2007 book "Pain in Neonates and Infants" (Elsevier).

Health Clinician-Scientists in Academic Health Science Centres

Protecting an Endangered Species

Friday, November 26, 2010



Symposium Goal

A **solution focused** symposium to address the challenge of creating **sustainable and stable career paths for non-physician clinician-scientists in Academic Health Science Centres**, by

1. Sharing experiences and lessons learned
2. Strategizing on ways to:
 - a. demonstrate role value
 - b. establish sustainable funding models through creative partnerships
 - c. integrate research into health care delivery models
3. Building partnerships to establish a national agenda

Symposium Agenda

- Welcome and opening remarks
- Keynote address: CIHR vision for supporting clinical research
- Break
- Panel 1: The case for non-physician clinician-scientists
- Lunch
- Panel 2: Examples of funding models
- Break
- Solution focused strategy session
- Closing

Background: Core Concepts

- **Clinical health related problems are multidimensional and interlinked, necessitating:**
 - A critical mass of individuals from different disciplines training towards scientific excellence
 - Institutional support in the form of:
 - Roles that facilitate using these skills
 - Research – as a core and guiding value
 - Silo breakdown
 - Community support in the form of:
 - National frameworks that promote research and excellence

Background: Core Concepts

- **Why are clinician-scientists important?**
 - They are in the best position to find preventative strategies and cures
 - They work face-to-face with clinical problems and can identify major gaps in our capacity to prevent, ameliorate and cure illness

Background: Core Concepts

- **Clinician-scientist role description:**
 - Engagement in clinical practice
 - Protected time for research
 - minimally 50% protected time
 - optimally 70-80% protected time
 - Integration of clinical and research by ensuring
 - research is informed by clinically relevant questions
 - research results are translated into practice and policy

Background: Core Concepts

• Clinician-scientist funding models:

- Global/Operational Budget
- Academic
- Government (i.e., provincial/AFP models)
- Government Awards (e.g., CIHR competitions or other limited term federal or provincial salary support awards)
- Philanthropy
- Granting Agencies or Charitable Foundations

Background: Core Concepts

• What has inhibited the role?

- A culture that values research careers
- Separation between the University and the AHSC
- Lack of enticing research experiences during 'clinical phase'
- Salary support during 'research phase'
- Perception of career opportunities as clinician researchers
- Relevance of clinical training to future career - isolation vs. creative interchange
- Institutions and support of clinician-researchers

One indicator: Canadian Child Health Clinician Scientist Program (CCHCSP) Data

Graduate	Clinical Discipline	Primary Appoint.	Appointed at AHSC	Clinical Role	CS Position	Clinical Research
1	OT	Faculty	Yes	No	No	Yes
2	OT	Faculty	Yes	No	No	Yes
3	RN	AHSC	Yes	Yes	Yes	Yes
4	RN	Faculty	Yes	No	No	Yes
5	RN	AHSC	Yes	No	Yes	Yes
6	Psych.	Faculty AHSC	Yes	Yes	Yes	Yes
7	SLP	Faculty	Yes	No	No	Yes
8	SLP	Faculty	No	No	No	No

Strategy Session

• Small group strategy work

- 45 minutes
- yellow, green, red, blue, and white groups

• Plenary strategy work

- 45 minutes
- groups present their top 3-5 strategies (5 min./group)
- strategies are ranked (short-, medium-, or long-term) and prioritized

Generate strategies to:

1. demonstrate role value,
2. establish sustainable funding models through creative partnerships,
3. integrate research into health care delivery models, and
4. build partnerships to establish a national agenda.



With thanks to:

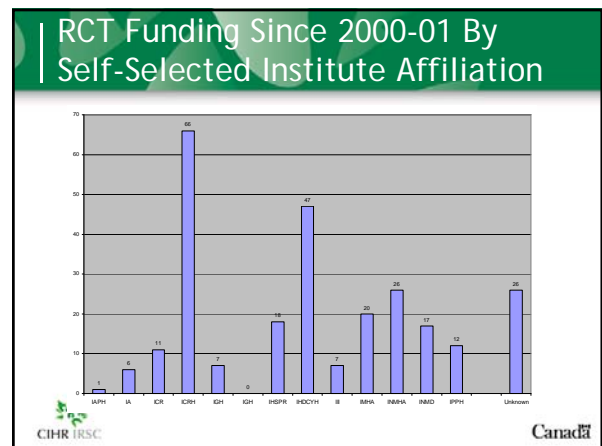
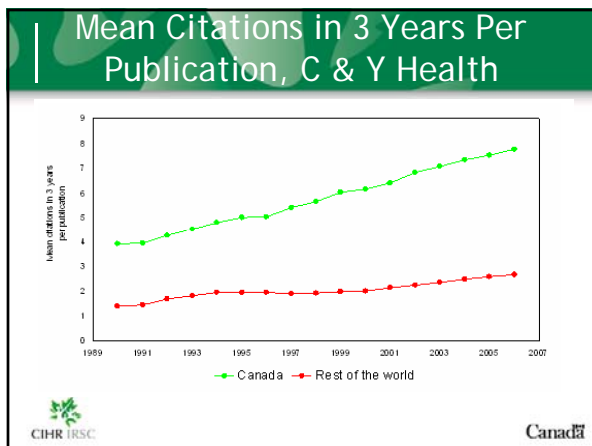
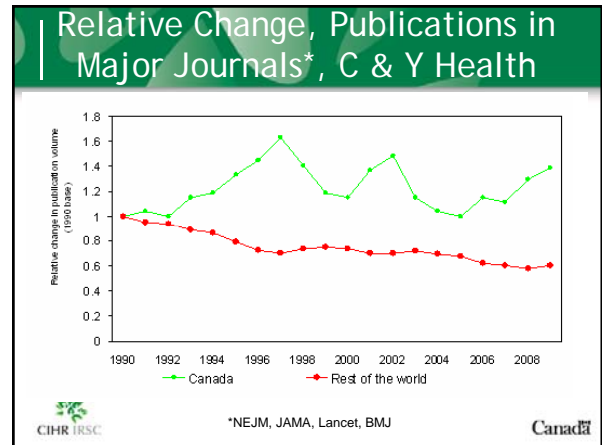
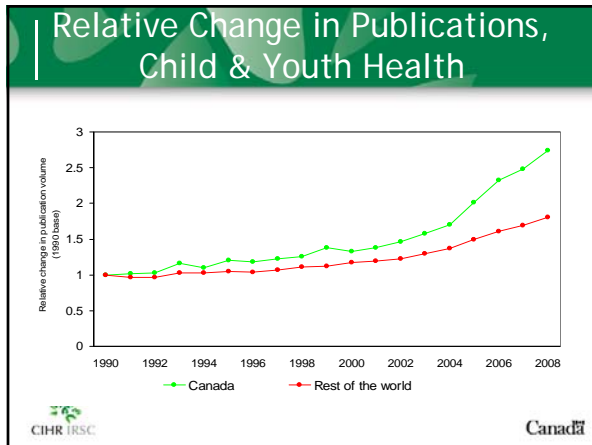
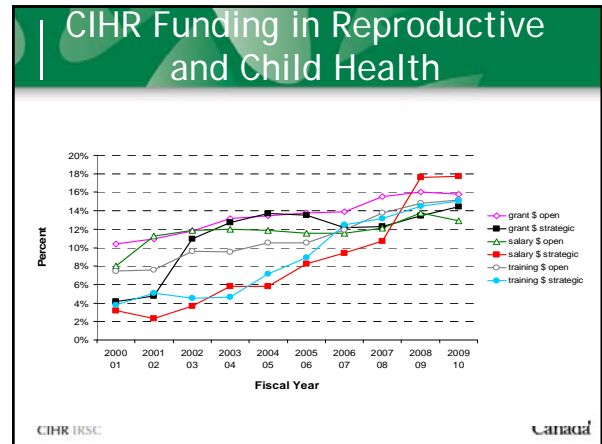


Special thanks to our planning
committee and volunteers!

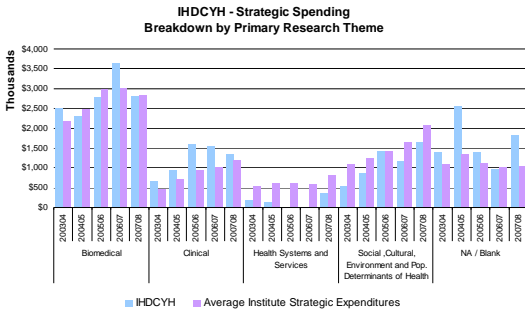
Stephanie Atkinson
Karen Gordon
Don Mabbott
Norman Rosenblum
Geraldine Coburn
Salima Jiwami
Nicole Law
Charlene Soobiah
Shirine Riahi

Outline

- Update on IHDCYH outputs/outcomes
- Focus on clinical research
 - What is it?
 - How does CIHR support clinician-scientists?
 - What are the problems?
 - What are the solutions?
 - My take
 - SPOR (CIHR's clinical research initiative)
- Your ideas and input



Institute Strategic Funding by Pillar



CIHR IRSC

Canada

What is "Clinical Research"?

- Under MRC
 - Any research not considered "basic"
 - RCTs of clinical interventions, not much else
- Under CIHR
 - Researchers self-define their "pillar"
 - Still includes RCTs
 - Clinical physiology, diagnosis, prognosis
 - Is it limited to research by clinicians?

CIHR IRSC

Canada

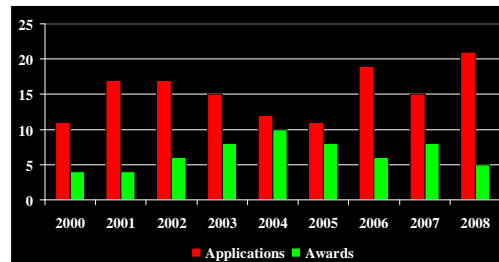
Clinician-Scientist Awards

- Phase 1 (training)
 - For MDs/dentists with demonstrated research interest and aptitude
 - For 3 years, renewable once
 - \$52,500 stipend + \$5,000 research allowance
- Phase 2 (faculty-level salary support)
 - Restricted to recipients of Phase 1 awardees
 - For 3 years, renewable once
 - \$60,000 salary + \$40,000 research allowance

CIHR IRSC

Canada

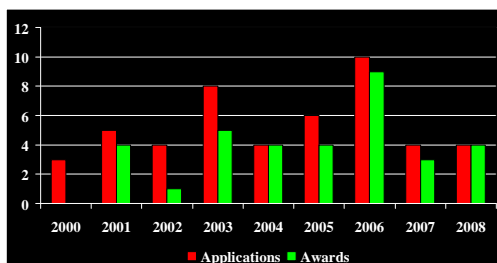
Clinician-Scientist Awards Phase 1



CIHR IRSC

Canada

Clinician-Scientist Awards Phase 2



CIHR IRSC

Canada

What Are the Problems?

- Insufficient physician-scientists
 - Financial disincentives
 - Inadequate role models
- Insufficient AHP-scientists
 - Heavy teaching, service loads
 - Need critical mass
 - Excluded from existing CIHR clinician-scientist awards

CIHR IRSC

Canada

What Are the Solutions?

- More clinician-scientist awards, especially for AHPs
- Practice plans (revenue sharing) that eliminate financial disincentives for MDs
- More funding for RCTs in OOGP
- Theme-based networks
 - Infrastructure (including personnel)
 - Research budget
 - Like NICHD neonatal & MFM networks



CIHR Strategic Plan (Roadmap) 5 Research Priorities

Priority 1	Enhance Patient-Oriented Care and Improve Clinical Results
Priority 2	Support a High-Quality, Accessible and Sustainable Health-Care System
Priority 3	Reduce Health Inequities of Aboriginal Peoples, other Vulnerable Populations
Priority 4	Prepare For and Respond To Existing and Emerging Threats to Health
Priority 5	Promote Health and Reduce the Burden of Chronic Disease and Mental Illness

Strategy on Patient-Oriented Research (SPOR): Goals

- Improve **health outcomes** through research:
 - Enhance **clinical applications** and **economic impact** of health innovations
 - Provide health professionals and decision makers with information on how to deliver **high-quality care** and services in a **cost-effective manner**
- **Continuum** of “bench-to-bedside” studies to ensure that effective drugs, devices, and procedures are integrated into health systems

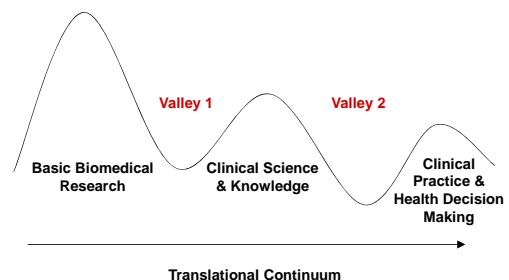


Key Premises

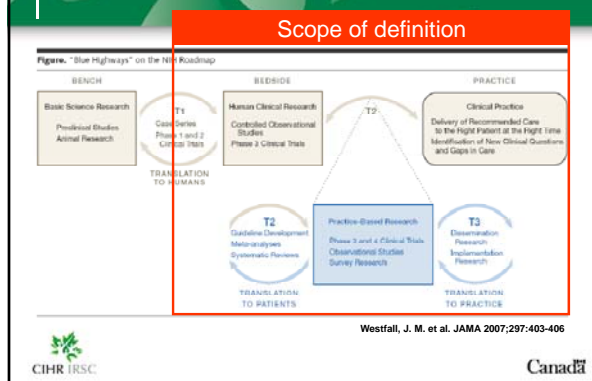
- Capitalize on Canada's **existing strengths** in clinical and health services research
- Take advantage of our universal **health care system, administrative databases, and electronic information systems** in observational studies
- Leverage **partnerships** that facilitate **coordination** among governments, funders, and charities
- Maintain **high operational and ethical standards**



Objective: Bridge “Valleys” Between Research and Clinical Practice



What Is Patient-Oriented Research?

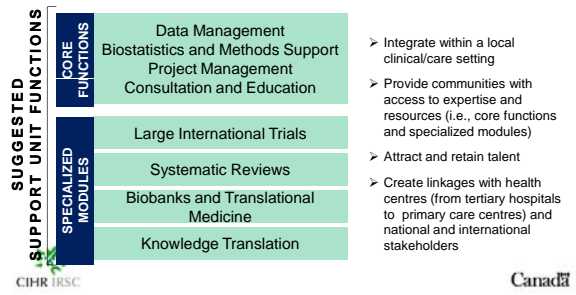


SPOR: Major Components

- Improve the research environment and infrastructure
 - Improve mechanisms to train and mentor health professionals and nonclinicians
 - Strengthen organizational, regulatory, and financial support for multi-centre studies
 - Support best practices in health care
- CIHR IRSC Canada

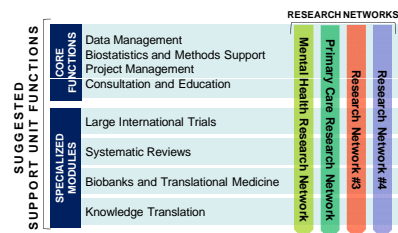
SUPPORT (Support for People- and Patient-Oriented Research and Trials) Units

Local SUPPORT units provide the resources and personnel to conduct research day to day

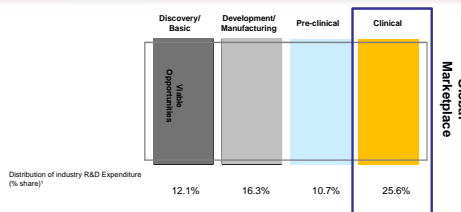


Integrating SUPPORT Units & Clinical Research Networks

SUPPORT units provide infrastructure and skills for highly-specialized research networks to identify and tackle key clinical questions



Clinical Research: A Cornerstone of Commercialization



As a proxy for the whole industry, pharmaceutical clinical research is a high-value global opportunity, accounting for \$526.5 million of R&D expenditure in Canada



Next Steps

- SPOR workshop on January 18
 - Institute Scientific Directors
 - Focus on parameters of networks
 - Hiring of full-time SPOR director
 - New clinician-scientist award program
 - Recruitment of partners
 - Provinces
 - Universities
 - Industry
- CIHR IRSC Canada



Panel 1

New Knowledge for Patients and the Bilingual Clinician:
Advantage or Poor Strategy?

Agenda for this Panel

- Why be bilingual? What does it take?
- The bilingual advantage?
- Impact of the clinician scientist role
- The clinician scientist job description
- Evaluation of professional performance
- Risk of eliminating the clinician scientist role

Question 2

Our Panelists

- Who are they?
- Professional role: clinical and research
- Why they trained in research to the PhD level
- Professional aspirations

**What is the Advantage of the Bilingual Clinician in a Clinical Institution?
Why not two Uni-linguals – Clinical and Research?**

Liisa Holsti
&
Lynn Breau

Question 1

- In our clinical practice, we see the immediate, relevant pediatric health issues as they arise

Question 1

- We can strategically design and evaluate practical, clinically-based treatments for the most pressing health issues in children

Question 1

Examples

- **Lynn: Relaxation training in delayed children**
- **Liisa: NICU Lumbar puncture versus venipuncture**

Question 1

- **We contribute directly to and implement evidence based practice**

Question 1

- **We can use our research to solve complex clinical problems**

Question 1

- **Our research training then allows a more efficient research feedback loop**

Question 1

- **Research training allows us to see the bigger picture; health issues beyond the clinical setting**

Question 1

- **We are skilled at program development and evaluation**

Question 1

- We bring greater credibility in both clinical and research settings, particularly with physician group - more efficient knowledge translation

Question 1



Keystone between basic and clinical science

Question 1

How has Your ROLE AS A CLINICIAN SCIENTIST Made an Impact in Your Clinical Setting?

Lynn Breau
&
Bob Schroth

Question 2

Impacts

- Easier to translate research into practice
 - have credibility as a researcher
 - have credibility as a clinician

Question 2

Impacts

- More able to access and influence clinical decision-makers and policies relevant to my research area.
 - Credibility and knowledge of field as a researcher
 - Access to and knowledge of institutions and healthcare system as a clinician

Question 2

Impacts

- Fosters a research culture
 - visibility in the clinical setting encourages others to see the potential of conducting research that is directly applicable to clinical care
 - De-mystifies research to those with less research training
 - Puts a human face on “research”; opens clinicians to the body of research knowledge

Question 2

Promoters

- **Research is more easily accepted**
 - by fellow clinicians because is most often very relevant to their experiences
 - By the healthcare system/field because being clinician gives credibility

Question 2

Promoters

- **Presence of others who support the Clinician Scientist Role**
 - Fellow clinician scientists
 - Managers, decision-makers, support staff
 - Fellow clinicians
 - Fellow researchers
 - Family
 - Family
 - Family

Question 2

Barriers

- **Red-tape/paperwork**
 - Often must maintain multiple affiliations
 - Clinical administrative support staff are not available to help with research aspects of work, despite the fact that clinical team / patients gain from it

Question 2

Barriers

- **Time**
 - Often held to same standards as full-time clinicians and/or full-time researchers
 - Resource limitations in clinical setting can make it difficult to “cover” when research demands more time (e.g. conference attendance, grant deadlines)

Question 2

Barriers

- **Job description**
 - Most often have multiple positions that had to be pieced together
 - May not have full privileges / benefits of any one of the positions due to reduced FTE
 - No accommodations for fact that am not 100% clinician or scientist re recognition, tenure, promotion etc.

Question 2

Impact?



Question 2

Job Description, Accountability, and Support

**Debbie O'Connor
&
Liisa Holsti**

Question 3

Job Descriptions

- **In some cases, created own job description**
 - Source of ambiguity
 - Opportunity

Question 3

- **Job descriptions vary, but usually have academic and clinical designation**

Question 3

To whom do we report?

- **Reporting to multiple stakeholders**
 - University departments
 - Clinical department
 - Research Institutes
 - Licensing bodies

Question 3

- **Performance evaluated by multiple stakeholders with differing priorities/timelines**

Question 3

- **Licensing bodies have to catch up to integrate research activities as part of clinical work indicators**

Question 3

How is our role supported?

- Role supported in “compartments”, but few within an integrated whole

Question 3

How is our role supported?

- Job requires self-starting personality because of emerging roles...
 - Comfortable with ambiguity

Question 3

- Continuity of funding and support
 - Can impact creativity and productivity

Question 3

- Extra research time supported through external awards

Question 3

What Counts in the Evaluation of Your Professional Performance?

To What Extent is Success in Grant Awards and Published Papers Valued?

Debbie O'Connor
&
Bob Schroth

Question 4

What Counts?

- It depends upon:
 - University Affiliation
 - Research Institute Affiliation
 - Clinical Setting
 - Licensing Body/ Professional College

Question 4

What Counts?

- **For those employed by a university/academic centre success is evaluated as excellence in:**
 - **Teaching**
 - Graduate and undergraduate students mentored
 - Classes and # hours taught
 - Innovations in teaching
 - **Publishing**
 - Number of papers and quality of journal published in
 - **Research Funding**
 - Grants (National Grants valued more than industry or other types of Grants)
 - **Service**
 - To the University, public, or professional bodies

Question 4

- Different themes are weighted differently

Question 4

Clinical Positions

- **For Clinical Positions at Health Centres:**
 - Salary is often based upon professional/ clinical duties
 - Clinical contributions can often be more heavily weighted or sole determinant of evaluation
 - Reduced number hours dedicated to clinical versus peers may be overlooked
 - Research activities may be valued, but may not be a priority
 - Research outputs may not be formally evaluated & productivity may or may not be counted

Question 4

Licensing Bodies/ Professional Colleges

- **Do not measure professional development differently for clinician scientists vs. clinicians**
 - Many ask for the context and the outcome of annual learning objectives;
- **They may not understand the research contributions we make and may have no way to assess this**
- **Competency Exams**
- **Some may award Continuing Education credit for published papers**

Question 4

Are there any rewards?

- **Disclaimer – for most clinician scientists remuneration is not the driving force**
- **Some institutions may provide merit awards (bonus pay) for contributions to research, teaching, or service**
- **Such merit pay is not available to all clinician scientists**

Question 4

Are Grant Awards & Published Papers Valued?

- **Yes, especially if employed by a university and looking at promotion and tenure (if applicable)**
- **Annual Faculty progress reports may include specific sections to document:**
 - # of peer reviewed papers submitted
 - # of peer reviewed papers accepted &/or published
 - grants applied for
 - funding received & total amount received

Question 4

**Risks Inherent in Eliminating the
Health Professional Clinician Scientist
Position in AHSCs**

The Panel

Question 5

Risks of Elimination

- Decreased and inappropriate translation of basic scientific discoveries to the bedside
- Fewer practice guidelines that are "evidence-based"
- Decreased innovation
- Research methodology is indispensable to complex care
- Better access to cutting edge treatments for children
- Researchers who work in teams function well in clinical teams
- Disconnect between clinical care and research
- Widening chasm between research and clinical care
- Less child health research in Canada
- Less knowledge translation
- Less training of the next generation of interdisciplinary clinical researchers
- Fewer women in science

Question 5

Nurse Clinician Scientist Roles at University Health Network

Dr. Mary Ferguson-Paré,
RN, PhD, CHE



Funding Models

- Conversion of fulltime APN positions into Clinician Scientist positions
- Endowed Nursing Research Chairs
- York/UHN Academy



Partnerships

- U of T/UHN Nursing Research Chair
- York/UHN Academy



Enablers

- Building academic practice
- Research Culture
- Research training
- Research awards/Nursing Research Challenge
- Bedside RNs and APNs → PhD Study
- Clinical commitments and teaching requirements negotiated in employment contract



Potential Challenges

- Sustaining organizational investment
- Achieving external grant funding





Training Awards

Canadian Child Health Clinician Scientist Program

<http://www.cchcsp.ca/>



Academic Health Centre Members

U Alberta, U British Columbia, U Calgary, Dalhousie U, Laurentian U, Laval U, U Manitoba, McGill U, McMaster U, Memorial U, U Montreal, U Ottawa, Queens U, U Saskatchewan, U Sherbrooke, U Toronto, U Western Ontario and affiliated child health research institutes.



Training Awards

Pre-doctoral Award

- candidates with a health professional degree who wish to engage in or enhance their research training.
- PhD training in laboratory-based (biomedical) sciences
- MSc in clinical epidemiology - research like PhD program.
- 90% time commitment to the research program
- \$50,000/yr with half committed by academic institution

Postdoctoral Award

- candidates with a health professional degree and prior PhD
- 90% time commitment to the research program
- \$50,000 /yr with half committed by academic institution



Training Awards

Career Development Award

- clinician-scientists within 2 yr doctoral/PDF level research training and appointed as a clinician-scientist in one of the participating Child Health Research Training Centres of CCHCSP within a mentored research program.
- minimum 75% time commitment to research
- \$70,000/yr (taxable) with half committed by academic institution

Rising Researcher Support Program (RRSP) Award

- For those training towards certification as a child health clinician to engage in research career planning prior to application to the CCHCSP Predoctoral or Postdoctoral Training Programs.



Training Awards

Career Enhancement Program (CEP)

- receiving a salary award from a research organization (e.g. governmental or non-profit foundation) similar in scope to CCHCSP awards via a national competition

– e.g. CIHR Fellowships, CIHR Clinician Scientist Program, CIHR New Investigator Award, Heart and Stroke Foundation of Canada Fellowship, Kidney Foundation of Canada Fellowships and Scholarships, etc.

- funded to participate in CCHCSP Annual National and Mini Symposia
- access to CCHCSP web-based curriculum and center-based curriculum meetings
- non-salary award of \$5,000/yr to support career development specifically related to research
- research mentor invited to CCHCSP Annual Symposium with financial support from CCHCSP

Clinician – Scientist Symposium
November 26, 2010

Clinician – Scientist Funding Models
Judith Ritchie, McGill University Health Centre

Types of Appointments:

- Shared appointments – some paid, some unpaid

The Potpourri Model

Role	Primary Employer	Funding Models
Scientists 75% - 80% ± EBP	University	100% university (± FRSQ) + 20% Operating
Scientists 75-80% ± EBP	University	100% university (± FRSQ) + 10% operating + 10% Foundations
Scientists 75-80%* ± EBP	University	100% university (± FRSQ) + 20% Foundations
Scientist 60-75%**	University	100% university (± NHRDP/MRC)
Scientist 90-100% ± EBP	Hospital	Operating (or Operating + FRSQ for limited term) ; University pays hospital if scientist is course professor
Scientists 100%* Mode 2 science; ± EBP	Hospital	Foundations
Clinician-Scientist*** 50- 60%; Mode 2 science; ± EBP	Hospital	100% Foundations with intent to add 50% operating after 5 years
Research Consultant/EBP/Scientist (25%)	Hospital	Operating + Foundations
Research Consultant/ EBP/Scientists (25%) *	Hospital	Foundations
Administrator/EBP/Researcher (15%-20%)	Hospital	Operating

* New positions

** Old position – retired

*** Not yet filled

IWK Hospital – Dalhousie Model

Role	Primary Employer	Funding Model
Administrator (including EBP) /Researcher	University	Hospital research budget paid university 30% of salary

13.0 Appendix E: Symposium Evaluation Results

Fifty-five percent of the symposium participants responded to the post-event evaluation survey. The majority of respondents were satisfied with the symposium and indicated the symposium objectives were met. The majority also indicated they would like to be part of a national network to address sustainability issues for health clinician-scientists in academic health science centres.

Overall, participants thought that the symposium topic was timely and a good start to address the issue of stable and sustainable career paths for health clinician-scientists. Comments included: "Important topic. Good beginning to try and tackle it. This is just the first step." and "I suppose the real test of success is whether we move forward to accomplish what we set out to do. This is just the first step."

Detailed evaluation results are presented below:

Question #1: On a scale from 1 to 5 (5 being the best), please rate the overall success of the symposium in meeting the goals to: share experiences, strategize solutions, and build partnerships.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
2	1	3.13%
3	4	12.50%
4	21	65.63%
5	6	18.75%

Question #2: On a scale from 1 to 5 (5 being the best), please rate how well the symposium was organized.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
4	13	40.63%
5	19	59.38%

Question #3: On a scale from 1 to 5 (5 being the best), please indicate the usefulness of the background paper "Building Opportunities and Sustained Funding for Health Clinician-Scientists".

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
3	9	30.00%
4	16	53.33%
5	5	16.67%

Question #4: On a scale from 1 to 5 (5 being the best), please rate your overall satisfaction with the keynote address by Michael Kramer.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
2	3	9.38%
3	5	15.63%
4	15	46.88%
5	9	28.13%

Question #5: On a scale from 1 to 5 (5 being the best), please rate your overall satisfaction with Panel 1: How clinician-scientists impact clinical outcomes and the clinical benefits of participation in research.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
3	3	10.00%
4	12	40.00%
5	15	50.00%

Question #6: On a scale from 1 to 5 (5 being the best), please rate your overall satisfaction with Panel 2: Clinician-scientist funding models.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
2	4	12.90%
3	4	12.90%
4	20	64.52%
5	3	9.68%

Question #7: On a scale from 1 to 5 (5 being the best), please rate the success of the Strategy Breakout Session: Identifying strategies and priorities.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
2	2	7.41%
3	6	22.22%
4	12	44.44%
5	7	25.93%

Question #9: Please indicate if you would like to be part of a network to address sustainability issues for health clinician-scientists.

<u>Answer</u>	<u>Count</u>	<u>Percentage</u>
No	2	6.45%
Yes	29	93.55%

14.0 Appendix F: Symposium Participants

Below is the list of symposium participants, their contact information, and primary affiliation as of November 2010:

	<u>First Name</u>	<u>Last Name</u>	<u>Email Address</u>	<u>Institution/Organization</u>
1	Samantha	Anthony	samantha.anthony@sickkids.ca	The Hospital for Sick Children
2	Stephanie	Atkinson	satkins@mcmaster.ca	McMaster University
3	William	Avison	wavison@uwo.ca	University of Western Ontario
4	Sian	Bevan	sbevan@cancer.ca	Canadian Cancer Society Research Institute
5	Lynn	Breau	l.breau@dal.ca	IWK Health Centre
6	Gwen	Burrows	gwen.burrows@sickkids.ca	The Hospital for Sick Children
7	Leah	Carr	leah@nbhrf.com	New Brunswick Health Research Foundation
8	Roger	Chafe	roger.chafe@med.mun.ca	Memorial University
9	Geraldine	Coburn	geraldine.coburn@sickkids.ca	The Hospital for Sick Children
10	Krista	Connell	krista.connell@gov.ns.ca	Nova Scotia Health Research Foundation
11	Mary	Ferguson-Pare	mary.ferguson-pare@uhn.on.ca	University Health Network
12	Martin	Ferguson-Pell	martin.ferguson-pell@ualberta.ca	University of Alberta, Faculty of Rehabilitation Medicine
13	Karen	Gordon	karen-a.gordon@sickkids.ca	The Hospital for Sick Children
14	Mary Jo	Haddad	maryjo.haddad@sickkids.ca	The Hospital for Sick Children
15	Elise	Heon	elise.heon@sickkids.ca	The Hospital for Sick Children
16	Liisa	Holsti	lholsti@cw.bc.ca	The University of British Columbia
17	Eileen	Hutton	huttone@mcmaster.ca	McMaster University
18	Salima	Jiwami	salima.jiwami@sickkids.ca	The Hospital for Sick Children
19	Vincent	Joseph	joseph.vincent@crsfa.ulaval.ca	Université Laval
20	Margaret	Keatings	margaret.keatings@sickkids.ca	The Hospital for Sick Children
21	Tracy	Kitch	cdavies@hollandbloorview.ca	Holland Bloorview Kids
22	Michael	Kramer	michael.kramer@mcgill.ca	CIHR Institute of Human Development, Child & Youth Health
23	Nicole	Law	nicole.law@sickkids.ca	U of T and SickKids
24	Sylvie	Le May	sylvie.lemay@umontreal.ca	CHU Sainte-Justine
25	Yvonne	Lefebvre	ylefebvre@providencehealth.bc.ca	Providence Health
26	Sandy	Lefort	slefort@mun.ca	Memorial University, School of Nursing
27	Donald	Mabbott	donald.mabbott@sickkids.ca	The Hospital for Sick Children
28	Colin	Macarthur	cmacarthur@bloorview.ca	Holland Bloorview Kids RI and Foundation
29	Andrea	MacLeod	andrea.macleod@rea.ulaval.ca	CIRRIIS/Université Laval
30	David	Malkin	david.malkin@sickkids.ca	Hospital for Sick Children
31	Ian	Manion	manion@cheo.on.ca	CHEO
32	Henry	Mann	henry.mann@utoronto.ca	Leslie Dan Faculty of Pharmacy
33	Ted	McNeill	ted.mcneill@sickkids.ca	The Hospital for Sick Children
34	Golda	Milo-Manson	gmilomanson@hollandbloorview.ca	Holland Bloorview Kids
35	Deborah	O'Connor	deborah_i.oconnor@sickkids.ca	The Hospital for Sick Children
36	Malcolm	Ogborn	ogborn@unbc.ca	University of Northern BC
37	Linda	Piazza	lpiazza@hsf.ca	Heart and Stroke Foundation
38	Dorothy	Pringle	dorothy.pringle@utoronto.ca	MOHLTC

	<u>First Name</u>	<u>Last Name</u>	<u>Email Address</u>	<u>Institution/Organization</u>
39	Lalitha	Raman-Wilms	l.raman.wilms.a@utoronto.ca	University of Toronto
40	Raymond	Reilly	raymond.reilly@utoronto.ca	Leslie Dan Faculty of Pharmacy, U of T
41	Shirine	Riahi	shirine.riahi@sickkids.ca	The Hospital for Sick Children
42	Judith	Ritchie	judith.ritchie@muhc.mcgill.ca	McGill University Health Centre
43	Marilyn	Ballantyne	marilyn.ballantyne@utoronto.ca	McMaster University
44	Norman	Rosenblum	norman.rosenblum@sickkids.ca	The Hospital for Sick Children
45	Janet	Rossant	janet.rossant@sickkids.ca	Hospital for Sick Children
46	Robert	Schroth	umschrot@cc.umanitoba.ca	The Manitoba Institute of Child Health
47	Donna	Secker	donna.secker@sickkids.ca	The Hospital for Sick Children
48	Jean	Seguin	jean.seguin@umontreal.ca	Ste-Justine Hospital Research Centre
49	Brenda	Spiegler	brenda.spiegler@sickkids.ca	The Hospital for Sick Children
50	Bonnie	Stevens	bonnie.stevens@sickkids.ca	The Hospital for Sick Children
51	Jennifer	Stinson	jennifer.stinson@sickkids.ca	The Hospital for Sick Children
52	Susan	Tallett	susan.tallett@sickkids.ca	The Hospital for Sick Children
53	Leslie	Vincent	lvincent@mtsinai.on.ca	Mount Sinai Hospital
54	Kristy	Wittmeier	kwittmeier@hsc.mb.ca	Manitoba Institute of Child Health
55	Jerome	Yager	jyager@ualberta.ca	University of Alberta