

Faculty of Health Professions

Strategic Research Overview^{i ii}

January 2012

Our mission: "Inspiring learning, research, scholarship, teaching and professional activities that contribute to knowledge and to the preparation of skilled and caring professionals and leaders of tomorrow."

Our vision: "Inspiring ideas, research innovation and leadership to enhance global health and social well-being."

Introduction

Health Professions has an academic and research vision that is focused on global health and the health and social well-being of individuals and their communities. Research related to the social and environmental determinants of health and well-being, and community-based strategies to promote health and well-being are central foci along with research that examines health and social systems, health and social policies, health and social care, management of chronic disease, and the biological structures and processes of health and function. Health Professions adopts the WHO position that “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (<https://apps.who.int/aboutwho/en/definition.html>). Health and social well-being are local and global issues that concern health professions researchers across the spectrum from the biological structures of function and impairment to the macro structures of human engagement and resilience. In addition to quantitative expertise, Health Professions has researchers with strengths in qualitative and applied research methodologies with particular expertise in community-based research and community engaged research. Researchers in Health Professions are well-positioned to address interprofessional local and global issues of health and social well-being.

This strategic research overview lays the foundation for a strategic research plan. A strategic research plan will serve the following objectives:

- to identify primary research themes, current and emerging core research strengths, under-researched areas, and current responsiveness to global priorities
- to provide support for CRC proposals, CFIs, nominations, awards
- to be a resource for attracting new faculty, retaining faculty, providing career reorientation and new opportunities for existing faculty
- to be an element in the faculty hiring decisions of search committees

- to provide support and direction for retaining and developing new graduate degree programs
- to enable potential graduate students to identify research opportunities and potential supervisors
- to set a path and priorities for future directions
- to inform internal and external groups of the health research expertise within Health Professions

This research overview represents the current and emerging strengths of the Faculty to assist in setting the strategic directions that will challenge Health Professions faculty to become global research leaders in core research areas.

Guiding Principles and Process

1. That the diversity of the research conducted by Health Professions researchers be respected;
2. That the focus be on the collective research strengths of the Faculty rather than individuals, units, professions or disciplines;
3. That the research strengths of the Faculty be supported to build leadership;
4. That funding priorities of agencies be recognized in determining priority areas.

The process used to develop this plan began with keywords that were chosen by faculty to represent their research areas. Two email invitations invited faculty to submit up to 5 keywords or phrases. Keywords were then clustered into Research Themes in consultation with the Health Professions Research Committee. A smaller working committee revised these Research Themes and identified Core Research Concentrations from the themes. Further consultations with the working committee, Research Committee, the Management Advisory Committee, the PhD Planning Committee, Faculty Council, and Schools/College led to further refinement.

Research Themes, Concentrations, Strengths and Challenges

Research Themes

The Faculty of Health Professions conducts research in four broadly constructed thematic areas:

1. Determinants and Promotion of Health and Social Well-Being

Social and environmental determinants of health and well-being, their implications for communities, families and individuals, and the promotion of health and well-being at all levels are central research foci in the Faculty. Special areas of research strength are childhood risks and resilience; gender and sexual orientation; Aboriginal health; and obesity, especially obesity in children. Other determinants research focuses on seniors, homelessness, disability, caregiving and parenting, language and literacy, post-traumatic stress, food security, drug and alcohol

addictions, prematurity and other reproductive markers, immigration, work and lifestyle-related risks, and, the impact of these issues on health and social well-being. There is particular interest in the health and social well-being of African Nova Scotians, and seniors.

Health promotion strategies are based at the community, and individual level with an intent to promote health and well-being, enhance participation, address social injustice, and prevent dysfunction and disease. Research in this area in Health Professions has addressed healthy and safe child and youth development, sexual health services, harm reduction strategies for drug users, HIV counselling, program planning and evaluation, strategies to promote healthy eating, workplace ergonomics and worker safety, poverty reduction, and strategies to reduce falls and strengthen participation of seniors in their communities. Researchers in this thematic area are located in each of the Schools but the theme is of special interest to researchers in Social Work, Health Promotion, Occupational Therapy, Leisure Studies and Nursing. Collaborations in this theme exist with faculty in Sociology, Psychology, International Development Studies, and Medicine.

2. Clinical person-oriented interventions (client, consumer, patient-oriented)

There are three components of clinical person-oriented interventions:

a) Health and social outcomes

Health Professions has a strong research focus on: the use of exercise and physical activity to strengthen musculoskeletal health for people living with chronic disease; supportive care and self-management of chronic disease; end-of-life care; prevention and supportive care for cancer; evaluation of the effectiveness of pharmaceutical and non-pharmaceutical interventions; management of patient safety; treatment of speech, language, hearing and vision problems; and reproductive care. Health outcomes research has strong involvement from Nursing, Occupational Therapy, Physiotherapy, Human Communication Disorders, Health Promotion, Leisure Studies, Pharmacy, Health Administration, and Clinical Vision Science program, and strong collaborations with Medicine and Computer Science. An important component is the emphasis on interprofessional team-based care to the management of chronic disease.

b) Health and Social Services Systems and Policy Development

Research concerning person-oriented interventions have optimal impact when connected with research strategies addressing health and social services systems and policies. In this area researchers examine policies to improve pharmaceutical safety and drug-related morbidity, evaluate government health and social strategies and policies, access to services, and health human resources. This research has local and global impact and collaborations with government, health care facilities, social services and industry. Pharmacy, Health Administration, Nursing, Social Work, the Atlantic Health Promotion

Research Centre lead research in this area. There are collaborations with the International development Studies, the Department of Economics, and the Faculty of Medicine especially the Population Health Research Unit.

c) Informed Decision-Making

Informed decision-making broadly concerns the way in which consumers, health professionals, health administrators and government use evidence to make decisions that are intended to improve health and social well-being. Knowledge dissemination to influence informed decision-making is typically a component of research endeavours about health promotion strategies or clinical person-oriented interventions. Research in drug and patient safety, and health human resources has been most closely associated with informed decision-making. Informed decision-making is also a focused area of research that is concerned with decision-making and the translation of knowledge to practice, and the ethics and values inherent in critical professional reflection associated with the person-centered provision of health and social services.

3. Biological Systems and Functions

There is current and emerging research in Health Professions that focuses on: neurological components of human functioning; musculoskeletal structures and their mechanisms as associated with function, dysfunction and disease; processes related to the production of speech, language, vision and hearing; and, the pharmacokinetics and the development of pharmaceuticals. The majority of researchers in these areas come from Human Communication Disorders, Kinesiology, Physiotherapy, Pharmacy, and Vision Science with strong collaborations between Health Professions and Psychology, Medicine, and Biomedical Engineering. Their work is support by grants from NSHRF, NSERC, CIHR, as well as by contracts from industry, and grants from professional foundations and foundations associated with diseases such as the Heart and Stroke Foundation. Much of this research has applications to health promotion, clinical interventions, and informed decision-making with respect to policy.

4. Professional and Interprofessional Education Research

Health Professions has an evolving program of education research that examines issues related to roles and responsibilities of a profession, interprofessional concerns related to accountability and the delivery of care, and evaluation of continuing education. Interprofessional education alongside excellence in training of profession-specific competencies involves the collaboration of units and the three health Faculties (Health Professions, Dentistry and Medicine). Research in this theme was first initiated through the Seamless Care Interprofessional Education Project funded by Health Canada. Diverse research methodologies are used by Health Professions researchers. Health Professions has strong leadership expertise in qualitative research methodologies, and community-based research with indigenous populations and social justice

methods. Some research in this thematic examines how research methodologies themselves address issues of health and social well-being.

Summary of Research Themes

The four Research Themes set out the broad areas in which health professions researchers conduct research. In practice, research programs also cut across themes. Further, research programs vary in how well established they may be with respect to collaborators and access to funding. In addition to these research themes, Health Professions has emerging strengths identified as core research concentrations.

Core Research Concentrations

The Core Research Concentrations are supported by both senior researchers who have received ongoing Tri-Council funding as principal investigators, and other Health Professions' researchers who are at various stages of building and advancing their research programs. The concentrations were derived from annual reports submitted by faculty, the ROMEO¹ research funding database, and scrutiny of School and faculty websites examining grants and contracts held by faculty. The core research concentrations were subsequently identified as: *child and family across the lifespan; chronic social disparities; chronic disease; obesity; musculoskeletal health; pharmaceutical development, management and policy; health human resources and services; and, communication and sensory processes*. They are described below:

1. Child and Family across the lifespan is supported by Tri-Council funded mid-career and senior researchers, a Killam chair, and a newly funded National Centre of Excellence for Children in Challenging Contexts (knowledge mobilization grant). This concentration builds on linkages with the IWK Health Centre, has collaborations across the units of Health Professions, and is well connected outside the Faculty with Psychology, Sociology and Medicine. Research in this area examines multiple social and health issues related to resilience, transitions, homelessness, violence, and mental health. It has global impact through the Resilience Research Centre which examines how children, youth and families cope with adversity. This concentration has a strong emphasis on social and environmental determinants of health and well-being, and, health promotion and community-based strategies. A smaller component focuses on clinical patient-oriented interventions. The mental health of children is a current priority area of the NS Department of Health and Wellness (see http://www.gov.ns.ca/health/reports/pubs/DHW_Statement_of_Mandate_2011_2012.pdf).

A related secondary aspect of this concentration is a focus across the lifespan drawing in the aging process and its impact on health and social well-being related to determinants, health

¹ ROMEO is the funding database system used by Research Services at Dalhousie to track grants received by Dalhousie faculty.

promotion and chronic disease. *NSHRF has identified changing demographics as a research priority in population health.*

2. Chronic Social Disparities research is concerned with the impacts of diversity on health and social well-being of historically marginalized populations. Related social services policy research is concerned with addressing and changing policies that have supported chronic social disparities at the community level. This research is led by researchers in Social Work and Health Promotion.

Multiple areas are of concern with two foci more fully developed. One is Aboriginal Health research that was developed through the work of a very successful senior researcher (now Professor Emeritus, Social Work) and a mid-career researcher (now located at the University of Victoria), and is continued through a new CIHR funded researcher and an NSHRF researcher. The Atlantic Aboriginal Health Research Program (CIHR) is the platform for this research, facilitating and supporting Aboriginal research and its uptake and dissemination in Aboriginal communities and beyond to health service agencies and policy makers. Aboriginal health is a CIHR and SSHRC priority area. The second diversity focus is Gender and Sexual Orientation. This work was previously partially supported by a CRC II in Women's Health, and has strong contributions from faculty in Nursing, Social Work, Occupational Therapy and Health Promotion. Similar to Child and Family research, most of the work in Chronic Social Disparities lies in social and environmental determinants, health promotion and community-based strategies, and clinical patient-oriented interventions, particularly reproductive and maternal health.

Marginalized populations is a priority area in population health for NSHRF.

3. Chronic Disease encompasses primarily cancer, stroke, cardiovascular disease, mental health and addictions with an emphasis on clinical, patient-oriented interventions as well as health promotion strategies. Additional developing areas include multiple sclerosis, pain, hepatitis and osteoarthritis. An underlying focus in this area is the inter-relationship of these conditions with aging. There is some emerging strength in this concentration in Biological Systems and Functions, and to a lesser extent with Health Services and Social Policy Development, and Informed Decision-Making. *Continuing care models are a priority for NSHRF and patient-oriented care and reducing the burden of chronic disease are priority areas for CIHR. Both funding agencies emphasize mental health. Mental health and addictions is a current priority for the NS Department of Health and Wellness, along with developing targets to prevent and manage chronic disease beginning with hypertension.*

4. Obesity is an important and well-funded concentration carried out primarily by a CRC II in Health Services Research along with collaborations with other mid-career researchers in the Faculty of Health Professions and other Dalhousie Faculties. This concentration is supported through Applied Research Collaborations for Health and the Atlantic Health Promotion Research Centre. *Obesity is connected to NSHRF priorities in disease prevention and the CIHR priorities to promote health and reduce the burden of disease, and manage existing and*

emerging threats to health. Prevention of childhood obesity is a current priority area for the NS Department of Health and Wellness.

5. Musculoskeletal Health is centered in biological processes and mechanisms of muscles and joints with the neurological system and sensory processes associated with movement. Musculoskeletal health is linked with clinical patient-oriented interventions (e.g. stroke, arthritis, Parkinson's disease) and health promotion with respect to physical activity, function and the ergonomics of work and lifestyle. This concentration is strongly supported by senior and mid-career researchers from Kinesiology and Physiotherapy, and new investigators in both groups. *Musculoskeletal health is connected to patient-oriented care in CIHR priorities, the medical and health outcomes research categories of NSHRF, and the biological systems and functions of NSERC.*

6. Pharmaceutical Development, Management and Policy is concentrated on biological processes and mechanisms related to the development of new pharmaceuticals and non-pharmaceuticals. Significant research on drug safety, management and policy has been developed by researchers in Pharmacy and Nursing particularly through a 10 year CHSRF/CIHR Chair (2001-2011) jointly funded by the Canadian Health Services Research Foundation (CHSRF), CIHR and NSHRF. *Drug and patient safety is well connected to NSHRF priorities in governance, sustainability and costs, to CIHR priorities in patient-oriented care and a high quality accessible health care system, and CHSRF priorities in health care financing and transformation.* This core research area is led by researchers in the College of Pharmacy and has strong collaborations with the Department of Pharmacology in the Faculty of Medicine. It is linked with Health and Social Services Policy through research on drugs and patient safety.

7. Health Human Resources and Services

Health human resources focuses on health workforce planning nationally and internationally and was developed through Nursing with strong collaborations with Memorial, McMaster, Western and UBC. There are linkages with the Atlantic Health Promotion Centre through work on the mobility of the health care workforce. *Health human resource planning is linked to priorities for NSHRF and CIHR concerning models of health human resources and a sustainable system of healthcare.*

8. Communication and Sensory Processes includes basic and applied research related to normal and disordered communication, hearing, and vision. Research in this area also addresses the development of speech, language, and literacy; speech, language, and cognition in neurological disease; client-oriented intervention; and aspects of cultural and linguistic diversity such as dialects or bilingualism. *This research is led by researchers in Speech, Audiology, Clinical Vision Science, and Kinesiology and is supported by grants from NSERC, CIHR, SSHRC and NSHRF.* Some of the work of this research concentration is linked with Child and Family, and Diversity.

The research conducted within these themes and concentrations is further elaborated in individual faculty websites and research websites of Schools/College. Of particular note are the following research programs:

- Atlantic Aboriginal Health Research Program (www.aahrp.socialwork.dal.ca)
- Atlantic Health Promotion Research Centre (www.ahprc.dal.ca)
- Atlantic Centre of Excellence for Women's Health (www.acewh.dal.ca)
- Atlantic Regional Training Centre (www.artc-hsr.ca)
- Applied Research Collaborations for Health (www.archonline.ca)
- Gender and Health Promotion Studies Unit (www.gahps.hhp.dal.ca)
- IMPART - Initiative for Medication Management, Policy Analysis, Research & Training (www.impart.pharmacy.dal.ca)
- Network for End of Life Studies (www.nels.dal.org)
- Resilience Research Centre (www.resilienceproject.org)
- WHO Collaborating Centre on Health Workforce Planning and Research (www.whocentre.dal.ca)

Strengths and Challenges in Identified Themes and Concentrations

Strengths

- Health Professions consists of 8 Schools and 1 College, trains 19 health professions and offers 9 Masters thesis degrees (or graduate degrees with a thesis option), and a PhD in Nursing. An Interdisciplinary PhD with opportunities for students from health professions is also available through the Faculty of Graduate Studies. A proposal for a PhD in Health is in development.
- Child and Family is supported by researchers in all Health Professions units and has strong collaborations across the Health Faculties and with Sociology and Psychology. Child was identified as a Dalhousie strength in the bibliometrics survey conducted for Dalhousie Research Services.
- These areas of concentration connect strongly to provincial issues and concerns related to children, obesity, chronic disease (esp. mental health, cancer, stroke, community-based primary care), and drug and patient safety.
- Most of the core research concentrations are well-connected to research priorities of NSHRF, CIHR and SSHRCⁱⁱⁱ. NSERC provides some of the funding related to musculoskeletal health, and speech, vision and hearing. There are increasing numbers of research collaborations of health profession researchers across the units, and with other Faculties or departments (especially Medicine, Dentistry, Sociology and Psychology),

other universities, non profit associations, community groups and associations, health care associations, along with multiple partnerships with government.

- The strong interconnections in the core research concentrations support their sustainability and preparedness to apply for multi-year and multi-site research initiatives. The concentrations vary in their capacity and readiness.
- Some researchers have access to research funds through their units or in association with their units to support smaller research projects.

Challenges

- Research space is at full capacity. There is currently no room for expansion. This problem exists for social science research and for basic science research requiring wet lab space or space to house equipment to support research.
- Health Professions faculty have access to graduate students primarily through Masters' programs (either as thesis based degrees or with a thesis option program) in audiology, clinical vision science, health promotion, kinesiology, health promotion, leisure studies, nursing, occupational therapy, physiotherapy, social work, pharmaceutical science, and speech language pathology. The majority of Health Profession students are in entry to practice degrees and consequently the number of students in thesis programs is variable; some programs admit three or fewer students per year or none at all. The MSc in Pharmaceutical Science is a new program. The most active graduate thesis programs at present are in nursing, occupational therapy, health promotion and kinesiology.
- There is only one PhD program in the Health Professions (Nursing). PhD students working with Health Professions faculty are usually enrolled in the Interdisciplinary PhD program, or doctoral programs in other Faculties or through other universities.
- There are limited opportunities for PhD supervision which may restrict funding opportunities where PhD training is heavily weighted (e.g. NSERC Discovery grant).
- Some concentrations (and other research programs) are emerging areas of strength that are centered on the research of a small number of well-funded researchers. They are vulnerable when faculty leave.
- Pharmaceutical policy and safety researchers have had access to graduate students through a program that has suspended admission of students. The Masters programs in Health Informatics and Community Health and Epidemiology provide training opportunities. The new graduate program in pharmacy will graduate its first students in 2013.
- Recruitment of faculty prioritizes teaching competence relative to curricular needs because of their immediacy. Competitiveness for high quality research faculty is also affected by start up funding, critical mass of existing researchers, opportunities for spousal employment and other issues.

Researchers associated with the Schools, College and other programs of the Faculty of Health Professions set a vision for their research programs as research groups, as professions and as disciplines. The role of the Research office at the Dean's level is to facilitate and enhance the research conducted by Faculty researchers to support leadership and excellence in their core research strengths. Consistent with the approach used to develop the Strategic Research Overview, the Strategic Research Plan will be developed in collaboration with the Health Professions Research Committee.

Endorsed by Faculty Council. January 26, 2012

ⁱ The Faculty of Health Professions Strategic Research Plan (approved in 2003 and used until 2010) was developed by Dr. Lynn McIntyre and Dr. George Turnbull. It set out four strategic priorities: Health Promotion; Health Outcomes, Women's Health and Professional Education. The plan captured much of the important work of FHP faculty and resulted in three CRCs: Health Services Research (Dr. Sara Kirk, 2006 continuing); Health Outcomes (Dr. Renee Lyons, 2004-2010, completed); and Women's Health (Dr. Brenda Beagan, 2007-2012, completed). Research funding for FHP steadily increased from approximately \$800,000 in the late 90's to approximately \$6 million in 2011.

ⁱⁱ The revised Dalhousie Strategic Research Plan is in process. The Health Studies component currently has three subheadings: Biological Structures, Processes & Mechanisms; Clinical Research and Translation to Care, Health Services and Health Policy; and, Health Environment and Society.

ⁱⁱⁱ For priorities of Tri-Council funding agencies, see <http://www.cihr-irsc.gc.ca/e/40490.html> , http://www.sshrc-crsh.gc.ca/funding-financement/programs-programmes/priority_areas-domaines_prioritaires/index-eng.aspx , http://www.nserc-crsng.gc.ca/Professors-Professeurs/RPP-PP/SPG-SPS_eng.asp#target_areas . For NSHRF, see <http://www.nshrf.ca/initiatives/initiatives/health-research-priorities> .