



MHRC Symposium: Identify and Nurture Research Clusters Executive Summary

1. Introduction

The 2006 Envisioning the Future Provincial Health Research Strategy identified that facilitating networks, linkages and communication throughout the Manitoba health research enterprise and beyond was a critical component to Manitoba's success. At that time, the strategy noted that the growing complexity of health problems and the need to satisfy greater expectations of research, and its use, necessitate a different way of doing research one that is characterized by greater collaboration among researchers, practitioners, policy makers and citizens to create a common vision and goals for a research program (a research cluster).

The Manitoba Health Research Council (MHRC) organized a symposium on October 2, 2013 with the goal of developing the outline of a funding program to support research clusters in the province. Over 70 people participated in the symposium.

2. Learning from Quebec and Alberta

Many Canadian and international funding organizations that support health research, have grants for teams, groups, centres and/or networks. Among national organizations, Fonds de recherche Québec - Santé (FRQS) and Alberta Innovates – Health Solutions (AIHS) were invited to share their insights and experience in providing grants to support to teams, groups, centres and/or networks.

a. Fonds de recherche Québec - Santé (FRQS)

FRQS structures its research enterprise into research groups and centres, initiated in 1981, and multi-university thematic networks, in 1990. The overarching goal of these programs is to enable Québec researchers to be more competitive for National funding. Indeed, Québec has consistently outperformed other provinces in acquiring funding from Federal funding programs. Currently there are 17 centres that are based in teaching hospitals that serve as cutting-edge research catalysts with a training and research translation mandate. Nine university based research groups are composed of multidisciplinary researchers that provide an enriched training environment and create synergy among researchers in targeted themes. The 17 networks are multidisciplinary and inter-institutional that creates a critical mass of researchers and promotes knowledge transfer.

- Groups, centres and networks have the ability to add value to research outputs and outcomes, including creating synergy among researchers, enhancing success in garnering federal research funding and receiving national and international recognition for research in Québec.
- However, the experience gained from years of implementation has brought to light the dominance of competition rather than collaboration between and among groups, centres and networks.
- Funding for core resources needs to be recognized, at the forefront and sustained in order for groups, centres and networks to be successful.
- Groups, centres and networks are inherently dissimilar from each other but also have many common features. FRQS is exploring new and better ways to integrate the three different structures to further enhance collaboration without sacrificing their effectiveness in carrying out research.

b. Alberta Innovates – Health Solutions (AIHS)

AIHS uses a collaborative approach as a key lever to achieve and broaden impact, accelerate the time to achieving benefit, translate research and knowledge to use, leverage resources, diffuse innovation, and share best practices and lessons learned. The interdisciplinary team grants (ITG) started in 2007 (Cohort 1) and 2008 (Cohort 2) and provided up to 5 years of support. AIHS subsequently introduced the collaborative research and innovation opportunities (CRIO), an evolution of ITG, as part of a new suite of funding opportunities announced by AIHS in 2012.

- CRIO-supported teams display flexibility because of the collaborative structure of the program which allows for multiple research disciplines and institutions within Alberta and even across Canada to participate in CRIO. This flexibility contributes to the leveraging of resources, diffusing innovation and the ability for researchers to define the collaborations based on the needs identified.
- AIHS recognizes the need for formal governance within the CRIO Program and Team opportunities. Typically this presents the requirement for a project manager, a research management plan and knowledge translation plans. The research management plan clearly sets out objectives and milestones according to an identified timeline.
- Achieving capacity building by embedding training in a CRIO activity (as there are Project, Program and Team levels) fosters the growth of a new generation of talented interdisciplinary researchers.
- The measurement of impact is carried out with teams of researchers engaged with knowledge-/end-users which ensure that research results and new knowledge are translated into use.

3. Outputs of the meeting

The meeting produced the outline of the cluster program, specifically the a) priority goals and the b) characteristics that a research cluster should possess, both of which are discussed in greater detail below. These will assist in defining the program guidelines for research clusters.

Four goals were identified as priority areas the cluster program should focus on:

- a. To support multidisciplinary research programs, which have a specific major objective / basic theme;
- b. To support innovative and cutting edge research that advances Manitoba as a national / international leader in the field;
- c. To address a research question that cannot be accomplished by an individual researcher's program;
- d. To support research relevant to the health of Manitobans.

From group discussions, at least three desirable features of each of the attributes of research clusters were identified:

- a. **Researchers.** The qualities of researchers involved in clusters were differentiated between the leader(s) and members. Leaders were expected to be “champions”, have track records in leadership and research, a vision, and the ability to draw out the strength of team members. Members were expected to be willing to work in a team environment, have the ability to adapt to changing technologies, environment and knowledge, and be mentors.
- b. **Teams** would have individuals with strong and diverse qualities, be discernibly integrated in their activities, maintain a strong structure with “tractable” governance and management plans, have a structured mentorship/ training program, and undergo performance evaluations.
- c. **Research program** attributes were defined as being innovative, relevant and having an original approach; the goals should have multi-institutional, multi-sector and multi-jurisdictional dimensions i.e. cannot be accomplished by individuals; the program must be responsive and relevant to end users and have an impact on the health of Manitobans and Canadians; there is a research development and implementation plan.
- d. Important **resources** that teams should possess include funding, infrastructure, space, time commitment, administrative support including a research manager, a champion of the research program who is not necessarily also the PI, leadership and training capabilities, as well as availability of communication skills development.
- e. **Outputs and outcomes** of research clusters should lead to a visible and credible profile at the national and international levels. Key performance indicators and milestones such as the formation of partnerships/alliances and leveraging resources should illustrate the progress on a cluster’s impact pathway and contribution to its profile.
- f. **Mentoring and training** should take on a multi-disciplinary/inter-professional approach rather than a 1 expert – 1 mentee approach; have a research project component and a goal that is broader e.g., increasing general research skills versus developing a discipline-specific skill; and, mentoring in an egalitarian environment.
- g. Key features of **knowledge translation** (KT) should be integrated, spanning the spectrum of end users and characterized by an interactive dialogue from the development of the research questions, to the completion of the project; and rigorous, i.e. KT that is science based/informed by evidence.
- h. To **facilitate and realize collaborative participation** a mechanism for declaring interest in participation should be created. This can also serve as an ongoing opportunity for both academic and social centres to come together. It should also have a mechanism to create networking opportunities by having a “collision space”, using technologies to meet online, offering incentives to bring people together and breaking down silos.

- i. **Communication** of research results should be timely and tailored to audiences as varied as team members, partners, patients, the public, government and other stakeholders. In carrying out communication activities, the cluster should be open to input from various sectors. A strategic communication plan, including the evaluation of the cluster, should be in place.

Phases in Developing Research Clusters

There was broad consensus that there should be phased development of clusters.

Phase I (exploratory): At this level the University/Institutes would provide seed funding to researchers to develop a dialogue amongst like-minded individuals. The goal is to determine if there is sufficient expertise, interest and capacity to undertake building a Collaborative Team or Cluster Program. If such is the case then a formal business/research plan would be the key output to be advanced to Phase II or III funding.

Phase II (Collaborative Team Program): At this level Collaborative Teams would be MRHC funded for an initial 4 year period to consolidate the plans developed in Phase I. Essential attributes required of a collaborative team in Phase II include: Clarity of purpose, presence of leadership skills, cohesive and feasible research plan, an interdisciplinary approach, project management in place, innovative/cutting-edge research program, identified outputs and outcomes, and a clear plan for integrated knowledge translation with end-users.

Phase III (Collaborative Cluster Program): At this level clusters would be MHRC funded for a 5 year period renewable for an additional 5 years. In addition to those attributes expected of a Collaborative Team in Phase II, the Collaborative Cluster requires a clear track record of working together in an integrated fashion, a clear mentorship plan for students and junior faculty associated with the collaborative cluster, a scope of research that requires up to 10 years to achieve, and a plan for sustainability beyond the period of funding proposed.

Phase II Collaborative Teams and in particular in Phase III Collaborative Clusters need to have clear institutional support for the program of research (i.e. commitments from the Faculty Dean, University VP Research, and/or Institute Director). This is essential to allow sustainability beyond the period of funding available from MHRC.

4. Other Considerations

Recurring themes that arose during the discussions focused on:

- a. **Clarifying the goals of the cluster and setting priority areas of research.** Clarifying the goals of cluster creation, defining “innovation”, “cutting edge” and “relevance”, as well as establishing a balance between a prescriptive approach in determining priority areas of research and the ability to argue a research area’s relevance.
- b. **Leaders/leadership.** Recognizing that an essential element of a cluster approach is the presence of good leaders led to discussions and suggestions regarding the qualities of good leaders, the support a leader requires, and the necessity to build capacity for leadership, which could include training.
- c. **Succession.** The need to plan for succession in order to create new and continue existing research programs was repeatedly mentioned during discussions. Ideas offered about succession revolved around being explicit about mentoring and making it part of daily work, identifying paths for training, as well as bringing in new and younger researchers.
- d. **Outputs, outcomes and impacts.** Performance measures, key performance indicators, and the evaluation of research/faculty performance were deemed necessary in order to track progress on an impact pathway of the research clusters.
- e. **Competition versus collaboration.** At present, a culture of competition rather than collaboration is prevalent. In order to enhance the province’s competitiveness at the national and international levels, collaboration should be facilitated and opportunities to integrate should be created in order for the researchers to act cohesively and be competitive. A few suggestions centered on phasing the building of research clusters and providing support to teams so that Manitoba would become more competitive nationally.

5. Next steps

The MHRC will seek additional funding for the research clusters program in the fall of 2014, after identifying potential research clusters in Manitoba through a Notice of Intent process. Following is a table describing the upcoming process.

Activity	Target date
Draft Program Guidelines and draft Notice of Intent	mid-January 2014
Call for Notice of Intent	January 2014
Deadlines for submissions of Notice of Intent	June/July 2014
Adjudication	September 2014
Selection of cluster for presentation to Government	Fall of 2014