

Quebec Network for Research on Aging

Scientific Program 2008-2012

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Background

It is predicted that by 2015, the number of people age 65 and over in Quebec will surpass the number of people age 0 to 19¹. After Japan, Quebec has one of the most rapidly aging societies in the world.² Previously viewed as the result of positive developments within a society, the increased life expectancy and aging of a population are now often seen as threats to socio-economic stability. This situation does represents a real challenge, but it is essential to understand the premises on which the sometimes catastrophic predictions are based, and to consider the steps that should be taken so that Quebec society can approach its aging in a positive manner.

This challenge arises in the context of a rapid demographic shift, involving an increase in the number of people age 65 and over and particularly in the number of very old people (age 80 or more). This demographic shift brings an epidemiological shift along with it: an increase in the number and severity of chronic illnesses and their consequences,³ including their impact on aging. A large portion of seniors consider themselves to be in good health and lead independent, active lives. But given the combined effects of the functional limitations associated with aging and of acute and chronic illnesses in the elderly population, about 25% of all seniors are actually regarded as frail (vulnerable) or as presenting a geriatric profile because of the limitations that they experience in their activities of daily living.

It is important to recognize that seniors are a heterogeneous group and that the care they require includes both prevention and early detection of chronic diseases.⁴ The importance of promoting health and preventing illness in order to promote healthy aging has been recognized. Such measures delay the onset of frailness and functional impairments. Those seniors who do have impairments require a complex combination of health and social services. These services must be delivered by qualified staff who are trained in geriatrics and gerontology, so that they can handle all aspects of the care required (for example, so that they can deal with atypical presentations of known diseases and assess function and quality of life). A systematic approach to the delivery of health and social services has a considerable impact on seniors' health, ability to function, quality of life, and satisfaction with these services, as well as on the optimal use of the health-care system.⁵

The public consultations held throughout Quebec in Fall 2007 by the *Commission sur les conditions de vie des personnes âgées* [commission on seniors' living conditions] demonstrated how seriously the challenges of health and aging are taken both by the public and by policy makers. The Quebec Network for Research on Aging (RQRV) has therefore planned its scientific program for 2008-2012 at an important juncture in the evolution of attitudes toward aging, and the Network plans to play a prominent role in defining the issues that must be researched.

1. Mission and strategic objectives

1.1. Mission

The mission of the Quebec Network for Research on Aging is to support interdisciplinary and interuniversity research on aging, based on a variety of methodological approaches; to champion increased research capacity in this field; to promote the development of critical masses of researchers and students in the field of aging, their networking with one another, and their

leadership at the Canadian and international levels; and to stimulate and facilitate the creation of partnerships among the Network's research teams as well as with public and private institutions. All of these elements of the Network's mission must be accomplished within a framework of open exchange of information and transfer and sharing of knowledge, not only within the scientific community, but also with the general public, health-care managers, health-care professionals, and health policy makers. The Network's ultimate goal in carrying out this mission is to increase knowledge about the biological, clinical, demographic, social, and societal aspects of aging. The purpose of the Network's research results is to promote successful aging, to help prevent or delay the onset of frailty and its harmful consequences, and to improve quality of life, quality of care, and the organization of health-care services for seniors, while recognizing their specific needs.

1.2. Strategic objectives

The RQRV will carry out its mission by pursuing strategic objectives in response to various societal needs, established and emerging research strength in the field of aging, and partnership and funding opportunities. The Network's goal is not to provide direct financial support for carrying out research projects, but rather to enable researchers to obtain preliminary data, to help them form teams and generate synergies among them, to build research partnerships, to develop research protocols, and to disseminate and publish research results. The RQRV will thus help to increase the quality and competitiveness of Quebec research on aging and thereby help Quebec researchers to secure national and international funding and enhance their leadership and influence in this field. The type of research on aging that the Network supports is interdisciplinary and interuniversity-based and includes the four main pillars of CIHR research in an interconnected manner. The RQRV's guiding principles are as follows.

- **Increase research capacity in the field of aging** – Catalyze the forming of teams among Quebec researchers on aging, stimulate interaction among them, and promote their leadership in the major national and international research programs and their competitiveness in obtaining funding, producing original, relevant findings, and disseminating/publishing them internationally. Identify researchers in fields that are under-represented in the Network (such as social and fundamental research) and encourage them to join it. Intensify involvement with students in training, so as to attract and retain the next generation of high-quality researchers.
- **Maintain and develop common research platforms** – Establish and support research infrastructures that facilitate teamwork, that make research teams more competitive, and that can also attract researchers who are not directly involved in the field of aging.
- **Make the knowledge developed through research on aging accessible to the general public and to the health-care system** – Launch initiatives allowing for the exchange, transfer, and sharing of knowledge with the public, with influential groups and associations representing seniors, with health care professionals and managers, and with politicians. Support the development of clinical and management tools.

2. Scientific Program

The RQRV's scientific program for 2008-2012 builds first of all on the capabilities that the Network has developed since its inception. Specifically, the Network has mobilized a community of Quebec researchers on issues of health and aging that has no equal anywhere else in Canada and sets an inspiring example on the international stage. The Network's scientific program has undergone significant changes over its first decade, adapting not only to changing realities in the field but also to the changing needs of the public and of public officials. In this regard, the most impressive development has probably been the decompartmentalization of research disciplines and fields, so that an integrated approach can now be taken to the challenges posed by the health of seniors in Quebec society.

The Network's 2008-2012 program is also based on its numerous accomplishments and the progress that it has achieved over the years 2004-2008. These years proved critical for the Network, because they involved modernizing its operational practices both to encourage interdisciplinary and interuniversity brainstorming on specific, relevant subjects and to develop the capacity and flexibility to create areas of opportunity, so that teams of researchers can respond rapidly to calls for major health-research proposals. The goal of the Network's 2008-2012 program is to expand the presence and contribution of Quebec researchers on the Canadian and international scene.

The underlying philosophy of the Network's scientific program is to strike a balance between maintaining incubators for the development of new knowledge and interdisciplinary approaches (through its thematic research groups and common research platforms) and acting to increase research capacity and areas of opportunity (through RQRV financial-support programs). In 2008-2012, while pursuing both types of initiatives, the RQRV will add some one new ones (promoting networking, knowledge sharing, and proactive exploration of commercialization of intellectual property). The RQRV's 2008-2012 program is based on the six complementary strategic programs listed here and discussed in the following pages:

1. Maintaining critical masses of researchers within each of the Network's Thematic Groups;
2. Supporting an RQRV Consortium for Longitudinal Studies on Aging;
3. Supporting the Network's Common Platforms for Research on Aging ;
4. Supporting a Research Capacity Development Program;
5. Supporting the Knowledge Transfer, Sharing, and Exchange Program;
6. Supporting major grant applications and Canadian and international partnerships.

2.1. Strategic Program 1: Thematic Groups

The RQRV's eight Thematic Groups are the basic components of this Network (Fig. 1). Each of them focuses on a different research theme of major importance and brings together researchers from multiple disciplines and institutions. The researchers in each Thematic Group maintain synergistic working relationships through which they form unique kinds of critical mass that let them develop innovative approaches and projects. Because the Thematic Groups have limited budgets, they choose their activities strategically, typically focusing on pilot projects designed to support applications for more extensive funding from government granting agencies.

2.1.1. Thematic Group on Cognition

Cognitive problems (of all origins combined) affect nearly 25% of all people over age 65 in Quebec, in addition to the changes associated with “normal” aging. Hence it is no surprise that problems of cognition rank among the top health concerns of older women, even though in surveys, older women reported that their doctors paid less attention to such problems. These facts underscore the importance not only of developing knowledge about these problems, but also of ensuring that this knowledge gets transferred to health-care professionals. The Cognition Thematic Group’s research program focuses on five main objectives: 1) developing and validating measuring tools that can be used to characterize, assess, and diagnose cognitive impairments and dementia; 2) introducing programs for prevention of cognitive impairment and for non-pharmacological interventions to treat it; 3) using neuroimaging to diagnose dementia early and to identify ways of compensating for age-related cognitive impairments; 4) analyzing co-morbidity relationships between cognitive impairments and other conditions (such as vascular diseases and depression) in seniors; 5) pursuing and expanding relationships with the Network’s other Thematic Groups to address multisystem complexity in the elderly, as in the NUTCOG (Nutrition and Cognition) study conducted by researchers from the Network’s Nutrition and Cognition Thematic Groups, which is attempting to assess the nutritional indicators associated with cognitive changes and dementia.

The Cognition Thematic Group will offer support to researchers to enable them to participate in several large project networks with potential for major impact. Here are some examples.

- A partnership with the Canadian Research to Action Program in Dementia (RAPID), whose goal is to increase knowledge about dementia and encourage the transfer of expertise to Canadian users. The Cognition Thematic Group will offer support to its researchers so that they can become active, visible members of RAPID—for instance, by participating in its development and governance.
- Active participation in the Multi-Domain Interventions for Prevention of Dementia program, an initiative of the Lou Ruvo Brain Institute in partnership with the Alzheimer’s Association of the United States. The goal of this program is to conduct the first international study to evaluate an approach to preventing dementia based on combined cognitive and physical interventions (participating countries: France, Canada, and the United States). The Thematic Group will support a pilot project that will identify sources of additional funding, such as Quebec’s Ministry for Economic Development, Innovation and Exports (MDEIE).

In addition to these targeted activities, the Cognition Thematic Group’s researchers will propose an addition to the existing infrastructure (an instrument bank) and make particular efforts to share knowledge that they have played a major role in developing, such as the results of the Third Canadian Consensus Conference on Diagnosis and Treatment of Dementia. In addition, on the RQRV web site, a new area will be created for professionals and general practitioners working in the field of cognition. The Cognition Thematic Group also wants to set up a program to sponsor young researchers in this field so as to facilitate their participation in the Network and help them develop ties with more experienced researchers.

2.1.2. Thematic Group on Mental Health

Mental health problems are common in the elderly population and have a major impact both on individuals and on society. In particular, anxiety and mood disorders in the elderly are associated with non-optimal use of general practice ambulatory services, prolonged use of psychotropic medications, and potentially inappropriate prescriptions. The members of the Network's Mental Health Thematic Group conduct research designed to increase understanding of these major public-health problems and to find solutions to them.

This Thematic Group's researchers have three major objectives: 1) to pool their complementary expertise to systematically study the complex, interrelated mental-health problems of the elderly (such as sleep disorders, depression, use of psychotropic medications, and non-optimal use of health-care services); 2) to produce leading-edge knowledge designed to assist in decision-making and problem solving; and 3) to train medical and non-medical students and provide early-career support to researchers with high potential. The Thematic Group's 2008-2012 research program is a logical extension of its past research and will focus on three areas: 1) population health (psychiatric epidemiology and pharmacoepidemiology); 2) suicide in the elderly population; and 3) health services for mental-health problems. More specifically, over the period 2008-2012, the Thematic Group's researchers will: a) continue the research that they have already begun; b) replicate the ESA (senior's health survey) study with a view toward evaluating the Quebec Ministry of Health and Social Services (MSSS) Mental Health Action Plan; c) establish a primary care services cohort in order to conduct a study on practices regarding mental health and aging; d) develop a fundamental and clinical research program that will be embedded in the ESA study and in the study on practices regarding mental health and aging; and e) develop a research program dedicated to the institutionalized elderly population.

This Thematic Group assembles a critical mass of researchers and provides an effective structure for developing research on seniors' mental health while encouraging interdisciplinary collaboration on important related topics such as depression and inappropriate use of medications. This Thematic Group provides a home base from which the researchers and clinicians who belong to it can develop partnerships with other Canadian and European researchers (for example, by participating in the Canadian Coalition for Seniors' Mental Health). This Thematic Group also plans to develop partnerships with institutions elsewhere in Canada and in other countries (for example, with the University of Toronto and with Unit E-361 of INSERM, the French National Institute for Health and Medical Research, in Montpellier, France) on subjects such as stress management for seniors.

2.1.3. Thematic Group on Nutrition

The objective of the Thematic Group on Nutrition is to combine fundamental, clinical, and population research so as: 1) to identify the determinants of nutrition in the elderly and their nutritional requirements; 2) to define the influence of nutrition on pathological, normal, and successful aging; and 3) to determine the mechanisms that contribute to the alterations in various organs and/or functions that are observed in the course of aging. Thematic Group members also conduct studies with animal models to identify the molecular and cellular mechanisms by which nutrition affects the aging of tissues and systems. The Thematic Group's planned scientific program for 2008-2012 will take advantage of the varied disciplinary and methodological expertise of its members, an approach that it has used successfully in the past, notably in the

Quebec Longitudinal Study of Nutrition as a Determinant of Successful Aging (the NuAge study). This program will address the general subject of body composition in the elderly, including both metabolic and nutritional aspects. The data from pilot studies conducted in recent years, employing both human subjects and aging-rat models, demonstrate the relevance of studying this topic, because such changes are often associated with frailty, senescence, and morbidity. More specifically, this group will conduct observational studies with human subjects to obtain an understanding of the phenomena of adiposity and sarcopenia, while conducting mechanistic studies with animal models to focus on the molecular and cellular changes in the target tissues (muscle, adipose, brain, and endocrine gland). The Thematic Group's other objectives for 2008-2012 will be as follows: 1) continue recruiting new members to enhance its capabilities, thus contributing to the formulation of new hypotheses and new research directions; 2) support at least two pilot projects (with human subjects and animal models) each year; 3) continue to hold the series of symposiums begun in 2007, on unifying themes chosen by the Thematic Group's members, with the goal of energizing the interactions among them and promoting their collaboration both with one another and with researchers outside the Thematic Group; 4) develop research programs and prepare CIHR grant applications based on pilot project data and symposium networking; 5) encourage optimal use of the databases and biological samples obtained in the NuAge study; 6) promote publication of pilot-study results and dissemination of research findings through public lectures, with the goal of fostering and maintaining optimal health in the aging population, as well as through workshops that offer guidelines to health professionals who work with the elderly and to government authorities who implement health policies for the elderly.

2.1.4. Thematic Group on Urinary Incontinence

Urinary incontinence represents a major challenge, because it interferes insidiously with elderly women's quality of life and can be aggravated by certain associated conditions, such as dementia. The Urinary Incontinence Thematic Group has identified the following 10 complementary pilot projects that it hopes to carry out at the rate of three or four per year over the period 2008-2012 and that will lead to the submission of grant applications for fundamental and clinical research projects.

- Develop a short version of the Self-Efficacy Questionnaire for Urinary Incontinence to make it more suitable for clinical practice and clinical research. This project will lead to the development of an instrument to increase self-efficacy in the management of urinary incontinence.
- Develop strategies for overcoming the obstacles previously identified with regard to the guidelines for managing urinary incontinence in geriatric settings.
- Improve urogynaecological care for elderly women, which is currently deficient both because of lack of knowledge among physicians and because of post-menopausal patients' reluctance to consult them. Interventions will be evaluated in small, interactive groups and then adapted into an on-line instrument that is inexpensive and can be distributed easily.
- Evaluate new methods of transferring knowledge to elderly women to help them manage their urinary incontinence more effectively. A prospective pilot study will be conducted, based on Prochaska's model of behavioural change⁶.
- Help to improve the clinical results of injections of botulinum toxin type A (Botox) to treat overactive bladder in elderly subjects, by conducting a pilot project in preparation for a

randomized study comparing detrusor injection methods that do and do not target the trigone and using two different concentrations of Botox.

- Identify polyresistance to botulinum toxin type A injections in elderly subjects treated for overactive bladder, by means of immunoassays and a skin test.
- Conduct an exploratory study on how pelvic floor re-education in incontinent women affects cognition, to follow up on some surprising observations suggesting such an effect.
- Initiate a pilot project to assess the feasibility of a program of pelvic-floor exercises and bladder re-education adapted to older women who have experienced a cardiovascular accident (stroke).
- Study the pathophysiology of urinary incontinence in elderly women through static and dynamic analysis of the perineal and pelvic structures at rest, during contraction, and during physical effort (collaborations with researchers at Stanford University and University of Michigan).
- Characterize the protein receptor for botulinum toxin type A (SV2) in the detrusors of aging rats as a model for studying the relative resistance of elderly subjects to detrusor injections of botulinum toxin type A in the treatment of overactive bladder (collaboration between INSERM VG24 and the aging rat colonies that constitute the RQRV Animal Models of Successful Aging Platform).

2.1.5. Thematic Group on Rehabilitation

The Rehabilitation Thematic Group conducts interdisciplinary research to improve care and services for seniors who have handicaps or disabilities. This research examines seniors' rehabilitation needs and the services and strategies for meeting them across the entire continuum of care and services. Over the past four years, this Thematic Group has carried out two projects, one dealing with the rehabilitation needs of seniors living at home, and the other with the intensity of rehabilitation therapies.

Over the period 2008-2012, the Thematic Group plans to continue analyzing the results of the study on seniors living at home and to finish compiling the data from the therapy-intensity project. The primary objective of the therapy-intensity project is to analyze the relationship between the load (frequency, intensity, density, and volume) of interventions during seniors' stays in intensive functional-rehabilitation units and the changes observed in measures both of clinical results (such as functional, physical, and cognitive abilities) and of administrative results (such as length of stay, capacity at discharge, and patient satisfaction). The results of the therapy-intensity project will be used to submit a grant-renewal application to CIHR, for the purpose of evaluating the dose-response relationship in geriatric rehabilitation, taking all of the patients' activities into account.

The Rehabilitation Thematic Group is also developing a new research project in connection with the CIHR Institute of Aging Mobility in Aging Initiative. This new project will involve 15 researchers, and its purpose will be to assess mobility in elderly amputees. In the first phase, a pilot project will be carried out; the data from this project will then be used to prepare a research proposal for submission to CIHR. The Thematic Group's chosen indicators of success will be its researchers' publications, the obtaining of a major grant enabling a study to be carried out, and the transfer of knowledge. The Thematic Group's projects also benefit from the active contribution of clinicians, who thus receive a unique form of training and can then contribute to

the dissemination of the research results within their communities.

2.1.6. Thematic Group on Long-Term Care

The research of the Thematic Group on Long-Term Care involves evaluating long-term-care interventions. Its goal is to analyze the main problems experienced by seniors who are receiving long-term care, so that the appropriateness and quality of these interventions can be improved. In the medium term, the Thematic Group plans to assess the relevance of conducting a project on the evaluation of quality of care in long-term-care settings. The Thematic Group's 2008-2012 research program is based on the tangible results that it has already achieved and will focus on the following four major issues.

- Behavioural and psychological symptoms of dementia (BPSD) – One research project that the Thematic Group has already conducted dealt with how well the guidelines for managing BPSD mesh with clinical practices in long-term-care settings. In this project, the investigators tested their research method in two nursing and long-term-care homes in Quebec. Now the researchers plan to submit a grant application to CIHR to carry out this same project in three urban areas of the province (Montreal, Quebec City, and Sherbrooke). The findings will be used to develop training programs for caregivers, taking their strengths and weaknesses into account, and to sensitize health-care organizations to the factors influencing compliance with guidelines.
- Pain – The Thematic Group's investigators will continue their research on the detection of pain in seniors suffering from dementia. The investigators' first objective is to assess the effectiveness of an intervention program that makes systematic use of a clinical tool to improve pain relief in long-term-care settings. If this program does prove effective, the researchers will attempt to have it implemented in all long-term-care settings in Quebec. The Thematic Group's members have close working relationships with other researchers working in this field elsewhere in Canada.
- Delirium – The Thematic Group's investigators are conducting two studies to determine the prevalence, incidence, and consequences of delirium in the elderly, the factors associated with it, and the way that it is managed clinically in two different groups of seniors living in long-term-care settings: seniors with little or no cognitive impairment and seniors in advanced stages of dementia. The results of these studies will be used as the basis for developing two programs: a) a training program for nurses, to help them detect delirium, and b) a program of interventions to prevent delirium, based on the identified risk factors.
- Palliative care – The Thematic Group's investigators are completing a pilot study supported by the Quebec Ministry of Health and Social Services (MSSS) to assess how a training program for licensed practical nurses affects the quality of palliative care provided in long-term-care settings. The plan now is to pursue this project in a broader setting with precise clinical indicators (such as pain detection, use of medications on demand, and assessment of mental condition).

2.1.7. Thematic Group on Social Interaction and Social Support

The goal of this Thematic Group is to increase capacity for research on issues of aging that involve the social aspects of health. The concept of social interaction refers to the voluntary and involuntary reciprocal actions of the various actors involved in a situation or a system, resulting in the transformation of that situation or system. The concept of social support comprises social

integration, support received, support given, and the perception of that support. Together these two concepts let us understand the various types of relationships among seniors, relatives, and caregivers in various everyday and crisis situations. In this context, the Thematic Group's research program for 2008-2012 will be focused on the following four objectives.

- Developing concepts and methodology: Social interaction and social support - Social interaction and social support are central concepts for understanding the dynamics of the relations among aging people, their relatives, and their caregivers. These two concepts have been defined and measured in many different ways, which has resulted in confusion and led to some contradictory conclusions about their effects. Working together, the Thematic Group's investigators will apply their complementary expertise to help define these concepts more precisely and to propose new methodological frames of reference and approaches.
- Supporting families of elderly people experiencing cognitive losses at end of life – The end of life is a critical period for everyone involved—the dying elderly persons themselves, their relatives, and their professional caregivers. Providing effective support for families means using proven interventions and clinical tools to help them better understand the issues at hand so that they can make informed decisions. The Thematic Group's researchers want to validate the use of Arcand and Caron's⁷ tool and apply it in various settings in order to determine its clinical value in various cultural contexts.
- Fighting elder abuse: Developing validated approaches for working with elders who are abused (by violence or neglect) and with the people who abuse them – Much research has been done on elder abuse over the past 30 years, but there are still very few tools for detecting, diagnosing, and intervening in cases of such abuse, even though the professionals who must deal with the tense dynamics of elder interaction and support relationships are calling for such instruments. The Thematic Group's researchers will help to develop such tools (as they did, for example, with the En-Main tool in 2007—see www.rqcaa.org) while taking cultural sensitivities into account. This project will have substantial practical benefits while helping to build ties with the communities concerned.
- Implementing the WHO Global Age-Friendly Cities project: Evaluative research and community-development research – Because the number of older persons living in urban areas is on the rise, it is essential to ensure that their environment supports active ageing. Taking past achievements with regard to age-friendly cities in Quebec as their starting point, the members of the Thematic Group will support further community-development initiatives and research in this area.

2.1.8. Thematic Group on Health Services

In past years, the work of the researchers who belong to the Health Services Thematic Group has included developing and evaluating the implementation, efficiency, and costs of integrated service networks; evaluating the quality of the care and services provided by such networks; and studying specialized geriatric services. Over the period 2008-2012, the Thematic Group's members plan to make use of the results of this past research and to increase research capacity and collaborations in this field among researchers at various Quebec universities, while also contributing directly to improvements in the organization of care and services for seniors.

One of the Thematic Group's research topics concerns the 95 local service networks (RLS) that have been set up recently in Quebec and that are responsible for establishing integrated networks

of health services for seniors as well as for planning and developing services to meet the needs of vulnerable groups. The 95 local service networks that now exist differ greatly in the specialized geriatric services and expertise available to them. It is therefore essential to determine how these networks, which are so unequal in their access to specialized geriatric resources, compare in terms of the quality of the services that they provide to seniors. The Thematic Group's objectives will be to classify these networks according to the availability of specialized geriatric resources in their service areas, to measure the quality of the services provided within the networks thus classified, to compare the networks with one another, and to understand the differences observed. During the first two years of its 2008-2012 research program, the Thematic Group's members will develop a research proposal, classify the local service networks according to availability of specialized geriatric resources, and carry out pilot studies to validate and assess the feasibility of the various phases of the planned research. During the second two years, the Thematic Group's members will carry out their field research and develop other projects related to this research topic so as to explore new research avenues on the basis of pilot projects and/or new grant applications.

The Thematic Group's research program for 2008-2012 will thus be a continuation of its past work. It will exemplify a highly networked approach, inasmuch as four Quebec universities with faculties of medicine will be participating in it. It will also represent a highly multidisciplinary effort and be based on a population approach in a local-service-network setting. This project by the Thematic Group will enable all of Quebec's local service networks to be classified according to their availability of specialized geriatric resources, while also enabling funded projects to be carried out on this subject.

2.1.9. Synergies among Thematic Groups

The RQRV's Thematic Groups do not operate in isolation from one another. Experience has shown that they can interact synergistically in highly productive ways. For example, the synergy between the researchers in the Nutrition and Cognition groups made it possible to tackle issues surrounding the impacts of nutrition on cognition in the elderly and to carry out the CIHR-funded NUTCOG project. Likewise, there are many synergistic ties between the researchers in the RQRV's Health Services and Long-Term Care Thematic Groups. In addition to the initiatives taken by RQRV researchers, their Thematic Groups, and their Thematic Group Co-ordinators, RQRV management will continue to stimulate the creation of synergistic ties that allow complex questions to be examined in a new light, at the interfaces among various disciplines and various methodological approaches.

2.2. Strategic Program 2: RQRV Consortium for Longitudinal Studies on Aging

In recent years, RQRV researchers have achieved some major breakthroughs in planning and carrying out longitudinal studies of cohorts of older people. All of these studies have depended on close collaboration and co-ordination among researchers from various disciplines, research centres, and research teams.

- **Quebec Longitudinal Study on Nutrition and Aging** ("NuAge" study; Principal Investigators:
H. Payette, P. Gaudreau, K. Gray-Donald, J. Morais, and B. Shatenstein; CIHR Operating Grant, 2003-2008; renewal application for 2008-2013 submitted to CIHR September 2007. This was a 5-year study of 1,793 men and women ages 67 to 84 who were generally in good

health and living independently in the community at the time they entered the study. Each year, the researchers collected sociodemographic, nutritional, functional, physiological, medical, biological, and social data on these subjects. In addition to compiling a secure database of these research data, in 2008 the NuAge study established a biological sample bank containing over 400,000 specimens of serum, plasma, saliva, and urine. Management of this sample bank is fully automated. The NuAge study was initiated by the RQRV Thematic Group on Nutrition, and the researchers working on it include experts in nutrition, geriatrics, the biology of aging, epidemiology, biostatistics, and the social sciences.

- **The Survey on Seniors' Health (ESA)** research project was initiated by the Thematic Group on Mental Health. The principal investigator is M. Preville. This project includes research in three areas: 1) population health (psychiatric epidemiology and pharmacoepidemiology), 2) suicide in the elderly population, and 3) health services for mental-health problems. Work has begun on developing a fourth research area—fundamental and clinical research—and will continue over the next five years. The ESA project includes a longitudinal population study, ESA I, that was funded by CIHR from 2005 to 2007, and a replication, ESA II, to be carried out in 2010 and 2011. It will also include complementary studies linked with the main one, and the establishment of a laboratory for analyzing mental-health practices.
- The **CIHR Team in Frailty and Aging** has received funding for 2007-2013 to conduct a longitudinal study on expressions of frailty, known by its French acronym, FRÉLE. The principal investigator is F. Beland. This team was established by the Health Care and Services Thematic Group and includes researchers from four universities. The goals of this study are to identify, describe, and understand the many different trajectories that frailty in the aging can follow over time. This study will use biological, physiological, clinical, and social markers of frailty to identify typical frailty profiles and follow their respective trajectories. The second part of this study will examine how the use and costs of public spending on health and social services are associated with frailty profiles and trajectories in metropolitan, urban, and rural settings. This project will establish a representative cohort of 1,200 older persons in Quebec and make use of the database and biological samples from the NuAge study.
- The **Canadian Longitudinal Study on Aging (CLSA)** is a component of the CIHR Canadian Lifelong Health Initiative, whose goal is to establish a research platform for conducting major longitudinal studies on the health of Canadians. The CLSA is a broad national study that will follow some 50,000 Canadians age 40 and over, for at least 20 years. CIHR has already funded a feasibility phase for this study (2004-2006) and, in the course of the validation studies for Phase II (CIHR-funded for 2006-2008), the CLSA team and the NuAge study team developed a close partnership for the development and validation of measuring instruments. The first wave of recruitment and data collection began in June 2008 as part of Cycle 4.2 of the Canadian Community Health Survey (CCHS), in partnership with Statistics Canada. Several researchers from the RQRV are playing active roles in the implementation of this major study, including C. Wolfson as principal investigator and H. Payette, F. Beland, and H. Bergman as key co-investigators.
- The **International Database Inquiry on Frailty (FrData)** study is an international investigation of data on frailty from 14 databases developed in studies on aging, including three studies from Quebec. This study was initiated by researchers from Quebec (the principal investigators are H. Bergman and C. Wolfson) and is funded by the CIHR Team in Frailty and Aging. The performance of this study has encouraged the emergence of an

international network of longitudinal studies in Canada, the United States, Latin America, Europe, Israel, and soon China, which will serve as the basis for establishing modalities for partnerships and for sharing of expertise.

- The expertise of the RQRV's researchers has begun to bear fruit. For example, Quebec researchers from the CLSA and the Genome Quebec/Genome Canada CARTaGENE project have recently held discussions for the purpose of establishing a research infrastructure comprising a database and a genetic biobank. In addition, a partnership agreement between the researchers from the NuAge study and those from CARTaGENE is about to be approved. Productive exchanges of expertise and biological material will help to enhance both of these infrastructures, while also stimulating international exchanges involving Quebec researchers and expanding their influence. A Quebec survey on limitations on activities and aging (EQLAV) is being prepared under the leadership of P. Caris, and several researchers from the Network have been invited to participate in it. Lastly, three members of the RQRV played a major role in preparing an Emerging Team Grant application submitted to CIHR to obtain funding for research on mobility.
- The RQRV recognizes the expertise that Quebec researchers have developed in the planning and implementation of longitudinal studies and, to enhance it further, is planning to establish an RQRV Consortium for Longitudinal Studies on Aging. This consortium will make it possible to pool expertise, maintain information and other technology platforms, ensure continued access to them, provide training, engage in international collaborations and partnerships, transfer knowledge, and take advantage of research findings that have strong commercial potential. The Consortium's goal will not be to provide additional funding for these longitudinal studies but rather to enhance their value, scope, and influence and thereby foster synergies between these studies and the emergence of Quebec leadership in this cutting-edge field.
- The Network also proposes to support the production of "modules" of measurements in various fields (such as cognition, nutrition, mental health, and physical abilities). These modules will then be shared between RQRV researchers and researchers outside of Quebec, so that they can compare and pool their research data. In addition, the support that the Network plans to provide for the presentation of national and international methodological seminars will help to enhance the expertise both of students and of established researchers and to stimulate new collaborations. The RQRV has already demonstrated its effectiveness in disseminating research instruments via its web site.

2.3. Strategic Program 3: Common Platforms for Research on Aging

2.3.1. Animal Models of Successful Aging Platform

Fundamental research in the biology of aging requires the use of animal models to clarify the mechanisms underlying age-related conditions. But in order to study such models, colonies of aging rodents must be maintained, which poses logistical and financial challenges beyond the capacities of independent research teams working alone. The RQRV's Animal Models of Successful Aging Platform thus provides a valuable infrastructure to support researchers in this field. Moreover, under the new rules issued by the U.S. NIH National Institute on Aging, only U.S.-based researchers can obtain their aging rats and mice, while foreign researchers cannot. Hence this RQRV platform has become an even more important resource for Quebec researchers working on the biology of aging. It maintains two colonies of aging rats: 1) male Sprague Dawley rats, fed *ad libitum* or subjected to moderate calorie restrictions for 10 to 12

months, starting at the age of 8 months; and 2) male and female Lou/C/Jall rats, fed *ad libitum*.

As regards the platform's scientific activities, the platform co-ordinators will continue to meet with their researcher/users to discuss the results obtained with the two models and to develop new projects synergistically. As regards platform services, the co-ordinators will continue to provide access to specimens of biological tissues and fluids and will also offer new phenotyping services (for example, for studying cognition, anxiety, and feeding behaviour).

In addition, given the change of rules in the U.S., the RQRV has held discussions with the CIHR Institute of Aging to explore a partnership whereby the RQRV platform would become the source of aging rat and mouse tissues for all of Canada. Optimal functioning of this platform will enable the frequency of the supplying of tissues and phenotyping of aging rats to be increased to six-month intervals. This regular access to tissues and phenotyping would enable researchers to include a contribution to the platform's operation in their grant applications.

2.3.2. French-Language Instrument Inventory Platform

Ever since its inception, the RQRV has maintained an up-to-date inventory of instruments for studying aging that either were created in French or have been translated into French. This instrument inventory, available on the RQRV web site, provides direct access to a description of each instrument, the items and factors that are evaluated in it, the method of administering it, and the system for scoring the responses. The Network wants to enhance this inventory by adding new instruments, describing new validity and reliability studies, and maintaining the information service for users. A link will also be created for professionals and researchers in the field of cognitive disorders, because many RQRV researchers have helped either to create tests in French for evaluating such disorders or to translate such tests into French, but these tests have not yet been disseminated in Quebec and other French-speaking jurisdictions. The RQRV therefore plans to incorporate information about these tests into its French-Language Instrument Inventory Platform.

2.3.3. Planned Longitudinal Data Platform – RQRV Consortium for Longitudinal Studies on Aging

In partnership with the national funding agencies and private industry, the RQRV will contribute to the long-term maintenance of databases and biobanks. It will also facilitate the updating and sharing of standardized operating procedures for collecting and processing data and biological samples, storing them in databases and sample banks, and managing and analyzing them, as well as guidelines for accessing and using these data and samples in strict compliance with the applicable ethical standards. The Network will facilitate access to the data and promote secondary analyses and studies. It will also facilitate the networking of platforms and help to organize workshops and to provide salary support for highly qualified personnel. The RQRV will establish consent mechanisms to allow the dissemination of database contents from Quebec-based longitudinal studies to researchers, post-doctoral fellows, and students, thereby helping to elicit the participation of the next generation of researchers.

2.4. Strategic Program 4: Research Capacity Development Program

The health and aging research community is still young and needs to be developed further. In some fields, such as geriatrics and nursing, there are still too few clinicians doing research. The

RQRV has taken a number of steps to attract the best students and thereby increase research capacity.

2.4.1. Maintaining and Expanding the CIHR/FORMSAV Strategic Training Program

Launched in 2003, the CIHR/FORMSAV strategic training program (www.formsav.org) involves researchers in the field of aging from three Quebec universities (Montreal, Sherbrooke, and Laval). Each year, the program offers more than 15 financial awards to attract new students and to help current students complete their degree work. In addition, together with the RQRV, FORMSAV offers all student members of RQRV transdisciplinary training in health and aging to complement their studies in single disciplines. In 2006, in partnership with the CIHR Institute of Aging, FORMSAV offered the first-ever Summer School in Health and Aging, attended by trainees from Quebec and the rest of Canada. Lastly, FORMSAV provides support to its trainees' mentors, through a program of workshops designed for them. Over the period 2008-2012, the RQRV will continue providing support to FORMSAV. The program will be extended to all universities where researchers who belong to the RQRV are based. In addition, in co-operation with various components of the RQRV, FORMSAV will present training on specific topics—for instance, workshops on the methodology of longitudinal studies, a summer school on mental-health methodology, and training in the biology of aging. Lastly, FORMSAV will enhance its contribution to the management and evaluation of applications for RQRV programs.

2.4.2. Partnership with FRSQ Training Awards Programs

The RQRV will continue its partnership with the Training Awards programs of the FRSQ (Quebec fund for health research), by providing financial support to a number of student members of the Network whom the FRSQ has rated as “meritorious” in its regular competitions but who have not received FRSQ funding.

2.4.3. Targeted Partnerships for Developing Clinician-Investigators

The RQRV has established two programs to provide training awards for clinician investigators: one for residents in geriatric medicine, the other for doctoral students in nursing—two fields that are critical for increasing clinical research capacity. These programs were developed in financial partnership with the CIHR Institute of Aging, various professional associations and universities, and the pharmaceutical industry (Appendix 1).

2.4.4. Developing Capacity through the RQRV Consortium for Longitudinal Studies on Aging

The RQRV Consortium will become a preferred setting for interdisciplinary training on aging for future researchers from Quebec and elsewhere. The Consortium will provide training awards in partnership with FORMSAV and the CIHR Institute of Aging. The RQRV also hopes to use matching awards to help talented new researchers get their careers under way.

2.4.5. Student Travel Awards To Present Papers at Canadian and International Conferences

In partnership with their research supervisors, the RQRV will continue to offer travel awards to enable students to present research papers at Canadian and international conferences. This program helps to enhance both the RQRV's influence and the students' research credentials

(Appendix 1).

2.5. Strategic Program 5: Knowledge Transfer, Sharing, and Exchange Program

The goal of this program is to transfer, share, and exchange knowledge in many ways. First of all, this program seeks to ensure that the RQRV's interdisciplinary programs are open to input from the Quebec public and especially from Quebec seniors, as well as from the policymakers, managers, and professionals in Quebec's health care system. Second, this program also transfers knowledge to the Canadian and international scientific communities through publications in peer-reviewed journals and an active presence at major scientific meetings. The third component of this program consists of knowledge commercialization activities. A large part of the RQRV's transfer, sharing, and exchange of knowledge takes place through the activities of its individual Thematic Groups (see section 2.2), but the Network plans to develop additional strategies as well.

2.5.1 RQRV web site (www.rqrv.com)

The Network's web site is a key tool for communicating and disseminating information, primarily in scientific circles, but also more broadly, among policymakers and professional managers in the health-care system. We plan to develop both of these aspects of our web site in the coming years.

2.5.2 Transferring knowledge to the public and to the health-care system

The RQRV plans to establish a competition to support knowledge transfer to the public and to members of the health-care system. Together with its Thematic Groups and the RQRV Consortium for Longitudinal Studies on Aging, and in partnership with seniors' associations, professional associations, the health-care system, and foundations (such as the Foundation for Mental Illnesses, a partnership under development involving three Thematic Groups), the Network will support knowledge-transfer activities such as the dissemination of research results and clinical guidelines, the organization of symposiums and lectures for the general public, and the publication of books. These ties will also make it possible to identify partners' interests in research areas that are important but new for them.

2.5.3 Transferring knowledge to policymakers

As a follow-up to a brief that it presented at recent public consultations by Quebec's Ministry for the Family and Seniors and for Seniors' Living Conditions, the RQRV is now involved in discussions to develop joint knowledge-exchange programs with that ministry. Quebec's Minister of Health and Social Services recently invited the Director of the RQRV to chair a committee of experts to propose a Quebec action plan for Alzheimer's and related diseases. The RQRV will also pursue collaboration with the Ministry of Health and Social Service's own Network on Aging and Demographic Change.

2.5.4 Transferring knowledge to the scientific community

2.5.4.1 RQRV Annual Research Day – The RQRV holds an Annual Research Day in conjunction with the annual conference of the *Société Québécoise de gériatrie* (Quebec geriatrics society) and in collaboration with a different Quebec university every year. This event is attended by more than 100 participants and consists chiefly of presentations by students, postdoctoral fellows, and medical residents. In connection with its Annual Research Day, the

Network also plans to begin hosting lectures for the general public.

2.5.4.2 RQRV Network-Wide Competition: Support for Publication – This competition provides financial support for transferring knowledge to and sharing knowledge with the scientific community, health and social services professionals, and the general public. It supports two types of activities: the translation or editing of a manuscript to be published in a peer-reviewed journal, and the publication of a book or other non-peer-reviewed publication whose intended audience is the scientific community, health and social services professionals, or the general public (Appendix 1).

2.5.4.3 RQRV Network-Wide Competition: Support for Canadian and International Colloquiums and Symposiums – This competition provides financial support for either of two purposes: 1) to organize Canadian and international workshops, colloquiums, and symposiums; 2) when a Network member is organizing a symposium at a national or international scientific meeting, this competition can also provide financial support to enable a speaker to participate who is a Network member or a non-member who would not normally be attending the meeting (Appendix 1).

2.5.4.4 RQRV Network-Wide Competition: Student Travel Awards To Present Papers at Canadian and International Conferences – See section 2.4.5.

2.5.4.5 RQRV Participation in the 19th IAGG World Congress of Gerontology and Geriatrics (WCGG), Paris 2009 – The major investment that the RQRV made to ensure its teams' presence at the *VIII^{me} Congrès international francophone de gérontologie et de gériatrie* (8th international Francophone conference on gerontology and geriatrics) in Quebec City in 2006 has had a very substantial impact on the Network's international profile and influence. We will continue with this strategy to ensure a very strong presence of Quebec researchers at the World Congress of Gerontology and Geriatrics in Paris in 2009. The RQRV will use its network-wide competitions to leverage maximum value from this congress and is now finalizing an agreement to have the organizers officially recognize the RQRV as a partner in this event.

2.5.4.6 Knowledge-Transfer Activities of the RQRV Consortium for Longitudinal Studies on Aging – The Consortium will help to disseminate Quebec researchers' findings: 1) by holding symposiums about several Quebec-based longitudinal studies at international conferences, such as the 19th IAGG World Congress of Gerontology and Geriatrics (see above), and 2) by publishing papers in a supplement to an international scientific journal.

2.5.4.7 Technology Transfer and Commercialization Activities – In 2008-2012, for the first time, the RQRV plans to pursue the development of commercial products from its scientific activities. Following discussions with the FRSQ and the *Centre québécois de valorisation et de biotechnologies* (CQVB—Quebec centre for biotechnology transfer and commercialization), the RQRV has been selected to participate in a project called BioMarTech (BIO industrie MARketing des TECHnologies). This project was selected for a second phase of the competition run by the Canadian Centres of Excellence for Commercialization and Research. The RQRV's role will be to facilitate the development of public/private partnerships and will be based in particular on its Animal Models of Successful Aging Platform and on the technologies developed by the RQRV Consortium for Longitudinal Studies on Aging. The RQRV's objectives in pursuing these commercialization activities are twofold: to maintain the operation of the RQRV's platforms and its other activities, and to promote and improve seniors' health.

2.6 Strategic Program 6: Support for Major Grant Applications and Canadian and

International Partnerships

The RQRV plans to maintain an active watch for new opportunities that can stimulate interactions among its programs, with a view to developing new Canadian and international research projects, submitting major grant applications, and acting on new commercialization opportunities

2.6.1 RQRV Network-Wide Competition: Support for Research Partnerships – The RQRV plans to expand this competition, which is designed to build partnerships with associations, health-care institutions, research groups, funding agencies, private industry, other FRSQ research networks (such as those on ethics and on vision health), and other organizations. The objectives of this program are to provide such partnerships with funding for pilot research projects in preparation for applying for larger grants and to provide training awards (Appendix 1).

2.6.2 RQRV Network-Wide Competition: Support for Major Grant Applications – The RQRV plans to maintain and develop this competition, whose purpose is to support the preparation of applications for major grants, such as applications for CIHR Team Grants and grants for longitudinal studies (Appendix 1).

2.6.3 Developing Canadian and International Partnerships and Collaborations

- The Network's strategic position within the CIHR Institute of Aging enables and encourages the discussion of new partnerships. For example, several members of the Network's Thematic Group on Cognition are now actively involved in the Institute's Research to Action Program in Dementia (RAPID).
- Elsewhere in Canada, the RQRV plans to continue its work with the British Columbia Network for Aging Research (A Michael Smith Foundation for Health Research Network). The RQRV has been consulted by this new B.C.-based network in the past and continues to serve it as an advisor, and certain collaborations are developing.
- Internationally, in addition to the relationships discussed earlier, the RQRV is considering several other partnerships. Examples include: a) the Gerontopole, in Toulouse, France, a major research group funded by the French Ministry of Health; b) the Life Course Approach to Healthy Aging program, which takes advantage of longitudinal cohorts in the United Kingdom; c) the Second Quebec-Japan Research Symposium on Aging, to be held in Hiroshima in October 2008; and d) the France-Quebec training program on the biology of aging. The RQRV will also explore opportunities for linkages with French projects that come under the European Union's Seventh Framework Program. Lastly, the RQRV has initiated contacts to develop collaboration with China on longitudinal studies of aging and on the possible exchange of researchers and students, which would be supported by the Quebec-China Scientific Exchange Program.

2.6.4 International Collaboration by the RQRV Consortium for Longitudinal Studies on Aging - Because of the Consortium's extensive international contacts and activities, it will be hosting researchers and trainees from other countries. The Consortium plans to offer its expertise to research projects on aging that are being conducted in developing countries. In addition to its

collaboration with Mexico and in partnership with a Swiss research team under P Bovet, the Consortium will participate actively in the development of a longitudinal study on aging and chronic diseases in developing countries.

3. Direction, Management, and Governance

The Network has modernized its Charter, its organizational structure, and its operating rules so that it can ensure effective, open, transparent management and make informed resource-allocation decisions. The Network's orientation and programs have evolved (Fig. 1). The work of the Executive Committee is based on the decisions and advice of its Steering Committee and Advisory Committee. The management approach emphasizes transparency and ensures that decisions are made in keeping with the Network's mission and its strategic objectives.

- **Budget allocation:** In allocating resources, the Network gives priority to projects that will add value and assemble teams from more than one setting and more than one discipline, with the goals of: a) training the next generation of highly qualified personnel; b) developing scientific and financial partnerships; c) securing funding from outside the Network by submitting applications to national and international competitions; and d) promoting scientific outreach and knowledge transfer. The Steering Committee must approve the budget for each of the Network's programs. Each Network program and project is re-evaluated annually according to how well it is meeting the Network's priorities, what new opportunities have developed, whether the applications that it has submitted to outside funding agencies have succeeded or failed, and how well it is meeting its objectives and achieving desired results.
- **RQRV Network-wide Competitions:** The objectives, criteria, available resources, and decision-making processes are clearly established for every RQRV network-wide competition (Appendix 1). An application can be submitted to any of these competitions by an individual researcher or a group of researchers belonging to the RQRV. The proposals submitted must be multidisciplinary, involve researchers from more than one university, and be consistent with the RQRV's strategic goals and priorities. The Network's members are familiar with the evaluation process: the Executive Committee assesses the eligibility of each application, obtains opinions from at least two members of the Steering Committee and, if necessary, from the Co-ordinator of the relevant Thematic Group or Common Platform or from an expert outside the Network. Applicants who successfully obtain funding in these competitions must agree to report to the RQRV about the findings and achievements that result from this funding and identify the Network as a funding source in their publications.

4. Explanation of the Proposed Budget for 2008/2009

1. The total budget proposed for fiscal 2008/2009 represents a substantial increase over the budget of \$760,000 per year granted for fiscal 2000/2001 to 2003/2004 and 2004/2005 to 2007/2008. This increase reflects the Network's increased productivity, the stage of maturity that it has reached, and the recognition of its excellence at the Canadian and international levels. It also reflects the increasingly intense activity in all of the Network's strategic programs, in particular its Common Research Platforms, Research Capacity Development Program, and Knowledge Transfer, Sharing And Exchange Program, as well as the opportunities and partnerships that it is pursuing at the Canadian and international levels.
2. The Network's proposed budget for 2008/2009 should be regarded as an operating framework, a set of guideposts and projections for the RQRV as a whole and for each of its strategic programs for the coming four years. The budget is divided among the strategic programs as follows: Thematic Groups, 29%; RQRV Consortium for Longitudinal Studies on Aging, 4%; Common Platforms for Research on Aging, 12.5%; Research Capacity Development Program, 20%; Knowledge Transfer, Sharing, and Exchange Program, 18.5%; and Support for Major Grant Applications and Canadian and International Partnerships, 8%. The remaining 9% is allocated to the Network's management infrastructure. This budget represents a balance between those Network programs whose goal is to maintain incubators for the development of new knowledge and interdisciplinary approaches (Thematic Groups, Common Platforms for Research on Aging, and Research Capacity Development), which receive 61% of the budget, and those programs that represent "opportunity spaces" (RQRV Consortium for Longitudinal Studies on Aging; Knowledge Transfer, Sharing, and Exchange; Support for Major Grant Applications and Canadian and International Partnerships), which receive 30%, of which 23% is allocated to the RQRV Network-wide competitions.
3. Every year, starting in the first funding year (2008/2009), the co-ordinators of the Network's Thematic Groups and strategic programs submit their detailed budget proposals to the Executive Committee, which then makes recommendations to the Steering Committee about the budget allocations for each of the strategic programs and each of their components. The Steering Committee then makes the final decisions on these allocations. No program or component's budget is guaranteed, and no budget is renewed automatically.

Conclusion

The Quebec Ministry of Health and Social Services recognizes and underscores the challenges posed by the aging of Quebec's population, which is why research on aging is one of the four priority areas for Quebec's funding agency for health research, the FRSQ. The members of the RQRV have established themselves as leaders in the field of research on aging in Canada, and their influence is international. In the FRSQ's 2007-2010 strategic plan, the FRSQ reports that the level of research activities and the quality of research on aging in Quebec surpasses those both elsewhere in Canada and worldwide⁸ (Fig 2). The RQRV is increasingly recognized as a driving force behind the development of research on aging. Quebec's Minister of Health and Social Services recently invited the Director of the RQRV to chair a committee of experts to propose a Quebec action plan for Alzheimer's and related diseases. The strength of Quebec research on aging, to which the RQRV has contributed, is grounded in an approach that brings

together various disciplines and methodologies, as well as students and researchers from several Quebec universities. It is this strength that enable Quebec researchers on aging to help to develop:

- a better understanding of the determinants of patterns of aging;
- preventive and therapeutic interventions for the health and social problems of older people;
- effective methods of organizing the delivery of care to older people by the Quebec health-care system, so that they receive the best possible quality of care.

FIGURE 1: ORGANISATIONAL STRUCTURE OF THE NETWORK

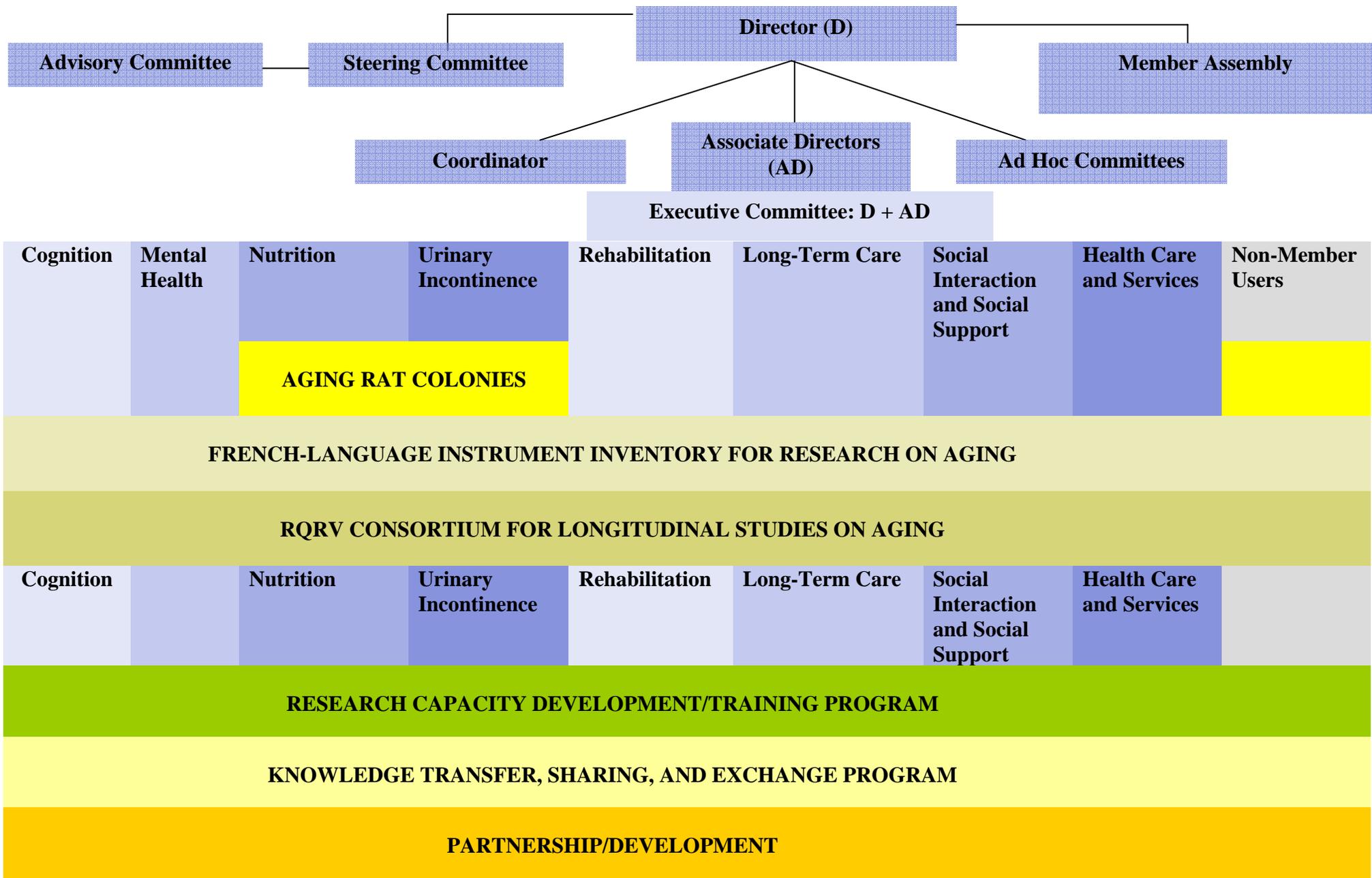
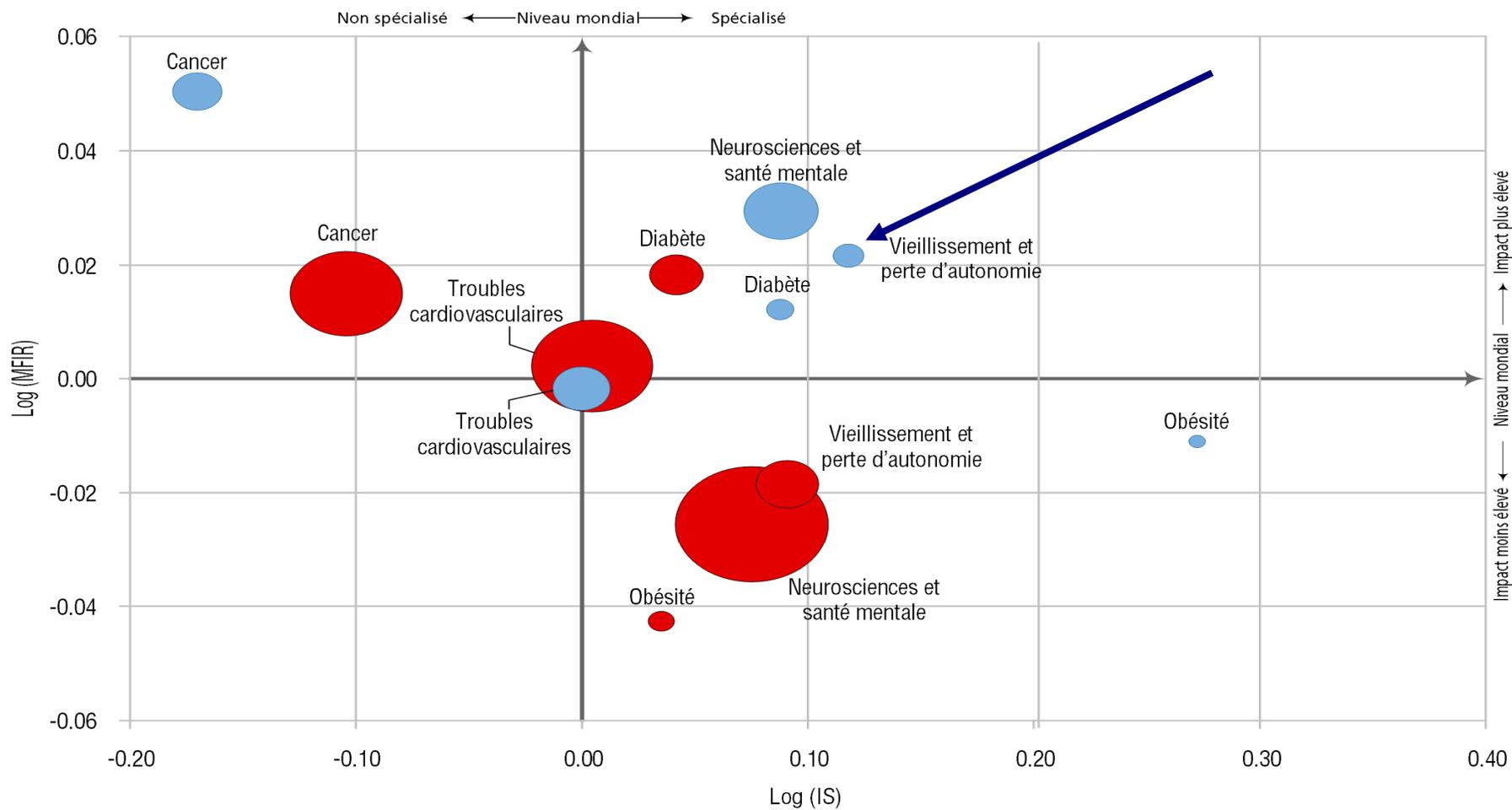


FIGURE 2: POSITIONING OF THE QUEBEC AND CANADIAN HEALTH RESEARCH IN PRIORITY DOMAINS



LEVERAGE FUNDING PROGRAMS FOR ACTIVE MEMBERS OF THE NETWORK

1. Funding for Major Grant Applications

Purpose :

- To provide funding for the preparation of applications for major grants (e.g. CIHR Team Grants).

Eligibility requirements :

- The applicants must be researchers who are active members of the Network at the time that they submit their application for this funding,
- The notice of acceptance of the letter of intent by the granting agency (if required),
- The research project for which the major grant application is being submitted must be multidisciplinary and involve more than one academic institution; it may also involve multiple research settings and researchers from multiple provinces and/or countries,
- The research project must be in the field of aging and must be consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program,
- The research project must be recommended for approval by the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium.

Value :

- Maximum \$15 000 per application.

Application procedure :

- Submit the application to the Network's Scientific Director, at info@rqrv.com, including:
 - A copy of the approval of your letter of intent, if one was required,
 - A summary of your major grant application,
 - The names and institutional affiliations of all the researchers involved,
 - A budget justification, linked to the timetable for submitting the major grant application,
 - A letter of recommendation from the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium,
 - A concise explanation of the relationships between the major grant application and the Network's research orientations and activities (half-page maximum).

Evaluation procedure :

- The RQRV Executive Committee determines eligibility and requests the opinion of at least two members of the RQRV Steering Committee, or of the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium, or of an expert from outside the Network,
- Incomplete applications will be declared ineligible.

Recipient's commitments :

- Acknowledge the Network's support,
- Inform the Network of the granting agency's decision on the major grant application,
- Return the Network support grant to the Network if the major grant application is not submitted to the granting agency.

Payment method :

- The funding will be paid to the recipients in a single instalment.

Application deadline :

- Open at all times.

2. Funding for Research Partnerships

Purpose :

- To encourage the development of research partnerships with other entities (such as another research team, another FRSQ network, a granting agency, a professional association, a Quebec health-care institution, a foundation, or a pharmaceutical company) for the purpose of providing a training award or conducting a research project or pilot study in preparation for the submission of a major grant application.

Eligibility requirements :

- The applicants must be researchers who are active members of the Network at the time that they submit their application for this funding,
- The partnership for which this funding is being requested must do research in the field of aging, and the activity for which this funding is being requested must be consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program,
- The application must be recommended for approval by the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium,
- When submitting their application, the partners must firmly commit to making a financial contribution at least equal to the Network's.

Value :

- Maximum \$15 000 per partnership.

Application procedure :

- Submit the application to the Network's Scientific Director, at info@qrv.com, including:
 - A summary of the partnership's proposed training-award program or research project,
 - A timetable for this program or project,
 - A letter of firm financial commitment from the partners,
 - A letter of recommendation from the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium,
 - A scientific and financial justification of the application and its leveraging effect with regard to the Network's mission, research orientations, and activities.

Evaluation procedure :

- The RQRV Executive Committee determines eligibility and requests the opinion of at least two members of the RQRV Steering Committee, or of the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium, or of an expert from outside the Network,
- Incomplete applications will be declared ineligible.

Recipient's commitments :

- Acknowledge the Network's support,
- Report on the partnership's achievements to the Network,
- Return the support grant to the Network if the partnership ends prematurely.

Payment method :

- Funding will be paid to the recipients in a single instalment.

Application deadline :

- Open at all times.

3. Funding for Publication Activities

Purpose :

- To stimulate dissemination of knowledge, in the field of research on aging, to the scientific community, health and social services professionals, and the general public,
- This program provides funding for the following activities:
 - Editing the manuscript of an article for submission to a high-quality, peer-reviewed scientific journal,
 - Publishing a book,
 - Publishing documents such as brochures and electronic publications that present information about the Network's research to non-research audiences such as the general public, groups of health-care professionals, and health-policy makers.

Eligibility requirements :

- The applicants must be researchers who are active members of the Network at the time that they submit their application for this funding,
- The publication activity for which funding is being requested must relate to research on aging and be consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program,
- The application must be recommended for approval by the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium,
- If the publication for which funding is being requested is a book, then the applicants must have a firm commitment from another source to make a financial contribution at least equal to the Network's.

Value :

- Maximum \$1 000 for editing of a journal-article manuscript,
- Maximum \$5 000 for publication of a book, provided that at least an equal amount is contributed by another source,
- Maximum \$1 000 for publication of a document for non-research audiences.

Application procedure :

- Submit the application to the Network's Scientific Director, at info@qrv.com, including:
 - A concise description of the publication project, including type of publication, target audience, title, authors, name of journal and planned submission date (for a journal article), overall plan (for a book or brochure), production schedule, etc.,
 - A copy of the manuscript to be edited,
 - A cost estimate,
 - A letter making a firm commitment to share the costs, if the project is the publication of a book,
 - A letter of recommendation from the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium.

Evaluation procedure :

- The RQRV Executive Committee determines eligibility and requests the opinion of at least two members of the RQRV Steering Committee, or of the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium, or of an expert from outside the Network,
- Incomplete applications will be declared ineligible.

Recipient's commitments :

- Acknowledge the Network's support in the publication,
- For funding of a journal article or a book, send the Network a copy of the editor's acknowledgment of receipt. If it is a document for a non-research audience, send a copy of the document itself.

Payment method :

- The funding will be paid to the recipients upon submission of invoices for the expenses incurred.

Application deadline :

- Open at all times.

4. Funding for Organizing Canadian and International Colloquiums and Symposiums

Purposes :

- To stimulate the dissemination and transfer of knowledge in the field of research on aging to the scientific community, health professionals, and the general public,
- This program provides funding for the following activities:
 - Organizing a symposium at a Canadian or international scientific conference to enable the participation of a speaker who is a Network member or a non-member with an international reputation,
 - Organizing a Canadian or international event, such as a conference, colloquium, workshop, or symposium that is intended for scientists,
 - Organizing a Quebec, Canadian, or international conference, colloquium, workshop or symposium to share scientific knowledge and research findings with policy-makers, health professionals, or the general public.

Eligibility requirements :

- The applicants must be researchers who are active members of the Network at the time that they submit their application for this funding and who are playing a management role in the organizing of the event,
- The activity for which funding is being requested must relate to research on aging, be consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program, and serve as a means of disseminating the results of the Network's research,
- The application must be recommended for approval by the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium,
- If the funding is being requested to organize a workshop, colloquium, or symposium, then the applicants must have a firm commitment from another source to make a financial contribution at least equal to the Network's.

Value :

- Maximum \$1 500 for the organization of a symposium within a conference,
- Maximum \$7 000 for the organization of a conference, colloquium, or workshop/symposium, provided that another source contributes at least an equal amount.

Application procedure :

- Submit the application to the Network's Scientific Director, at info@rqrv.com, including:
 - A description of the event (title, scientific program, date, location, invited speakers, estimated number of participants),
 - A concise justification of the application for funding, showing how it relates to the Network's mission, orientations, and activities,
 - A detailed budget,
 - An implementation schedule,
 - A letter of recommendation from the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium.

Evaluation procedure :

- The RQRV Executive Committee determines eligibility and requests the opinion of at least two members of the RQRV Steering Committee, or of the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium, or of an expert from outside the Network,
- Incomplete applications will be declared ineligible.

Recipient's commitments :

- Acknowledge the Network's support in all communications about the event,
- Submit a scientific and financial report to the Network.

Payment method :

- Funding to enable a speaker to participate in a colloquium or symposium at a Canadian or international scientific conference will be paid to the recipient upon submission of expense invoices,
- Funding to organize a workshop, colloquium, or symposium will be paid to the recipient in a single instalment. The recipient agrees that if the event runs a financial surplus, it will be returned to the Network, up to the amount of funding that the Network has provided.

Application deadline :

- Open at all times.

STIMULUS FUNDING PROGRAMS FOR STUDENT MEMBERS OF THE NETWORK

1. Funding for Editing of Journal Articles

Purpose :

- To stimulate dissemination of knowledge, in the field of research on aging, to the scientific community, by funding the editing of manuscripts of articles for submission to high-quality, peer-reviewed scientific journals.

Eligibility requirements :

- The article must present the results of research in the field of aging that are consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program,
- The applicant must be a student member of the Network at the time that the application is submitted,
- The application must be recommended for approval by the applicant's thesis supervisor,
- The applicant must be the first author or co-first author of the article.

Value :

- Maximum \$1 000 per article.

Application procedure :

- Submit a completed application to the Network's Scientific Director at info@rqrv.com, including:
 - A cover letter indicating the journal to which you are submitting the manuscript and the date that you will be submitting it,
 - An estimate of the costs of editing,
 - A copy of the manuscript to be edited,
 - A brief letter of recommendation from your thesis supervisor.

Evaluation procedure :

- The RQRV Executive Committee determines eligibility and requests the opinion of at least two members of the RQRV Steering Committee, or of the Co-ordinator of an RQRV Thematic Group, Common Research Platform, or Consortium, or of an expert from outside the Network,
- Incomplete applications will be declared ineligible.

Recipient's commitment :

- Acknowledge the Network's support in the publication,
- Send the Network a copy of the acknowledgment of receipt from the editor of the journal.

Payment method :

- Upon presentation of the invoice for editing expenses, a cheque will be sent by postal mail to the recipient's thesis supervisor at his or her business address.

Application deadline :

- Open at all times.

2. Travel Awards To Present Research Findings at Canadian or International Scientific Events

Purposes :

- To give student members of the Network the opportunity to present their research findings at national and international scientific events,
- To allow them to meet internationally renowned researchers in the field of aging.

Eligibility requirements :

- The findings to be presented must be the result of research in the field of aging that is consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program, and the event at which they will be presented must be a Canadian or international scientific conference, symposium, or colloquium,
- The applicant must be a student member of the Network (M.Sc., Ph.D., or postdoctoral level) at the time that the application is submitted,
- The student's thesis supervisor must provide funding equal to 25 to 50% of the student's total expenses for the event (registration, travel, meals and accommodation),
- Be first author or co-first author of an oral presentation,
- Be first author of a poster presentation,
- Submit electronic application by March 15 (events to be held between April 1 and September 30) or by September 15 (events to be held between October 1 and March 31) of each year,
- An applicant may submit only one application per competition.

Value :

- Maximum \$1 000 per event.

Application procedure :

- Click on the following link http://www.rqrv.com/en/membre_acces.php, go to the on-line application form for this award, then fill out this form and use it to attach and submit electronic versions of the following required documents:
 - A brief letter from your thesis supervisor, describing your contribution to the research on aging that you will be presenting, its relationship to the objectives and orientations of the Network's 2008-2012 Scientific Program, and the amount of funding that the supervisor will be contributing to your travel expenses,
 - Abstract of submitted presentation and acknowledgement of receipt from the organizing committee,
 - A document from the organizing committee confirming that your presentation has been accepted (if you have the document at the time that you are applying for this travel award).

Evaluation procedure :

- The RQRV Executive Committee determines the eligibility of each application,
- Incomplete applications will be declared ineligible.

Recipient's commitment :

- Acknowledge the Network's support in the oral or poster presentation.

Payment method :

- A cheque will be sent to the recipient by postal mail, at his or her business address.

Application deadlines :

- March 15 and September 15 of each year.

3. Research Training Awards for Clinician Investigators in Geriatric Medicine

Description of Award :

- This training award is made possible by a funding partnership whose members are the Quebec Network for Research on Aging (RQRV), the Société québécoise de gériatrie, the Association des médecins gériatres du Québec, four pharmaceutical companies (Janssen-Ortho, Merck Frosst, Novartis, and Pfizer Canada), and the applicant's home geriatric medicine division/service or department of medicine.

Purposes :

- To fund a program of research training awards for clinician investigators in geriatric medicine in order to increase research capacity in this discipline in Quebec,
- To help increase universities' ability to recruit excellent candidates and thereby strengthen geriatric medicine as an academic discipline and, more generally, academic research in the field of aging.

Eligibility requirements :

- The applicant must be enrolled in a residence program in geriatric medicine in Quebec,
- The applicant must be conducting a research project in the field of aging as part of a recognized master's degree program,
- The project must be consistent with the objectives and orientations of the Network's 2008-2012 Scientific Program,
- The applicant's thesis supervisor must be an independent investigator as defined by the FRSQ,
- The applicant's thesis supervisor or co-supervisor must be an active member of the Quebec Network for Research on Aging.

Amount and term of award :

- Equivalent to 12 months' salary for a resident in geriatric medicine with the same level of training.

Concurrent and additional funding :

- Concurrent funding of no more than \$15 000 is allowed,
- Additional funding from the recipient's institution or thesis supervisor is allowed.

Application procedure :

- Submit a completed application to the Network's Scientific Director, at info@rqrv.com, including:
 - A description of the master's degree program,
 - A description of the research project,
 - A letter of agreement from the research supervisor,
 - The supervisor's Canadian Common CV (FRSQ or CIHR version),

- A letter of recommendation from the university director of the division of geriatric medicine,
- A letter of recommendation from the university director of the residency training program in geriatric medicine.

Evaluation procedure :

- Applications will be evaluated by a committee of experts established by the Network,
- The evaluation criteria are the ones typically used by the Fonds de la Recherche en Santé du Québec (http://www.frsq.gouv.qc.ca/fr/financement/Programmes_2009_2010/f26_fiche.shtml),
- Incomplete applications will be declared ineligible.

Recipient's commitment :

- Complete a master's degree in research on aging, within no more than two years,
- Fulfil all the requirements of the Clinician Investigator Program of the Royal College of Physicians and Surgeons of Canada. This training program takes 24 months and usually begins after Year 4 of the residency in geriatric medicine. Typically, participants are not registered as residents during the first 12 months of this program, which they devote entirely to their master's research project. During the second 12 months, they complete Year 5 of their residency while also completing their research project and writing their master's thesis. (For more on this program, go to <http://rcpsc.medical.org/residency/accreditation/index.php>, and, under "Specific standards of accreditation for residency programs", choose "Clinician Investigator Program".),
- Acknowledge the Network's support in publications and presentations.

Host institution's commitment :

- The applicant's geriatric medicine division, department of medicine, or faculty of medicine must demonstrate an interest in recruiting such candidates once they have completed their training as clinician investigators and must support the development of their careers as clinician investigators,
- The applicant's faculty of medicine must also agree to recognize these 12 months of research training as complementary training.

Payment method :

- To be determined with the partners and in accordance with FRSQ rules. The payments will be sent by mail at the recipient's business address.

Application deadline :

- Open at all times, until further notice.

5. CHANTAL-CARON Doctoral Training Award in Geriatric Nursing

Purposes :

- The RQRV's Training Award for Doctoral Students in Geriatric Nursing was established in 2008, to encourage students to pursue clinical research careers in geriatric nursing and to contribute to the development of knowledge in the field of geriatric nursing, in clinical settings,
- The award was recently renamed the **CHANTAL-CARON DOCTORAL TRAINING AWARD IN GERIATRIC NURSING** to honour the memory of Professor Chantal Caron, who died in 2009 at the age of 43 after a courageous battle with cancer. She was Joint Co-ordinator of the Network's Thematic Group on Interaction and Social Support from 2006 to 2008.

Professor Caron received her Diploma of College Studies from the Cégep de St-Jérôme, in Quebec, and began her nursing career in 1985, at age 20. Having personally experienced a serious illness at age 13, she became convinced of the importance of the nursing profession at an early age and from then on, her vocation never flagged.

Chantal Caron continued to practice nursing from 1985 to 1991, while completing a Bachelor of Science in Nursing at the Université de Montréal in 1990. She obtained her Master of Science in Nursing from the same university in 1994 and a Ph.D. in Nursing and Child and Family Studies from the University of Wisconsin in 2000. Upon returning from the United States, she obtained a position as a professor at the Université de Sherbrooke and the title of researcher at the Centre for Research on Aging at the same university. She did postdoctoral studies in nursing at the Institut universitaire de gériatrie de Montréal from 2002 to 2004.

Dr. Caron received many awards over the course of her career. In 2004, she was granted the status of Chercheur-Boursière [research fellow] by the Fonds de la Recherche en Santé du Québec and became head of a research program on the end-of-life decision-making process, and specifically on the decision whether to institutionalize frail elderly persons and the roles and expectations of their family caregivers. Trained in the grounded-theory research tradition, Dr. Caron always strived to understand reality from the standpoint of the people who were living through a particular situation and then to propose responses that suited the situation. It was in this spirit that Chantal Caron pursued her research on family members who care for frail elderly persons and contributed significantly to the advancement of knowledge in research on aging.

Eligibility requirements :

- Hold a valid nursing licence from the Ordre des infirmières et infirmiers du Québec for the duration of the doctoral program,
- Hold a master's degree in nursing or a related discipline,
- Be enrolled full-time in a doctoral program in nursing at a recognized university,
- Propose a research project dealing specifically with geriatric nursing,
- Be a student member of the Network at the time of application,
- Be conducting this research project in a clinical research setting in Quebec,
- Have a thesis supervisor who is an independent investigator as defined by the FRSQ,
- Have a thesis supervisor or co-supervisor who is an active member of the Network.

Amount and term of award :

- \$50 000 per year for 3 years.

Concurrent and additional funding :

- Concurrent funding of no more than \$15 000 is allowed,
- Additional funding from the recipient's institution or thesis supervisor is allowed.

Application procedure :

- Submit a completed application to the Network's Scientific Director, at info@rqrv.com, including:
 - The duly completed application form for the award,
 - Your Canadian Common CV (FRSQ or CIHR version),
 - Copies of your official academic transcripts from the university registrar's office for all of your university studies, whether completed or not,
 - Your supervisor's Canadian Common CV (FRSQ or CIHR version), as well as your co-supervisor's, if you have one,
 - A letter of recommendation from the director of the doctoral training program in nursing,
 - A letter of recommendation from the director of the nursing department of your clinical setting.

Evaluation procedure :

- Applications will be evaluated by a committee of experts established by the Network,
- The evaluation criteria are the ones typically used by the Fonds de la Recherche en Santé du Québec (http://www.frsq.gouv.qc.ca/en/financement/Programmes_2009_2010/f03_fiche_2et3_detenteurs.shtml#07), such as the excellence of the applicant's academic record, the applicant's aptitude for and experience in research, the quality and relevance of the research project, and the quality of the training and clinical environments,
- Incomplete applications will be declared ineligible.

Recipient's commitment :

- Complete a doctoral degree within a maximum of five years,
- Be a student member of the Network throughout the doctoral training,
- Make at least two presentations on the results of the research project at the Network's Annual Research Day, including at least one oral presentation on the final thesis results,
- Devote at least 75% of time to research and training activities,
- Acknowledge the Network's support in publications and presentations.

Payment method :

- To be determined with the partners and in accordance with FRSQ rules. The payments will be sent by mail at the recipient's business address.

Closing date of competition :

- To be announced in 2010.

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