

**Canadian Family Medicine  
Submission to the  
Canadian Institutes of Health Research  
Clinical Research Initiative**

**From**

**The Chairs of the Departments of Family Medicine of Canada**

**and**

**The College of Family Physicians of Canada (CFPC)**

**Endorsed by:**

**The CFPC Executive Committee  
The CFPC Board of Directors  
The CFPC Section of Researchers Executive Committee**

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- several sections of writing from the 2001 Discussion Paper by the Section of Researchers of the College of Family Physicians of Canada (CFPC) *The Need for an Institute of Primary Care*
- editorial comments, generated on April 9<sup>th</sup>, 2005, at the 1 retreat of the CFPC Section of Researchers Executive Committee

## Executive Summary

The health of a nation is associated with the strength of its primary care system. In Canada, the majority of primary care is provided by family physicians, although many family physicians now provide primary care as members of multi-disciplinary teams and alternative health care delivery models.

In the past 10 years, there has been significant erosion in the accessibility of primary care for the people of Canada. There has also been a systematic lack of investment in family medicine research capacity in Canada. Our goal is to suggest actions by which CIHR might strategically invest in strengthening family medicine research, which underpins the knowledge base of the Canadian primary care system.

Clinical practice is the foundation of family medicine research. It also links health services to the population served. Family medicine research is based on questions that arise from family medicine practice. The results of family medicine research can influence future medical education, transform patient care and improve the health of patients, their families and communities, and populations. Practice-based research networks in family medicine can serve as efficient means of conducting patient-oriented research.

Currently, there is inadequate funding for Canadian family medicine clinician-researchers and for family medicine research infrastructure. For example, CIHR Clinician Scientist awards do not enable family physician clinician-researchers to maintain their clinical practice, which is the activity that fuels their research inquiries.

We are responding to the recommendations of MUST (Multi-Stakeholder Taskforce on Clinical Research)<sup>1</sup> which recommended: the development of programs to create and appropriately fund stable career paths for clinician-researchers, and improved infrastructure for clinical research (specifically the creation of clinical health research centres). Our response focuses on the discipline of family medicine. However, our recommendations are highly relevant to all the interdisciplinary providers in the primary care health system.

We recommend that the Canadian Institutes of Health Research invest in:

- Establishing Family Medicine Clinician-Researcher salary awards, which will integrate research activity into the clinical practice of family medicine. These awards must be stable career paths, must accommodate family physicians who wish to combine clinical practice with research, must be flexible and must be gender sensitive.
- Establishing Clinical Research Centres in Family Medicine and Primary Health Care across Canada
- Infrastructure support for the development of clinical practice-based research networks (PBRNs) in family medicine across Canada
- Establishing a Canadian Institute of Clinical Research, which would support family medicine clinical research as a major focus

## Goal of this submission

We are responding to the recommendations of MUST (Multi-Stakeholder Taskforce on Clinical Research)<sup>1</sup> which recommended: the development of programs to create and appropriately fund stable career paths for clinician-researchers, and improved infrastructure for clinical research (specifically the creation of clinical health research centres). Our response focuses on the discipline of family medicine. However, our recommendations are highly relevant to all the interdisciplinary providers in the primary care health system

Our goal is to suggest actions by which the Canadian Institutes of Health Research might strategically invest in strengthening family medicine research, which underpins the knowledge base of the Canadian primary care system.

## Background

### 1. Defining family medicine and primary health care

Family medicine (known as primary care in the U.S.A. and the U.K.) may be defined as:

*“first contact, continuous, comprehensive, and coordinated care provided to individuals and populations undifferentiated by age, gender, diseases or organ system”.*<sup>2</sup>

Primary health care is defined by Health Canada as follows:

*“the first place patients go when they need health advice or care and it is the place responsible for coordinating the access to other parts of the health care system.*

*Examples include visits to family doctors, nurse practitioners and mental health workers; telephone calls to health information lines; and advice received from pharmacists. It is also the best part of the health care system to prevent illness and injury and promote good health.*<sup>3</sup>

Increasingly, family physicians in Canada are working as members of multi-disciplinary teams and innovative health care delivery models (such as the integrated community model) in providing primary care.<sup>4</sup> However, family medicine is acknowledged as the largest provider of primary care to Canadians in terms of patient contact, continuity, comprehensive and coordinated health care.<sup>5</sup> Therefore, family medicine is the focus of this document.

### 2. A strong primary care system is essential for the health of a nation

Over the past three decades, the World Health Organization<sup>6,7,8</sup> and such prolific researchers as Starfield et al.<sup>9-14</sup> have developed evidence linking the strength of the primary care system in a country to improved health outcomes and more cost effectiveness.

Approximately 30,000 family physicians/general practitioners are currently practicing in Canada.<sup>15</sup> These physicians provide the majority of health care contacts for patients and are the point of entry to the medical system for most Canadians; they also provide most of the continuity, comprehensive and coordinated health care. Training more family physicians and importing family physicians from other countries to Canada has become a high priority for provincial and federal governments, as they attempt to address the increasing shortage of family physicians in Canada.

This model of health care delivery is found in Britain, Netherlands, Scandinavia, Australia, New Zealand and Canada. Our American neighbours willingly recruit Canadian trained family doctors in order to increase their proportion of primary care physicians. They have found that family physicians provide high quality health care that is more cost effective than specialist provided primary care. In the U.S.A., family physicians comprise only 15% of all physicians, as compared to Canada, where the proportion of family physicians is approximately 50%. The U.S.A. is striving to increase the proportion of family physicians in their system.

### **3. Family medicine research and its importance**

Family medicine research may be defined as:

*Family medicine research is the endeavour of answering questions, which arise from the context of family medicine practice, for the purpose of understanding and improving patient clinical care and the health of patients, their families and communities, and populations.<sup>16</sup>*

Family medicine research builds and applies new knowledge that enhances and strengthens the practice and the discipline of family medicine. Therefore, the investment of resources into family medicine research capacity will strengthen a nation's primary health care system.

Two specific elements of family medicine make it a unique laboratory for clinical research on issues that affect most Canadians:

- i. patients present to family physicians in earlier stages of illness in comparison to patients presenting to other specialties, and
- ii. family physicians have an ongoing relationship with their patients which gives them the opportunity to observe patients continuously over a long period of time.

These two elements provide the essential components for family medicine research. The millions of interventions taking place daily between family physicians and their patients must be appropriately studied to ensure the highest quality, and most cost effective delivery of health care for the Canadian population.

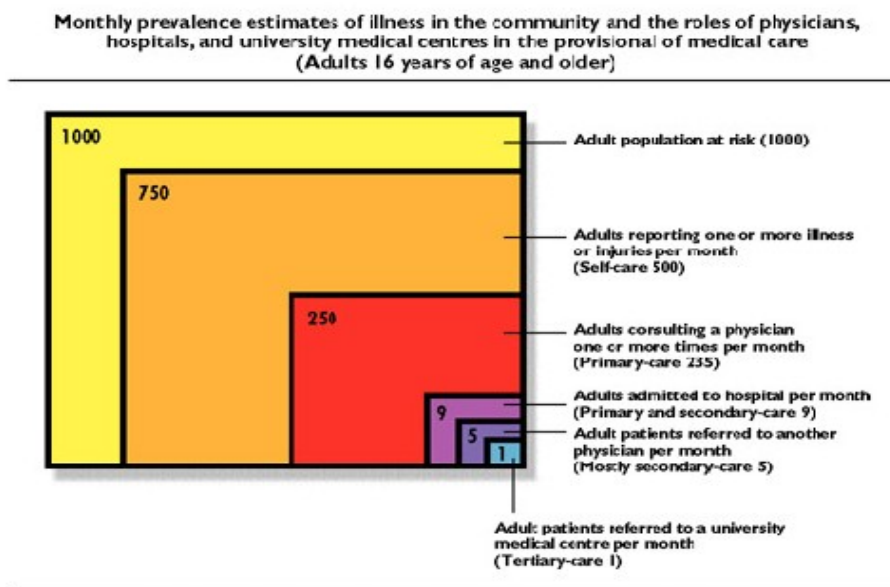
Family medicine research is patient oriented research. It also spans all four pillars of research though there is minimal biomedical representation. Common themes include research pertaining to the following:<sup>17</sup>

- o Clinical observation
- o Evidence-based practice (RCTs)
- o Quality of care

- Health care system use inequalities and determinants of health
- Illness prevention and health promotion
- Chronic disease management
- Early signs of illness

The ecology of family medicine clinical research differs from that of specialist or tertiary care clinical research. This is illustrated by the work of Kerr White et al,<sup>18</sup> whose work is illustrated in Figure 1. This work was later replicated and expanded upon by Larry Green et al.<sup>19</sup> White reported that for every 1000 people in a population, 750 will have some illness or injury in a one-month period. Of these 750 people, 250 will go to see their family physician (primary care). The family physician will treat 235 of these 250 people on an ambulatory, primary care basis. The family physician will admit 9 of these 250 people to hospital himself or herself, where a consultation with a specialist may or may not occur; 5 others will be referred to a consultant, but not hospitalized; and only 1 person will end up in an academic tertiary care centre. The majority of clinical research is carried out in the academic tertiary care centres, although the greatest incidence of illness or injury presents elsewhere. The environment in which research is carried out has a significant impact on how the results are translated into clinical practice. Hence, clinical research findings done on highly filtered, referred patients in a specialty practice or in hospitals do not translate well into the undifferentiated family medicine environment.

Figure 1: The Ecology of Primary Care



Adapted from: White KL, Williams TF, Greenberg BG. The ecology of medical care. *New England Journal of Medicine* 1951;265:885-892

#### 4. Other countries recognize the importance of family medicine (or primary care) research

##### **Australia:**

The Australian Federal Government made a major investment in building research capacity in primary care by creating Divisions of General Practice throughout the country, and by providing funds for research and development projects over an eight-year period. As a consequence, primary care research was fast-tracked, encouraging added external funding, with a resultant increase in the numbers of primary care researchers and excellent research projects. A particular emphasis has been placed on evidence-based medicine, working with the Cochrane Centre for South East Asia, located at Flinders Medical School in Adelaide. The National Information Service, based at Flinders, provides a vehicle for the exchange of research findings and development for researchers. In 2004, the Australian government invested in the establishment of the **Australian Primary Health Care Research Institute**.

##### **United Kingdom (U.K.):**

The Medical Research Council in the United Kingdom (U.K.) mounted a Topic Review in Primary Care in January 1996, which resulted in solid support for primary care research, including specific funds targeted both to research training and to carrying out health services research initiatives. The training component was deemed particularly important. At that time, primary care research carried out by general practitioners (the equivalent term for family physicians in the U.K.) and nurses, was a relatively new field. It was considered essential that an appropriately trained, research capable work force be created that looked at the world through primary care lenses, and that had the necessary research skills and experience to address the questions that need to be answered from this perspective. The British research establishment recognized the importance of this direction. Funding was dedicated to the **Research and Development General Practice Scheme** and a major **National Primary Care Research Unit** was established and funded, reflecting the importance they had placed on primary care research.

##### **United States of America (USA):**

The American Academy of Family Physicians, recognizing the importance of research within the discipline, has allocated \$7.7 million dollars to support Family Medicine research. In 1995, the United States of America (U.S.A). established a **Center for Primary Care Research** (now known as the Center for Primary Care Prevention and Clinical Partnership (CP3)), within the federal Agency for Healthcare Policy and Research (AHRQ) The AHRQ, a part of the U.S. Department of Health and Human Services, is the lead agency charged with supporting research designed to improve the quality of healthcare, reduce its cost, improve patient safety, decrease medical errors, and broaden access to essential services.

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## **Current funding structures for family medicine clinical research in Canada are inadequate; there is need to develop funding structures specifically for family medicine research across Canada**

In 1999-2000 CIHR spent less than 1% of its \$257 million dollars in research funding in the area of Health Services research while investing over 80% in biomedical research. CIHR received a dramatic increase in funding in the past 5 years, and has increased investment in health services research almost 16 fold by 2002-2003. Thirty per cent of CIHR funding is now dedicated to strategic programs dedicated to addressing areas of need. A process of transformation was outlined for CIHR, in which key themes were identified, which included: a move towards more multidisciplinary and community based research; expanded health services and population health research funding; linking public health to health services. Although we welcome the process of transformation in CIHR, we suggest that unless CIHR develops funding structures specifically for family medicine research, family medicine clinician-researchers in Canada will still be unable to access CIHR funding. Hence, Canadian family medicine research, and the primary care system itself, will flounder.

In Canada, the College of Family Physicians of Canada established the Section of Researchers in 1995, with a mandate to link the sixteen schools of Family Medicine with community-based family medicine researchers, in order to improve their research capacity. However, despite some local funding successes at provincial levels, we are still without national funding structures to strengthen family medicine research in Canada.

Despite the lack of research infrastructure, Canadian family medicine researchers have contributed to improving patient health, and to our understanding of primary health care in Canada and internationally. Some examples include:

- determining a simple method of accurately diagnosing streptococcal infected throats, which results in reducing antibiotic use by up to 70%<sup>20</sup>
- strategies of measuring blood pressure that increase accuracy of determining who will benefit most from treatment<sup>21</sup>
- demonstration that doing an episiotomy during childbirth does more harm than good,<sup>22</sup>
- developing measures of the patient centered method of interacting with patients and demonstrating improved clinical outcomes from proper usage<sup>23</sup>
- proving that a simple urine test for cystitis will reduce antibiotic use by up to 30%<sup>24</sup>
- finding that practical exercise strategies provided by family physicians for the elderly will improve quality of life and lower cardiovascular risk<sup>25</sup>

It must be noted that approximately 500 research articles were published in 2002-2003 by Canadian family medicine researchers.<sup>26</sup> These examples demonstrate **the great potential that awaits realization if appropriate infrastructure and salary support were available for departments of family medicine to achieve equivalence with other clinical disciplines.** Supporting family physician clinical researchers, as is presently done in the U.K., the Netherlands, and Australia,<sup>27</sup> offers Canada the possibility of leading the world in developing practical solutions for improving the delivery of primary care.



We will now outline four recommendations for the CIHR to establish funding structures that are necessary for the development and sustainability of family medicine research in Canada: primarily, family medicine training awards and salary awards and an institute of clinical research; secondarily, primary health care research centres and clinical practice based research networks.

## **1. The establishment of training awards and salary awards specifically intended to increase research capacity in Family Medicine**

It is necessary to establish training awards and salary awards specifically intended to increase research capacity in family medicine for 3 reasons:

1. In the past, many family physicians have pursued their love of research without receiving financial compensation, recognition, promotion or administrative infrastructure. This model is not sustainable; indeed it contributes to the problem as articulated in the MUST Report.<sup>1</sup>
2. Appropriate funding for family medicine research would increase the family physician workforce, which would strengthen the delivery of primary health care in Canada
  - i. Preliminary evidence suggests that part-time scholarly activity for family physicians, which is appropriately remunerated, is associated with increased sustainability and professional satisfaction.<sup>28</sup>
  - ii. Increasing numbers of medical students would be attracted to family medicine, if financially viable and flexible family medicine clinician-researcher training awards and salary awards were available. Ninety-seven percent of graduating Canadian medical students state they would not choose family medicine if they were interested in a research career, and fewer medical students are now selecting family medicine as a career.<sup>29</sup>
3. CIHR salary awards (See Appendix 1) do not currently meet the needs of family physicians because:
  - i. Most family medicine researchers do not want 70% research time. A family physician's clinical practice is his/her laboratory and 30% time family practice is generally not sustainable. Clinical family practice generates a multitude of questions (e.g. relating to diagnosis and therapies for common illnesses which present at the undifferentiated stage; effective management of family medicine populations with co-morbid conditions; delivery of care; implementing change in practice, etc). These questions fuel the family medicine researcher's drive to contribute to the knowledge base of family medicine in order to improve patient care. Previous work suggests that a combination of 50% research and 50% clinical work is ideal.<sup>30</sup> However, other combinations, such as 40% research and 60% clinical work, or 20% research and 80% clinical work are also feasible.
  - ii. Many family physicians become interested in research late in their career, after their experience as a clinician and their accumulated clinical dissonance has propelled their clinical questions into research ideas. Hence, the current CIHR emphasis on the 'life-time researcher' excludes many potential family medicine clinician researchers.

- iii. In order to be gender sensitive, CIHR clinician researcher award criteria need to acknowledge that female family physicians, who have juggled clinical practice with family responsibilities, may enter family medicine research even later than their 'mid-career' male researcher colleagues. Alternatively, some family physician researchers early in their careers may chose to work part-time, which might translate into allocating their time into 25% practice and 25% research, and 50% for family commitments.
- iv. Family medicine clinician researcher salary awards should not be limited to the MD/PhD qualification. There are numerous examples of nationally and internationally successful researchers with MD level qualifications. The professional requirement for CIHR family medicine research salary awards should be flexible. An MD/Masters combination should be acceptable. Alternatively, a MD who has gained knowledge of research methods/design, through experience or via training in another discipline (i.e. prior to medical school) and has the ability to work as a PI or co-PI of a multi-disciplinary research team should also be acceptable.

In order to strengthen family medicine clinical research, we recommend the establishment of the following Training Awards and Salary Awards, which should be specifically allocated for researchers in family medicine:

**a) The establishment of Family Medicine training awards and salary awards (for medical students, family medicine residents, and family physicians newly in practice)**

i) *Undergraduate Training Awards*: Targeted at supporting medical students, and allowing them to spend summer fellowships working with family medicine researchers. This would serve two purposes. 1) it would increase the profile of research in family medicine and, 2) it would also contribute to improving the profile of family medicine for all medical students. Ideally, awards should be available at each medical school on a competitive basis.

ii) *Graduate Training Awards*: To be available competitively across the country for research training as a clinician researcher. These awards should allow for Masters and PhD level training. They should have flexible options and be gender sensitive.

iii) *New Investigator/Junior Salary Awards*: A stable career track for family physician clinician researchers is needed. Awards must be flexible (with options of between 20% to 40% research time with corresponding 80% to 60% clinical, education and administrative time, as well as the traditional option of 70% research time) and must be gender sensitive (part-time options and parental benefits). If there were five to ten 40% research salary awards (or, the equivalent funding for part-time awards) available for new investigator clinician researchers, each of five years duration, that required an output of an average of two peer reviewed papers annually and receipt of a CIHR or similar major award during the first 3 to 4 years of the award (or, part-time equivalent output measures), a career track for family medicine researchers would be established.

**b) The establishment of mid/late Family Medicine training awards and salary awards (for practicing family physicians who wish to conduct research later in their careers)**

i) *Mid/late Training Awards*: Available competitively across the country for practicing family physicians who wish to pursue research training as a clinician researcher. These awards should allow for Masters and PhD level training, should have flexible options, and be gender sensitive.

One successful CIHR-funded program already exists to train mid-life family physicians as clinician researchers, and provides graduate training awards.<sup>31</sup> More funded family physician training programs are needed across Canada.

ii) *Mid/late Salary Awards*: Awards of 5 years in duration, renewable once; and with options for 20% to 40% research time protected for mid-career researchers. These individuals would compete on the basis of their productivity after 5 to 10 years of clinical research. The start time for eligibility for these awards should be linked to the time when their research output begins, which could be up to 10 or 15 years post graduation. These awards should have flexible options, and be gender sensitive.

One successful program of flexible salary awards for mid/late career family physician clinician researchers already exists in Canada.<sup>32</sup> It has received Vancouver Foundation funding for 3 years, but requires more secure long-term funding. More mid/late salary awards are needed for family physician clinician researchers across Canada.

iii) *Senior Family Medicine Salary Awards*: Awards of 5 years in duration, available each year for senior family medicine researchers who have an excellent track record of holding CIHR grants, and achieving an international reputation for their research accomplishments.

**c) The establishment of short-term Family Medicine clinician-investigator awards**

Family physician clinician researchers could receive *Short-Term Clinician-Investigator Grants*<sup>33</sup> which are three months of salary funding (\$25,000). These awards would enable clinical family physicians to step out of active practice/teaching to do research, which would also contribute to the overall sustainability of maintaining a family practice. If one clinical group, a family medicine research-network/teaching practice, was involved in a particular research project, then four family physicians could each take, sequentially, a 3-month research sabbatical to work on the same (or a variety) of clinical research projects. These awards should also have flexible options.

Successful recipients of this award already exist in family medicine. More of these awards should be offered to family physician clinician researchers, with the option of renewing the award annually for five years, and with an optional additional second, five-year award term.

## **2. The establishment of Clinical Research Centres in Family Medicine and Primary Health Care across Canada**

Provision of basic infrastructure support for five clinical research centres in departments of family medicine across Canada would greatly enhance the current level of family medicine research function. Each research centre could be associated with a family medicine clinical practice-based research network(s) (PBRN), as described in the section #3 below. Also, collaboration with nursing, nutrition, social work, psychology, pharmacy, physiotherapy and occupational therapy are essential for a strong research program in the clinical environment.

Infrastructure support for the clinical research centre in family medicine and primary health care would be needed in two forms:

- i. The basic personnel support of a research program in family medicine requires
  - a. Trained personnel in areas such as anthropology, epidemiology, interdisciplinary studies, nursing, psychology and sociology.
  - b. Secretarial and administrative support required to manage, co-ordinate and administer this type of organization.<sup>1</sup>
- ii. Information technology support (dry labs, computers and hand-held computers)

Support of such centres should be considered the same as the infrastructure funding required to set up and operate a wet laboratory in basic science laboratory. Hundreds of millions of dollars are now provided for establishing and equipping basic science research laboratories. The funding required to establish infrastructure for clinical research would be considerably less than basic science laboratories. Unless this infrastructure support is available, it will be very difficult to establish strong and effective clinical research programs in family medicine and primary health care. Finding a mechanism to support this infrastructure would be a major advance for clinical research within departments of family medicine in Canada. Awards should be for five years renewable on the basis of productivity. The establishment of clinical research centres in family medicine and primary health care is consistent with the MUST report recommendations.<sup>1</sup>

## **3. The development of Clinical Practice-Based Research Networks (PBRNs) in Family Medicine across Canada**

The development of clinical practice based research networks (PBRNs) in family medicine across Canada would strengthen clinical research in Canada. Each clinical PBRN could be related to a Clinical Research Centre in family medicine and primary health care, as described in section #2 above.

Secure infrastructure funding is needed for clinical PBRNs in family medicine across Canada. To ensure sustainability of the PBRNs, community-based clinician researchers who participate in each network group must be remunerated for their time spent organizing data collection from their group clinical practice, and attending meetings of the research network. Thus, the 'voice' of community family physician clinician-researchers will contribute to the research agenda of the network, and thus strengthen the 'bi-directional' flow of knowledge.

The following section describes how each of the eight endeavours, articulated by the CIHR national consultation to strengthen clinical research in Canada<sup>34</sup> can be implemented by family medicine clinical practice-based research networks (PBRNs) in Canada.

1. *“bridge the translational gap between on the one hand, the discoveries and insights gained from the basic biomedical science laboratory and socio-behavioural research, and on the other hand the careful evaluation of new agents and approaches for diagnosis, prevention and therapy in patients and healthy individuals at risk”*

Networks in family practice are our research infrastructure. Currently, there is one national network (NaReS) and three regional networks in Canada. Networks have the capacity to gather data from large numbers of practices using electronic medical records, the Blackberry or similar hand held Internet connected tools, and feeding data directly to a central server. Simultaneously, guidelines, research results, and the latest clinical information can be fed back to network participants at the "point of patient care". The few networks presently functioning in Canada lack the resources to purchase currently available technology, and as a result, they collect data by paper, losing the opportunity for rapid collection of data and transmission of best practice information back to participants. This strategy offers an excellent approach for evaluating new agents and approaches for diagnosis, prevention, and therapy in patients and healthy individuals at risk. Development of networks with widespread use of currently available technology would greatly contribute to bridging the information gap for many new discoveries. Extensive sophisticated networks would bring Canada to the cutting edge of new technology that has the potential to improve the health and quality of health care delivery for all Canadians. To achieve this potential would involve both national and provincial networks that ultimately would include several thousand family physicians located across every geographic region of the country.

2. *“ensure that the way from bench to bedside to community is bidirectional. As discoveries flow from the laboratory to the patient, so must clinical observations and questions flow back to provide new directions for basic investigations. Patient needs should contribute to the rationales for the relevance and funding of basic research”*

Research networks developed in other countries are traditionally bi-directional. Family physicians' research questions arising from their clinical practice are the basis for developing research projects. [These questions could then be reflected back to CIHR and form the basis for research programs that would address the needs of the population.] Feeding updated information back to all network participants at the point of contact with the patient has great potential to narrow the evidence/practice gap. Family physicians' participation in research projects greatly enhances the chance of their adoption of the findings. If national networks involved several thousand practitioners, then rapid adoption of findings throughout the country would be greatly enhanced.

3. *“facilitate the evaluation of health care strategies for optimal clinical effectiveness and cost-effectiveness”*

The collaboration that has already occurred between health systems researchers and researchers in family medicine provides the basis for much more extensive evaluation of clinical effectiveness and cost effectiveness. With the potential for developing a large "network of networks", which could involve thousands of family physicians, the required information gathering for a specific project could be accomplished in a relatively short period of time.

4. *“facilitate the ethical treatment of human research subjects and the integrity of clinical research in accordance with the highest national and international standards”*

Most of the clinical departments of family medicine have a strong connection with bio-ethicists, some of whom are family physicians. There are two or three sites in Canada that have already carried out projects assessing the ethics of studies in the family practice setting.<sup>35,36</sup> The issue of dealing with medical error in family practice has begun to be addressed in research networks.

5. *“derive in active clinical research settings, the ancillary benefits of rigorous standards of investigation and care, the recruitment of outstanding clinicians and students, the early availability to patients of the most effective proven therapies and early recognition of unsafe or ineffective therapies and diagnostics”*

The impact of creating a number of research centres that are hubs for regional research networks would facilitate the dissemination of the high standards of practice generated by the critical mass of researchers, enabling quick distribution of the information out into the community through the two way flow of information to network participants. Functioning networks have regular meetings with participants for educational, support, and collegiality purposes. These functions would further promote dissemination of the principles of high standards of practice and clinical care.

6. *“improve health outcomes through the uptake and application of clinical research into practice and policy”*

We believe that the network strategy, as already outlined, provides the most likely route to obtaining uptake, at the practitioner level, of evidence based policy and clinical practice. This should have a measurable impact on the population outcomes, as has been shown by Stewart et al.<sup>37</sup> If the network members across the country were made up of a high percentage of identified educationally influential clinicians, the impact of network education would also extend to physicians who are not affiliated with networks. Research done in networks is much more likely to be generalizable to all clinical practices in Canada than research done in tertiary care hospital or laboratory controlled settings.

7. *“maximize the economic benefits to be derived from ensuring that discoveries made in Canada can be further developed and evaluated in Canada within a robust clinical research environment, bringing economic benefits to Canadians through new economic activity and through a strengthened and more efficient health care system”*

The development of research and sentinel networks in Canada, with the ancillary development of methods and data collection hardware used in clinical practice, offers an opportunity to work with software, hardware and other related companies who have the potential to develop strategies that could be used around the world. The advantage of the primary care technology market is that it has the largest potential market of any clinical practice discipline both in Canada and globally.

#### **4. The establishment of a CIHR Institute of Clinical Research**

Following the 2001 proposal submitted by the College of Family Physicians of Canada (CFPC)<sup>38</sup>, we wish to repeat our request for the establishment of a new (14<sup>th</sup>) CIHR Institute of Clinical Research, to focus on clinical research that is patient-oriented (or patient-centered). Such an institute should support family medicine clinical research as a major focus; it should also incorporate interdisciplinary research, and also a variety of types of clinical research. It should be a virtual institute integrating networks of researchers brought together to focus on important clinical health care problems

The goals of the Institute of Clinical Research might resemble the following:

1. To strengthen the knowledge base of family medicine (and other clinical practice) by conducting and supporting research;
2. To facilitate the uptake of research evidence in family medicine (and other clinical practice);
3. To enhance research capacity in family medicine (and other clinical practice) through strategic partnerships with other relevant national and international groups;
4. To ensure that the Institute operates to the highest standards by developing and improving its organisational capacity to lead national family medicine (and other clinical practice) research networks through appropriate staffing, resources and infrastructure, management practices and accountability processes;
5. To engage clinicians, patients and their communities in research and evaluation and subsequent policy development, in order to bridge the gap between theory and clinical practice as well as building sustainable change into the process. It has been shown that participatory methods build community-based programs, clinical practice guidelines and models respectfully and ensure buy-in by all involved in the process.<sup>39-41</sup>

With the development of family medicine clinician-researcher training and salary awards, and the establishment of a CIHR Institute of Clinical Research, the secondary goals of obtaining infrastructure and operating funding for family medicine practice-based research networks (PBRNs) and family medicine clinical research centres, would be more easily realised.

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**Family Medicine Response to the document:**  
**CIHR CATEGORIES OF AWARDS**

Please see the CIHR Research Personnel Programs Guide at  
<http://www.cihr-irsc.gc.ca/e/781.html#personnel>

General Guidelines for All Research Training Award Programs can be found at  
<http://www.cihr-irsc.gc.ca/e/805.html>

- Are there any features of these guidelines which are problematic for applicants as undergraduate students, research trainees, or faculty members in your health profession?
- If so, please note these and key them to the relevant section(s) of the General Guidelines.

**1-B1.2 Applicant Categories for CIHR Grants**

A Principal Applicant has some form of appointment, usually **an employment relationship**, with an Institution Paid eligible to receive CIHR funds in trust (see "Obligations of Eligible Institutions" below). This appointment is the major research appointment of the Principal Applicant and allows the Principal Applicant to pursue the proposed research project.

**Problematic:** Some family medicine appointments are not salaried; for example, UBC Clinical Assistant Professor.

1. Health Professional Students (prior to receipt of health professional degree).  
**Health Professional Student Research Awards**  
<http://www.cihr-irsc.gc.ca/e/22626.html>
    - Are there any features of these awards which are problematic? If so, please note these and key them to the relevant section(s) of the Guidelines.
  2. Doctoral Research Trainees
    - a) **Doctoral Research Awards**  
<http://www.cihr-irsc.gc.ca/e/22321.html>
      - Are there any features of these awards which are problematic for potential applicants from your health profession?
    - b) **MD/PhD Program Studentships**  
<http://www.cihr-irsc.gc.ca/e/22337.html>
      - This program is directed at medical students pursuing a combined MD/PhD degree.
      - How would the terms of reference and guidelines have to be modified to make such a program applicable to your health profession?
- Problematic:** A maximum of 15 Studentships are allocated to the program each year. This number should be increased.
3. Post-PhD or Post-Health Professional degree **Research Trainees**
    - a) **Fellowships**  
<http://www.cihr-irsc.gc.ca/e/22340.html>
      - Are there any features of these awards which are problematic for potential applicants from your health profession?

**b) Clinician Scientist Phase 1**

<http://www.cihr-irsc.gc.ca/e/22371.html>

- This program is directed at individuals who hold a health professional degree in medicine or dentistry.
- How would the terms of reference and guidelines have to be modified to make such a program applicable to your health profession?

***Commitment of the Nominating Institution***

CIHR expects that the nominating medical or dental school or affiliated institution will offer successful candidates a **full-time faculty or equivalent position as a clinician-scientist** at the completion of the training, subject to satisfactory performance in the research training period.

**Modification:** Practicing family physicians cannot hold a full-time academic appointment at the completion of the training. They require a faculty appointment that allows them to pursue part-time research and part-time clinical work.

**4. Faculty Career Awards**

- General Guidelines <http://www.cihr-irsc.gc.ca/e/22631.html#2-B>
- Are there any features of these Guidelines which are problematic for potential applicants from your health profession?

***2-B1 Eligibility***

These awards are normally held by investigators with **full-time academic appointments** in faculties of Canadian universities or affiliated institutions.

**Problematic:** Practicing family physicians cannot hold full-time academic appointments. They require a faculty appointment that allows them to pursue part-time research and part-time clinical work. The awardee must also be allowed to receive appropriate local remuneration for clinical work for the entire duration of the career award.

**a) New Investigators**

<http://www.cihr-irsc.gc.ca/e/22372.html>

- Are there any features of these awards which are problematic for potential applicants from your profession?

***Eligibility Requirements***

Candidates who hold an appointment as an independent investigator are eligible to be nominated for an award if they have **held a full-time appointment while actively engaged in research**, including research performed in non-academic settings such as industry and government, **for a period of less than 60 months before the competition deadline** (i.e., September 15).

**Problematic:** Practicing family physicians cannot hold full-time academic appointments. They require a faculty appointment that allows them to pursue part-time research and part-time clinical work. The awardee must also be allowed to receive appropriate local remuneration for clinical work for the entire duration of the career award.

b) **Clinician-Scientist Phase 2**

<http://www.cihr-irsc.gc.ca/e/22371.html>

- **Application for this faculty career award is restricted to current holders of phase 1 awards.**
- Please indicate here, the way in which the phase 2 of the Clinician-Scientist award might need to be modified to make the program applicable to potential applicants from your health profession.

**Modification:** Application for this faculty career award is restricted to current holders of Phase 1 awards, which are training awards. This excludes: (1) family physicians who apply for a career award immediately after completing their research degree, i.e. those who wish to proceed with their own research rather than work as a trainee under the supervision of another researcher, and (2) family physicians who are not eligible to apply for a New Investigator award.

***Value of Award***

During Phase 2, CIHR's contribution to the investigator's salary is \$50,000 per annum. In addition, CIHR will refund the employer's share of contributions to employee benefit plans in which the institution staff members participate.

**Modification:** Based on earnings from clinical work, \$50,000 per annum may be sufficient for offsetting 40% research time, i.e. 2 days per week. The optimal arrangement for a practicing family physician researcher is part-time research and part-time clinical work.

***Earnings from Other Sources***

During Phase 2, the awardee may receive local remuneration for clinical work in amounts consistent with institutional policies. This support should respect the institutional commitment that **not less than 30 hours per week will be spent on research.**

**Modification:** Practicing family physicians cannot spend 30 hours per week on research for a salary award of \$50,000. Based on earnings from clinical work, \$50,000 per annum may be sufficient for offsetting 40% research time, i.e. 2 days per week. For family physician researchers who do want to spend 30 hours per week on research, the career award amount must be increased to reflect actual clinical earnings.

***Commitment of the Nominating Institution***

During Phase 2, when CIHR provides a contribution to the recipient's salary, both the candidate and the institution must make a commitment that **not less than 30 hours per week will be spent on research.**

**Modification:** Practicing family physician researchers will not want to, or be able to, spend 30 hours per week on research. For example, they may spend 2 days per week on research and the remainder on clinical work.

Proposed Funding Request

**Family Medicine Training Awards and Salary Awards for *New Investigators*:**

- 1) *Undergraduate Training Awards for Summer Students*: Fifty awards per year, \$5,000 each.
- 2) *Graduate Training Awards*: Ten training awards per year, at \$30,000 each per year. Six awards for Master's level programs (2 years full-time study) and four awards for PhD level programs (4 years full-time study), pro-rated for part-time study.
- 3) *New Investigator/Junior Salary Awards*: Seven 5-year awards per year, at \$50,000 each, plus benefits, for 40% research time. Flexible, pro-rated for 10% to 39% research time.

**Family Medicine Training Awards and Salary Awards for *Mid-Career Investigators*:**

- 1) *Mid/late Training Awards*: Ten training awards per year, at \$30,000 each per year. Six awards for Master's level programs (2 years full-time study) and four awards for PhD level programs (4 years full-time study); pro-rated for part-time study.
- 2) *Mid/late Salary Awards*: Five 5-year awards per year, renewable once; \$50,000 per year, plus benefits, for 40% research time. Flexible, pro-rated for 10% to 39% research time.
- 3) *Senior Researcher Salary Awards*: Three 5-year awards each year, at \$60,000 per year plus benefits, for 40% research time. Flexible, pro-rated for 10% to 39% research time.

**Family Medicine 'Short-Term Clinician-Investigator' Awards**

*Short-Term Clinician-Investigator Grants*: Ten grants at \$25,000 each (non-renewable) per year.

**Clinical Research Centres in Family Medicine and Primary Health Care across Canada.**

Five centres at \$1.5 million each per year. Awards should be for five years, renewable on the basis of productivity.