



Canadian Health Services Research **Foundation**  
**Fondation** canadienne de la recherche sur les services de santé



## An Evaluation of the Nursing Research Fund: Lessons to Date and Recommended Next Steps

Prepared for the Canadian Health Services Research Foundation

June 23, 2008

Including CHSRF Comments and Response to the Recommendations

Added October 2008

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AN EVALUATION OF THE NURSING RESEARCH FUND:  
LESSONS TO DATE AND RECOMMENDED NEXT STEPS

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*Added October 2008*

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22 October 2008

Letter from the Staff and Trustees of the Foundation

Dear Colleague/Reader,

The establishment of the Nursing Research Fund (NRF) in 1999 was a triumph for the nursing community in achieving a greater commitment to building nursing research capacity in Canada to help better meet the challenges in the healthcare system of the day. The Foundation was given the responsibility of administering these funds - \$25 million to be spent over 10 years - to support programs to train new researchers, contribute to the evidence-base on nursing care and nursing-related services, and promote the dissemination of findings from research.

This has been a rare and important opportunity in Canada's health research history to attempt to enhance the existing and future contribution of nursing research, in quantitative and qualitative terms, that will ultimately benefit our healthcare system and patient care. The Foundation agreed to administer the NRF as per the terms and conditions of the agreement with the federal government. It has done so with pleasure and, we believe, with considerable success in relation to the original objectives of the NRF.

An evaluation of the NRF was commissioned by the Foundation in 2007 and completed in 2008. The final report is attached in full. The Foundation's response is included within the text so that the reader can easily review the comments within the context of the authors' presentation of findings and discussion. The evaluation includes important lessons and results that are of direct interest to the wider nursing community (including researchers and decision makers), the original sponsors of the NRF (the federal government and Canadian nursing leadership), and the Foundation. The experience of the NRF will also be of interest to other funding organizations and healthcare providers or researchers looking to build research and research use capacity in other areas; this report offers insights and an understanding of the potential opportunities and pitfalls to consider if planning similar endeavours in the future.

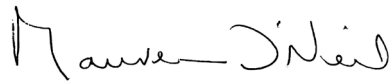
The evaluation team noted the many successes and positive outcomes of the investments made through the NRF, including the real increases in the quality and quantity of nursing-related research, researchers, and knowledge exchange initiatives. The Foundation agrees with the assessment that there were certain weaknesses in our approach and room for improvement - most notably: an evaluation framework and monitoring plan should have been established from the beginning; there should have been greater transparency in the adopted methods of allocating and accounting for NRF expenditures; and, more work could have been undertaken in the dissemination and knowledge exchange area. Given perhaps

more time and resources for this evaluation, the Foundation feels the authors might have highlighted more of the successes of the Nursing Care Partnership, the impact of the research and training programs supported by the NRF, and the tremendous leveraging effect of the NRF to secure additional resources several times over the original investment, as well as the spread of commitment to nursing within the Foundation – a commitment which will continue beyond the 10-year wind-down of the NRF in 2009. The Foundation has committed to an additional \$1.8 million of funding to support and complete the current commitments to nursing established at the outset with the support of the NRF.

As with any evaluation, this assessment provides an important reflective moment in the lifecycle of a program with respect to its original objectives. As per the authors' conclusions, it is clear that in spite of the progress made to date with the contribution of the NRF, the job of capacity-building for nursing research and research use is not yet finished for Canada. The Foundation is committed to working with the nursing community to identify the outstanding needs and help to plan the next phase of investment.

With sincere thanks to the evaluation team, Dr Peter Coyte<sup>1</sup> and colleagues, and to all those who participated in the data collection and interviews that contributed to this report.

Sincerely,

A handwritten signature in black ink that reads "Maureen O'Neil". The signature is written in a cursive style and is positioned above a thin horizontal line.

Maureen O'Neil

President and CEO

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<sup>1</sup>The Foundation would like to acknowledge a potential conflict of interest for the author selected to undertake this evaluation. Dr Peter Coyte holds one of the Chair awards, which is partially supported by funds from the NRF (25%). The Foundation believes that the benefits of engaging Dr Coyte and his team outweigh any potential conflict of interest. Dr Coyte is an economist, familiar with the objectives and programs of the Foundation, a respected health services researcher with expertise in program evaluation, and was able to work within the time and resource constraints of this evaluation.



## TABLE OF CONTENT

1. KEY MESSAGES .....	1
2. EXECUTIVE SUMMARY .....	2
3. CONTEXT.....	5
4. BACKGROUND .....	6
4.1 ORIGINAL AGREEMENT WITH THE GOVERNMENT OF CANADA.....	6
4.2 CONTEXTUALIZATION OF THE NRF WITHIN THE CHSRF .....	7
5. METHODOLOGY OF EVALUATION.....	7
5.1 CONCEPTUAL FRAMEWORK .....	8
6. PROGRAM RESULTS.....	9
6.1 PROGRAM AREA 1: NURSING RESEARCH CHAIRS .....	11
6.1.1 OBJECTIVE 1 - CREATION OF RESEARCH CAPACITY.....	11
6.1.2 OBJECTIVE 2 - EXPANSION OF RESEARCH OUTPUT .....	11
6.1.3 OBJECTIVE 3 - CREATION OF CAPACITY TO USE RESEARCH.....	12
6.1.4 OBJECTIVE 4 - EXPANSION IN THE ACTUAL USE OF RESEARCH .....	12
6.1.5 OBJECTIVE 5 - LINK BETWEEN RESEARCH SUPPLY AND RESEARCH USE .....	13
6.2 PROGRAM AREA 2: TRAINING AWARDS .....	13
6.2.1 OBJECTIVE 1 - CREATION OF RESEARCH CAPACITY.....	13
6.2.2 OBJECTIVE 2 - EXPANSION OF RESEARCH OUTPUT .....	14
6.2.3 OBJECTIVE 3 - CREATION OF CAPACITY TO USE RESEARCH.....	15
6.2.4 OBJECTIVE 4 - EXPANSION IN THE ACTUAL USE OF RESEARCH .....	16
6.2.5 OBJECTIVE 5 - LINK BETWEEN RESEARCH SUPPLY AND RESEARCH USE .....	16
6.3 PROGRAM AREA 3A: RESEARCH FUNDING ON NURSING POLICY AND MANAGEMENT.....	17
6.3.1. OBJECTIVE 1 - CREATION OF RESEARCH CAPACITY.....	17
6.3.2. OBJECTIVE 2 - EXPANSION OF RESEARCH OUTPUT .....	17
6.3.3 OBJECTIVE 3 - CREATION OF CAPACITY TO USE RESEARCH.....	18
6.3.4 OBJECTIVE 4 - EXPANSION IN THE ACTUAL USE OF RESEARCH .....	18
6.3.5 OBJECTIVE 5 - LINK BETWEEN RESEARCH SUPPLY AND RESEARCH USE .....	18
6.4 PROGRAM AREA 3B: RESEARCH FUNDING ON NURSING CARE .....	18
6.4.1 OBJECTIVE 1 - CREATION OF RESEARCH CAPACITY.....	18
6.4.2 OBJECTIVE 2 - EXPANSION OF RESEARCH OUTPUT .....	19
6.4.3 OBJECTIVE 3 - CREATION OF CAPACITY TO USE RESEARCH.....	19
6.4.4 OBJECTIVE 4 - EXPANSION IN THE ACTUAL USE OF RESEARCH .....	19
6.4.5 OBJECTIVE 5 - LINK BETWEEN RESEARCH SUPPLY AND RESEARCH USE .....	19

6.5 PROGRAM AREA 4: KNOWLEDGE DISSEMINATION .....	20
6.5.1 OBJECTIVE 1 - CREATION OF RESEARCH CAPACITY.....	20
6.5.2 OBJECTIVE 2 - EXPANSION OF RESEARCH OUTPUT .....	20
6.5.3 OBJECTIVE 3 - CREATION OF CAPACITY TO USE RESEARCH.....	20
6.5.4 OBJECTIVE 4 - EXPANSION IN THE ACTUAL USE OF RESEARCH .....	21
6.5.5 OBJECTIVE 5 - LINK BETWEEN RESEARCH SUPPLY AND RESEARCH USE .....	21
7. OVERALL ASSESSMENT .....	21
8. ADMINISTRATION OF THE NRF.....	23
8.1 FUNDING ALLOCATION.....	24
8.2 ROLE OF THE CHSRF AS THE ADMINISTRATING AGENT .....	26
9. LIMITATIONS TO THIS EVALUATION.....	28
10. CONCLUSIONS AND RECOMMENDATIONS .....	29
11. REFERENCES.....	32

## 1. KEY MESSAGES

- The five target Objectives of the Nursing Research Fund (NRF) were: (1) to create nursing research capacity; (2) to expand nursing research output; (3) to create capacity to use nursing research; (4) to expand the actual use of nursing research; and (5) to link research supply and research use. To achieve these Objectives, four Program areas were developed: (1) Nursing Research Chairs; (2) Training Awards; (3) Research Funding for (a) nursing policy and management; and (b) nursing care issues; and (4) Knowledge Dissemination activities.

**CHSRF Comment:** As explained in more detail later, the authors have re-stated the objectives of the NRF in terms that are aligned directly with the Foundation's strategic objectives. As per the Foundation's understanding and related documentation, the original NRF objectives did not encompass research use per se (i.e. the author's presentation of the target objectives 3, 4, and 5 relate more directly to the objectives of the Foundation as a whole), albeit an important extension of the dissemination objective – as stated below – and an important consideration in future initiatives.

- The NRF was most successful in creating nursing research capacity (Objective 1), expanding nursing research (Objective 2), and bridging the gap between researchers and users of research (Objective 5).
- Priorities should now be focused on the “use of research” rather than the “supply of research”. The “use of research” is closely tied with Knowledge Dissemination (Program area 4), which was one of the least successful NRF Program areas. Thus, gaps remain in the ability to transfer nursing research into effective practice and policy decision-making.
- In order to truly define the “value added” attributable to the NRF, it is necessary to compare the advances made in nursing research with advances made in other areas of health services research. Given the limited timeframe of this evaluation, comparing nursing research to other research fields, as well as assessing the long-term impact of the NRF, is beyond realistic scope.

**CHSRF Comment:** From the Foundation's perspective, the individual award holders highlighted in the appendices to this report provide excellent profiles of the nature of the work supported by NRF funding. However, it is felt the evaluation team could have drawn more from the information collected regarding outputs and impact from the evaluations conducted of the CADRE program (chairs, training centres and postdoctoral awards) and the Nursing Care Partnership, to highlight in the body of the report the range and depth of impact to date.

- The Nursing Research Fund has largely been successful in meeting its target Objectives through its associated Program areas. Given the relative success of the NRF and the current state of nursing research and faculty in Canada, a second phase of the Nursing Research Fund is recommended. The following specific recommendations represent the collective feedback from several of the nursing stakeholders:
  - More training awards should be created at the junior level;
  - Funding should be directed to smaller institutions to establish research programs;
  - More funds should be directed towards clinical nursing research;
  - A 25-year vision and commitment should be made for a second phase of the NRF.

**CHSRF Comment:** The Foundation endorses the above recommendations for next steps.

## 2. EXECUTIVE SUMMARY

### BACKGROUND

The Nursing Research Fund (NRF) was established in 1999 to build nursing-related research capacity for Canada. The federal government allocated \$25 million towards this initiative with funds administered by the Canadian Health Services Research Foundation (CHSRF) over 10 years. The overall objective of the NRF, defined in the original agreement between the CHSRF and the Government of Canada, was “...to develop a knowledge base to better enable nurses to deliver quality care in an environment of health care restructuring, to identify approaches to retrain/retool the existing workforce, and to attract new members to the profession” [1]. With approximately one year left on the allocated funding timeframe for the NRF, this evaluation assesses the investments, activities and programs associated with the NRF to determine whether there is a compelling and on-going need for further capacity development in the area of nursing-related research and how such needs might best be addressed.

### METHODOLOGY OF EVALUATION

This evaluation report:

- i) Provides a detailed account of NRF expenditures and activities/programs/outputs;
- ii) Quantifies the main outputs associated with the investments made through the NRF;
- iii) Describes and assesses the attitudes and perceptions of key stakeholders;
- iv) Assesses the relevance and adequacy of the identified NRF-supported activities/programs/outputs in terms of their contributions to the achievement of the NRF’s specific objectives; and
- v) Offers recommendations for the wind-down, renewal or other actions regarding the NRF.

The relevance and success of each NRF-funded program/activity has been assessed in relation to five objectives: (1) *creation of research capacity*; (2) *expansion of research output*; (3) *creation of the capacity to use research*; (4) *expansion in the actual use of research*; and (5) *link between research supply and research use*. This interaction was evaluated using both quantitative data (drawn from annual reports, financial reports, review reports from each nursing Chair, etc.) and qualitative data (acquired through interviews with key stakeholders).

**CHSRF Comment:** The authors have identified objectives for the NRF based on the overall objectives of the Foundation. However, the original agreement for the NRF indicates three primary target objectives: training in research, funding research, and dissemination. It does not articulate research use as a formal objective. Extending the objectives to encompass research use alters the original intent of the NRF and subsequent evaluation results.

### ASSESSMENT RESULTS

According to the original agreement [1], the NRF was intended to provide at least \$2.5 million per year to support the following four Program areas, with target allocations identified in brackets: (1) Nursing Research Chairs (\$500,000/year); (2) Training Awards (\$750,000/year), including career reorientation awards, post-doctoral fellowships and other student awards; Research Funding for (3a) Nursing Policy and Management (\$500,000/year) through CHSRF’s existing competitions, and (3b) Nursing Care issues (\$500,000/year) through the Canadian Nurses Foundation’s Nursing Care Partnership Program; and (4) Knowledge Dissemination activities (\$250,000/year).

The Evaluation Matrix below depicts the findings of this evaluation, based on an in-depth review of the four NRF Program areas.

Objectives Programs	Objective 1: To create research capacity	Objective 2: To enhance research output	Objective 3: To create capacity for research use	Objective 4: To enhance use of research	Objective 5: To link research supply & use
Program area 1: Nursing Research Chairs	Successful	Successful	Some gaps remain	Some gaps remain	Successful
Program area 2: Training Awards	Successful	Successful	Some gaps remain	Some gaps remain	Successful
Program area 3a: Research Funding on Nursing Policy & Mgt.	Successful	Successful	Significant gaps remain	Some gaps remain	Successful
Program area 3b: Research Funding on Nursing Care	Successful	Successful	Significant gaps remain	Some gaps remain	Successful
Program area 4: Knowledge Dissemination	Successful	Successful	Some gaps remain	Some gaps remain	Successful

Successful
  Some gaps remain
  Significant gaps remain

**CHSRF Comment:** More explicit details on the metrics adopted for assessing the extent of success or remaining gaps for the NRF would be helpful in interpreting the matrix.

From the onset, it was apparent that not all four Program areas were designed to meet all five NRF Objectives. It was expected that Program areas 1 and 2 would target Objective 1, Program areas 3a and 3b would target Objective 2, and Program area 4 would target Objective 5. Indeed, each Program area was highly successful in meeting its target Objective. The NRF was most successful in creating research capacity (Objective 1), expanding nursing research (Objective 2), and bridging the gap between researchers and users of research (Objective 5). By contrast, the NRF was less successful in creating the capacity to use research (Objective 3) and expanding the use of this research (Objective 4). Priorities should now be focused on the “use of research” rather than the “supply of research”. The “use of research” is also closely tied with Knowledge Dissemination (Program area 4), which was one of the least successful NRF Program areas. Thus, gaps remain in the ability to transfer nursing research into effective practice and policy decision-making.

**CHSRF Comment:** As stated above, this matrix juxtaposes the Foundation’s objectives against those of the NRF which, in the view of the Foundation, alters the assessment of the outputs and impact of the NRF, given that the two sets of objectives, although complementary, are not a perfect match.

Several stakeholders commented that the Nursing Research Chair Award (Program area 1) was very successful. However, there were some concerns over the appropriateness of some of the recipients of the Nursing Research Chairs; some individuals felt that the Chairs should have been restricted to nurses who conduct research rather than including researchers who research nursing issues. Many individuals felt that clinical research topics should have received more funding. There was also limited awareness of Program area 3b (the Nursing Care Partnership Program), which some individuals claimed was due to a lack of communication and transparency on the CHSRF’s behalf.

Overall, one decision maker accurately summarized the successes and limitations of the Nursing Research Fund. In order to establish a strong program in Canadian nursing research, an exceptional cadre of researchers is needed to conduct this research. The NRF was essential in successfully developing this cadre of researchers, so that the shift towards the application and use of nursing research may now take place.

#### CHSRF ADMINISTRATION OF THE NRF

While the NRF was used to cover the direct costs of these Program areas, the Fund also covered annual overhead costs (including CHSRF salaries) associated with the administration of these Programs. As well, the investment portfolio of the endowment included annual investment management fees and investment-related income. Over the existing course of the NRF, an average of 72.4% of NRF expenses were allocated to the four Program areas, while 25.8% and 1.8% of funds were associated with overhead costs and investment management fees, respectively. Overhead costs were surprisingly high.

**CHSRF Comment:** The Foundation is not a granting council; its program delivery goes beyond the provision of a grant or award. From the beginning, the Foundation adopted a “value-added” staffing approach to program delivery, meaning that staff roles include working directly with health services researchers and decision makers to broker partnerships, arrange face-to-face meetings, and conduct environmental scans in content areas, as well as provide direct support for projects as needed. Much of this activity has been included in the report in the term “overhead” – which is problematic from the Foundation’s perspective. Also, the formula and accounting processes for the overhead allocation to the NRF were developed for the Foundation by KPMG LLP, the Foundation’s external auditors in 2003. This methodology consisted of taking the NRF’s direct costs as a percentage of all Foundation direct costs (core endowment, NRF, and EXTRA) and multiplying this percentage by the total administration costs for the Foundation (finance, human resources, IT, governance, amortization, and others.). In 2007, the NRF overhead percentage cost was 12.75%. Over the course of the life of the NRF, this percentage averaged about 21%; the variation year to year was a function of the total NRF costs as a portion of the total Foundation costs. In a benchmarking exercise conducted by the Foundation in 1999 of similar organizations, overhead costs ranged from 6–30%. The Foundation acknowledges that the methods and costs allocated to the NRF could have been more transparent and contestable over the life of the NRF. Nevertheless, overhead expenditures and allocations have been routinely reported, reviewed and accepted in all external audits of Foundation expenditures and programs since its inception.

Given the recent exposure draft issued by the Canadian Institute of Chartered Accountants on the allocation of overhead for not-for-profit organizations, the Foundation has taken steps to review its current cost allocation methodology for allocating overhead to the funds to ensure it is consistent with industry standards.

The majority of interviewed stakeholders stated their satisfaction with the CHSRF’s management of the Fund. Several individuals commented that the mission of the CHSRF closely aligns with the motivation behind the NRF. It was also noted that the CHSRF was an appropriate choice because of its well-established infrastructure. However, some stakeholders emphasized the lack of effective communication by the CHSRF as many researchers did not realize that their funding came from the NRF.

**CHSRF Comment:** The Foundation agrees that in the initial years of the NRF, communication regarding the allocation of the NRF funds when integrated with funds generated from the Foundation’s Core endowment could have been more transparent and effective.

## LIMITATIONS TO THIS EVALUATION

In order to truly define the “value added” attributable to the NRF, it is necessary to compare the advances made in nursing research with advances made in other areas of health services research. Evaluating how other research funds have been spent in other research areas would provide insight into whether the NRF was truly effective. Similarly, evaluating the long-term impact of the NRF would provide significant insight into its true efficacy, but this is impossible given the timing of this evaluation.

Several inconsistencies and information gaps were observed between subsequent years of financial records and Annual Reports. In particular, only certain sections of Annual Reports from 1999 to 2003 were made available to the evaluation team. From 2003 onwards, the summaries of expenditures and activities received from the CHSRF typically did not match subsequent annual reports.

**CHSRF Comment:** As detailed later in the report, there were a number of changes to the reporting requirements over the course of the NRF as mandated by the federal government. In addition, there are discrepancies over the counting of the number of actual activities due to the transfer of the Open Grants Competition projects component to CIHR in 2004. These discrepancies have been remedied in subsequent reports. The Foundation has received clean audits from its external auditors and from government audits conducted on all of the reporting on the NRF since its inception.

## CONCLUSIONS AND RECOMMENDATIONS

The Nursing Research Fund has largely been successful in meeting its target objectives through its associated Program areas. As one of the key nursing researchers concluded, “incredible strides have been made in nursing research” and “without the establishment of the NRF, the state of Canadian nursing research would be nowhere near its current state”.

Given the relative success of the NRF and the capacity for further advancement in nursing, a second phase of the Nursing Research Fund is recommended. The following specific recommendations represent the collective feedback from several of the nursing stakeholders:

- More training awards should be created at the junior level;
- Funding should be directed to smaller institutions to establish research programs;
- More funds should be directed towards clinical nursing research;
- A 25-year vision and commitment should be made for a second phase of the NRF.

**CHSRF Comment:** The Foundation agrees with the above recommendations for future investment and is ready and willing to work with the nursing community and potential funders to secure a second phase of the NRF.

## 3. CONTEXT

The Nursing Research Fund (NRF) was established in 1999 to build nursing-related research capacity for Canada. The federal government allocated \$25 million towards this initiative with funds administered by the Canadian Health Services Research Foundation (CHSRF) over 10 years. This investment in nursing-related research was motivated by the dramatic changes to the health care landscape that have modified the role, settings and supports for nursing practice, policy decision-making relevant to nursing, and changes within the nursing profession. Nursing leaders and nursing organizations across Canada pushed for the NRF to address their collective concern about the limited quality and quantity of nursing-related evidence to inform health care and policy decision-making.

With approximately one year left on the allocated funding timeframe for the NRF, it is essential to assess the different investments made through the NRF between 1999 (at its inception) and 2007. A thorough evaluation of the processes/activities associated with the NRF can then be used to determine whether there is a compelling, pressing and on-going need for further capacity development in the area of nursing-related research and how such needs might best be addressed. Moreover, the findings derived from this evaluation may be shared with the nursing and wider health services research and decision-making communities in order to address any shortcomings or other limitations in achieving the original objectives of the NRF, and may highlight the challenges and achievements of the Fund since its inception.

## 4. BACKGROUND

### 4.1 ORIGINAL AGREEMENT WITH THE GOVERNMENT OF CANADA

The original agreement that was made between the CHSRF and the Government of Canada (represented by the Minister of Health) defined the overall objective of the Nursing Research Fund (originally titled the NURSE Fund) as follows: “...to develop a knowledge base to better enable nurses to deliver quality care in an environment of health care restructuring, to identify approaches to retrain/retool the existing workforce, and to attract new members to the profession” [1]. This broad objective can essentially be categorized into four sub-objectives, all of which align well with CHSRF’s overarching mission. These four objectives comprise [2]:

- i) To create high-quality new knowledge in the nursing field that is useful for health services managers and policy makers;
- ii) To increase the capacity for nursing researchers and nursing-related research;
- iii) To increase the capacity for health systems managers and policy makers to acquire and use relevant research; and
- iv) To help health system managers, policy makers, and their organizations routinely apply relevant research in their work.

According to this original agreement [1], the NRF was intended to provide at least \$2.5 million per year to support the following four Program areas, with target allocations identified in brackets:

1. *Nursing Research Chairs* (\$500,000/year)
  - Based on a 10-year commitment, subject to a review in the 5<sup>th</sup> year
2. *Training Awards* (\$750,000/year) available in three forms:
  - a. Career Reorientation Awards (one year terms; maximum value of \$50,000/year)
  - b. Post-doctoral Fellowships (up to two year terms; maximum value of \$30,000/year)
  - c. Student Awards (up to three year terms; maximum value of \$20,000/year)
3. *Research Funding* (\$1,000,000/year) available in two forms:
  - a. Research on Nursing Policy and Management (\$500,000/year)
    - Funding to be received through CHSRF’s Open Grants and other Competitions<sup>1</sup>

<sup>1</sup>In 2004, CHSRF transferred the Open Grants Competition to CIHR. As such, NRF provides \$200,000 to the CIHR’s Partnership for Health System Improvement co-sponsorship fund and \$300,000 to the Foundation’s Research, Exchange and Impact for System Support (REISS) new grants competition.

- b. Research on Nursing Care (\$500,000/year)<sup>2</sup>
  - Funding to be administered through Canadian Nurses Foundation through program referred to as the Nursing Care Partnership (NCP) Program
- 4. *Knowledge Dissemination* (\$250,000/year)
  - To support policy syntheses, networks, communications, etc.

#### 4.2 CONTEXTUALIZATION OF THE NRF WITHIN THE CHSRF

The Program areas specified above were defined in order to be consistent with CHSRF's mission, infrastructure, and activities. From the onset, the CHSRF dedicated an advisory committee and a senior staff member to oversee and manage the activities associated with the NRF. Although both the committee and the staff roles have evolved over time, they remain central to the success of the Fund within the organization. The NRF and its proposed activities were fully integrated as a part of the Foundation at the financial, program and board levels. The NRF was included and invested along with core Foundation funds and not reported upon or tracked separately until 2003. A requirement of the original NRF agreement was that "activities of the NURSE fund would become part of CHSRF's Annual Report" [1]. This was upheld until 2004, when the NRF began to be reported upon separately, in addition to the CHSRF annual report, to Health Canada.

The separate reporting of activities and financial accounting of the NRF began in 2004, at a time when extensive integration of NRF funds occurred at the program level. Activities funded by the NRF were integrated across all of the programs of the Foundation. The Nursing Leadership, Organization and Policy (NLOP) theme was established in 2002 as one of the Foundation's four priorities themes. This meant that a senior staff member would ensure that all program areas of the Foundation, including those not receiving funds from the NRF, would include NLOP activities in their programming, deliverables and events, where appropriate. In addition to this, core Foundation funds allocated for programs would be used to support the nursing theme. Through this, the Foundation strengthened its commitment to, and enhanced its financial investment in, nursing research<sup>3</sup> activities.

This evaluation focuses strictly on the Nursing Research Fund. It is recognized that the extensive integration of the NRF into Foundation-wide activities may present 1) difficulties separating NRF-sponsored activities from those supported solely by the Foundation or other sources for assessment purposes; and 2) confusion for award recipients who are supported by NRF and/or CHSRF funds.

The Foundation concurs that greater transparency from the outset regarding the adopted approach – to integrate the NRF funds (and thereby nursing and related research) within existing Foundation tools and funding mechanisms – would have helped in terms of clarity about the breadth and depth of actual investments and outputs related to the NRF.

## 5. METHODOLOGY OF EVALUATION

Methodological details for this evaluation, including the selection process of stakeholders interviewed, are provided in **Appendix A**. In short, this evaluation report will:

- i) Provide a detailed account of the expenditures and activities/programs/outputs supported by NRF funds as administered by CHSRF, subject to the limited timeframe for this review and available data;

<sup>2</sup>In 2004, the annual disbursement was increased from \$500,000 to \$525,000 to cover increased administrative costs.

<sup>3</sup>Nursing-related research includes research on nursing issues as well as research conducted by nurses

- ii) Quantify the main outputs associated with the investments made through the NRF, as subject again to the limited timeframe for this review and available data. These outputs will be assessed in terms of their short-term impacts (i.e. publications, collaborations, funded projects, trainees, etc.) and longer-term impacts that may significantly affect health and nursing service organization and delivery (i.e. placement, promotion and tenure for researchers; uptake of nursing evidence in decision-making; mutual understandings of research/decision-making worlds, etc.);
- iii) Describe and assess the attitudes and perceptions of key stakeholders concerning the performance of the NRF with respect to its overarching goal to build nursing-related research capacity for Canada and in the CHSRF's role in administering these funds;
- iv) Assess the relevance and adequacy of the identified NRF-supported activities/programs/outputs in terms of their contributions to the achievement of the four objectives of the NRF; and
- v) Offer recommendations and options for review by CHSRF, in consultation with key stakeholders, concerning the wind down, renewal or other actions regarding the NRF.




### 5.1 CONCEPTUAL FRAMEWORK

Upon review of the four objectives of the NRF (Section 4), it is apparent that one overriding objective is absent. Currently, two of the objectives focus on the *supply* of research, while the other two objectives focus on the *use* of research. A final objective, important yet often overlooked, focuses on the forum where the *supply* and *use* of research overlap. The nexus of supply and use concerns exchange between researchers and research users, and the enhancement of mutual receptor capacity. From the research user perspective, the research priorities of research users must be communicated to and understood by researchers so that the research undertaken is more relevant to research users. From the researcher perspective, research users must better understand the needs of researchers for data and support, and the associated research findings. The NRF will ultimately be regarded as most successful if *research supply* and *research use* are well aligned and mutually overlap; communication between the two worlds is essential in ensuring that researchers understand what the user wants and that users understand both the needs of researchers and the findings they offer.

After identifying and quantifying all Program area activities, an Evaluation Matrix (see Table 1 for a skeleton of the Evaluation Matrix) was used to assess the relevance and success of each NRF-funded program/activity in relation to each of the following five objectives: (1) *creation of research capacity*; (2) *expansion of research output*; (3) *creation of the capacity to use research*; (4) *expansion in the actual use of research*; and (5) *link between research supply and research use*. In this matrix, the columns represent the five NRF objectives and the rows represent the activities/processes used by the CHSRF in order to fulfill these objectives. Although some activities were not directly applicable to certain objectives, the interaction of every activity-objective (i.e. each cell within the matrix) was assessed to yield an 'indicator of success'; either "successful", "some gaps remain" or "significant gaps remain". This interaction was evaluated using both quantitative and qualitative data, and is further explained in Appendix A.

Table 1: Evaluation Matrix

Objectives Programs	Objective 1: To create research capacity	Objective 2: To enhance research output	Objective 3: To create capacity for research use	Objective 4: To enhance use of research	Objective 5: To link research supply & research use
Program area 1: Nursing Research Chairs					
Program area 2: Training Awards					
Program area 3a: Research Funding on Nursing Policy & Mgt.					
Program area 3b: Research Funding on Nursing Care					
Program area 4: Knowledge Dissemination					

 Successful
  Some gaps remain
  Significant gaps remain

**CHSRF Comment:** This framework is problematic from the Foundation’s perspective, in that it juxtaposes the objectives of the Foundation (the horizontal axis) with the original objectives for the NRF (the vertical axis), thus altering the expectations for the NRF and the subsequent assessment of its impact from the start. It was certainly the intent to integrate NRF program objectives within existing Foundation tools and funding mechanisms, but not necessarily the reverse – i.e. the scope of the NRF was not as broad as the Foundation’s overall strategic objectives; most notable is the absence of a “research use” objective from the original NRF objectives – yet the authors apply this criterion to the outputs and impact of the NRF. Furthermore, it is not clear with what authority that the authors note that an objective is “missing” from the original plan for the NRF. On the horizontal axis above, the Foundation would argue that only objectives 1 and 2 are directly consistent with the planned program areas for the NRF. Dissemination is linked in part to 4 and 5. By using this framework to assess the extent of success or gaps remaining, the evaluation team exceeded the intent of the program.

## 6. PROGRAM RESULTS

Following an intense review of available NRF-related documents (see the list of documents in Appendix B), the various activities associated with all four NRF Program areas were identified. Table 2 summarizes the target and actual direct funding allocations for each Program, as well as major outputs associated with each Program area. Examples of exemplar activities for each Program area are included in the Appendices, and referenced in an appropriate section of this Report. Additionally, selected nursing researchers are profiled in the Appendices based on their outstanding contributions and positive comments received from stakeholders during interviews.

Table 2: NRF-sponsored programs and outputs

Program	Annual Funding		Major Outputs
	Target	Actual (average <sup>1</sup> ±SD <sup>2</sup> )	
P1 – Nursing Research Chairs	\$500,000	\$426,597 ± 68,582	<ul style="list-style-type: none"> <li>- 6 Nursing Research Chairs, 2 Nursing-related Chairs</li> <li>- Supervision of numerous interns, Masters students, PhD students, post-doctoral fellows, and junior faculty</li> <li>- Development of initiatives such as annual summer research internships, applied research apprenticeship program, etc.</li> <li>- Involvement of decision maker partners (student thesis committees, guest lectures, research seminars, workshops, etc.)</li> </ul>
P2 – Training Awards	\$750,000	\$387,875 ± 50,123	<ul style="list-style-type: none"> <li>- 23 Joint Training Awards</li> <li>- 4 Career Reorientation Awards</li> <li>- 21 Post-Doctoral Awards</li> <li>- 3 Regional Training Centres (RTCs)</li> <li>- 1 RTC Development Grant</li> </ul>
P3a- Research Funding on Nursing Policy and Management	\$500,000	\$767,966 ± 123,457	<ul style="list-style-type: none"> <li>- 47 Open Grants Competition awards</li> <li>- 10 REISS<sup>3</sup> Competition Development Funds</li> <li>- 4 REISS Awards</li> <li>- 2 Partnerships for Health System Improvement (PHSI) awards (through CIHR)</li> <li>- 1 Training Program Development Grant</li> <li>- 9 Letter of Intent (LOI) Preparation Grants</li> </ul>
P3b – Research Funding on Nursing Care (Nursing Care Partnership program)	\$500,000	\$486,464 ± 22,665	<ul style="list-style-type: none"> <li>- 98.5% of funds (out of \$2.255 million received from CHSRF from 2003–2007) have been spent on nursing care research projects</li> <li>- Since 2003, NCP has leveraged over \$4.6 million from partner organizations</li> <li>- 27% of projects funded have a decision maker as primary or co-primary investigator</li> </ul>
P4 – Knowledge Dissemination	\$250,000	\$82,904 ± 19,852	<ul style="list-style-type: none"> <li>- Networking (Chairs and RTC meetings)</li> <li>- 2 nursing policy syntheses: <i>Commitment and Care</i> (2001) and <i>Staffing for Safety</i> (2006)</li> <li>- 1 Health Institutes Design Grant (1999)</li> <li>- 2 Communication Infrastructure Development Grants (1999, 2001)</li> <li>- 1 Network Infrastructure Needs Assessment (2003-04)</li> </ul>

Sections 6.1 to 6.5 systematically evaluate how each Program area has met each of the five main NRF objectives outlined in Section 5.1. These assessments were then used to populate the Evaluation Matrix that is presented and summarized in Section 7.

<sup>1</sup> Average expenses are based on the direct program expenditures incurred between 1999 and 2007

<sup>2</sup> Standard Deviation (SD) is calculated by taking the square root of the sum of squared deviations of the annual amount spent from the average annual amount spent and dividing it by 9 (years, i.e. 1999-2007)

<sup>3</sup> Research, Exchange, and Impact for System Support (REISS)

## 6.1 PROGRAM AREA 1: NURSING RESEARCH CHAIRS

In the original agreement, the NRF was expected to commit \$500,000 annually to support four CHSRF/CIHR<sup>4</sup> Nursing Research Chairs for 10 years [1]. However, the NRF has since been used to support five nursing-specific (Lesley Degner, Alba DiCenso, Nancy Edwards, Janice Lander, and Linda O'Brien-Pallas) and three nursing-related (Paula Goering, Pat Armstrong, and Peter Coyte) Chairs [2]. Note that with the exception of Dr. Paula Goering, the nursing-related Chairs (i.e. Pat Armstrong and Peter Coyte) receive only 25% of their funding through the NRF [2]. These Chair Awards have formed the basis for the mentorship of applied health services researchers, the establishment of a dedicated research program, and several opportunities for alignment and overlap between researchers and decision makers. All Chairs underwent a fourth-year review (between 2004 and 2006) and with the exception of Dr. Janice Lander, all were renewed for the duration of the 10-year Chair Award.

Sections 6.1.1 to 6.1.5 provide a general overview of how the Nursing Chair Awards have met each of the five target objectives. Appendix C provides additional detail regarding the success of each specific Chair (with the exception of Dr. Janice Lander) at meeting each of the five NRF objectives.

### 6.1.1 Objective 1 - Creation of Research Capacity

All of the Nursing Chairs have been very successful at *creating nursing research capacity*. All Chairs have supervised numerous graduate students (at both the Masters and PhD levels), and served as mentors to junior faculty members, post-doctoral fellows, and Career Reorientation Award holders. Many of the Chairs' nursing trainees have been recognized for their research potential through several departmental, institutional and national research awards. As an indication of the volume of nursing trainees in the Chairs' Programs, Dr. Alba DiCenso alone has supervised 70 interns, 10 Masters students, and 11 PhD students from 2001 to 2006 [3]. Moreover, as a result of Dr. Lesley Degner's Chair Program, the University of Manitoba has recruited six new scientists for the Faculty of Nursing, five of whom have a nursing background.

Several Chairs have held nursing-related seminar series and workshops, further developing the research skills of their trainees. In addition, Dr. Nancy Edwards holds an annual three-month summer research internship, where research interns and post-doctoral fellows visit host organizations and collaborate with several colleagues (mentees, researchers and decision makers) to develop multiple intervention research projects [4]. Dr. Linda O'Brien-Pallas's six-month applied research apprenticeship program has also allowed her to mentor several decision maker trainees, further creating capacity to conduct research from the decision maker's perspective [5].

The Chairs' involvement with the Regional Training Centres (RTCs) has also been instrumental in training new researchers, thereby *creating research capacity*. Several of the Chairs teach courses with the Ontario Training Centre, in addition to the research courses taught through their home institutions.

### 6.1.2 Objective 2 - Expansion of Research Output

There are numerous examples of how the Nursing Research Chairs have successfully *expanded research output* in the nursing community. Research output is best quantified through the

<sup>4</sup> Chairs are funded through a partnership structure between CHSRF (50%) and CIHR (50%). Thus, nursing-specific Chairs receive 50% funds through CHSRF's NRF and nursing-related Chairs receive 25% funds through CHSRF's NRF

exceptional number of publications, conference presentations and funded grants achieved by all of the Chairs and their associated trainees. Details on specific research output for each individual Chair can be found in **Appendix C**.

Several of the Chairs have won prestigious research awards that further acknowledge their exemplary achievements in nursing research. Dr. Edwards received the University of Ottawa Award for Excellence in Research for 2006-07 [6]. Dr. O'Brien-Pallas received the Canadian Nurses Association's Jeanne Mance Award (2006) for her groundbreaking research and recognition as an internationally respected scholar [7]. Moreover, Dr. O'Brien-Pallas was recently the first Canadian nurse to be inducted as an American Academy of Nursing International Fellow during the Academy's 34<sup>th</sup> Annual Meeting and Conference [8].

### 6.1.3 Objective 3 - Creation of Capacity to Use Research

The Nursing Research Chairs have helped to *create capacity for the use of nursing research* through their numerous collaborations and links with decision makers. The presence of decision makers at research seminars, workshops and the RTCs helps foster the ability of decision makers to understand and subsequently apply research findings. Moreover, the Chairs' persistent inclusion of decision makers on student committees, advisory groups and grant applications has successfully engaged decision makers in the research process from "inception to implementation". This continual collaboration has fostered a cadre of new researchers who will maintain this mandate, thereby building on the capacity to use research in practice and policy.

Through the policy internships offered through Dr. DiCenso's Chair, agencies and organizations are exposed to research that increases their capacity to use research. In particular, Dr. DiCenso's students are expected to complete a 90-120-hour policy internship, which provides them with the opportunity to directly interact with decision makers [3]. The research apprenticeship program offered through Dr. O'Brien-Pallas' Chair also directly exposes decision makers to research, allowing them to bring this knowledge to their home organizations [5].

A final exemplary illustration of *creating the capacity to use research* is Dr. Degner's use of her dedicated research space within a "front-line" nursing work environment. Dr. Degner has a research laboratory at the Health Sciences Centre in Winnipeg, where she works closely with senior health science centre decision makers to assess nursing work life [9], thereby providing the opportunity to have immediate transfer of research knowledge to inform management or clinical decision-making.

### 6.1.4 Objective 4 - Expansion in the Actual Use of Research

While somewhat difficult to assess given the limited timeframe of this evaluation, the Nursing Research Chairs have demonstrated some success in helping to *expand the actual use of nursing research*. Selected exemplary activities are highlighted in this Section.

The development and use of a conceptual framework for Health Human Resource Planning was a major goal of Dr. O'Brien-Pallas' Chair Program. This framework has since been adopted by the Canadian Institute of Health Information to guide its activities, and has been used in simulation planning exercises undertaken for the Atlantic provinces and Nurse Practitioners in Ontario [5]. Dr. O'Brien-Pallas also co-wrote "Commitment and Care: A Policy Synthesis", which is readily available on the CHSRF's website and features several key messages for decision makers. Research generated by Dr. DiCenso's Chair has been extensively used in defining the role of nurse practitioners. For example, Dr. DiCenso was approached by the College of Nurses of Ontario to assist them in understanding the Advanced Nurse Practitioner role to better inform a licensing exam for acute care nurse

practitioners [3]. The research expertise of Dr. Edwards allowed her to co-write a chapter for a Community Health Nursing Textbook that is widely used in Canadian undergraduate nursing curriculum [4]. Finally, several of the Chairs have been approached by numerous organizations (i.e. Local Health Integration Networks, the Ontario Hospital Association and the Ontario Health Quality Council) for consultation related to their specific research.

#### 6.1.5 Objective 5 – Link Between Research Supply and Research Use

Various activities associated with the Nursing Research Chairs have successfully helped to link researchers with decision makers, thereby enhancing the alignment of and *link between research supply and research use*. The involvement of decision makers at research seminars, symposiums, workshops and the RTCs fosters alignment and overlap, and thereby bridges the gap between researchers and decision makers. Several of the Chairs have invited decision makers to sit on student thesis committees and assist in identifying research topics. Habitual inclusion of decision makers in the learning environments of trainees will inevitably ensure that this link is maintained as trainees embark on their own research careers. Moreover, decision makers play direct supervisory roles through policy internships, often leading to research collaborations that remain once the internship period is complete. The Chairs frequently serve as liaisons and consultants with various provincial and national policy-makers. Finally, several Chairs commented on the fact that they now always include a decision maker partner on their grant applications, highlighting the recognition and importance of this joint venture.

## 6.2 PROGRAM AREA 2: TRAINING AWARDS

In the original agreement, the Nursing Research Fund was expected to commit \$750,000 annually to training awards [1]. Since 1999, these awards have included Joint Training Awards (from 1999-2000), Career Reorientation Awards (from 1999-present), and Post-Doctoral Awards offered through the Foundation's Capacity for Applied and Developmental Research and Evaluation (CADRE) Program (from 2001-present). Graduate-level support that was offered through the Joint Training Awards from 1999 to 2000 was subsequently transferred to awards offered through the three nursing-related Regional Training Centres (RTCs): the FERASI Centre (Quebec), the Ontario Training Centre in Health Services and Policy Research (Ontario) and the Centre for Knowledge Transfer (Alberta).

**CHSRF Comment:** The Career Reorientation Award program was discontinued by the Foundation in 2007 due to the declining number of applicants. The need for this type of award was felt to have reduced substantially since the introduction of several other types of training awards in health services and policy research, which encourage applications from a broad range of disciplines, including nursing.

### 6.2.1 Objective 1 - Creation of Research Capacity

The Training Awards Program has been highly successful in its ability to *create research capacity*. All training awards have resulted in an increase in the capacity of nursing researchers. Among the 23 Joint Training Awards, approximately 30% were held at the Masters level, while 70% were received by Doctoral candidates [11]. These awards were distributed across Canada in approximate proportion to the underlying population. Additional information on the specific award holders is included in Appendix D.

The four Career Reorientation Awards successfully created capacity in nursing research through support for established, mid-career researchers from disciplines outside of the health area to redirect their expertise to applied health services and policy research. These Awards

helped to lighten teaching duties for some researchers in order that they concentrate on research activities (see **Appendix E: Highlight on Dr. Manon Lemonde, Career Reorientation Award Holder**).

The Post-Doctoral Awards have been an important vehicle in *creating research capacity*. Historically, Schools and Faculties of Nursing have faced a shortage of nursing educators [12], and this has led to the recruitment of nurses without doctoral training or before they had time to complete such degrees. The Post-Doctoral Awards allowed new tenure track faculty with dedicated time for research so that they could establish their research careers. Protected time for research was an institutional requirement for receipt of an award, and thereby assisted in supporting the research careers of the award holder. There are several Post-Doctoral Award holders who have since developed a solid track record in nursing research, including Dr. Susan Jack (profiled in **Appendix F**) who now holds a CIHR New Investigator Award. As stated in an interview, Dr. Jack would never have pursued post-doctoral research without the support of this Award [13].

The Regional Training Centres have also been essential in their ability to *create research capacity*. According to their 4<sup>th</sup> year review completed in 2006, the FERASI Centre had recruited 14 Doctoral and 45 Masters students in the previous 3.5 years [14]. Over a similar period, the Ontario Training Centre (OTC) was equally successful with 50 Doctoral and 44 Masters students [15]. Moreover, if the OTC were to continue at its current pace, the projected number of trained health services and policy researchers will reach 220, which is more than double its initial target of 102 trainees [15]. Unfortunately, limited information was available about the Centre for Knowledge Transfer (Alberta), since it was not renewed followed its 4<sup>th</sup> year review in 2006.

#### 6.2.2 Objective 2 – Expansion of Research Output

The Joint Training Awards provided essential funding for nursing graduate students to conduct research at this preliminary stage of their careers. Many of these individuals have continued in successful research careers, *expanding nursing research output* by contributing to peer-reviewed, timely and useful research to the nursing community. For example, Dr. Susan Jack received a Joint Training Award in 1999, subsequently won a Post-Doctoral Award in 2004, and as stated in Section 4.2.1, now holds a CIHR New Investigator Award. Dr. Gail Tomblin Murphy, who also received a Joint Training Award in 1999, is now an Associate Professor at Dalhousie University, is either a principal or co-principal investigator on several funded grants, and has numerous nursing-related scholarly publications.

The Career Reorientation Awards have successfully aided non-health services researchers in changing their career paths in order to focus on *expanding the type of nursing-related research* that is currently being conducted. Although Dr. Manon Lemonde has a background in biomedical research, her “reorientation” into organizational and policy research has greatly expanded nursing-related research. Dr. Lemonde is now an Associate Professor with the relatively new University of Ontario Institute of Technology that has established a research unit in the Faculty of Health Sciences [16]. Dr. Anne Dewar came from a clinical research background and is currently an Associate Professor with the School of Nursing at the University of British Columbia, while Dr. Anne Rheume came from the field of sociology and is now an Assistant Professor at the École de Science Infirmière at the Université de Moncton. Finally, Dr. Michelle Giroux, an Associate Professor with the Faculty of Law at the University of Ottawa, was mentored by Dr. Nancy Edwards [6].

The Post-Doctoral Awards have also provided the unique opportunity for upcoming researchers to focus on *expanding their research output*. A highly diverse range of nursing-related research topics has been funded through the Post-Doctoral Awards. **Appendix G** includes a representative list of the research generated. Many past Post-Doctoral Award

holders now have well-established careers in research. Dr. Melanie Lavoie-Tremblay held her award in 2002 at the University of Toronto and is currently an Assistant Professor at McGill University. Dr. Judy Mill received her award in 2001 at the University of Ottawa and is now the Associate Dean, Graduate Studies, in the Faculty of Nursing at the University of Alberta. Notwithstanding the success of these Awards, a common observation made by previous Career Reorientation and Post-Doctoral Award holders was that the awards were of insufficient duration to establish their programs of research (one year for Career Reorientation Awards, two years for Post-Doctoral Awards).

With support from the RTCs, graduate students have *expanded research output*. Between 2001 and 2006, 26 scientific and 10 professional articles have been published or accepted for publication by FERASI Centre students [14]. The Ontario Training Centre (OTC) has expanded research output by requiring all OTC non-thesis Master's students to complete a 200-hour Research Practicum with a senior research team [15]. This requirement has exposed individuals who are not required to conduct research to the research community, thereby increasing the overall quantity of research.

### 6.2.3 Objective 3 - Creation of Capacity to Use Research

Limited information is available to assess the ability of the Joint Training Awards to *create capacity to use research*. In general, any collaboration between the awardees and policy decision makers may eventually encourage the decision maker agencies to use research findings. Award holders such as Drs. Susan Jack and Sharon Kaasalainen, who also held Post-Doctoral Awards, established this relationship with decision makers during their placements, and thereby furthered research use.

Similarly, Career Reorientation Awards were moderately successful in *creating the capacity to use research*. One awardee worked with the CEO of a health centre in northern Ontario in order to implement her research program at an affiliated research site. Another awardee also helped to enhance opportunities for the use of research by becoming a panel member of the Registered Nurses' Association of Ontario (RNAO) Best Practices for Healthy Work Environments.

The Post-Doctoral Awards have helped to *create the capacity to use research* simply by exposing decision maker partners to upcoming nursing researchers through their placements. In addition to these placements, several Post-Doctoral Award holders have fostered the ability to use research through their presence on several committees and Boards. For example, one awardee attends monthly meetings of the Regional Coordinating Committee of Capital Health in Edmonton. Another Post-Doctoral Fellow who attended committee meetings that focused on the commercial exploitation of children and youth met with Senator Landon Pearson to discuss research evidence in policy development. Finally, through her placement at Capital Health in Edmonton, a Post-Doctoral Fellow led an initiative to modify continuing care policies for the provincial government.

The RTCs have probably been the most successful aspect of the Training Awards Program in terms of *creating the capacity to use research*. This has primarily been achieved by exposing decision maker partnering agencies to research-oriented graduate students, subsequently resulting in the hiring of these graduates within their organizations. The FERASI Centre has been successful at recruiting approximately 20 decision maker partners [14]. Agencies where these graduates have been hired include Health Canada, the Ontario Association of Ontario Health Centres, the Ontario Ministry of Health and Long-Term Care, and the CHSRF [15]. Moreover, one decision maker partner (the Ontario Ministry of Children and Youth Services) has since contacted the OTC to advertise research positions and have acknowledged the necessity of building capacity to use research.

#### 6.2.4 Objective 4 - Expansion in the Actual Use of Research

Similar to Objective 3, there are insufficient data to accurately evaluate whether the Joint Training Awards have helped *expand the actual use of research*. The data available simply focus on the Award holders and the institutions where the Awards were held.

In terms of the Career Reorientation Awards, Dr. Lemonde has demonstrated significant success at *expanding the actual use of research*. Her research has stimulated awareness of evidence-based health reports (i.e. the Romanow report) in work environments [16]. Another awardee has also expanded the use of research through her study on employment among nurse graduates, which was used to develop links between the Nurse Advisory Officer within the Department of Health and Wellness in New Brunswick and the Nursing Association of New Brunswick.

Holders of Post-Doctoral Awards have been highly successful at *expanding the use of research*. One decision maker partner claimed that prior to the placement of an awardee in her organization, it was essentially an “evidence-free zone”. Another decision maker partner claimed that her agency was simply “data miners”, and it was the initiative of the awardee that helped in the transfer of information into useful knowledge. This same awardee has continued to develop a regular Knowledge Transfer and Exchange plan for the Health Surveillance Branch of Health Canada. Another Post-Doctoral Fellow participated in a Health Canada Federal/Provincial/Territorial Task Group on Strengthening Public Health System Infrastructure, with a significant outcome of her research being the development of an online registry for providing quality research evidence to public health decision makers ([www.health-evidence.ca](http://www.health-evidence.ca)) [17]. Previous research conducted by Dr. Josephine Etowa, a 2006 Post-Doctoral awardee, was instrumental in the introduction of cultural competence guidelines for the delivery of primary care in Nova Scotia, which highlights the caliber of researchers who have received Post-Doctoral awards [18].

Finally, the RTCs have been influential in *expanding the use of research*, through the networking activities between researchers and decision makers. At the OTC, all graduate students complete a Policy Practicum that benefits partner agencies through the application of research evidence to policy issues. One student, in particular, mentioned that she provided her agency with a background paper on housing supports for people with mental illness and that paper was later used for planning purposes with a regional working group [15].

#### 6.2.5 Objective 5 - Link Between Research Supply and Research Use

All three main types of Training Awards (Joint Training, Career Reorientation and Post-Doctoral) require the awardees to have a decision maker partner involved with their research. This requirement inevitably helps to *link* the priorities of *research suppliers and research users*. In particular, recipients of the Career Reorientation and Post-Doctoral Awards both mentioned that receipt of the award has meant that they customarily include decision makers in their grant applications, even if their inclusion were not required. Many researchers continue to collaborate with their decision maker partner in activities such as co-writing grants, sitting on steering committees and conducting private consulting work, even after the conclusion of their award. Although one researcher commented on the time demands of translating research for decision makers, she recognized the essential value gained from those activities. Decision makers repeatedly mentioned that the Awards were a mutual partnership; not only did researchers learn from decision makers, but decision maker agencies were also greatly advantaged.

The RTCs have been instrumental in *linking research supply and research use*. By twinning doctoral students with decision makers throughout their four-year research residency (FERASI Centre) and having graduate student field placements (Policy Practica; the OTC), there has been a constant exchange of ideas and knowledge. Both the FERASI Centre and the OTC

have decision makers who sit on governance bodies and advisory boards. The FERASI Centre has held several conferences and forums during its seven-year existence, with 75% of the audience being decision makers [14]. The OTC holds an annual Summer Institute that entails the active participation of decision makers through planning committees, presentations, and co-facilitation of student groups [15].

### 6.3 PROGRAM AREA 3A: RESEARCH FUNDING ON NURSING POLICY AND MANAGEMENT

In its 1999 agreement with Health Canada, the CHSRF agreed to commit \$500,000 of NRF funding annually to research projects and programs on nursing policy and management through the CHSRF's flagship *Open Grants Competition* (OGC) and other competitions [1]. Between 1999 and 2004, the CHSRF used the OGC to allocate NRF funding to nursing policy and management research. Starting in 2005, 40% of the funding commitment was transferred to the Canadian Institutes for Health Research (CIHR) administered through its *Partnerships for Health System Improvement* (PHSI) program. In that year, the CHSRF also introduced the *Research, Exchange, and Impact for System Support* (REISS) competition. The REISS competition is used to fund multi-year research programs across multiple CHSRF themes, with an annual contribution from the NRF of \$300,000 [2]. A brief list of selected funded OGC projects and REISS Programs is also shown in Appendix H. The NRF has also contributed smaller amounts to various preparation and development grants (i.e. Letter Of Intent Preparation Grants and Training Program Development Grants), which were used to assist decision makers and junior researchers in the preliminary development of grant proposals and training programs.

#### 6.3.1 Objective 1 - Creation of Research Capacity

The main objective of funding research in this area has been to expand research output by creating new knowledge. Funding to carry out research has, in the process of carrying out research, helped to *create capacity* among researchers. By the end of 2006, the CHSRF wholly or partially funded 47 projects and programs with support from the NRF through the Open Grants Competition and more than 20 special project grants and awards [2]. It also supported two REISS competition programs. One of the ways the NRF has facilitated the *creation of research capacity* has been through small allocations for letter of intent (LOI) preparation grants, designed to help novice researchers and decision makers prepare grant proposals, and through development awards associated with the REISS competition to support the resource-intensive exercise of preparing full-scale proposals. In addition, REISS has a capacity-building requirement incorporated in its application process that requires initiatives designed to build research capacity, such as mentoring graduate students, junior researchers, etc. Similar to the CHSRF's approach in funding other research priorities, leverage of external funding from partner organizations has also been a key focus for the NRF. Not unexpectedly, there were some concerns among interviewed nursing researchers about the effort required to identify partner funding agencies and secure matching funds.

#### 6.3.2 Objective 2 - Expansion of Research Output

Interviews with nursing researchers indicated that NRF funding *enhanced research outputs* through its requirement for decision maker engagement. One interviewee remarked that her own research approach has changed since inception of the NRF, indicating that she now always engages decision makers and has seen her research applied in practice. The CHSRF reported that the distribution of OGC funds between 1998 and 2004 was in proportion to population, with Ontario and Quebec being the most successful provinces. The CHSRF noted that research teams in only six provinces were successful in securing NRF grants through the OGC [19].

### 6.3.3 Objective 3 - Creation of Capacity to Use Research

The NRF's primary vehicle for *creating the capacity to use research* is the requirement to engage decision makers on research teams. This incorporates the user perspective into the research process from its inception through all subsequent stages in the research process. This arguably increases relevance of research findings and uptake by decision makers. Moreover, many of the final research reports are made available on the CHSRF's website, ensuring ready access to interested decision makers.

### 6.3.4 Objective 4 - Expansion in the Actual Use of Research

The NRF has *enhanced the use of research*. It has funded a number of special projects and commissioned reports on topical issues of relevance to policy decision makers. Examples include studies on nurse staffing and patient safety, and a review of major issues affecting nursing human resources (see Appendix H). There has been some positive feedback from researchers about the uptake of their research funded by NRF.

### 6.3.5 Objective 5 - Link Between Research Supply and Research Use

The NRF has made some efforts to *bridge the gap between researchers and users*, most notably through the *Research, Exchange, and Impact for System Support* (REISS) program. The REISS program requires the inclusion of decision makers in all proposals, thereby fostering strong linkages between research suppliers and users and enhancing ongoing collaborations. In addition, the *Partnerships for Health System Improvement* (PHSI) program, which is administered by the CIHR, has successfully supported research that is relevant to health system managers and policy makers.

## 6.4 PROGRAM AREA 3B: RESEARCH FUNDING ON NURSING CARE

Funding for research on nursing care issues has been developed through the Nursing Care Partnership (NCP) Program. The NCP was initiated in January 2003 and is unique among the NRF programs as its administration has been delegated to the Canadian Nurses Foundation (CNF). The focus of the NCP is to advance research on nursing care, defined as "research that is practice-based or that will provide the groundwork for future practice-based studies" [20]. This includes research in areas such as health promotion, injury prevention and chronic disease management.

### 6.4.1 Objective 1 - Creation of Research Capacity

The NCP has *created research capacity* in several ways. Its main achievement has been to leverage external funds at the rate of 2 for 1, thereby yielding a tripling of funds available for research. Over the last five years, the NCP has committed over \$2.2 million to research projects while leveraging over \$4.6 million in matched funding from diverse organizations including hospital foundations, charities and research institutes [20]. While the CNF's emphasis on matched funding has increased the total amount of funding dedicated to nursing care research, this requirement has been received with mixed reactions by the research community. In a survey conducted by the CNF in 2007, 30% of responding researchers felt the NCP's matching requirement was unreasonable. Some have expressed concern over the amount of effort needed to write multiple funding applications [20]. Research training – a traditional measure of capacity creation – has been noted by the CNF as one of NCP's objectives. Novice researchers, including graduate students and post-doctoral fellows, are eligible to apply as co-primary investigators or co-investigators for NCP funds. Furthermore, involvement of novice researchers on teams is favorably considered when evaluating

applications. It is interesting to note that despite this opportunity, applications submitted to the NCP in 2007 did not include any doctoral thesis projects [20]. Moreover, no information was available on the number of NCP projects that engaged novice researchers. This aspect of capacity-building may warrant further monitoring by the CNF.

#### 6.4.2 Objective 2 – Expansion of Research Output

The NCP has *enhanced research output* by striving for balance in its allocations across provinces and sectors. With strong emphasis on collaboration, the NCP has recruited “partner” agencies in every province to match NCP funds. Despite these efforts, in 2007, there was an absence of NCP-funded projects in New Brunswick, Nova Scotia and Manitoba [20] due in part to an absence of matched funds and few applications from these “under-resourced” regions. To date, projects focusing on acute care settings account for 39% of NCP funds [20]. Two-thirds of NCP-funded research teams have included researchers working in clinical settings, which is not surprising as the focus of the NCP is on clinical nursing research. In 2007, 78% of funding was allocated to interdisciplinary research teams that included a variety of team members from non-nursing disciplines including physicians (37%), allied health professionals i.e. physiotherapists, occupational therapists and social workers (25%), and others with expertise in sociology, information technology, pharmacy and a range of other disciplines [20]. Since it was established, the NCP Program has witnessed an increased diversity of disciplines engaged in NCP-funded projects.

#### 6.4.3 Objective 3 – Creation of Capacity to Use Research

The NCP has had limited success in *creating capacity for use of research*, in part because of a common challenge in identifying targeted strategies to support this Objective. The requirement for relevant administrators at researchers’ organizations to sign NCP applications forces decision maker awareness of the funded research and may encourage administrators to understand the research being pursued.

#### 6.4.4 Objective 4 – Expansion in the Actual Use of Research

The NCP has focused efforts on *enhancing the use of research*. This has included articles in the CNF newsletter and dissemination of research findings in journals that circulate broadly, e.g. *Canadian Nurse*. Insufficient data currently exist on the extent to which funded research is disseminated at conferences and through other communication channels. However, in an interview with Ms. Kathryn Hayward, Assistant Professor in the School of Nursing at Dalhousie University, an example of how her research was disseminated to and used by the community is provided (see Appendix I: Highlight on Kathryn Hayward, Recipient of NCP Funding) [21]. In the future, the NCP may consider dedicating funds to enhance knowledge translation and may make dissemination a funding requirement.

#### 6.4.5 Objective 5 – Link Between Research Supply and Research Use

The NCP has employed novel measures to *bridge the gap between researchers and research users*. A key focus has been the engagement of decision makers on research teams. To date, 27% of NCP-funded projects have decision makers identified as primary or co-primary investigators [20]. Such involvement in the application review process has arguably enhanced the relevance of funded projects to research users. The CNF has also established a consortium of nursing stakeholders to further the nursing research and innovation agenda. As this consortium matures, it may offer an excellent platform for researchers and users to share and intertwine their aspirations, objectives and approaches.

Delegated administration of the NCP to the CNF has proven successful; it has provided focused leadership for nursing care research while also bringing nurses from diverse clinical settings into the research realm. With demonstrated success in building and enhancing research capacity in its first five years, the NCP should now also place greater emphasis on disseminating research findings and ensuring uptake by decision makers.

## 6.5 PROGRAM AREA 4: KNOWLEDGE DISSEMINATION

In the original agreement, the NRF committed up to \$250,000 annually for Knowledge Dissemination activities [1]. A detailed list of these activities and their related costs is included in Appendix J. In general, Program area 4 (Knowledge Dissemination) has funded nursing-related policy synthesis reports and nursing knowledge networks. The two nursing-related policy synthesis reports (*Commitment and Care – 2001*; *Staffing for Safety – 2006*) are currently available on CHSRF's website [11]. Since 1999, three nursing-related knowledge networks have been established, although it is unclear who is involved and whether these networks are still active. The three networks are: the nursing human resources knowledge network; the nurse staffing and patient safety knowledge network; and the nursing leadership, organization, and policy nursing network. The other Knowledge Dissemination activities include funds for networking (Chairs and RTC meetings), conference/meeting and student travel support, various commissioned research projects, and miscellaneous grants (Health Institutes Design Grants and Communication Infrastructure Development Grant) [2]. The relevance of some of these knowledge dissemination activities (i.e. miscellaneous grants) for nursing research is unclear.

### 6.5.1 Objective 1 - Creation of Research Capacity

While the main purpose of Knowledge Dissemination activities is not focused on *creating research capacity*, some of the funded activities have indirectly helped to achieve this objective. The networking meetings of the Nursing Research Chairs and the RTCs have served as a forum for participants to exchange ideas and methods for the recruitment of nursing researchers. Also, some commissioned research has examined the current state of nursing research and mechanisms to establish a common voice for nursing researchers, thereby enhancing the capacity to conduct nursing research. Finally, the various conferences supported through the NRF have served as networking opportunities that motivate researchers and foster new collaborations.

### 6.5.2 Objective 2 – Expansion of Research Output

In a similar manner as mentioned in Section 4.5.1, the various NRF-funded knowledge dissemination activities have helped to *expand research output*. The Chair and RTC network meetings have served as venues to initiate research collaborations and exchange ideas. Similarly, the sponsored knowledge network meetings and conferences have also provided opportunities for researchers to share their findings and receive feedback. The database developed by the Canadian Association of Schools of Nursing (CASN) and funded by the NRF through this Program area has served as a useful tool to create awareness about funded nursing research in Canada, subsequently leading to possible new research ideas, proposals and collaborations. Finally, the policy synthesis reports have generated research ideas and are readily available to the nursing community through the CHSRF's website [12].

### 6.5.3 Objective 3 - Creation of Capacity to Use Research

The various funded knowledge dissemination activities have been successful in *creating the capacity to use research*. Policy decision makers are active participants in various knowledge network meetings and conferences. These forums help to expose decision makers to current

research, providing them with the ability to use research in their work environments. The CASN database also has the potential to provide a single source for decision makers to access and learn about Canadian nursing research [22]. However, access to the CASN appears to be currently restricted to administrative units of Schools of Nursing, and the database itself has limited data extraction tools. The CHSRF's website, which is readily available in the public domain, has direct links to several nursing-related policy synthesis reports [11]. Indeed, one of the stakeholders interviewed commented that she has accessed and used the nursing-related synthesis reports from the CHSRF's website. Moreover, the CHSRF's website also has direct links to several nursing research reports that have been funded through the NRF. These reports all include a section entitled Key Implications for Decision-Makers, which quickly summarizes key findings for readers, thereby enhancing the ability of the research to be understood and applied [11].

#### 6.5.4 Objective 4 - Expansion in the Actual Use of Research

It is difficult to assess how the various knowledge dissemination activities have contributed to an *expansion in the actual use of research*. Few decision makers were available to provide insight into specific examples where research was used as a direct result of the aforementioned activities. However, the CHSRF's 2003 Annual Report provides several examples of the impacts that the *Commitment and Care* policy synthesis has had on nursing environments [23]. For example, Mary Ferguson-Paré, chief nurse executive at the University Health Network, used the report to review and compare the performance of the Network.

The frequency by which publications were downloaded from the CHSRF's website may also provide indirect insight into whether the reports generated through the knowledge dissemination activities are used [11]. Indeed, the *Staffing for Safety: A Synthesis of the Evidence on Nurse Staffing and Patient Safety* policy synthesis report is one of the top 15 most downloaded publications on CHSRF's website.

#### 6.5.5 Objective 5 - Link Between Research Supply and Research Use

Program area 4 has been successful in creating a greater *alignment of research supply and research use*. The involvement of both nursing researchers and users of nursing research (i.e. decision makers and front-line workers) in knowledge network meetings and conferences offers an ideal opportunity for the mutual exchange of knowledge. The policy syntheses represent the optimal situation to overlap input from both research teams and advisory groups (consisting of researchers and decision makers), with the final deliverable being a report that can be used by all members of the nursing community. The reports also contain a preliminary page of "main messages" specifically geared towards decision makers.

## 7. OVERALL ASSESSMENT

Following extensive analyses of each Program area (Section 4), data were synthesized in order to compile a simplified visual depiction of the success of the NRF. The summative Evaluation Matrix in Table 3 represents this visual depiction, incorporating all of the findings generated from Section 4. From the onset, it was apparent that not all four Program areas were designed to target all five developed NRF Objectives. It was expected that Program areas 1 and 2 would target Objective 1, Program areas 3a and 3b would target Objective 2, and Program area 4 would target Objective 5. Indeed, each Program area was highly successful in meeting its target Objective. From a broad perspective, the original objectives of the NRF have largely been met through the associated Program area activities. However, no single Program area has fully met all five objectives, highlighting the importance of having

a wide range of activities affiliated with nursing research, and other avenues funded through the CHSRF endowment, by which to target these Objectives. Moreover, only Objective 5 was deemed “successful”, indicating that gaps remain in the nursing research community.

Table 3: Completed Evaluation Matrix

Objectives	Objective 1: To create research capacity	Objective 2: To enhance research output	Objective 3: To create capacity for research use	Objective 4: To enhance use of research	Objective 5: To link research supply & use
Programs					
Program area 1: Nursing Research Chairs	Successful	Successful	Some gaps remain	Some gaps remain	Some gaps remain
Program area 2: Training Awards	Successful	Successful	Some gaps remain	Some gaps remain	Some gaps remain
Program area 3a: Research Funding on Nursing Policy & Mgt.	Some gaps remain	Successful	Significant gaps remain	Some gaps remain	Some gaps remain
Program area 3b: Research Funding on Nursing Care	Successful	Successful	Significant gaps remain	Some gaps remain	Some gaps remain
Program area 4: Knowledge Dissemination	Some gaps remain	Some gaps remain	Some gaps remain	Some gaps remain	Some gaps remain

Successful
  Some gaps remain
  Significant gaps remain

**CHSRF Comment:** The Foundation would have found it helpful to know how the above assessments were made: by what criteria were the successes and gaps measured?

The Program areas that appear to have the most significant gaps are Program area 3a (Research Funding on Nursing Policy and Management) and Program area 4 (Knowledge Dissemination). Program area 3a was highly successful in outputting new research and in bridging the gap between researchers and decision makers through the requirement to include decision makers on all funding proposals. However, gaps remain in the other Objectives, with stakeholder feedback suggesting that challenges may have arisen when the Open Grants Competition was divided into the REISS and PHSI Awards in 2004. Several individuals suggested that the creation of the REISS Awards made it more difficult for less-established nursing researchers to receive funding, although it should be noted that the REISS competition actually includes a capacity-building requirement. Moreover, transfer of some of the funding to CIHR’s PHSI competition may have created the illusion of an obstacle, as many nursing researchers felt that nurses are often overlooked by CIHR. Although Program area 4 contains gaps in four out of the five Objectives, this was due to the relevance of this particular Program area in addressing those needs. The motivation behind Knowledge Dissemination activities was to transfer knowledge to decision makers. As such, it is expected that this Program area might be weaker in the objectives that focus on the *supply* of research (Objectives 1 and 2). However, this particular Program area is expected to be stronger in achieving the use of research (Objectives 3 and 4), suggesting that its activities should be further assessed and restructured in order to better meet these goals.

Some stakeholders felt that particular Program areas warranted special acknowledgement. First, several individuals commented that the CHSRF/CIHR Nursing Chair Awards (Program area 1) was a very successful Program area. However, there were some concerns over the

appropriateness of some of the recipients of the Nursing Research Chairs; some individuals felt that the Chairs should have been restricted to nurses who conduct research rather than including researchers who research nursing issues. Second, many individuals felt that clinical research topics should have received more funding. There was also limited awareness of Program area 3b (the Nursing Care Partnership Program), which a few individuals claimed was due to a lack of communication and transparency on the CHSRF's behalf.

The Objectives that have the most significant gaps are Objective 3 (to create capacity for use of research) and Objective 4 (to enhance use of research). There are two plausible reasons why gaps remain. First, it is very difficult to assess activities affiliated with these particular objectives given the limited timeframe assigned to this evaluation. Specific research studies funded through the NRF need to be identified and followed in order to assess the impacts that the findings may have had on the nursing community. With limited time to access decision makers and to evaluate the nursing environment prior to the inception of the NRF, it is difficult to accurately measure the attainment of these particular Objectives. Second, there appears to be an increased awareness of the NRF among the academic community rather than among decision makers and front-line workers. This is likely due to the fact that the CHSRF was the agency charged with administering the NRF, and researchers are more likely than decision makers to participate in CHSRF programs. As such, there was increased awareness of and participation in activities affiliated with the first two objectives (i.e. *supply* of research) rather than Objectives 3 and 4 (i.e. *use* of research). Moreover, the CHSRF itself has acknowledged that there is a need for enhanced receptor capacity in nursing research, claiming that most efforts in program development concentrate on “pushing” relevant evidence from researchers to decision makers, as opposed to decision makers “pulling” evidence from the research community [24].

Stakeholders were fairly consistent in recognizing that out of the five original Objectives, creating nursing research capacity (Objective 1), expanding research output (Objective 2), and bridging the gap between researchers and decision makers (Objective 5) were best met through the NRF. Several stakeholders acknowledged that since the inception of the NRF, there has been a significantly increased presence of nursing researchers applying to funding competitions. Many individuals commented that their approach to research has changed since their involvement with the NRF, in that they recognize the importance of including decision makers in all grant proposals.

Overall, one decision maker accurately summarized the successes and limitations of the Nursing Research Fund. In order to establish a strong program in Canadian nursing research, an exceptional cadre of researchers is needed to conduct this research. The NRF was essential in successfully developing this cadre of researchers, so that the shift towards the application and use of nursing research may now take place.

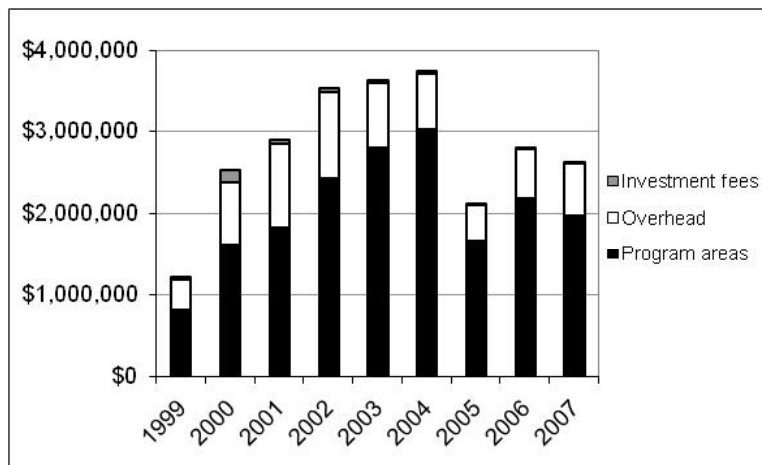
## **8. ADMINISTRATION OF THE NRF**

The CHSRF was assigned the responsibility by the Federal government to administer the \$25 million for the Nursing Research Fund (NRF). This Section describes how these monies were spent and whether the allocation of expenditures met the guidelines of the original agreement between the Federal government and the CHSRF (Section 8.1). Section 8.2 discusses the appropriateness of the CHSRF as the administering agent, according to the general opinion of the nursing community.

### 8.1 FUNDING ALLOCATION

The agreement with the Federal government specified an annual allocation of \$2.5 million for the four nursing-related Program areas. While the NRF was used to cover the direct costs of these Program areas, the fund also covered annual overhead costs (including CHSRF salaries) associated with the administration of these Programs. As well, the investment portfolio of the endowment included annual investment management fees and investment-related income. Figure 1 illustrates the annual breakdown of the total NRF expenses, including expenses related to Program areas, overhead costs and investment management fees. Note that the 2007 expenses are based on forecasts produced in December 2007 [10]. A tabular representation of these data, including investment income, is included in Appendix K.

Figure 1: Breakdown of Total NRF Expenses from 1999 to 2007



Over the existing course of the NRF, an average of 72.4% of NRF expenses were allocated to the four Program areas, while 25.8% and 1.8% of funds were associated with overhead costs and investment management fees, respectively. The proportion of NRF expenses used to cover overhead costs was surprisingly high and was more than three times greater than equivalent costs incurred by the CIHR expenditure at 6% of annual operational costs<sup>5</sup> [25]. Although this comparison is between a larger agency's overall finances and the expenditures of a specific fund (i.e. NRF) for a smaller organization, explanations for this disparity warrant consideration.

**CHSRF Comment:** The Foundation is not a granting council; its program delivery goes beyond the provision of a grant or award. From the beginning, the Foundation adopted a "value-added" staffing approach to program delivery, meaning that staff roles include working directly with health services researchers and decision makers to broker partnerships, arrange face-to-face meetings, and conduct environmental scans in content areas, as well as provide direct support for projects as needed. Much of this activity has been included in the report in the term "overhead" – which is problematic from the Foundation's perspective. Also, the formula and accounting processes for the overhead allocation to the NRF were developed for the Foundation by KPMG LLP, the Foundation's external auditors in 2003. This methodology consisted of taking the NRF's direct costs as a percentage of all Foundation

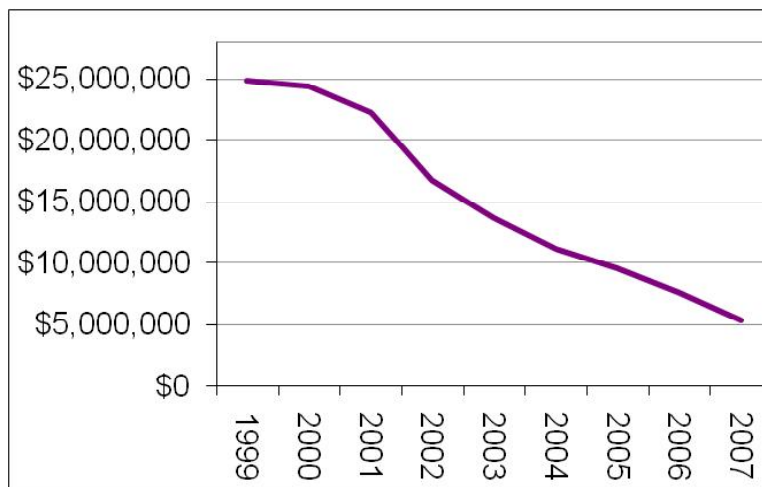
<sup>5</sup>Note that the detailed breakdown of CIHR overhead costs is undefined and used as a cursory example

direct costs (core endowment, NRF, and EXTRA) and multiplying this percentage by the total administration costs for the Foundation (finance, human resources, IT, governance, amortization, and others.). In 2007, the NRF overhead percentage cost was 12.75%. Over the course of the life of the NRF this percentage averaged about 21%; the variation year to year was a function of the total NRF costs as a portion of the total Foundation costs. In a benchmarking exercise conducted by the Foundation in 1999 of similar organizations, overhead costs ranged from 6–30%. The Foundation acknowledges that the methods and costs allocated to the NRF could have been more transparent and contestable over the life of the NRF. Nevertheless, overhead expenditures and allocations have been routinely reported, reviewed and accepted in all external audits of Foundation expenditures and programs since its inception.

Given the recent exposure draft issued by the Canadian Institute of Chartered Accountants on the allocation of overhead for not-for-profit organizations, the Foundation has taken steps to review its current cost allocation methodology for allocating overhead to the funds to ensure it is consistent with industry standards.

A more accurate representation of the amount remaining from the original NRF endowment of \$25 million can be accomplished by combining the original fund (\$25 million) with the generated investment income and subtracting the total expenditures (including program direct costs, overhead costs and investment management fees). As illustrated in Figure 2, the CHSRF remains on target with just over \$5,000,000 remaining in the NRF for the last two years (2008, 2009) of the agreement [10].

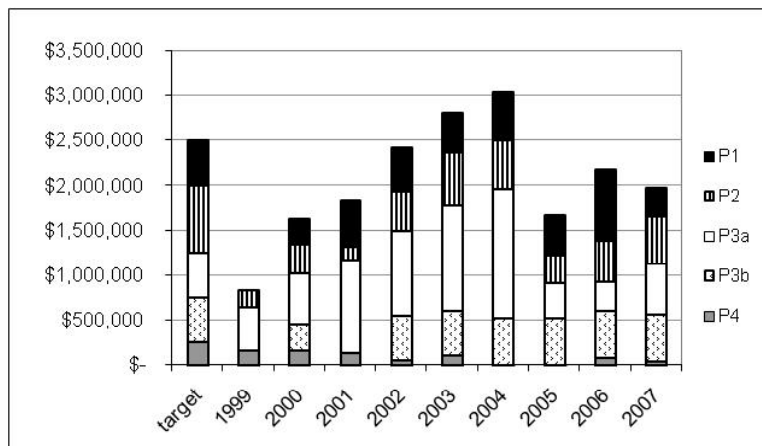
Figure 2: Trendline for the Outstanding Balance of the NRF from 1999 to 2007



As stated in Section 4, the federal government outlined four Program areas and the approximate annual allocation of NRF funds to each area. Of the annual allocation, 20% was to be spent on Nursing Research Chairs (Program area 1 – P1), 30% on Training Awards (P2), 20% on Research Funding for Nursing Policy and Management (P3a), 20% on Research Funding for Nursing Care (P3b), and 10% on Knowledge Dissemination (P4) [1]. Figure 3 reports this breakdown for the period 1999 to 2007<sup>6</sup> with the “target” allocation reported in the column on the left.

<sup>6</sup>These values were acquired from the Summary of Nursing Research Fund Expenditures and Activities between 1999–2006 with estimated figures for 2007 [10]

Figure 3: Breakdown of NRF Direct Expenditures by Program Area and Year



Although it appears that the NRF was under-spent in all years except 2003 and 2004, when overhead costs and investment income are included (Figures 1 and 2), the average annual allocation of funds from the NRF has been approximately \$3.0 million (i.e. higher than \$2.5 million due to the investment income generated by the fund). However, it should be noted that the proportionate allocations for both Training Awards (P2) and Knowledge Dissemination activities (P4) were under-achieved in every year, and almost all of the proportionate over-spending occurred in Research Funding for Nursing Policy and Management (P3a).

The precise allocation of funds *within* each Program area is unclear. For the Nursing Research Chairs (P1), six Chairs were fully (100%) supported and two Chairs were partially (50%) supported by the NRF. Even though the annual allocation of \$500,000 was spent on this Program area, it should be noted that the original agreement between the federal government and the CHSRF stipulated that only four Chairs would be supported [1].

**CHSRF Comment:** The CADRE program is co-funded by CIHR and CHSRF. In the above cases, the NRF contributed to the CHSRF portion; the Chairs noted above were 50% supported and 25% supported by the NRF, respectively.

In trying to decipher whether the recipients of both training awards (P2) and funded research grants (through P3a) were appropriate, the documentation is unclear. While one would expect that all recipients would exhibit a focus on nursing research, this is unclear from the CHSRF's website, annual reports, and other documents. For example, the 2006 Annual Report states that the NRF has been used to fund 40 Open Grants Competition projects and programs (P3a), but a complete breakdown of these 40 projects/programs is difficult to find [2]. Moreover, it is apparent that the CHSRF supplemented programs and activities relating to the Priority Theme *Nursing Leadership, Organization and Policy* (NLOP) from the Foundation's own endowment. As such, it is difficult to accurately assess the detailed expenditures of each Program area.

## 8.2 ROLE OF THE CHSRF AS THE ADMINISTRATING AGENT

Although insight into the appropriateness of the CHSRF as the administering agent for the NRF does not *directly* evaluate the NRF itself, it is essential to assess the efficacy of the administering agent in order to provide recommendations for a second phase of the NRF.

During the collection of qualitative data through stakeholder interviews, there were several conflicting stories regarding the origin of the NRF, the groups involved in lobbying for this fund, and various administrating agencies (such as the CIHR and the Canadian Nurses Foundation) to which the NRF might have been granted.

The majority of interviewed stakeholders stated their satisfaction with the CHSRF's management of the Fund. Several individuals commented that the mission of the CHSRF closely aligns with the motivation behind the NRF. It was also noted that the CHSRF was an appropriate choice because of its well-established infrastructure. The CHSRF was formed in 1997, and when the NRF was announced by the federal government in 1999, the CHSRF had already received an endowment from Health Canada to support applied research projects and programs in an annual Open Grants Competition [11]. Other stakeholders commented on the benefits of the CHSRF's multidisciplinary approach and mandate to establish links with decision makers. CHSRF has also been diligent with submitting annual reports to Health Canada, and have an updated, user-friendly website with several links to various research reports, policy syntheses, and knowledge transfer documents. However, several stakeholders did emphasize the lack of effective communication by the CHSRF as many researchers did not realize that their funding came from the NRF.

**CHSRF Comment:** As explained in more detail below, the NRF and Core endowment were combined and managed as a single fund in the initial years of the NRF until 2004. Allocations from the NRF were deliberately integrated within existing programs in research and knowledge transfer to avoid the creation of a nursing "silo" amongst Foundation programs. The Foundation concurs that the specific sources of funds for nursing-related grants and awards could have been more explicit and transparent from the outset. These details, for all awards, were specified clearly in the individual award letters instituted by the Foundation following the CADRE mid-term review.

Most stakeholders did not support the notion that the CIHR administer the NRF. Individuals commented that in 1999, interest in nursing research was only just beginning and would have been lost in a larger agency such as the CIHR. One individual mentioned the assistance she received from the CHSRF when trying to encourage her institution to relieve her of some of her teaching duties in order to focus on her post-doctoral research, which may not have happened with a larger agency. Comments were largely unsupportive of the NRF being given to the Canadian Nurses Foundation (CNF). Most stakeholders felt that in 1999 the CNF did not have the infrastructure to manage the funds, but it has since demonstrated its success in the management of the Nursing Care Partnership Program. While some individuals felt that the CNF has a narrow, nurse-centered focus to research, whereas the CHSRF acknowledges the benefits of developing interdisciplinary research teams, the Nursing Care Partnership Program has been successful in supporting teams with expertise in a broad range of disciplines and teams lead by both researchers and decision makers. Finally, because Quebec is not a member of the Canadian Nurses Association [7], which initially founded the CNF, individuals felt that the CNF may not facilitate a fair representation of Canadian nursing research unless the Ordre des infirmières et infirmiers du Québec was included.

It should be noted that although the Nursing Leadership, Organization and Policy (NLOP) theme situated nursing research as a priority for the Foundation, nursing research received greater support than the other three Foundation priority themes because of the NRF. For example, the REISS program, which funded research in all four priority theme areas, had a special provision for nursing research that allowed the NRF to be used as sponsorship funds, a privilege not provided to the other theme areas. This provision was also made in a funding partnership between CHSRF and the CIHR in the PHSI competition. This competition has included a nursing theme with co-sponsorship from the NRF, whereas the other priority themes do not.

**CHSRF Comment:** The above assessment does not include a discussion of the role of the Foundation's Nursing Committee – a committee of the Board of Trustees whose role was outlined in the original NRF agreement and which provides oversight and advice regarding

the NRF. The terms of reference and committee appointments are approved by the Board; membership includes three Trustees and three members at large from the wider nursing community. The Nursing Committee meets at least once a year, receives reports on all aspects of NRF-related activities, and provides policy and practical guidance for plans and activities supported by the NRF.

## 9. LIMITATIONS TO THIS EVALUATION

There is a range of limitations associated with this evaluation that warrant commentary. In order to truly define the “value added” attributable to the NRF, it is necessary to compare the advances made in nursing research with advances made in other areas of health services research. Evaluating how other research funds have been spent in other research areas would provide insight into whether the NRF was truly effective. However, given the limited timeframe of this evaluation, comparing nursing research to other research fields is beyond realistic scope. Similarly, evaluating the long-term impact of the NRF would provide significant insight into its true efficacy, but is obviously impossible given the timing of this evaluation.

The extensive integration of nursing activities throughout the CHSRF programs created difficulty in accurately assessing the impact of the NRF as a separate fund. For example, the Knowledge Brokering, Networks and Research Use programs are separate and distinct programs within the CHSRF. These programs do not receive funding from the NRF or focus on nursing research-related activities, yet they are heavily utilized by nurses. Through the creation of the NLOP theme, the Foundation prioritized nursing research activities across the Foundation. Foundation publications such as *Mythbusters*, *Links*, *Promising Practices* and *Evidence-Boost* also have frequently focused on nurses, nursing issues and nursing research. In addition, nurses and nurse issues are represented in the Executive Training for Research Application (EXTRA) program, which develops capacity and leadership to optimize the use of research evidence in managing healthcare organizations. These Foundation activities were not funded by the NRF.

**CHSRF Comment:** One of the positive impacts of the NRF was to establish Foundation support for nursing research and knowledge transfer activities more broadly. Those activities that were either supported in full or in part by the NRF were explicitly reported in the annual reports to Health Canada and in descriptive accounts on the Foundation’s web site. The absence of any precise baseline information about the existing nursing capacity in Canada prior to the establishment of the NRF is a primary limiting factor in assessing the value-added of the NRF.

It should be noted that several inconsistencies and information gaps were observed between subsequent years of financial records and Annual Reports. In particular, only certain sections of Annual Reports from 1999 to 2003 were made available to the evaluation team, and it was not initially clarified that the lack of information was due to different reporting requirements from 1999-2003 and after 2004. From 2003 onwards, summaries of expenditures and activities received from the CHSRF typically did not match subsequent annual reports. For example, the 2004 Annual Report claimed that 47 Open Grants Competition projects and programs were funded [26], while the 2005 and 2006 Annual Report both claimed that only 40 projects and programs were funded [27, 2]. Since a thorough audit was beyond the scope of this evaluation, the most recent financial report (up to 2006 with estimated figures for 2007) [10] and the 2006 Annual Report [2] were primarily used in this evaluation.

**CHSRF Comment:** The reporting requirements to Health Canada did change during the period of the NRF. Prior to 2003, the Foundation was not required to report the NRF as a separate fund. All Foundation activities and programs were reported as part of regular annual reports to government; that is, NRF activities were included in the usual annual financial statements as part of line expenditures only. When the Foundation entered into the funding agreement with Health Canada to implement the EXTRA program in March 2003, it was asked to separate out the expenditures related to the NRF from the Core Fund and report separately, as was established for the EXTRA Fund. The Foundation then restated its financial statements (for comparative purposes) into the new reporting methodology, and from then reported expenditures separately by Core, NRF and EXTRA Funds. Also in 2004, the projects component of the Open Grants Competition was transferred to CIHR, resulting in some discrepancies in the reporting of ongoing projects and programs in 2004. This has since been corrected in subsequent reports. It should be noted that since its inception, the Foundation has received clean financial audits every year on accounts and expenditures of all funds – including NRF, Core and EXTRA.

According to the original agreement between the federal government and the CHSRF, “*the CHSRF undertakes to...ensure that through the term of this funding, the NURSE fund is monitored in accordance with an evaluation plan developed during the first year of funding and will provide an information copy of any evaluations undertaken to the Minister of Health*”. As such, it was surprising to find the absence of an institutionalized and continuous evaluation process (and associated documentation) for the NRF.

**CHSRF Comment:** The Foundation agrees it would have been beneficial to plan and implement a formal evaluation over the life of the NRF – in addition to the annual cycle of audit and reporting to Health Canada. However, some monitoring activities were in place. For example, a large component of the NRF investment was subject to evaluation through the mid-term review of the CADRE chairs, training centres and postdoctoral awards. In addition, the Canadian Nurses Foundation conducted a separate evaluation of the Nursing Care Partnership in 2007.

## 10. CONCLUSIONS AND RECOMMENDATIONS

The Nursing Research Fund has largely been successful in meeting its target objectives through its associated Program areas. As one of the key nursing researchers concluded, “incredible strides have been made in nursing research” and “without the establishment of the NRF, the state of Canadian nursing research would be nowhere near its current state”.

As illustrated in Table 5, the NRF was most successful in creating research capacity (Objective 1), expanding nursing research (Objective 2), and bridging the gap between researchers and users of research (Objective 5). By contrast, the NRF was less successful in creating the capacity to use research (Objective 3) and expanding the use of this research (Objective 4). Priorities should be focused on the “use of research” rather than the “supply of research”. The “use of research” is also closely tied with Knowledge Dissemination (Program area 4), which was one of the least successful NRF Program areas. Thus, significant gaps remain in the potential and ability to transfer nursing research into useful and effective practice and policy decision-making.

**CHSRF Comment:** The original objectives for the NRF were essentially three-fold: to fund research, build capacity to conduct research on nursing and nursing-related issues (through the chairs and training programs) and disseminate knowledge. Although related to the latter objective, building capacity to use research and undertake linkage and exchange did not feature in the original objectives for this fund. The Foundation feels that the authors have adopted the Foundation’s more broad objectives as the basis for evaluating the NRF objectives. While research use is an important priority for future investment, it was not an appropriate metric to be applied to the use or outcomes of the NRF.

The CHSRF has been an appropriate and resourceful organization in the administration of the NRF. While some deficiencies in financial reports were observed, the limited timeframe of this evaluation prevented an extensive investigation that would help clarify some of the financial inconsistencies. If a second phase of the NRF were secured and if the CHSRF were maintained as its administrating agent, it is recommended that an internally structured evaluation process be initiated at the onset.

**CHSRF Comment:** The Foundation agrees that a commitment to a rigorous evaluation framework and process should have been established for the NRF from the outset, and is committed to implementing this for any similar fund in the future – as has already been put in place, for example, for the EXTRA program.

While the NRF was largely successful with the CHSRF playing a key role in this success, a brief review of the current state of nursing research must be made before detailed recommendations may be brought forth. Dr. Mary Ellen Jeans, President and CEO of Associated Medical Services, was commissioned by the CHSRF to conduct an extensive analysis on the current state of Canadian nursing research. According to her preliminary research [28], CIHR nursing-related funding (including awards and grants) has steadily increased between 2000 and 2005, but experienced a slight decline in 2006. Similarly, the amount of grant funding for nursing research from the Heart and Stroke Foundation increased between 1999 and 2003, but has since decreased. These trends suggest that although there was an initial drive towards increasing nursing research funds in organizations other than the CHSRF, the momentum has not continued.

The significant shortage of nursing faculty in Canadian universities is also highly relevant to the current state of nursing research, as faculty often do not have time to conduct research due to their extensive teaching loads. In a national survey of Canadian nursing programs, 60% of schools reported that they do not have sufficient faculty to teach and supervise students in clinical settings [29]. Indeed, nursing is one of the health-related subjects with the fewest full-time instructors with PhD degrees [30], as nursing faculty are often hired with a Master's degree or while still completing their doctoral degree [12]. Only 0.1% of all registered nurses in Canada report being educated at the doctoral level, and this has remained fairly stable for over a decade [31]. Moreover, as the majority of nursing faculty are in their 50s [32], there will soon be a significant wave of retirements and an influx of a stream of younger, less-established nursing researchers.

Therefore, given the relative success of the NRF and the current state of nursing research and faculty in Canada, a second phase of the Nursing Research Fund is recommended. The following specific recommendations represent the collective feedback from several of the nursing stakeholders:

- More training awards should be created at the junior level. Given the aging of the current nursing faculty complement, awards should be created that focus on “junior Chairs” and new investigators. While continuation of Post-Doctoral and Career Reorientation Awards is essential, awards should also be targeted at undergraduates to encourage nursing students to pursue graduate studies.

**CHSRF Comment:** The Foundation concurs that the task of building capacity at the junior and mid-career level for nursing faculty requires further investment. The 10-year CHSRF/CIHR CADRE agreement that funds and supports the nursing chairs, training centres and postdoctoral awards is due to begin winding down in 2011. (The 2009 call for postdoctoral applications under this agreement is the final call under this agreement.) There is a need for new forms of investment in capacity-building at this level to continue to respond to the shortage of nursing faculty across Canada.

- Dedicated funding should be established for smaller institutions (i.e. the University of Ontario Institute of Technology, Humber College, etc.) in order to establish research programs. Several stakeholders commented that well-established nursing researchers at well-established research institutions capture most of the existing funding.

**CHSRF Comment:** The issue of research capacity at the smaller universities and colleges that are highly involved in training nurses is an important piece to consider in any development of future NRF-type initiatives. As there has been established for training researchers at the individual level, perhaps a system of organizational mentorship between larger academic centres and smaller colleges could be promoted.

- More funds should be directed towards clinical nursing research. While many stakeholders claimed the CNF did not have the infrastructure to administer the NRF in 1999, the CNF has since proved to be an effective manager of the Nursing Care Partnership (NCP) program. As such, many stakeholders felt that if a second phase of the NRF is secured, the amount of funding should be increased for the NCP program.

**CHSRF Comment:** Decisions about the relative balance of future investments in clinical versus health services and policy research are difficult to make on the basis of the types of evidence collected in this evaluation. It would be difficult even with specific and detailed information about the relative need and potential benefits, given that the metrics for evaluating the relative “returns” are still very much in development. The Foundation supports continued investment in both areas and advises further consultation regarding this recommendation to come to a judgment about an appropriate balance of any future investment. It will be important to assess individual and institutional capacities for responding to further investment – particularly on the clinical side – as may be evidenced by recent trends in application pressure, for example, and the particular interests of smaller institutions as above.

- Several stakeholders commented that the initial duration of the NRF was short-sighted. Although capacity has grown in nursing research, the momentum has just begun and withdrawing support would be detrimental to the current progress. Stakeholders suggested that it is unreasonable to expect the nursing community to build research capacity and have that research flourish within a 10-year time span. In order to make a permanent difference to Canadian nursing research, a long-term commitment (i.e. 25-year vision) is essential for a second phase of the NRF.

**CHSRF Comment:** The findings of Coyte et al in this evaluation are consistent with another recently completed report on nursing research capacity in Canada (in press). The primary findings of interest to those working in the Canadian healthcare system and its users is that a continued investment in nursing capacity for research and research use is required to sustain and build upon the progress made to date – ultimately contributing to a more evidence-informed and high performing healthcare system of which nursing care and services are a core element.

Next steps being pursued by the Foundation:

- Prepare and implement a communication plan regarding the NRF evaluation, related reports, and the wind-down of the NRF as planned for March 31, 2009. The plan will include specification of the ongoing nursing and related commitments supported from Foundation funds.
- Fulfill final reporting requirements as per the agreement with Health Canada for all aspects of the NRF, including the CNF/NCP.
- Continue to promote participation from the nursing community in the Foundation’s research and research use programs and activities.

- Work with the nursing community and potential funders (including the federal government) to specify ongoing needs for capacity-building – in terms of the science, leadership, training, and evidence-informed decision-making – to keep nursing in Canada at a globally competitive level.

## 11. REFERENCES

1. Nurse Fund Agreement between the CHSRF and the Government of Canada, represented by the Minister of Health (March 31, 1999)
2. CHSRF 2006 Annual Report on the Nursing Research Fund
3. Alba DiCenso CHSRF/CIHR Chair 4<sup>th</sup> Year Evaluation Customized Review Report (2005)
4. Nancy Edwards CHSRF/CIHR Chair 4<sup>th</sup> Year Evaluation Customized Review Report (2004)
5. Linda O'Brien-Pallas CHSRF/CIHR Chair 4<sup>th</sup> Year Evaluation Customized Review Report (2005)
6. Nancy Edwards CHSRF/CIHR Chair 2006 Annual Report
7. Canadian Nurses Association website ([http://www.cna-nurses.ca/CNA/default\\_e.aspx](http://www.cna-nurses.ca/CNA/default_e.aspx))
8. American Academy of Nursing website (<http://www.aannet.org/news/2007/06292007.asp>)
9. Lesley Degner CHSRF/CIHR Chair 2006 Annual Report
10. Summary of Nursing Research Fund Expenditures and Activities Between 1999 – 2006 with Estimated Figures for 2007 (provided by Mr. Jacques Leduc, Director, Finance and Administration, CHSRF)
11. Canadian Health Services Research Foundation website ([http://www.chsrf.ca/home\\_e.php](http://www.chsrf.ca/home_e.php))
12. Bartfay WJ and Howse E. Who will teach the nurses of the future? *The Canadian Nurse*; Sept 2007; 103, 7; 24-28
13. Personal interview, Dr. Susan Jack (January 29, 2008)
14. CHSRF/CIHR Regional Training Centers 4<sup>th</sup> Year Evaluation Customized Review Report for the FERASI Centre (2006)
15. CHSRF/CIHR Regional Training Centers 4<sup>th</sup> Year Evaluation Customized Review Report for the Ontario Training Centre in Health Services and Policy Research (2006)
16. Personal interview, Dr. Manon Lemonde (January 30, 2008)
17. [www.health-evidence.ca](http://www.health-evidence.ca)
18. Personal interview, Dr. Josephine Etowa (February 27, 2008)
19. Summary of NRF Activities (1998-2003) (provided by Ms. Janet Helmer, Senior Program Officer, Nursing, CHSRF)
20. Nursing Care Partnership (NCP) Program 2007 Annual Report
21. Personal interview, Ms. Kathryn Hayward (January 29, 2008)
22. Canadian Association of Schools of Nursing (CASN) website, CASN Nursing Research Database (<http://www.casn.ca/content.php?doc=10&txwm=true>)
23. CHSRF 2003 Annual Report: Nursing, Evidence and the System
24. Ellis J. (2007) *Building Capacity for Nursing Research in Canada: Is it enough?* In: Nursing and Midwifery Links. Official Publication of the Global Network of WHO Collaborating Centres for Nursing and Midwifery Development

25. CIHR 2006-2007 Annual Report (<http://www.cihr-irsc.gc.ca/e/34766.html>)
26. CHSRF 2004 Annual Report on the Nursing Research Fund
27. CHSRF 2005 Annual Report on the Nursing Research Fund
28. PowerPoint presentation by Dr. Mary Ellen Jeans: *An Analysis of the Current State of Nursing Research in Canada and the Development of a Framework for Building Nursing Research Capacity* (Accessed December 2007)
29. Pringle D, Green L and Johnson E. (2004) *Nursing education in Canada: Historical review and current capacity*. Ottawa, ON: Nursing Sector Study Corporation
30. Statistics Canada (2007). *Educating health workers: A statistical portrait* (p.11) Ottawa: Author.
31. Canadian Nurses Association and Canadian Association of Schools of Nursing (2006). *The national student and faculty survey of Canadian schools of nursing 2004-2005*
32. Canadian Nurses Association and Canadian Association of Schools of Nursing (2007). *Nursing Education in Canada Statistics 2005-2006*