

Happenings

Taking Stock: The First Decade of the Nursing Research Fund

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As the scope of the nursing profession evolves and as health-care systems worldwide feel the strain of a limited supply of nurses, nursing research is being recognized as an under-explored area of health research. In Canada, nursing research has historically been sparsely and inconsistently funded by national and provincial governments. In 1999, under mounting pressure from nursing leaders across Canada to address the dearth of nursing research evidence, the federal government established the Nursing Research Fund (NRF). The Canadian Health Services Research Foundation (CHSRF), an independent funding organization established by the government, was tasked with administering the \$25-million NRF over 10 years.

The goals of the NRF were “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” (Government of Canada, 1999). These goals align with the five objectives of the CHSRF’s mission (CHSRF, 2007a):

1. Increase the capacity for nursing researchers and nursing-related research.
2. Create new nursing knowledge that is useful for health-service managers and policy-makers.
3. Increase the ability of health-service managers and policy-makers to access and use relevant research.
4. Help health-service managers, policy-makers, and their organizations to routinely apply relevant research in their work.
5. Bridge the gap between nursing researchers and decision-makers.

The NRF was initially set up to support the following programs (Government of Canada, 1999) (the annual target funding allocations are shown in parentheses):

1. Nursing Research Chairs (\$500,000).
2. Training Awards (\$750,000), including career reorientation awards, postdoctoral fellowships, and other student awards, through Regional Training Centres (RTCs).
3. Research Funding for (a) nursing policy and management (\$500,000), through the CHSRF's existing competitions; and (b) nursing care issues (\$500,000), through the Canadian Nurses Foundation's Nursing Care Partnership (NCP) program.
4. Knowledge Dissemination activities (\$250,000).

In this article we present an evaluation of the NRF. With approximately 1 year remaining in the NRF's timeframe, the evaluation assesses whether its objectives have been met and whether there is a need for continued targeted investment in nursing research in Canada.

Methods

Both quantitative and qualitative data were collected in order to identify all expenditures and activities supported by the NRF. Quantitative data, mainly in the form of annual reports, financial reports, and the review reports from each nursing chair, were provided by the CHSRF. Qualitative data were collected through interviews with stakeholders in the nursing community. Interviewees were recruited through a purposive sampling approach, with nurses being selected based on their association with the NRF and/or the nursing research community. Based on available financial resources and project timelines, 36 stakeholders were approached for interviewing, and 23 interviews were ultimately conducted, for a response rate of 64%.

The adequacy of each NRF program was assessed in terms of its contributions to the achievement of the five NRF objectives. The assessment was used to populate an evaluation matrix (Figure 1), with the columns representing the five objectives and the rows representing the four NRF programs implemented by the CHSRF. The evaluation also assessed the CHSRF's financial administration of the NRF.

The Nursing Research Chairs provided us with written permission to access their annual reports. An ethics proposal was submitted to the Office of Research Ethics at the University of Toronto for qualitative data collection (i.e., stakeholder interviews). Since the proposal was considered a program evaluation, it was exempt from ethics review.

Figure 1 *Evaluation Matrix*

Programs	Objective 1 Create research capacity	Objective 2 Enhance research output	Objective 3 Create capacity for research use	Objective 4 Enhance research use	Objective 5 Link research supply and use
P1: Nursing Research Chairs					
P2: Training Awards					
P3a: Research Funding for nursing policy and management					
P3b: Research Funding for nursing care issues					
P4: Knowledge Dissemination					

Successful
 Some gaps remain
 Significant gaps remain

Results

Activities Associated with NRF Programs

The NRF supports a variety of activities as part of its four programs. Table 1 summarizes the target and actual funding for each program, as well as major outputs associated with each. To date, the NRF has been used to support six Nursing Research Chairs and two nursing-related chairs (CHSRF, 2007a). These chairs have formed the basis for mentorship of applied health-services researchers, the establishment of a dedicated research program, and several opportunities for alignment and overlap of researchers and decision-makers. As part of its Training Awards program, the NRF has funded joint training awards, career reorientation awards, and postdoctoral awards, as well as graduate-level awards through the three nursing-related RTCs: the FERASI Centre in Quebec, the

Table 1 *NRF Programs and Outputs*

Program	Annual Funding		Outputs
	Target	Actual (average ^a \pm SD ^b)	
P1: Nursing Research Chairs	\$500,000	\$426,597 \pm 68,582	<ul style="list-style-type: none"> – 6 Nursing Research Chairs, 2 nursing-related chairs – supervision of numerous interns, doctoral and master's students, postdoctoral fellows, and junior faculty – development of initiatives such as annual summer research internships and applied research apprenticeships – involvement of decision-maker partners (student thesis committees, guest lectures, research seminars, workshops)
P2: Training Awards	\$750,000	\$387,875 \pm 50,123	<ul style="list-style-type: none"> – 23 joint training awards – 4 career reorientation awards – 21 postdoctoral awards – 3 RTCs – 1 RTC development grant
P3a: Research Funding for nursing policy and management	\$500,000	\$767,966 \pm 123,457	<ul style="list-style-type: none"> – 47 open-grants competition awards – 10 REISS^c Competition Development Fund awards – 4 REISS awards – 2 PHIS^d awards (through CIHR) – 1 training grant – 9 letter-of-intent preparation grants

P3b: Research Funding for nursing care issues (NCP program)	\$500,000	\$486,464 ± 22,665	<ul style="list-style-type: none"> – 98.5% of the \$2.255 million received from CHSRF in 2003–07 was spent on nursing care research projects – since 2003, NCP has leveraged over \$4.6 million from partner organizations – 27% of projects funded have a decision-maker as primary or co-primary investigator
P4: Knowledge Dissemination	\$250,000	\$82,904 ± 19,852	<ul style="list-style-type: none"> – networking (chairs and RTC meetings) – 2 nursing policy syntheses: Commitment and Care (2001) and Staffing for Safety (2006) – 1 Health Institutes Design Grant (1999) – 2 communication infrastructure development grants (1999, 2001) – 1 network infrastructure needs assessment (2003–04)

^a Average expenses are based on direct program expenditures between 1999 and 2007.

^b 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).

^c Research, Exchange, and Impact for System Support.

^d Partnerships for Health System Improvement.

Ontario Training Centre in Health Services and Policy Research (OTC), and the Centre for Knowledge Transfer in Alberta. Annually, the largest portion of NRF funding targets research projects and programs covering a broad range of nursing topics. Approximately half of the funding targets research on nursing policy and management issues and the other half targets clinical nursing research through the NCP program (Government of Canada, 1999).¹ Finally, the NRF supports a variety of knowledge dissemination initiatives such as policy syntheses and knowledge networks.

Evaluation Matrix

Analyses of each program were synthesized in an evaluation matrix (Figure 1), which summarizes the output of the NRF. No single program has fully met all five objectives; this highlights the importance of having a wide range of activities in order to build nursing research capacity.

Objective 1: Building of Research Capacity

The NRF has been successful in creating new capacity for nursing research. The Nursing Research Chairs program (P1) has created capacity through the chairs' supervision of numerous graduate students (doctoral, master's) and mentorship of junior faculty and postdoctoral fellows. Training Awards (P2) for career reorientation, allowing mid-career researchers from other disciplines to redirect their expertise to nursing research, and postdoctoral awards for new tenure track faculty, have also contributed to capacity-building. By 2006, two of the RTCs supported by the NRF had recruited 64 doctoral and 89 master's students (FERASI Centre, 2006; Ontario Training Centre in Health Services and Policy Research [OTC], 2006).

Objective 2: Expansion of Research Output

The NRF has been highly successful in increasing the output of nursing research. An exceptional number of publications and conference presentations have been generated through the Nursing Research Chairs program (P1). NRF research grants (P3a and P3b) have enabled a large volume of nursing research. By the end of 2006, the NRF had been used to wholly or partially fund 47 projects and programs through the CHSRF's Open Grants Competition, more than 20 special project grants and awards, and two Research, Exchange, and Impact for System Support (REISS) competition programs (CHSRF, 2007a). In addition, over the past 5 years the NCP program (P3b) has committed more than \$2.2 million to clinical nursing research projects while leveraging over

¹ Administration of the NCP that funds clinical nursing research projects has been delegated to a separate organization, the Canadian Nurses Foundation.

\$4.6 million in matched funding from hospitals, charities, research institutes, and other organizations (Canadian Nurses Foundation [CNF], 2007).

Objective 3: Creation of Capacity for Research Utilization

The NRF has been moderately successful in achieving objective 3 relative to its other objectives. The engagement of decision-makers by the Nursing Research Chairs in research seminars, workshops, and student thesis committees increases the ability of decision-makers to understand and apply research findings. Policy internships and research apprenticeships offered by some chairs directly expose decision-makers to research, allowing them to use this knowledge in their home organizations (DiCenso et al., 2005; O'Brien-Pallas et al., 2005). The RTCs also actively expose decision-makers to research-oriented graduate students, which results in the hiring of these graduates by decision-making organizations such as Health Canada, the Association of Ontario Health Centres, and the Ontario Ministry of Health and Long-Term Care (FERASI Centre, 2006; OTC, 2006). Increasingly, the engagement of decision-makers on research teams is a requirement for project funding through P3 of the NRF. This requirement engages research users from the inception of the research and arguably increases the relevance of the findings for decision-makers.

Objective 4: Increase the Use of Research

All NRF programs have contributed to the moderate success of objective 4. The Nursing Research Chairs (P1) have demonstrated some success in increasing the use of nursing research — for example, by having their research used to inform national activities in health human resource planning (O'Brien-Pallas et al., 2005) and being called upon to shape a licensing examination for acute-care nurse practitioners (DiCenso et al., 2005). Holders of postdoctoral awards (P2) have also demonstrated success in *increasing the use of research*. One decision-maker partner proclaimed that, before the placement of a postdoctoral fellow there, her organization was essentially “an evidence-free zone.” Another decision-maker partner claimed that her agency had been simply a “data miner” and that information was transferred into useful knowledge largely through the initiative of the postdoctoral fellow. The RTCs have increased the use of research through networking activities and interactions between researchers and decision-makers — for example, through the requirement that graduate students complete a policy practicum (OTC, 2006). Through P3a and P3b, the NRF has funded a number of special projects and commissioned reports on issues of relevance for

policy-makers. Examples include studies on nurse staffing and patient safety and a review of issues affecting nursing human resources.

Objective 5: Link between Research Supply and Research Use

All four programs have been highly successful in achieving the NRF's fifth objective. The Nursing Research Chairs (P1) have involved decision-makers in research seminars, symposiums, and workshops. Several of the chairs have also invited decision-makers to sit on student thesis committees and assist in identifying research topics, as well as to play direct supervisory roles through policy internships. 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. All three types of training award (joint training, career reorientation, and postdoctoral) in P2 require award-holders to have a decision-maker partner involved in their research. The RTCs have also been instrumental in linking research supply and research use. The twinning of doctoral students with decision-makers throughout their 4-year research residency (FERASI Centre) and graduate student field placements (policy practica; the OTC) have resulted in a constant exchange of ideas and knowledge. Also, both the FERASI Centre and the OTC have decision-makers on their governance bodies and advisory boards (FERASI Centre, 2006; OTC, 2006). The Partnerships for Health System Improvement administered by the Canadian Institutes of Health Research (CIHR) as part of P3 is designed to support research that is relevant for health-system managers and policy-makers. The requirement that decision-makers be included in REISS and NCP proposals has established strong links between research suppliers and users, fostering ongoing collaboration (CNE, 2007). Finally, P4 has demonstrated success in *bridging the gap between researchers and users*. The participation of both researchers and users of nursing research (i.e., decision-makers and front-line workers) in knowledge network meetings and conferences facilitates knowledge exchange. The policy syntheses facilitate the overlap of input by both research teams and advisory groups (consisting of researchers and decision-makers), the final result being a report that can be used by all members of the nursing community.

Financial Administration of the NRF

The government appointed the CHSRF to administer the \$25-million NRF. This program evaluation has assessed how the monies have been spent and whether the NRF programs have met the targets set out in the original agreement between the government and the CHSRF.

While the NRF has been used to cover the direct costs associated with the programs, it has also covered annual overhead costs such as

CHSRF salaries related to the administration of the programs. The investment portfolio of the NRF has included annual investment management fees and investment-related income. Excluding the start-up year (1999), the average annual breakdown of all NRF funds has been just under \$3 million (CHSRF, 2007b). Over the course of the decade, an average of 72.4% of NRF funds has been allocated to the four programs, while 25.8% and 1.8% have been associated with overhead costs and investment management fees, respectively.

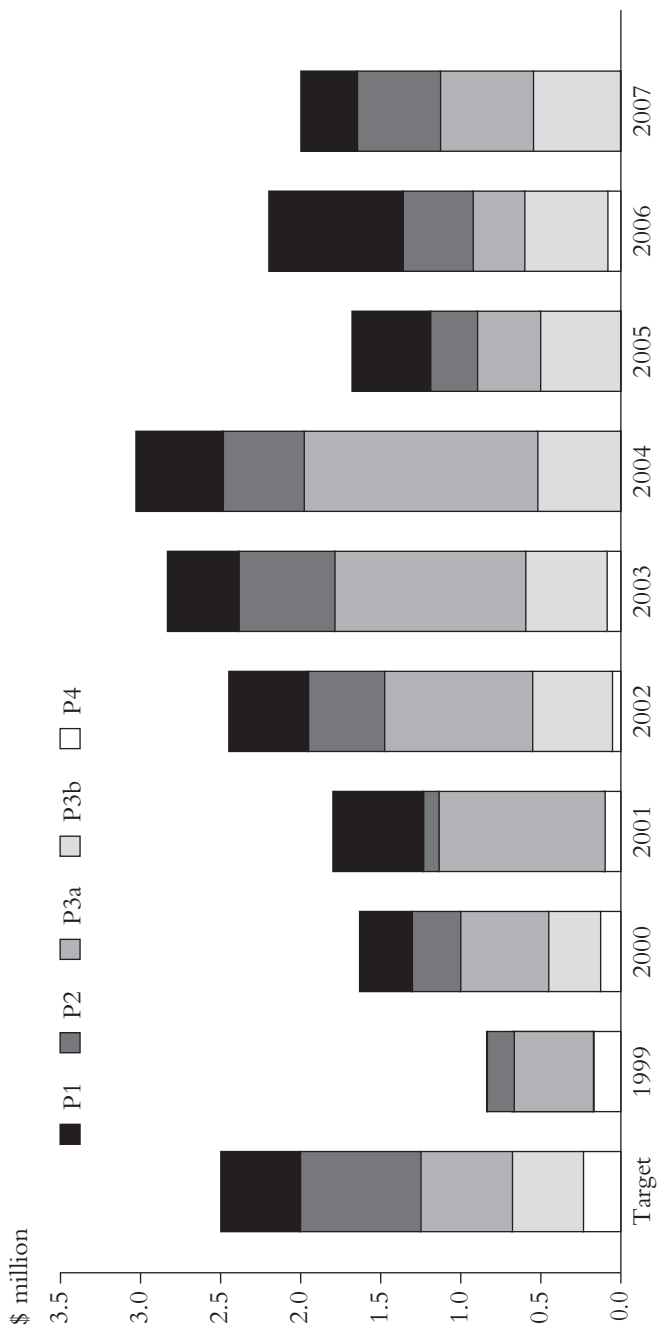
The amount remaining in the original NRF endowment can be more accurately calculated by combining the endowment (\$25 million) and the generated investment income and then subtracting the total expenditure (including program direct costs, overhead costs, and investment management fees). This reveals that the CHSRF is indeed on target, with just over \$5 million remaining for the final 2 years (2008 and 2009) of the agreement (CHSRF, 2007b).

Figure 2 breaks down the annual allocation of approximately \$2.5 million among the various programs for the period 1999 to 2006 (with estimated figures for 2007) (CHSRF, 2007b), with the target allocation reported in the leftmost column. Although it appears that the NRF has been under-spent in all years except 2003 and 2004, for which overhead costs and investment income are included, the average annual allocation of NRF funds has been within the target range of \$2.5 million.

Discussion

The NRF has been most successful in building research capacity (objective 1), increasing nursing research output (objective 2), and bridging the gap between researchers and users of research (objective 5). The objectives with the widest gaps are building utilization capacity (objective 3) and increasing utilization (objective 4). There are two plausible reasons why gaps remain. First, it is very difficult to assess activities associated with these particular objectives given the small timeframe allotted to this evaluation. Specific research projects funded through the NRF need to be followed before the impact of the findings on the nursing community can be assessed. Without sufficient time to access decision-makers and evaluate the nursing environment prior to the inception of the NRF, it is difficult to accurately measure the achievement of these objectives. Second, awareness of the NRF appears to be greater within the academic community than among decision-makers and nurses in the field. This is likely due to the fact that the CHSRF is the administering agency, and researchers are more likely than decision-makers to participate in CHSRF programs. There has been more awareness of and participation in activities associated with objectives 1 and 2 (i.e., *supply of*

Figure 2 NRF Direct Expenditures by Program and Year



research) than those associated with objectives 3 and 4 (i.e., *use of research*). The CHSRF itself has acknowledged that there is a need for enhanced receptor capacity in nursing research, claiming that most efforts in program development are concentrated on “pushing” relevant evidence from researchers to decision-makers, as opposed to decision-makers “pulling” evidence from the research community (Ellis, 2007). Still, the CHSRF has also contributed significantly to nursing research from its own endowment, which has helped in the achievement of these more elusive objectives.

Limitations

Limitations of this evaluation should be noted. Information gaps were observed between financial records and annual reports. For the years 1999 to 2003, only certain sections of annual reports were made available to the evaluation team. From 2003 onwards, summaries of expenditures and activities received from the CHSRF typically did not match the reports. As well, this evaluation was limited in its ability to truly define the value added by the NRF vis-à-vis other research investments. Evaluation of how research funds have been spent in other research areas would provide insight into whether the NRF has been effective relative to other funding sources. However, given the small timeframe, comparison of nursing research investments and outcomes with those in other research fields was beyond the scope of this evaluation.

Conclusion and Recommendations

The Nursing Research Fund has been largely successful in meeting its objectives through a variety of programs. Gaps remain in transferring nursing research to useful and effective practice and policy-making. A review of the state of nursing research currently underway (Jeans, 2007) shows that funding for nursing-related research in Canada by organizations other than the CHSRF was on the rise between 2000 and 2005 but is now on the decline. This suggests that although there was an initial drive to increase nursing research funding from organizations other than the CHSRF, the momentum has been lost. The shortage of nursing faculty in Canadian universities is also a consideration, as nursing professors often do not have the time to conduct research due to their heavy teaching loads. In a national survey of Canadian nursing programs, 60% of schools reported that they did not have sufficient faculty to teach and supervise students in clinical settings (Pringle, Green, & Johnson, 2004). Given the relative success of the NRF, the current state of nursing research, and the shortage of nursing researchers in Canada, continued funding for research, perhaps in the form of a second phase of the NRF,

is recommended. Nursing stakeholders interviewed as part of this evaluation had varying perspectives on relevant topics for the next phase of the NRF. Stakeholder engagement in the setting of priorities is warranted if the Canadian government renews its investment in nursing research.

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