Transforming Nursing Practices in Canada:
A Case Study of the Ottawa Hospital Model

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EXECUTIVE SUMMARY

As part of the 2002 Open Grants Competition, the Canadian Health Services Research Foundation (CHSRF) funded a research project entitled *Adopting a common nursing practice model across a recently-merged multi-site hospital*. The funded research project tracked the implementation of a comprehensive model of clinical nursing practice throughout the Ottawa Hospital known as the Ottawa Model of Nursing Clinical Practice (MoNCP®). This report briefly explores the development of the MoNCP® and the research project that tracked its implementation. It also attempts to explore the role of this research project in informing ongoing changes in the delivery of nursing services in Canada and abroad.
INTRODUCTION

Re-jigging the way 4,000 nurses work in Canada’s largest health sciences complex was a challenge driven by necessity when the Ontario government ordered the amalgamation of three large Ottawa hospitals and several associated treatment centres into one large entity – The Ottawa Hospital (TOH). But did it provide lessons for the broader delivery of healthcare services in the country?

This question resonated with Ginette Lemire Rodger, RN, MScN, PhD. She had returned to Ottawa in 1999, after completing doctoral studies at the University of Alberta, with a mandate to re-engineer nursing services at TOH. Given her academic background, she was receptive to a proposal from Michael Kerr, an epidemiologist at the University of Western Ontario and assistant professor at the School of Nursing.

Dr. Kerr suggested tracking and evaluating in a documented research project the process Dr. Rodgers, as Chief of Nursing, was undertaking to introduce a new, comprehensive model of nursing clinical practice throughout the new hospital. Such a project would enable organizations wishing to modify or duplicate the model to make evidence-based decisions on how to proceed. The result was research project RCI-0858-06, Adopting a common nursing practice model across a recently-merged multi-site hospital, under the Canadian Health Services Research Foundation 2002 Open Grants Competition. The project also received financial support from the Ontario Ministry of Health and Long-Term Care and The Change Foundation.

This report briefly explores the development of the Ottawa Model of Nursing Clinical Practice (MoNCP©) and the research project that tracked its implementation. However, it also reaches beyond the original research, with its sometimes limited numbers and unexplained contradictions, to explore the model’s impact on the delivery of nursing services in Canada and abroad. It is possible, in fact, to trace a thread from the original research project to the implementation of new nursing models in many of the leading hospital complexes in Canada as well as regional healthcare systems in Saskatchewan and Newfoundland and the international arena.
THE NEW MODEL

Nursing models refer to the ways nursing services are organized and delivered and by whom. When the Ottawa hospitals were merged in 1998, there were approximately 4,000 nurses, including registered nurses (RNs), registered practical nurses (RPNs) and unregulated care providers, delivering clinical services in 120 administrative units under five different models – Case Management, Functional Nursing, Primary Nursing, Team Nursing and Total Patient Care.¹

When TOH management began addressing the situation, nurses from all practice domains identified the need for a single model of clinical nursing practice to ensure efficient and effective nursing care. It was argued that a standard model would facilitate the integration of nurses in their workplace, help create a stronger corporate culture, facilitate mobility between clinical areas, articulate nursing values and facilitate collaboration with other healthcare professionals.

Dr. Rodger (now Senior Vice President Professional Practice and Chief Nursing Executive) involved a committee of 100 senior nurses in developing the model. The resulting approach was based on principles including autonomy and accountability for nurses; the abolition of the position of head nurse or team leader, with individual nurses dealing directly with physicians and other healthcare professionals on behalf of their patients; nurse-patient continuity during a patient's stay in hospital; greater involvement of patients' families in care decisions; and the creation of a clinical practice expert position to provide advice and support to less-experienced nurses. The model did not impose a "cookie-cutter" approach, but provided nurses with the support to apply these principles in their individual units.

The model was based on the well-established theory that "practice environments that promote nurses' autonomy, accountability and strong interdisciplinary teamwork lead to better patient outcomes and improved nurses' satisfaction."² It was also expected that the new model would positively affect the professional practice environment through reduced work stress, which would, in turn, lead to better nurse well-being.

As Wendy Pearson, local coordinator for the Ontario Nurses Association at the time of implementation, wrote in a letter supporting the Kerr/Rodger research proposal, "In this day of constant stress, a move toward the kind of workplace stability potentially afforded from a single Model of Care is a welcome change."
THE RESEARCH PROJECT

The research project examined the hypotheses that implementation of the MoNCP© would result in caregivers who were 1) more challenged, more independent, more respected, and more effectively deployed (and therefore less stressed), healthier and more satisfied in their work and 2) able to deliver better patient care with better patient outcomes and higher patient satisfaction. The research also examined the hypothesis that downstream benefits would include less burnout, fewer missed shifts, better educational opportunities, higher retention rates, enhanced recruitment and lower vacancy rates. The evidence from this project, said Dr. Kerr and Dr. Rodger in their grant application, would help “other organizations… benefit from the pioneering work being carried out at TOH.”

Recognizing the opportunity for a unique “natural experiment” arising from the implementation of the new nursing model, the researchers proposed a three-year longitudinal evaluation (no similar longitudinal panel study had been attempted in Canada before) with special emphasis on the model’s potential impact on nurse well-being, organizational climate and the quality of patient care. The project included three surveys over 36 months: a baseline survey before implementation and 12 and 24 months after implementation. The study used standardized questionnaires probing nurse stress, health, job satisfaction and organizational climate, supplemented with specific questions about the MoNCP©. Patient surveys and focus groups involving nurses and other healthcare professionals were also part of the research.

As it turned out, the rollout of the new model was delayed and the model was implemented in some units before baseline surveys were completed. Follow-ups stretched out over three years. Scheduling also proved a problem for the focus groups, especially for those involving interrelated health professionals, and no physicians participated.

In the end, the investigators surveyed far fewer nurses than planned. Patient surveys revealed primarily that patients at TOH tend to be an appreciative lot, assessing their care above the 90% satisfaction level both before and after the implementation of the new model, with no statistically significant differences. (Changes in the quality of care could have been measured using a selection of patient clinical outcomes, such as patient hospital days, early readmission after discharge, emergency department admissions or decreased costs, but that would have required an additional line of research for which the team did not have the resources.)

The results of those first surveys and focus groups were modest. On the standardized questions, one year after implementation, the results showed small but statistically significant improvements in four of seven parameters of nurses’ well-being. As the investigators concluded, “While some statistically significant improvements were noted, the markers of nurse health and well-being were not strongly affected by the introduction of the new model.” This was an important finding, given that it contradicted the suggestion in the professional literature that organizational change in the form of a new nursing model could not be implemented without creating negative impacts on nurses’ stress levels, health and well-being.
On organizational outcomes, such as nurse-MD relations, nurse autonomy, nurse control over practice, organizational support, safety climate and organizational justice, the nurses indicated statistically significant improvements between baseline and year one.

In the survey at the end of year two, the differences with the baseline survey had almost disappeared. By this time, however, so many nurses had dropped out of the survey panel that there weren’t enough respondents for meaningful statistical analysis. Even so, reported levels of burnout, and nurse health/absenteeism remained below baseline while assessments of safety climate and organizational justice remained above baseline.

The researchers noted, but could not explain, an apparent disconnect between nurses’ responses to the standardized questions about practice scope and work environments, which generally showed an improvement over time, and the nurses’ specific views on the impact of the new model which did not show this same improvement.

Asked about the impact of the new model on their unit after one year, 12.1% said it was better or much better while 22.3% (almost twice as many) said it was worse or much worse. Two-thirds of respondents (65.7%) were neutral. With respect to job satisfaction, 10.5% said it was better or much better, while 18.1% said worse or much worse; 71.4% were neutral.

These results could be interpreted in different ways: critics of the new model could say the negatives outweighed the positives, while enthusiasts could say that 80% of the nurses said it was as good as or better than what it replaced. Similar divergent interpretations are possible for the job satisfaction questions.

Some of the focus group observations seemed to be inconsistent with the survey results – some responses suggested that nurses’ concerns about workload issues may have outweighed factors directly related to the new model. There are also substantial differences between the assessments of the impact of the new model by nurses and the assessments made by other healthcare professionals. The investigators did not fully analyze or explain these differences in their final report. Dr. Kerr’s view is that there may have been other variables at work, such as changes in managers or work load that were independent of the implementation of the model. Further analysis, drilling down to the unit level, may be required. Dr. Rodger’s view is that the nurses are better off under the new model, even if they do not always realize or verbalize it.

**LINKAGE AND FOLLOW UP**

Despite the modest impacts of the new nursing model as revealed by the research, the investigators nevertheless maintain that the particulars of TOH experience can be applied to Canadian nursing in general: “Studies that develop and test a framework for evaluating the impact of major workplace changes, such as the introduction of a new clinical nursing practice model, can be of direct benefit to managers and policy-makers trying to meet the challenge of the complex health human resources issue.”
Indeed, Dr. Rodger has used the original research as a springboard for the extensive follow-up and changes in Canadian nursing practice that she has spearheaded well beyond the confines of TOH. The research results – nine statistically significant positives on thirteen metrics relating to nurses and organizational outcomes on the standardized surveys plus sentiments expressed in the focus groups – provided the credibility for Dr. Rodger and her team to continue to develop and promote the model.

For a more holistic and longer-term assessment of the model than is possible from the original Kerr/Rodger data, it is necessary to supplement the initial surveys with follow-up and broader studies, with most of the data coming from ongoing monitoring activities of TOH.

The CHSRF-sponsored research covered approximately three years, from 2003 to 2006. Factors that play heavily in the longer-term assessment of a nursing model include its impact on recruitment and retention, which are also linked to nurse satisfaction. To measure these, it is necessary to expand the time horizon. Adding other and more recent surveys at TOH, the combined research shows that from 2002 to 2008:

- nursing satisfaction has increased 18%
- nurse vacancy rate declined from 13% in 2002 to 5.9% in 2008 (it was down to 2.1% prior to opening of additional beds)
- nurse turnover rate decreased from 10% in 2002 to 5.7 % in 2008
- nurses are working longer, with the average age of retirement increasing from 60 to 61
- interest in continuing education, publications and presentations and leadership development have all increased.

Dr. Rodger attributes much of this success to the new nursing model. “Nurses want to have more control over their work environment, they want to have full-time positions, and they want to be supported in their continuing education. So if they have that and an environment that allows them to run their show, we will attract them and we will keep them.”

Dr. Rodger acknowledges many of the difficulties she and Dr. Kerr encountered with their surveys and focus groups, especially the attempt to sustain a longitudinal panel, but “this one piece of research got people interested in the model and then partners came forward…”

A senior nursing decision - maker expressed some reservations about whether the model had as much impact as anticipated; but enforced its innovative and groundbreaking aptitude. “… It became known across the country and it did a lot for the profile of The Ottawa Hospital and it did a lot for the profile of nursing... I think the research gave it some status. To be able to state that grant money was available to support evaluation gave the project a measure of legitimacy... the grant played a pretty important role in enabling a lot of this to go forward.” Albeit, there is a caution that there could be many factors responsible for the increase in nurses’ job satisfaction and that it was difficult to establish how big a role the new nursing model played when other variables did not remain constant.
Another way of measuring the success of the MoNCP\textsuperscript{©} is the number of other healthcare organizations that have studied and then adopted all or significant parts of it. Indeed, there has been so much interest that TOH has copyrighted significant elements of the model. They include tools Dr. Rodger and her team developed to aid in the implementation of the model, such as a measure of span of control for managers (published in the professional literature\textsuperscript{ix} ) and standardized definitions for nursing positions.

The demand from other organizations for assistance re-organizing their nursing based on the Ottawa model has been so strong that Dr. Rodger and TOH have formed a consulting service, which in turn has produced a revenue stream for TOH. Dr. Rodger maintains that the affirmation provided by the initial CHSRF-financed research has been a necessary factor in the expansion.

Among the healthcare organizations that have partnered with TOH on implementing the Ottawa model are Saskatchewan's Cypress Regional Health Authority (CRHA), Toronto's Bridgepoint Health and the London Health Sciences Centre.

CRHA covers 44,000 square miles of southwestern Saskatchewan with 20 facilities, including one full-service regional hospital in Swift Current. It employs a total of 600 nurses, 350 of them in that hospital. A CRHA head of nursing practice, states the Authority was “struggling with a significant number of nursing vacancies, we had a lot of staff working high rates of overtime to cover vacancies and we were having trouble building up our staff.”

The Swift Current hospital was moving into new facilities, providing an opportunity to reorganize its nursing services. It was thought that adopting the MoNCP\textsuperscript{©} might help address CRHA's staffing problems. One Swift Current informant suggested, “What attracted us most was that MoNCP\textsuperscript{©} was all about nurses deciding how they were going to deliver nursing care in the units they work on, within the guiding principles… nurses working with each other and the patients to find a way to improve satisfaction and outcomes for both nurses and patients, improving organizational outcomes as a result.” The fact the MoNCP\textsuperscript{©} had been the subject of CHSRF-financed research gave it more credibility.

A condition of the Rodger/TOH participation in the CRHA re-organization was that the health authority build in a research component to replicate the original Kerr/Rodger research. The Saskatchewan Ministry of Health agreed to finance the research ($75,000 over three years) and faculty members at the University of Saskatchewan, School of Nursing were brought in to conduct it.

A series of questionnaires, adapted from the standardized ones used in the Ottawa project, are being distributed in units as the model is being implemented. They have yet to be analyzed to produce quantitative results, but there is direct evidence of the model's impact, including a dramatic reduction in turnover and vacancies. A CRHA informant stated the CRHA is receiving fewer complaints about excessive overtime and there is a reduction in “the general feeling of helplessness and powerlessness about not getting the work done… We've seen the nurses are more open to working with other members of the care team to their full scope of practice.”
Bridgepoint Health, the large, complex chronic disease management and rehabilitation hospital in downtown Toronto (479 beds and a large ambulatory program) has also adopted the Ottawa model. Its Strategic Nursing Plan refers to the deal it has struck with TOH as a “groundbreaking nursing partnership… The Ottawa Hospital nursing team is well recognized as one of the best in Canada and is the ideal partner transforming Bridgepoint Health into a nationally recognized nursing leader.”

Bridgepoint has made a major change in its skill mix, replacing all of its unregulated care providers with RNs and RPNs, and is using MoNCP© tools to look at span of control for managers, span of coverage for educators and other standardized job descriptions to facilitate a full scope of practice for all professionals. The partnership includes a mandatory research component. In this case the Nursing Secretariat of the Ministry of Health and Long-Term Care has made a grant of $225,000 to evaluate the results.

London Health Sciences Centre is the second-largest health science complex in Canada, comprising three hospitals and related clinics and the University of Western Ontario faculties of medicine, nursing and dentistry. It is an acute-care centre serving three million people in southwestern Ontario.

In the mid-2000s, it was attempting to reorganize the way its 3,000 nurses operated, but the process was stalled as its clinical practice leaders were having difficulty getting buy-in from nurses and management. An internet search in 2007 turned up references to the MoNCP© and Dr. Rodger’s was invited to London to brief nursing leaders, teachers and clinical practitioners on the model. The LHSC people liked what they heard – the Ottawa model was succinct, easily understood and easily accessible, based on the guiding principles, clear definitions, span-of-control and scope-of-practice tools – and an agreement was reached to have Dr. Rodger and her TOH team assist LHSC to adapt and implement the model.

The process began in early 2008 and continues. Although a research module is planned, it has not yet been designed. The informal evidence, however, is that implementation of the model has been an incredibly positive process. “They had not had time in many years to sit down and reflect on their practice and to have the accountability and decision-making territory to change their practice to meet the guidelines.”

Further evidence of the spreading impact of the MoNCP© are agreements with the Children’s Hospital of Eastern Ontario, Ottawa’s Montfort Hospital, the Arnprior General Hospital and the Government of Newfoundland to implement the model. Growing international interest is demonstrated by the fact that 37 delegations have come from around the world to study the MoNCP© over the past five years.

There have been many factors contributing to the success of the Ottawa model for re-engineering clinical nursing. But Dr. Rodger emphasizes the importance of the initial CHSRF-sponsored study. “This is probably the research that has had the greatest possibility of modifying the Canadian healthcare system and why it is important that CHSRF… start making a fuss about what has happened out of some of the work.”

A major measure of the MoNCP©’s success is that the Ottawa Hospital has decided to duplicate the process for all other healthcare providers and has created the Inter-Professional Model of Patient Care (IMPC©) as “a guide to organize the delivery of patient care among health professionals from different disciplines, taking into account their competencies, collaborative patient-centered practice and TOH’s strategic directions.”
In 2008, the Ministry of Health and Long-Term Care provided a $1.8 million grant to evaluate the implementation of the IMPC© (with terms very similar to the original CHSRF grant for the MoNCP©) on the following metrics: quality of care and safety, patient satisfaction, staff satisfaction, recruitment and retention and reduced costs. TOH experience with the IMPC© will be made available to other healthcare institutions, creating a second consulting revenue stream for the hospital.

CONCLUSION

The MoNCP© story over the past seven years has shown that a research project can have an influence that goes far beyond the data and analysis produced in the original project – even when there were substantial limits to those original results. One of these limitations was that little attention was paid to the impact of the new model on related health professionals. In retrospect, this was a flaw. One informant suggested: “The new model was developed by nurses for nurses, but if I were going to do it over again I would want more participation from other health professionals whose work would be affected by it.”

The results of the initial research are only weakly conclusive about the core thesis of the model, that more autonomy and accountability for nurses leads to positive results. And both the original research and follow-up studies have shown that the basic research design was not able to identify measurable impacts on patient outcomes. There are also concerns that dissemination of the results of the original research has been constrained, with few publications in the professional literature and its limited promotion.

Nevertheless, the overall impact of the implementation of the MoNCP© has been extensive, with improved continuity of care, improved documentation, increased valuing of expertise, enhanced recognition of nursing contributions, better teamwork, more holistic care and more accountability.

The spread of the model to other institutions has catalyzed more research, which could eventually fill some of the holes in the original project. But the main story is the momentum the Ottawa model has gained and the changes in the delivery of nursing services it is spawning across the country. Dr. Rodger identifies the original CHSRF-sponsored research as a seminal factor in what has been accomplished. “This CHSRF original study for us is very significant because these results… are absolutely key to recruit and retain nurses… and that is why we have had 37 delegations in five years from all over the world… the fact that you still have a benefit almost four years after you have done the changes is huge… other people will have heard about it and they want it too and I can’t blame them.”

The outcomes suggest there are relevant ways to measure success that go beyond the survey data spreadsheets and researchers’ analysis.
ENDNOTES

i TOH Nursing News, March 2003


iii CHSRF Final Report, Adopting a common nursing practice model across a recently-merged multi-site hospital. p 4.

iv CHSRF Final Report, Adopting a common nursing practice model across a recently-merged multi-site hospital. p 20

v CHSRF Final Report, Adopting a common nursing practice model across a recently-merged multi-site hospital. p 23

vi Dr. Jack Kitts presentation to Health Services Delivery conference, Vancouver March 2010

vii Interview with Dr. Ginette Rodger, March 2010

viii Interview, with senior nursing decision-maker, May 2010.

ix Nursing Leadership, Volume 18, Number 3, 2005

x www.ottawahospital.on.ca/hp/care-models/ipmpc/index-e.asp

xi Interview with Ginette Rodger, March 2010