Ministry of Health and Long-Term Care
Research Projects - Final Report

Promoting Nursing Leadership in Ontario Long-Term Care Facilities

FINAL REPORT - APRIL 2009

Principal Investigator
Ann Tourangeau RN PhD

Co-Investigators
Heather Laschinger RN PhD
Lisa Cranley RN PhD

Promoting Nursing Leadership in Ontario Long-Term Care Facilities

FINAL REPORT - APRIL 2009

Principal Investigator
Ann Tourangeau RN PhD[1,4,5]

Co-Investigators
Heather Laschinger RN PhD[2,5]
Lisa Cranley RN PhD[3]

[1]Associate Professor, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Ontario

[2]Professor and Associate Director of Nursing Research, Arthur Labatt Family School of Nursing, University of Western Ontario, Ontario

[3]Post-doctoral Fellow, Knowledge Utilization Studies Program, Faculty of Nursing, University of Alberta, Alberta

[4]Adjunct Scientist, Institute for Clinical Evaluative Sciences, Toronto, Ontario

[5]Co-Investigator, Nursing Health Services Research Unit, University of Toronto, Ontario

GRANT INFORMATION

Grant Title	**Promoting Nursing Leadership in Ontario Long-term Care Facilities**
Grant Number	**06336**
Contact Information	**Dr. Ann Tourangeau RN PhD** **Associate Professor, University of Toronto, Faculty of Nursing** **Adjunct Scientist, Institute for Clinical Evaluative Sciences in Ontario** **130-155 College Street** **Toronto, Ontario M5T 1P8** **Phone: 416.978.6919** **Fax: 416.978.8222** **ann.tourangeau@utoronto.ca**
Reporting Period	**Final Report – April 30, 2009**

Promoting Nursing Leadership in Ontario Long-Term Care Facilities

TABLE OF CONTENTS

MAIN MESSAGES

The main messages for long-term care leaders and policy makers based on study findings are:

The long-term care health care sector was extremely appreciative and willing to participate in research. This is a receptive health care sector to engage in research.

Although participants in the leadership development intervention subjectively believed their leadership practices improved following their participation, participant self-reports, co-worker and supervisor assessments of aspiring and established leaders reported only a few significant improvements. The most consistent improvement reported was increased use of cognitive leadership skills demonstrated by aspiring nurse leaders. Explanations for the few changes found in leadership behaviour use by participants include the short period of time between testing periods and perhaps more importantly was the perceived lack of time, funding and administrative support to practice leadership behaviours that participants reported when returning to their long-term care facilities.

There are a number of aspects of the work environment that received relatively low scores and require attention and improvement including work group cohesiveness, structural empowerment, and organizational support. Assessments of long-term care work environments showed few significant differences following the leadership development intervention. Explanations for the few changes found in work environments include the short period of time between testing periods and perhaps more importantly were changes occurring in the economic situation and resulting fear of funding cutbacks, an uncertain future, job insecurity, and so on.

There were also few changes in responses to work environments from pre-test to post-test time periods. Interestingly, a higher proportion of participants reported experiencing high emotional exhaustion burnout at the post-test. Co-workers reported significantly higher job satisfaction scores at the post-test time period. Explanations for the few changes found in responses to work environments include the short period of time between testing periods and perhaps more important were changes occurring in the economic situation and resulting fear of funding cutbacks, an uncertain future, job insecurity, and so on.

Results related to the organizational outcome of intent to remain employed were alarming. Over the next five years, 50% of long-term care staff report intending to leave employment in their current long-term care organizations. Long-term care organizations need to be active in planning and implementing strategies to retain their staff.

Participants were enthusiastic about the leadership development intervention. However, they also expressed frustration with the lack of time, management support, and resources to use their newly acquired knowledge and skills.

EXECUTIVE SUMMARY

Context

To strengthen the pool of nurse leaders in Ontario long-term care facilities there must be opportunities available for both established and aspiring nurse leaders to learn, develop and practice effective leadership attitudes, knowledge, and skills. There is strong evidence that leadership development for nurses leads to more positive work environments that, in turn, leads to improved patient and organizational outcomes.

The purpose of this study was to test the effectiveness of one strategy targeted to promote nursing leadership development in Ontario long-term care facilities. Research suggested that leadership development in long-term care would lead to stronger work environments that would then lead to improved patient and organizational outcomes.

In this study, we examined the effects of a leadership development intervention on the following four categories of outcomes: 1) participant leadership practices, 2) characteristics of work environments, 3) responses of multidisciplinary staff (including nursing staff) to their work and work environments, and 4) the organizational outcome of intention to remain employed.

Approach

A quasi-experimental design with repeated measures guided this study. The study consisted of a pre-test survey completed one month prior to participants attending a leadership intervention and up to two post-test surveys completed 6 and 12 months following the intervention.

The study included 26 nurse dyads consisting of an established nurse and an aspiring nurse leader that were selected from 26 Ontario long-term care facilities representing all 14 Local Health Integration Networks. Each nurse leader was asked to complete a series of surveys assessing their own leadership practices, characteristics of their work environment, responses to work and work environments, and intent to remain employed in long-term care. Participants invited their immediate supervisors and up to 10 co-workers to complete a similar survey assessing the leadership practices of the participant, characteristics of their work environments, responses to their work environments, as well as their intentions to remain employed.

Results: Key Study Findings

Effect of Leadership Development Intervention on Participant Leadership Practices
- Both participants and their co-workers reported significant increases in aspiring nurse leader's cognitive leadership practices from pre-test to post-test time periods.
- Established nurse leaders self-reported significant improvements in their cognitive and supportive leadership practices from pre-test to post-test time periods.

Effect of Leadership Development Intervention on Long-term Care Work Environments
- A significantly smaller proportion of participants reported low depersonalization scores from pre-test to post-test time periods, suggesting that participants observed a decline in the quality of provider-patient relationships from pre-test to post-test times.
- Supervisors reported significantly higher organizational support, while participants reported significantly lower organizational support from pre-test to post-test time period.

Effect of Leadership Development Intervention on Responses to Work and Work Environments
- Co-worker job satisfaction scores improved significantly from pre-test to post-test time periods.

Effect of the Leadership Development Intervention on Intention to Remain Employed
- A smaller proportion of supervisors reported intending to remain employed in their current long-term care organizations for the next year at post-test time period.
- A smaller proportion of participants reported intending to remain employed in their current long-term care organization for the next five years.
- Overall, 50% of long-term care staff reported they intended to leave employment in their current long-term care organizations within the next 5 years.

Interview Results
- Participants were enthusiastic about the leadership development intervention and were strongly appreciative of the skills they learned.
- Participants expressed frustration with the lack of time, management support, and resources to enact their newly acquired leadership knowledge and skills in the workplace.
- This lack of support coupled with the challenge of a lack of nurses in management positions within some long-term care facilities resulted in some participants feeling that nursing leadership in long-term care settings was undervalued.
- The leadership intervention increased participants' awareness of the importance of leadership in the work place, and also the importance of the recruitment and retention of nurse leaders in long-term care.

Implications
There following are key implications for long-term care leaders and policy makers based on study findings:

1. Retention of long-term care staff is a serious concern. Long-term care organizations need to be active in planning and implementing targeted strategies to strengthen retention of all staff categories.
2. We recommend that long-term care management / administration / owners acknowledge and support the importance of nursing leadership in long-term care settings. This would

promote organizational commitment and perhaps retention of aspiring and established long-term care nurse leaders.

3. Overall, long-term care staff reported structural empowerment, work group cohesion, organizational support, job satisfaction, and intention to remain employed were all rated as lower than optimal. These are work environment characteristics and responses to the work environment that require further attention and improvement.

Further Research
Further research is suggested that identifies, implements, and evaluates strategies to improve long-term care work environments, as well as measure the impact of these strategies on important organizational outcomes such as intention to remain employed. As well, implement and evaluate a facility-wide leadership development intervention to promote leadership across all long-term care employees within individual facilities. Additionally, examine the long-term effects of the leadership intervention on participants' use of leadership behaviours (compared to non-participants) regardless of their place of employment.

FULL REPORT

CONTEXT

Quality health care is dependent on an adequate supply of qualified nursing personnel (Canadian Nursing Advisory Committee [CNAC], 2002). There has been widespread recognition of the inadequate supply of nursing personnel across Canada and the potential impacts of this shortfall. Less recognized is the diminishing pool of established and future nurse leaders that has occurred over the past 15 years (Mahoney, 2001; Tourangeau, 2003). In 1999, the Ontario Nursing Task Force identified deficits in nursing leadership and recommended in their report *Good Nursing, Good Health: A Good Investment for the 21st Century* that nurses be provided opportunities to meaningfully participate in decisions affecting patient care at corporate and operational levels and that healthcare and educational institutions ensure that nurses are prepared for these leadership roles.

There are multiple causes for the shortfall in nursing leadership. The most significant causes have been healthcare restructuring strategies implemented in the last decade of the 20th century. In an effort to contain health care costs from escalating at unsustainable levels and because nursing costs generally represented the largest operating costs in health care organizations, most organizations engaged in aggressive restructuring activities that reduced or eliminated clinical and administrative nursing positions (Aiken, Sochalski, & Anderson, 1996; CNAC, 2002; Tourangeau, 2003; Tourangeau, Stone, & Birnbaum, 2003). For example, in 1994, 10.1% of the nursing workforce consisted of managers. By 2000, this percentage had fallen to 7.7. In that six-year span, 5,500 nurse manager positions were eliminated from the health care system (Canadian Institute for Health Information [CIHI], 2001). Consequently, nurse leaders were less visible in health care organizations. As other nurses witnessed these restructuring transitions, nursing leadership positions were seen as less desirable career options by potential future nurse leaders, resulting in further diminishment in the pool of nurse leaders (Tourangeau, 2003). Fewer nurse leaders were available to serve as mentors and coaches to nurses. As well, nurses became further alienated from policy influencing opportunities because there were fewer nurse leaders to take on these critical liaison roles (CNAC, 2002). Fewer nurse leader positions resulted in much wider spans of control for surviving nurse leaders, further diluting the influence that nurse leaders could have on clinical practice and support of nursing personnel. These effects were experienced across the health care system, including the long-term care sector.

The CNAC (2002) recommended that professional practice environments that attract and retain a healthy and committed workforce be created across the health care system for the 21st century. One major strategy identified by the task force to realize this recommendation is to ensure that there is sufficient numbers of strong nurse leaders to support the delivery of care and nursing care providers. In line with this strategy, today's statistics show a slight increase in the number of nurse manager positions between 2003 and 2007. However, this number remains low (CIHI, 2008).

There are a number of challenges involved in strengthening the pool of nurse leaders (Tourangeau, Lemonde, Dakers, et al., 2003). The first challenge is to appeal to nurses about the value and worthiness of nursing leadership. The second is to facilitate nurses to develop effective leadership attitudes, knowledge, and skills that enable them to be effective nurse and health care leaders. The long-term care sector has been particularly vulnerable to nurse leadership challenges. In Ontario, long-term care is provided by both 'not-for-profit' and 'for-profit' health care organizations with very small fiscal margins because of their limited income sources. Consequently, long-term care organizations have less opportunity to allocate funding to strategies that promote nursing leadership even though the need for leadership development in this sector is at least as great as it is in other health care sectors.

The body of literature is growing about the relationship between the supply and effectiveness of nursing leadership on patient, organizational, and nurse outcomes. For example, there is strong evidence to suggest that health care organizations concerned about retention and recruitment of nursing staff should invest in nurse leader / manager development. The higher nurses rated their managers' leadership styles and the more they reported their managers used supportive behaviours, the greater were nurse intentions to remain employed (Boyle et al., 1999; Fisher, Hinson, & Deets, 1994; Janney, Horstman, & Bane, 2001; Kunaviktikul et al., 2000; Larrabee et al., 2003; Roberts, Jones, & Lynn, 2004; Sourdif, 2004; Taunton et al., 1997; Volk & Lucas, 1991).

Leadership development interventions have been shown to be effective in promoting use of leadership practices for both established and up-and-coming nurse leaders (Cunningham & Kitson, 2000a; Cunningham & Kitson, 2000b; Krejci & Malin, 1997; Tourangeau, 2003; Tourangeau, Lemonde, Dakers, et al., 2003; Wolf, 1996). There is strong evidence that leadership development for nurses leads to more positive work environments that, in turn, lead to improved patient and organizational outcomes.

Study Objectives
1. To test the impact of a leadership development intervention delivered to long-term care aspiring and established nurse leaders on leadership practices of participants, characteristics of long-term care work environments, responses of long-term care staff to their work and work environments, and intention to remain employed outcomes.

2. To use study findings to influence policy development aimed at strengthening nurse leadership across Ontario's long-term care services sector.

Research Questions
1. What effect does participation in the leadership development intervention (Nursing Leadership Institute) have on participants' self-reported, peer-reported, and supervisor-reported leadership practices?

2. What effect does long-term care nurse participation in the leadership development intervention have on characteristics of long-term care work environments (provider-

patient relationships, work group cohesiveness, work group communication, perceived organizational support, and empowerment)?

3. What effect does long-term care nurse participation in the leadership development intervention have on respondents' responses to work and work environments (emotional exhaustion burnout, job satisfaction, overall self-reported health)?

4. What effect does long-term care nurse participation in the leadership development intervention have on the long-term care organizational outcome of intention to remain employed?

5. How do participants describe the effects of their participation in the leadership development intervention on their work, work life, and their peers?

6. What resources or circumstances promote intervention participant leadership development?

7. What additional resources or circumstances do established and up-and-coming long-term care nurse leaders report are needed to better support their leadership development?

APPROACH

Research Design
A quasi-experimental design with repeated measures guided this study. Participants acted as their own controls and were invited to complete a series of surveys to assess the impact of their participation in the leadership development intervention on the following: their own leadership practices, characteristics of their work environments, their responses to work and work environments, and their intention to remain employed. Immediate supervisors and up to 10 co-workers of each participant completed a similar survey assessing outcomes related to their own work environment, their intentions to remain employed, as well as the leadership practices of the participant. It was not a requirement for supervisors or co-workers to be nurses. The surveys were completed one month prior to participants attending the leadership intervention (pre-test) and at 6 (post-test 1) and 12 (post-test 2) months following the intervention.

Ethical approval for this study was obtained from the University of Toronto Health Sciences Ethics Review Board in 2006 and renewed annually until 2009.

Study Variables and Instruments
All instruments selected for inclusion in the study survey were appropriate for long-term care providers, including unlicensed personal care workers and aides, registered practical nurses, and registered nurses. In most cases, these instruments had been used with similar staff categories and a grade 8 reading level was maintained across all surveys. The study variables and instruments used to measure each are described below.

---

1. Respondent Characteristics. Indicators for the following demographic and employment characteristics were included in the survey: employment status (part-time, full-time, permanent, temporary, casual); job title; years experience in this type of job, in this facility, and with their current unit; usual length of shift (8 / 10 / 12 hours); year of birth (age); sex; educational credentials completed; and current enrollment in formal education program.

2. Leadership Practices of Participants. Participants assessed their own leadership practices using the *Leadership Practices Inventory – Self (*LPI - Self). Leadership practices of participants were also measured by their supervisors and co-workers using the *Leadership Practices Inventory – Observer* (LPI - Observer). Items in the two versions are identical except that the LPI-Self cues the respondent to consider him/her self when responding. Response options for each of the 30 items range from 1 (almost never) through 10 (almost always). The original instrument consists of five subscales: challenging the process, inspiring a shared vision, enabling others to act, modeling the way, and encouraging the heart (Kouzes & Posner, 2000). A Canadian version of the instrument identified three redefined subscales: cognitive, behavioral, and supportive leadership practices (Tourangeau & McGilton, 2004). Here we report on scores related to the three Canadian-validated LPI scales: cognitive, behavioural and supportive leadership practices. Cognitive leadership practices involve visioning the way things should be and challenging the way things are; behavioural leadership practices involve acting on and achieving the desired vision; and supportive leadership practices involve encouraging and helping others to focus on and achieve the desired vision (Tourangeau & McGilton, 2004). Scores for each subscale were calculated by summing the items in the subscale and then standardized to be out of 100.

3. Characteristics of Work Environments. There were five characteristics of the work environment measured: provider-patient relationships, work group cohesiveness, work group communication, perceived organization support, and empowerment.

Perceptions of provider-patient relationships were assessed by all respondents using the depersonalization subscale of the *Maslach Burnout Inventory (MBI)* (Maslach, Jackson & Leiter, 1996). The 22-item MBI is a well validated instrument that assesses three dimensions of burnout: emotional exhaustion, depersonalization and personal accomplishment. The depersonalization subscale was used to assess the presence of negative or distant attitudes towards patients / residents by care providers. Scores for each item of the subscale were summed and the total score was classified into one of three burnout categories: high, moderate, or low. Higher levels of burnout on the depersonalization scale indicated the presence of a more negative or distant attitude towards patients / residents.

The Work Group Cohesiveness Scale was used to assess the degree of attractiveness, willingness to work together, and commitment to task and goal achievement that group members felt within their work group (Riordan & Weatherly, 1999). This scale contains 8 items with scores on each item summed for a total score. These scores were standardized to be out of

100 to provide a total work group cohesiveness score. Higher scores indicate greater work group cohesiveness.

The Work Group Communication Scale was used to assess the degree to which information was transmitted among work group members (Riordan & Weatherly, 1999). Scores for each of the 4 items were summed and standardized to be out of 100. A higher score indicates that more information is being transmitted among work group members.

The Perceived Organizational Support Scale was used to assess work group members' perceptions of the extent to which employer organizations value employee contributions and care about employee well-being (Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). All eight items in the scale were summed and standardized to be out of 100. A higher score indicates a stronger sense of support felt by the respondent from their organization.

Two aspects of empowerment were measured: psychological and structural. *The Psychological Empowerment Scale* is a 12 item scale used to measure four dimensions of psychological empowerment: meaning, competence, self-determination, and impact (Spreitzer, 1995). Items for each subscale were summed and standardized to be out of 100. As well, a total psychological empowerment score was calculated by summing all items and standardizing out of 100. Higher scores indicated higher perceptions of psychological empowerment. Here we report only on the total psychological empowerment scores rather than on the scores for each of the five subscales. Structural empowerment was measured using the *Conditions of Work Effectiveness Questionnaire II*. This instrument measures six components of structural empowerment: opportunity, information, support, resources, formal power, and informal power (Laschinger et al., 2001). Included in the instrument are two items that together assess perceived global empowerment. Items for each subscale were summed and standardized to be out of 100. Higher scores indicated higher perceptions of structural empowerment. Here we report only the global empowerment scores rather than scores on the individual six component of global empowerment.

4. Staff Responses to Work and Work Environments. Three characteristics of staff responses to work and work environments were measured: emotional exhaustion burnout, job satisfaction, and overall self-reported health.

Emotional exhaustion burnout was measured using the emotional exhaustion subscale of the *Maslach Burnout Inventory* (MBI) (Maslach, Jackson & Leiter, 1996). Respondents were asked to rate how frequently they were experiencing specified job-related feelings. Scores for each item of the emotional exhaustion subscale were summed and classified into one of three burnout categories: high, moderate, or low.

Job satisfaction for all leadership institute participants, co-workers and supervisors was measured using the 5-item *General Job Satisfaction Scale* (Hackman & Oldman, 1975;

Hackman & Oldman, 1980). Scores from the five items in the scale were summed and standardized to be out of 100. Higher scores indicate higher job satisfaction.

Overall Health (self-reported) was measured using the following single question: "In general, how would you rate your overall health compared to other people your age?" Respondents rated their health on a 5-point scale ranging from poor to excellent. This score was standardized out of 100 with higher scores indicating better self-reported health.

5. Organizational Outcome. Intention to remain employed was measured using a 6-item *Career Intention / Decision Questionnaire* developed by the principal investigator and used in previous studies with multidisciplinary staff in a variety of health care settings. The items ask respondents to indicate if they are likely to remain in their current role, current facility and current profession over the next year and over the next five years. Possible response options included no, maybe, or yes. Responses were dichotomized into two categories: 'yes' and 'no/maybe'. We then calculated the percentage of respondents who indicated they intended to remain in their current job, facility, and profession over the next one and five years.

Study Procedures
Participant Recruitment and Selection
The Ministry of Health & Long-Term Care, including the Nursing Secretariat and the Long-term Care Homes branches, were instrumental in the recruitment of study participants. Study details were sent to all Ontario long-term care Directors of Care and Senior Administrators via a mass email and a quarterly newsletter. Interested participants then applied to the investigator team to participate in the study which included attending the leadership intervention. The Study Advisory Committee (described below) reviewed all applicants and selected participants. Criteria for selection included:

- An established and an aspiring nurse leader that would participate in the leadership intervention as a dyad from the same long-term care facility;

- Representation from long-term care facilities across the province of Ontario that included nurses working in urban and rural area long-term care facilities, as well as representation from all 14 Local Health Integration Networks;

- Quality of applicant description of how participation in the Intervention would benefit participants, their organizations, their communities, and the long-term care sector; and

- Quality and strength of statement / letter of support for nurses' participation in the Intervention from their employing organization.

All successful and unsuccessful applicants to the study received both a telephone call and a letter from the research team. In all, 26 nurse dyads, consisting of one established nurse leader and one aspiring nurse leader who regularly worked with the established leader in a mentorship capacity, were selected from 26 Ontario long-term care facilities. The sample of 52 nurse

participants included 17 staff nurses (14 registered nurses and 3 registered practical nurses) and 35 nurses in some type of management or clinical support role (all 35 were registered nurses).

The 26 dyads attended the leadership institute in four cohorts. The number in each cohort was dependent on the number of spaces available at the leadership institute and the number of applications. Cohorts 1 and 2, which included a total of 12 dyads from 12 facilities, were tested at three time periods: pre-test, post-test test 1 and post-test test 2. Due to constraints of the study period, Cohorts 3 and 4 (a total of 14 dyads from 14 facilities) were tested at only two time periods: before the intervention (pre-test) and only once after the intervention (post-test test 1).

Pre-Test

Research staff contacted the 52 nurse participants by telephone prior to the intervention to explain study procedures and to schedule site visits for pre-test data collection. Research staff were available to assist participants regarding selection of supervisors and co-workers they should invite to participate in the study to evaluate their leadership practices, work environment characteristics, responses to work environments, and their intentions to remain employed.

The Leadership Development Intervention

The leadership development intervention was delivered four times over the study period to four cohorts of long-term care nurse participants in May 2006, October 2006, May 2007, and October 2007. The leadership development intervention consisted of participation in the Dorothy M. Wylie Nursing Leadership Institute, a five-day residency program with a follow-up booster weekend held five months later. The institute was held in a residential educational facility near Toronto. The interventionists included three highly experienced nurse leaders who have developed and delivered this intervention since August 2001. In this institute, participants had opportunities to learn theoretical and practical perspectives related to effective management and leadership and to practice skills and behaviours of effective leaders. Major topics explored were modeled on Kouzes and Posner's (2002) five leadership competencies, as well as visioning and creating a culture of nursing excellence, developing quality work environments, and project development and management. To broaden their perspectives of issues and challenges facing health care leaders, participants engaged in learning activities related to the profession of nursing as well as the business of health care. As part of the intervention, there was a two-day 'booster weekend' held approximately five months after the initial residency program. During this booster component of the intervention, participants reflected on their leadership competencies and the impact they might have within their organizations.

All study participants (aspiring and established nurse leaders) were supported financially to participate in the Dorothy M. Wylie Nursing Leadership Institute. Support included registration fees, accommodation and meals for the five-day leadership institute and the two-day booster weekend and travel costs to and from the Institute. Costs related to participant's time away from work during the leadership intervention were not covered by the study.

Post-Test
Upon completion of the pre-test and the leadership intervention (including both the five-day residency and the two-day booster weekend) research staff contacted participants to arrange the first post-test site visits for data collection. For Cohorts 1 and 2 the second post-test was arranged 12 months following the leadership intervention. Participants were asked to again invite supervisors and co-workers to participate by evaluating their leadership practices, the work environment, responses to the work environment, and intentions to remain employed. It was not required that the same supervisors and co-workers participate at both pre-test and post-test.

Telephone Interviews
Participants were also interviewed by telephone to gather subjective information about the impact of the leadership intervention. Telephone interviews were conducted by research staff approximately five to six months following the leadership intervention. Lead questions for these telephone interviews were:
- How has participation in the leadership institute impacted your work, work life, and peers?
- What resources or circumstances are you using to assist you to further develop your leadership knowledge and behaviours?
- What resources or circumstances that you do not have adequate access to would be helpful to further develop leadership skills?

All 52 participants were contacted to arrange a telephone interview. However, seven of the participants did not complete the interview for a variety of reasons, including short-term leave, relocation, and parental leave.

Data Analysis Approach
Survey Data
SAS 9.1® software was used to complete descriptive and inferential statistics. Variables were summarized using frequencies or means, depending on the type of data. Continuous variables related to staff characteristics, staff assessments of and responses to the work environment and organizational outcomes were compared across the three respondent role categories (participants, supervisors and co-workers) using ANOVA and Tukey post hoc tests. Categorical variables were compared across respondent roles using Chi-square tests of difference. To account for repeated measurements among the study respondents, generalized estimating equations (GEE) were used to assess the impact of the leadership institute on leadership practices of the participants, work environment, staff responses to the work environment, and organizational outcomes. Within the GEE analysis, we controlled for the influence of part-time status, age, number of years in the facility, and having a baccalaureate degree or higher.

Telephone Interview Data
Interviews were conducted in a private office at pre-determined time in accordance with participant's schedules. Each telephone interview was approximately 20 – 25 minutes in length. Two research staff were present during each telephone interview; one to conduct the interview

and a second to record notes of the interview. Telephone interview data was analyzed using content analysis procedures. The notes from each telephone interview were carefully read and reviewed to gain an overall understanding of the content and common themes were summarized. These data were collected to support and interpret survey results.

The Advisory Committee
The study was supported by an Advisory Committee consisting of three members who were policy and / or decision makers within the Ontario healthcare system. The Advisory Committee was struck to advise and support the investigator team regarding issues related to long-term care work environments. One of the key responsibilities of the committee was to assist the investigator team with participant recruitment and selection. The committee offered guidance and expertise when reviewing applications for participation in the study. The committee met two times annually via teleconference with the investigator team throughout the project.

RESULTS

Leadership institute participants' responses at all testing periods were linked together. Co-worker and supervisor data were anonymous but were linked to the leadership intervention participant who had invited them to complete a survey on their behalf. Both co-workers and supervisors invited to respond may have been different at each time period. Some co-workers and supervisors were asked to evaluate the leadership skills of both the aspiring and established nurse leader at their facility. As well, some participants evaluated leadership skills of the other participant, either as a co-worker or as their supervisor. In such cases, respondents were asked to complete two surveys: one full survey where they described their characteristics, work environment, responses to the work environment, organizational outcomes, and the leadership behaviors of one participant (or about themselves if they were the participant); and a shortened survey that asked them to evaluate only the leadership behaviours of the other participant. The number of co-worker and supervisor respondents varies depending on what is being reported and for what time periods.

Sample characteristics are based on respondents who completed a full survey at any one of the testing points, this generated: 52 leadership development intervention participants, 652 co-workers and 75 supervisors (recognizing that some of these results are counting the same people twice). Baseline descriptions of the work environment, responses to the work environment and organizational outcomes are based on the full surveys completed by respondents at pre-test only (52 participants, 276 co-workers, and 30 supervisors). Baseline results related to the leadership practices used by participants include both respondents who completed a full survey and those who completed a shortened survey at pre-test only (52 participants, 423 co-workers, and 52 supervisors).

Results are presented in the following order: 1) the sample of respondents are described, 2) survey results related to the first four research questions are presented, and 3) telephone interview results are described to address the final three research questions.

Description of Respondent Sample
Characteristics of the respondent sample are detailed in Appendix A.

Participants
There were 52 nurses who participated in the leadership development intervention. Overall, participants were 42.3 years of age, 96.2% were female, 48.1% had baccalaureate or higher education, 88.5% were employed full time, and they had worked within the facility for an average of 7 years.

Co-Workers
Across the 26 participating facilities, the sample of co-workers included: (i) 243 licensed nursing staff (83 registered nurses, 111 registered practical nurses, 4 clinical nurse specialists, 9 nurse educators, 31 nurse managers, and 5 nurse practitioners); (ii) 17 allied health professional staff (3 spiritual care/chaplains, 13 social workers, 1 occupational/physiotherapist); (iii) 218 unlicensed assistive personnel (158 personal care / support workers, 20 recreation staff, 20 ward aides / unit clerks, 12 kitchen staff, and 8 housekeeping staff); (iv) 143 other staff (including but not limited to roles in human resources, management, and administration). Overall, the average age of the co-worker group was 44.3 years, 91.5% were female, 23.0% had baccalaureate or higher education, 78.5% were employed full time, and they had worked within the facility for an average of 8.9 years.

Supervisors
Across the 26 participating facilities the sample of supervisors included: 1 nurse educator; 19 nurse managers; 50 other staff (including but not limited to chief executive officer, administrator, board member, director of care, and vice president). Five supervisors did not include their job title. On average, supervisors were 51.7 years of age, 87.1% were female, 60.0% had baccalaureate or higher education, 95.7% were employed full time, and they had worked within the facility for an average of 7.9 years.

Differences in Characteristics Across Respondent Role Groups
There were no significant differences among respondents by role in relation to mean years worked in their facilities, proportion of females, proportion who were permanent staff, proportion of individuals working 8 hour shifts or less, or proportion enrolled in a university / college course. However, supervisors were significantly older than both participants and co-workers (p<.001). As well, leadership intervention participants had significantly more years employment in this type of job than co-workers (p=.004). Both participants and supervisors were more likely than co-workers to be employed full time at their facilities (p=.001) and to have completed baccalaureate or higher education (p<.001). Both these differences were not surprising since

most leadership roles are full time positions and job requirements for leadership roles usually require higher education levels.

Baseline Survey Results (pre-test)
Accompanying results to address each of the first four research questions is a description of the pre-test baseline results as reported by each of the three role respondent categories: participants in the leadership development intervention, co-workers, and supervisors. When results are presented related to the first research question about leadership practices inventory evaluations, these baseline (pre-test) findings are broken down into those for aspiring leaders and those for established leaders.

1. What effect does participation in the leadership development intervention (Nursing Leadership Institute) have on participants' self-reported, peer-reported, and supervisor-reported leadership practices?

Description of Leadership Practices at Baseline (pre-test)
Baseline ratings of the leadership practices of the aspiring and established leader participants at pre-test are detailed in Appendix B by respondent role (participant self-reported, co-worker reported, and supervisor reported). There were no significant differences in how the three role categories rated leadership practices of the aspiring or established leader participants in any of the three leadership practices. Overall, the highest scores for aspiring leaders were in their behavioral leadership practices and the lowest was in their cognitive leadership practices. The highest scores for the established leaders were also related to their behavioural leadership practices.

Effect of Leadership Development Intervention on Participant Leadership Practices
Significant differences in use of leadership practices (observed by participants, co-workers, and supervisors) between pre-test and post-test time periods are indicated in Appendix B with the following two symbols: ↑ to indicate an increase from pre-test to post-test time periods and ↓ to indicate a decrease from pre-test to post-test time periods. There were two significant leadership practices changes reported for aspiring nurse leaders: both participants themselves and co-workers reported significant increases in aspiring nurse leader cognitive leadership practices from pre-test to post-test time periods (p=.021 and p=.012, respectively). No other significant changes were observed by any of the three role groups for aspiring nurse leader leadership behaviours from pre-test to post-test time periods. There were two significant improvements reported in established leader leadership practices: established leaders self-reported improvements in their cognitive (p=.047) and supportive leadership practices (p=.009) from pre-test to post-test time periods. No other significant changes were reported for established leaders from pre-test to post-test time periods.

2. What effect does long-term care nurse participation in the leadership development intervention have on characteristics of long-term care work environments (provider-patient relationships, work group cohesiveness, work group communication, perceived organizational support, and empowerment)?

Description of Long-term Care Work Environments at Baseline (pre-test)
Ratings of the long-term care work environment at pre-test are detailed in Appendix C by respondent role category. There were no significant differences in how the three role respondent categories rated their work environments at pre-test in three of the six work environment aspects: levels of depersonalization, work group communication, and global empowerment. Across the role categories, the vast majority reported low levels of depersonalization which suggests that provider-patient relationships are strong and positive. The overall rating of 67.4 out of 100 in work group cohesiveness scores suggest that there is considerable room for improvement in developing work groups that are willing to work together effectively and function well. Work group communication was rated at 75.3 out of 100 across the sample. This suggests that although communication was rated as effective, there is still room for considerable improvement. The mean psychological empowerment score of 82.8 out of 100 and the mean global empowerment score of 72.2 out of 100 indicates that staff perceived their work environments to be empowering but could have been more empowering than they were. There were significant differences in three work environment ratings across respondent role categories. First, supervisors rated work group cohesiveness significantly higher than participants (p=.044); second, participants and supervisors reported significantly higher perceived organizational support than did co-workers (p=.002) and third, supervisors reported significantly higher total psychological empowerment than did participants and co-workers (p=.009).

Effect of Leadership Development Intervention on Long-term Care Work Environments
Significant differences in assessed (by participants, co-workers, and supervisors) work environment characteristics between pre-test and post-test time periods are indicated in Appendix C with the following two symbols: ↑ to indicate an increase from pre-test to post-test time periods and ↓ to indicate a decrease from pre-test to post-test time periods. A significantly smaller proportion of participants reported low depersonalization scores from pre-test to post-test time periods (p=.006). This suggests that participants observed a decline in the quality of provider-patient relationships from pre-test to post-test time periods. Supervisors reported significantly higher organizational support while participants reported significantly lower organizational support from pre-test to post-test time periods (p=.042 and p=.007, respectively). There were no significant differences in any of the co-worker reported aspects of the work environment from pre-test to post-test time periods.

---

3. What effect does long-term care nurse participation in the leadership development intervention have on respondents' responses to work and work environments (emotional exhaustion burnout, job satisfaction, overall self-reported health)?

Description of Responses to Long-term Care Work and Work Environments at Baseline (pre-test)
Baseline (pre-test) ratings of respondent assessments of their responses to work and work environments (emotional exhaustion burnout, job satisfaction, and self-reported level of health) are detailed in Appendix D by respondent role category. Emotional exhaustion burnout scores indicated that more than half of respondents were experiencing moderate to high levels of burnout. There were no significant differences in the proportions of respondents in each of the levels of emotional exhaustion (low, moderate, or high) across respondent role categories. Overall, job satisfaction scores were low – on average, respondents reported being only slightly satisfied with their jobs. There were no significant differences among participants, co-workers, and supervisors in job satisfaction ratings at the pre-test time period. There was no significant difference in self-reported health scores across respondent role categories at pre-test time. Overall, both the median and mode responses to overall self-reported health were 'very good' but the mean score (69.4 out of 100, SD=21.7) indicated that respondents rated their health between 'good' and 'very good'.

Effect of Leadership Development Intervention on Responses to Work and Work Environments
Significant differences in assessed (by participants, co-workers, and supervisors) responses to work environments between pre-test and post-test time periods are indicated in Appendix D with the following two symbols: ↑ to indicate an increase from pre-test to post-test time periods and ↓ to indicate a decrease from pre-test to post-test time periods. There was only one reported difference in responses to work environments from pre-test to post-test time periods. Co-worker job satisfaction scores significantly improved from pre-test to post-test time periods (p=.043).

4. What effect does long-term care nurse participation in the leadership development intervention have on the long-term care organizational outcome of intention to remain employed?

Description of Long-term Care Employee Intention to Remain Employed at Baseline (pre-test)
Baseline (pre-test) ratings of respondent intention to remain employed are detailed in Appendix E by respondent role category. In general, 87% of respondents reported that they intended to remain employed in their long-term care job for the next year. There were no significant differences in ratings of intention to remain employed in their current job for the next year across role respondent categories. However, only 52% reported intending to remain employed in their current long-term care job for the next five years and there were differences in the rate of these five year intentions across respondent role categories – a significantly smaller portion of participants in the leadership development intervention reported at pre-test time that they intended to remain employed in their current long-term care job for the next five years (p=.011). Overall, over 86% of respondents reported they intended to remain working in their current

organization for the next year and this rate of intention to remain employed in the current long-term care organization dropped to 55% over a five-year term. There were no significant differences in how respondents answered these two questions across role categories. Almost 91% of respondents reported intending to remain in their current profession (most were nurses) over the next year and there were no significant differences in these intention rates across role categories. However, when respondents were asked to identify their intentions to remain in their current profession over the next five years, only 72% intended to remain working in their profession. There were significant differences in scores in intention to stay in one's profession across role categories - a higher proportion of nurse participants in the leadership development intervention reported intending to remain in nursing for the next five years as compared to both co-workers and supervisors (p=.022).

Effect of the Leadership Development Intervention on Intention to Remain Employed
Significant differences in assessed (by participants, co-workers, and supervisors) intention to remain employed questions between pre-test and post-test time periods are indicated in Appendix E with the following two symbols: ↑ to indicate an increase from pre-test to post-test time periods and ↓ to indicate a decrease from pre-test to post-test time periods. There were two significant differences in intention to remain employed scores from pre-test to post-test time periods. First, a smaller proportion of supervisors reported intending to remain employed in their current long-term care organizations for the next year at post-test (p=.039). Second, a smaller proportion of participants reported intending to remain employed in their current long-term care organizations for the next five years (p=.03).

Interview Results
Results for research questions 5 to 7 are reported below. These data were collected through telephone interviews with participants in the leadership development intervention between five and six months after participation in the intervention.

5. How do participants describe the effects of their participation in the leadership development intervention on their work, work life, and their peers?

The majority of participants reported that participation in the leadership development intervention had a positive effect on their work, work life, and their peers. Participants used the following kinds of words to describe the leadership intervention experience: *"very rewarding"; "inspirational"; "providing confidence"; "encouraging"; and "refreshing".*

Participants described the importance of sending nurses to the leadership intervention as a dyad that included both an established leader and an aspiring leader, as opposed to always sending primarily an experienced nurse leader. One participant described that having the nurse dyad present was "*very helpful to gain an understanding of each others' roles".*

Most aspiring nurse leaders identified that the leadership intervention provided them with increased knowledge of leadership skills. One participant described that they "*learned lots and lots of leadership skills, how to see them through and how to practice them*".

Participants also described how the leadership intervention provided them with a better perspective on how to work with staff and how to bring people into the decision making process. Participants described gaining an increased understanding of how to promote collaboration, rather than always leading from the top down.

A number of participants also described how the leadership development intervention provided them with an opportunity to network with others as well as to learn how to network.

The leadership intervention increased participants' awareness of the importance of leadership in the work place, and also the importance of the recruitment and retention of nurse leaders in long-term care.

6. What resources or circumstances promote intervention participant leadership development?

The majority of participants credited the information they learned at the leadership intervention as being the greatest resource to their leadership development. Participants described relying heavily on the resources they received at the leadership development intervention in assisting to develop their leadership knowledge and skills. Important resources included the *Leadership Practices Inventory Workshop Binder* (which included a workbook, leadership development planner, and self assessment tests) as well as a book titled *The Leadership Challenge* by James M. Kouzes and Barry Z. Posner (2002). Participants described using these resources in their work environment following the leadership intervention.

In addition to resources received at the intervention, participants described seeking additional resources including: leadership textbooks, inspirational leadership books, the internet, and online resources. Participants also reported increasing their use of journals, as well as making more consistent use of resources available from the Registered Nurses Association of Ontario and the College of Nursing of Ontario. These additional resources assisted in further leadership development among participants.

A number of aspiring nurse leaders described relying on the established nurse leader as a leadership resource and mentor. Other participants described having connected with informal mentors upon their return from the leadership development intervention to aid in their leadership development. Participants described that receiving feedback from management, their peers, and other staff at the facility helped them to further develop their leadership skills.

---

7. What additional resources or circumstances do established and up-and-coming long-term care nurse leaders report are needed to better support their leadership development?

The majority of participants reported requiring additional resources to better support their leadership development. They primarily highlighted three main resources that were lacking within their work environments: time, long-term care management / administration support and commitment to nursing leadership development, and funding. One participant summarized this need by saying: "*Because there is no time, no resources and no money, ideas go nowhere*".

Participants described needing more time to develop their leadership skills as well as to carry out leadership activities within their facility. Participants described being overworked and overloaded. For instance, one participant said: "*There are lots of online resources, but there is no time to access/use them".*

Participants also described that having additional resources available to them would be quite helpful. For instance: a helpful quick reference list of specific leadership websites that are easily accessible; increased access to library resources, such as books and online journals; as well as additional support staff to help manage the workload.

Participants reported needing more funding for their facility, for additional staff, as well as funding specifically for leadership and educational development for all staff. One participant summarized these funding issues in long-term care by saying: "*Long-term care is simply under resourced and under funded*".

More specific to the leadership intervention, participants suggested the need for an additional booster weekend to continue to reinforce their leadership development. Participants also described lacking information and learning experiences about the following: conflict resolution and conflict management skills; disciplinary skills; and informed discussions about changes that could be made at the unit level that staff could implement.

Participants described having difficulty getting long-term care management and administration to acknowledge and act on the importance of nurse leadership as an integral resource in the long-term care sector. One nurse leader described challenges confronting the long-term care work environment when there was a lack of nursing leadership within the facility: "*The administration, director of food services, and new nursing administrator have no nursing background to use – this is a challenge*".

Some participants described not feeling supported by management, and at times feeling little support from staff around leadership development. This lack of support coupled with the challenge of a lack of nurses in management positions within some long-term care facilities resulted in some participants feeling that nursing leadership in long-term care settings was undervalued.

Study Limitations

The most serious limitation of the study is that there may have been other situations or changes in long-term care organizations during the study period that impacted on leadership development, work environments, responses to work environments, and intention to remain employed apart from the leadership development intervention. Perhaps the most pressing change that occurred over the course of the study was the current economic downturn and its impact on health care funding, employee perspectives, and employee attitudes that in turn may have interfered with leadership development opportunities, improvements in the work environment, responses to the work environment and intentions to remain employed. These other changes are competing explanations for the impact that the leadership development intervention had or did not have on study outcomes.

KEY FINDINGS AND CONCLUSIONS

1. Although participants in the leadership development intervention subjectively believed their leadership practices improved following their participation, participant self-reports, co-worker and supervisor assessments of aspiring and established leaders indicated only a few significant improvements. The most consistent improvement reported was increased use of cognitive leadership skills demonstrated by aspiring nurse leaders. Established leaders believed that they had improved both cognitive and supportive leadership practices after participating in the leadership development intervention. Nether co-worker or supervisor evaluations supported these self-assessments. One explanation for the few changes found on leadership behaviour use by participants includes the short period of time between testing periods which may not have allowed for changes to be observed. Perhaps more important was the perceived lack of time, funding and administrative support to practice leadership behaviours that participants reported when returning to their long-term care facilities.

2. Assessments of long-term care work environments showed few significant differences following the leadership development intervention. A lower proportion of participants reported low depersonalization scores, indicating that some participants had moved into the moderate or high depersonalization levels at post-test time suggesting poorer quality of provider-patient relationships. Ratings of organizational support increased for supervisors but decreased for participants. This change in participant ratings may signify their growing frustration at feeling unsupported within their organization to implement all that they learned at the leadership institute. One explanation for the few changes found in work environments includes the short period of time between testing periods which may not have allowed for changes to be observed. Perhaps more important were changes occurring in the economic situation and resulting fears of funding cutbacks, an uncertain future, job insecurity, and so on.

3. There were also few changes in responses to work environments from pre-test to post-test time periods. A higher proportion of participants reported experiencing high emotional

exhaustion burnout. Co-workers reported significantly higher job satisfaction scores at the post-test time period. No other changes in responses to work and work environments were found. One explanation for the few changes found in responses to work environments includes the short period of time between testing periods which may not have allowed for changes to be observed. Perhaps more important were changes occurring in the economic situation and resulting fear of funding cutbacks, an uncertain future, job insecurity, and so on.

4. There are a number of areas of the work environment and responses to work environments that received relatively low scores and require attention and improvement including work group cohesiveness, structural empowerment, organizational support, and job satisfaction. Results related to the organizational outcome of intent to remain employed are alarming. Over the next five years, 50% of long-term care staff report intending to leave employment in their current long-term care organizations. These numbers continued to increase over the time of the study. Long-term care organizations need to be active in planning and implementing strategies to retain their staff.

5. Based on the telephone interviews, participants were enthusiastic about the leadership development intervention and were strongly appreciative of the skills they learned. However, they also expressed frustration with the lack of time, management support, and resources to enact their newly acquired leadership knowledge and skills in the workplace.

SUGGESTED FUTURE RESEARCH

Based on our findings, the following are suggested areas for future research:

- Implement and evaluate a facility-wide leadership development intervention to promote leadership across all long-term care employees within individual facilities.

- Complete a longitudinal study to examine the long-term impact of the leadership development intervention on participants' use of leadership behaviours (compared to non-participants) regardless of their place of employment.

- Identify, implement, and evaluate strategies to improve long-term care work environments and staff responses to their work environments. Measure the impact that these strategies have on important organizational outcomes such as intention to remain employed.

REFERENCES

Aiken, L. H., Sochalski, J. & Anderson, G. (1996). Downsizing the hospital nursing workforce. *Health Affairs, 15*, 88-92.

Boyle, D. K., Bott, M. J., Hansen, H. E., Woods, C. Q. & Taunton, R. L. (1999). Managers' leadership and critical care nurses' intent to stay. *American Journal of Critical Care, 8(6),* 361-371.

Canadian Institute for Health Information [CIHI]. (2001). *Canada's health care providers.* Ottawa, ON: author.

Canadian Institute for Health Information [CIHI]. (2008). *Canada's health care providers.* Ottawa, ON: author.

Canadian Nursing Advisory Committee [CNAC]. (2002). *Our health, our future: Creating quality workplaces for Canadian nurses – Final report of the Canadian nursing advisory committee.* Ottawa, ON, author.

Cunningham, G. & Kitson, A. (2000a). An evaluation of the RCN clinical leadership development programme: Part 1. *Nursing Standard, 15*(12), 34-37.

Cunningham, G. & Kitson, A. (2000b). An evaluation of the RCN clinical leadership development programme: Part 2. *Nursing Standard, 15*(13), 34-40.

Eisenberger, R., Huntington, R., Hutchison, S. & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology, 71*(3), 500-507.

Fisher, M. L., Hinson, N. & Deets, C. (1994). Selected predictors of registered nurses' intent to stay. *Journal of Advanced Nursing, 20*, 950-957.

Hackman, J. R. & Oldman, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology, 60*, 159-170

Hackman, J. R. & Oldman, G. R. (1980). *Work redesign.* Reading, MA: Addison-Wesley.

Janney, M. A., Horstman, P. L. & Bane, D. (2001). Promoting registered nurse retention through shared decision making. *Journal of Nursing Administration, 31(10)*, 483-488.

Kouzes, J. M. & Posner, B. Z. (2000). *Leadership Practices Inventory: Psychometric Properties.* San Francisco, CA: Wiley.

Kouzes, J. M. & Posner, B. Z. (2002). *The leadership challenge, 3rd Edition.* San Francisco, CA: Jossey-Bass.

Krejci, J. W. & Malin, S. (1997). Impact of leadership development on competencies. *Nursing Economics, 15*(5), 235-241.

Kunaviktikul, W., Nuntasupawat, R., Srisuphan, W. & Booth, R. Z. (2000). Relationships among conflict, conflict management, job satisfaction, intent to stay, and turnover of professional nurses in Thailand. *Nursing and Health Sciences, 2*, 9-16.

Larrabee, J. H., Janney, M. A., Ostrow, C. L., Withrow, M. L., Hobbs, G. R. & Burant, C. (2003). Predicting registered nurse job satisfaction and intent to leave. *Journal of Nursing Administration, 33(5),* 271-283.

Laschinger, H. K. S., Finegan, J.E., Shamian, J. & Wilk, P. (2001). Impact of structural and psychological empowerment on job strain in nursing work settings: expanding Kanter's model. *Journal of Nursing Administration, 31*, 260-272.

Mahoney, J. (2001). Leadership skills for the 21st century. *Journal of Nursing Management*, 9, 269-271.

Maslach, C., Jackson, S. E. & Leiter, M. P. (1996). *Maslach Burnout Inventory Manual (3rd ed.).* Palo Alto, CA: Consulting Psychologists Press.

Ontario Nursing Task Force. (1999). Good *Nursing, Good Health: An Investment for the 21st Century.* Toronto, Ontario: Author. Report available at: http://www.health.gov.on.ca/english/public/pub/ministry_reports/nurserep99/nurse_rep.html

Rhoades, L. & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology, 87(4),* 698-714.

Riordan, C. M. & Weatherly, E. W. (1999). Defining and measuring employees' identification with their work groups. *Educational and Psychological Measurement, 59(2),* 310-324.

Roberts, B. J., Jones, C. & Lynn, M. (2004). Job satisfaction of new baccalaureate nurses. *Journal of Nursing Administration, 34(9)*, 428-435.

Sourdif, J. (2004). Predictors of nurses' intent to stay at work in a university health center. *Nursing and Health Sciences, 6*, 59-68.

Spreitzer, G. M. (1995). An empirical test of a comprehensive model of intrapersonal empowerment in the workplace. *American Journal of Community Psychology, 23(5)*, 601-629.

Taunton, R. L., Boyle, D. K., Woods, C. Q., Hansen, H. E. & Bott, M. J. (1997). Manager leadership and retention of hospital staff nurses. *Western Journal of Nursing Research, 19(2), 205-226.*

Tourangeau, A. E. (2003). Building nurse leader capacity. *Journal of Nursing Administration, 33(12),* 624-626.

Tourangeau, A. E., Lemonde, M., Dakers, D., Alksnis, C. & Luba, M. (2003). Evaluation of a leadership development intervention. *Canadian Journal of Nursing Leadership, 16*(3), 94-104.

Tourangeau, A. E. & McGilton, K. (2004). Measuring leadership practices of nurses using the leadership practices inventory. *Nursing Research, 53(3)*, 182-189.

Tourangeau, A. E., Stone, P. & Birnbaum, D. (2003). Hidden in plain view: The importance of professional nursing care. *Clinical Governance: An International Journal, 8(2)*, 158-163.

Volk, M. C. & Lucas, M. D. (1991). Relationship of management style and anticipated turnover. *Dimensions of Critical Care Nursing, 10(1)*, 35-40.

Wolf, M. S. (1996). Changes in leadership styles as a function of a four-day leadership training institute for nurse managers. *Continuing Education in Nursing, 27*(6), 245-252.

Appendix A: Respondent characteristics by respondent role category and for total sample

Characteristic N	Participants 52	Co-Workers 625	Supervisors 75	Total sample 752	P value*
Mean Age (SD)	42.3 (10.9)	44.3 (10.6)	51.7 (8.0)	44.9 (10.6)	<.001
Mean Years in This Type of Job (SD)	17.3 (10.8)	12.5 (9.9)	13.3 (9.5)	12.9 (10.0)	.004
Mean Years in This Facility (SD)	7.0 (7.3)	8.9 (7.8)	7.9 (7.3)	8.7 (7.7)	NS
% Female	96.2	91.5	87.1	91.4	NS
% Full Time	88.5	78.5	95.7	80.8	.001
% Permanent	100.0	95.9	100.0	96.6	NS
% Usually Working 8-Hour Shift (usual shift is 8 hours or Less)	82.7	91.5	93.7	91.0	NS
% Baccalaureate or higher Education	48.1	23.1	60.0	28.5	<.001
% Enrolled in University/College Course	19.2	12.9	13.0	13.4	NS

Notes : SD = Standard Deviation; NS = No significant difference found across respondent role categories at the .05 level; *P values refer to probability that this difference could have been found across the three role respondent categories by chance alone.

Appendix B: Assessment of leadership practices of aspiring and established leaders by respondent role category and for total sample

Leader	Aspiring Leaders					Established Leaders				
Respondent Role N Leadership Behaviours	Participant 26	Co-worker 204	Supervisor 23	Total 253	P value*	Participant 26	Co-Worker 219	Supervisor 29	Total 274	P value*
Cognitive practices	60.4 (16.1) ↑	68.2 (22.9) ↑	60.7 (21.0)	66.8 (22.3)	NS	72.0 (12.1) ↑	70.0 (21.4)	76.6 (16.0)	70.9 (20.2)	NS
Behavioral practices	77.0 (9.0)	78.7 (18.6)	73.9 (15.4)	78.1 (17.6)	NS	83.1 (7.1)	78.4 (17.3)	84.6 (11.2)	79.5 (16.1)	NS
Supportive practices	70.2 (15.2)	72.3 (23.8)	67.0 (23.5)	71.6 (23.0)	NS	76.1 (12.8) ↑	72.7 (22.4)	81.7 (12.5)	73.9 (21.0)	NS

Notes : SD = Standard Deviation; NS = No significant difference found across respondent role categories at the .05 level; *P values refer to probability that this difference could have been found across the three role respondent categories by chance alone; ↑ = significant increase in this score from pre-test to post-test 1 or 2; ↓ = significant decrease in this score from pre-test to post-test 1 or 2; Theoretical range for all scale scores is 0 to 100.

Appendix C: Characteristics of the work environment by respondent role category and for total sample

Work Environment Characteristic	Participants 52	Co-Workers 276	Supervisors 30	Total Sample 358	P-value*
**Levels of Depersonalization ** **					NS
% Low	82.7 ↓	79.0	76.7	79.3	
% Moderate	13.5	14.1	13.3	14.0	
% High	3.8	6.9	10.0	6.7	
Mean Work Group Cohesiveness (SD)	64.9 (17.7)	67.0 (21.3)	76.1 (15.7)	67.4 (20.5)	.044
Mean Work Group Communication (SD)	73.7 (17.4)	75.0 (19.5)	80.4 (14.8)	75.3 (18.9)	NS
Mean Perceived Organizational Support (SD)	78.8 (18.3) ↓	70.6 (22.5)	82.2 (19.4) ↑	72.8 (22.0)	.002
Mean Total Psychological Empowerment (SD)	81.1 (11.1)	82.4 (12.7)	89.3 (10.5)	82.8 (12.4)	.009
Mean Global Empowerment (SD)	72.1 (19.7)	71.3 (24.3)	80.6 (22.8) ↑	72.2 (23.6)	NS

Notes : SD = Standard Deviation; NS = No significant difference found across respondent role categories at the .05 level; *P values refer to probability that this difference could have been found across the three role respondent categories by chance alone; ↑ = significant increase in this score from pre-test to post-test 1 or 2; ↓ = significant decrease in this score from pre-test to post-test 1 or 2; Theoretical range for all scale scores (except depersonalization) is 0 to 100; **Depersonalization is a subscale of the Maslach Burnout Inventory and was used as a proxy for the quality of relationships between care providers and patients/residents with low levels of depersonalization meaning better quality of relationships.

Appendix D: Responses to work and the work environment by respondent role category and for total sample

	Participants 52	Co-Workers 276	Supervisors 30	Total Sample 358	P value*
N					
Response to Work					
Levels of Emotional Exhaustion **					
% Low	44.2	49.6	63.3	50.0	NS
% Moderate	28.8	26.4	20.0	26.3	NS
% High	26.9	23.9	16.7	23.7	NS
Mean Job Satisfaction (SD)	59.3 (7.8)	59.1 (9.1) ↑	60.0 (7.9)	59.2 (8.8)	NS
Mean Self-Reported Health (SD)	65.9 (22.2)	69.1 (21.4)	77.5 (22.1)	69.4 (21.7)	NS

Notes : SD = Standard Deviation; NS = No significant difference found across respondent role categories at .05 level; *P values refer to probability that this difference could have been found across the three role respondent categories by chance alone; ↑ = significant increase in this score from pre-test to post-test 1 or 2; ↓ = significant decrease in this score from pre-test to post-test 1 or 2; Theoretical range for all scale scores except emotional exhaustion is 0 to 100. ** Emotional Exhaustion is a subscale of the Maslach Burnout Inventory with scores classed as low moderate or high levels of burnout.

Appendix E: Intent to remain employed responses by respondent role and for total sample

N	Participants 52	Co-Workers 275	Supervisors 29	Total Sample 356	P value*
Career Intentions					
% Intending to stay in current job for next year	84.6	88.0	82.8	87.1	NS
% Intending to stay in current job for next 5 years	32.7	55.3	55.2	52.0	.011
% Intending to stay in organization for next year	86.5	86.5	86.2 ↓	86.5	NS
% Intending to stay in organization for next 5 years	48.1 ↓	56.0	58.6	55.1	NS
% Intending to stay in profession for next year	96.2	90.4	84.0	90.8	NS
% Intending to stay in profession for next 5 years	86.5	70.3	60.0	72.1	.022

Notes : SD = Standard Deviation; NS = No significant difference found across respondent role categories at the .05 level; *P values refer to probability that this difference could have been found across the three role respondent categories by chance alone; ↑ = significant increase in this score from pre-test to post-test 1 or 2; ↓ = significant decrease in this score from pre-test to post-test 1 or 2.