Implementing a Wound Care Resource Nurse Program

Sandra Tully, RN, BScN, MAEd, ACNP, GNC(C); Claudia Ganson, RN, BScN, ET; Pamela Savage, RN, MAEd, CON(C); Carol Banez, RN, BScN, MA Nursing; and Baiba Zarins, RN, BScN, MHS

Nurses are leaders in implementing innovations that can create positive outcomes in the prevention and management of pressure ulcers in patients admitted to acute care hospitals. Believing that nurses knowledgeable in best practices could impact prevalence, incidence, and care of pressure ulcers, an educational program was developed in a Canadian healthcare system to inform and empower nurses providing skin and wound care. The program afforded participants the opportunity to acquire the knowledge and skill to recognize patients at risk for developing pressure ulcers and to independently treat Stage I and Stage II pressure ulcers and skin breakdown related to moisture, friction, and shear. The program includes evidence-based practice recommendations and highlights the Best Practice Guidelines developed by the Registered Nurses Association of Ontario, a provincial body taking an active role in the development, implementation, and evaluation of published guidelines derived from global research literature synthesis. Pre- and post participation assessment of 65 nurse participants from three hospitals deemed the program successful in terms of knowledge and fulfillment of their educational expectations. Organizational support to implement the skin and wound care resource nurse role was encouraging and medical directives for Stage I and Stage II pressure ulcers by nurses were implemented. Evaluation and monitoring of program outcomes, including pressure ulcer incidence rates, continue.

KEYWORDS: educational program, pressure ulcers, resource nurse, best practice

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Clinicians in Ontario are continually challenged to provide quality patient care despite decreasing resources. Innovative programs that support patient-centered care, staff satisfaction, and nurse outcomes are needed, especially with regard to pressure ulcers. A study conducted among 18 acute care facilities (4,831 patients) across Canada by Woodbury and Houghton found a pressure ulcer prevalence rate of 24% to 26% in Canadian acute care hospitals between 1990 and 2003. Data were collected from peer-reviewed published literature and unpublished studies provided by the healthcare facilities or support surface companies sponsoring prevalence and incidence studies.

Nurses knowledgeable about the care patients require can decrease the incidence of pressure ulcers and increase patient and staff satisfaction. In a qualitative study involving 44 nurses in Iran, Hajbaghery et al. examined the experiences, perceptions, and strategies affecting empowerment. The results indicated that empowering nurses is a dynamic process that includes mutual sharing of knowledge and skills to promote growth and development. A hospital program that embraced a team approach, enabling nurses to mobilize resources for treatment of patients with non-traumatic shock, addressed early goal-directed therapy and appropriate treatment, subsequently improving outcomes.

Manojlovich’s descriptive study investigated empowerment, self-efficacy, and professional practice behaviors. A high (73%) response rate from 500 randomly selected nurses in 15 different facilities enabled researchers to

Ms. Tully is an acute care nurse practitioner, Ms. Ganson is an Enterostomal Nurse, Ms. Savage is a Clinical Nurse Specialist, Ms. Banez is a Clinical Nurse Specialist, and Ms. Zarins is a project manager affiliated with best practice guideline integration at University Health Network, Toronto, Ontario, Canada. Please address correspondence to: Sandra Tully, 31 Thirty-first Street, Toronto, Ontario M8W 3E7, Canada; email: Sandra.tully@uhn.on.ca.
conclude that when nursing leadership was perceived to be strong and supportive of staff, empowerment and self-efficacy within nursing increased.

Promoting leadership and best practice guidelines, imparting knowledge, and conducting relevant research are integral to advanced practice. A group of Advanced Practice Nurses and other Nurse Leaders at the University Health Network (UHN), a large academic teaching institution comprised of three hospitals in Toronto, created the Skin and Wound Care Clinical Nursing Leadership Team (SWCCNLT). The team members, including clinicians with expertise in enterostomal therapy, gerontology, and oncology, were interested in wound care and had completed the International Interdisciplinary Wound Care certificate course offered by the Department of Medicine at the University of Toronto. The purpose of this overview is to describe the development, implementation, and outcomes of one of their initiatives — a Wound Care Resource Nurse Program.

**Program Development**

The overall goals of the Resource Nurse program were to support a collaborative atmosphere among this group of nurses by promoting best practice and increasing knowledge and expertise in the prevention and management of Stage I and Stage II pressure ulcers and to develop a peer resource system. Additional objectives included participating in research, promoting cost-effective practice, and staying abreast of new developments in chronic wound care. “Graduates” of the program became Wound Care Resource Nurses.

The UHN has been designated a BPG Spotlight Organization by the Registered Nurses Association of Ontario (RNAO). To be eligible for selection, an organization must submit a proposal that indicates how the facility will implement, evaluate, and share lessons learned from implementing best practice guidelines and any associated research outcomes. Spotlight organizations partner with the RNAO to ensure best practice has a positive impact on patient care in the province. Toward this end, the SWCCNLT held a focus group to conduct a needs assessment. Nurses with an interest in wound care volunteered from each of the three hospitals at UHN in 2002 to participate in this focus group. They discussed their educational needs related to the prevention of skin breakdown and management of Stage I and Stage II pressure ulcers. The information gathered from the focus group provided the basis for program development. The most common learning needs were product recognition (including indications and his/her values and beliefs are respected in all aspects of care provided. With this in mind, staff nurses were informed about the wound care resource program and those who were interested and had their unit managers' support volunteered to attend the program. The nurses were informed that this program was based on the PCC approach to care and would follow best practice as indicated in the RNAO Best Practice Guidelines for wound and skin care.6

At UHN, prevalence and incidence data on pressure ulcers are collected on an annual basis. The UHN's pressure ulcer prevalence data were comparable to the data described in the Woodbury and Houghton project. The SWCCNLT viewed the program as an opportunity to address the nurse-sensitive outcome of hospital-acquired pressure ulcers by offering the opportunity to enhance leadership at the unit level with respect to skin and wound care.

**The program.** Baranoski and Brenczewski7 state, “without education of Healthcare Professionals any attempt to improve care for patients is likely to be frustrated.” Toward this end, the SWCCNLT held a focus group to conduct a needs assessment. Nurses with an interest in wound care volunteered from each of the three hospitals at UHN in 2002 to participate in this focus group. They discussed their educational needs related to the prevention of skin breakdown and management of Stage I and Stage II pressure ulcers. The information gathered from the focus group provided the basis for program development. The most common learning needs were product recognition (including indications

**KEY POINTS**

- Implementation of evidence-based care and clinical practice guidelines remains a challenge in many healthcare facilities.
- The authors describe the development and implementation of a skin and wound care research nurse program in three hospitals to help facilities implement available pressure ulcer prevention and treatment guidelines.
- Participating facilities were supportive and the educational programs well received.
- Assessment of the effect of this program on patient outcomes is ongoing.
and contraindications), assessment and recognition of various types of wounds, and role expectations.

The comprehensive program content was developed and presented following the logical sequence of the Sibbald and Orsted model, “Paradigm for Wound Management.” This model encourages the caregiver to treat the “whole patient,” an approach that reflects the PCC provided at the UHN. The components of the model address causative and contributing factors combined with patient concerns such as pain management, quality of life issues, education, and discharge planning. The program included assessment, planning, and evaluation of necessary care as well as accurate documentation of wounds.

Participants. Individual nurses from across UHN identified themselves as having a desire for advancing their knowledge and skills in wound care. The individual patient care unit managers supported the nurses’ participation. The participants had previously demonstrated strong interpersonal skills in effective communication among peers and other health professionals. Ultimately, the Resource Nurse would disseminate wound care management information through coordination of unit-based education and journal article reviews.

Educational activities. The nurses participated in activities designed to build teamwork and develop teaching abilities, role modeling, and consulting skills. For example, one prerequisite required that nurses had attended the hospital preceptorship program; aspects of teaching, role modeling, and teamwork were highlighted in the program.

The theory component of the program consisted of four 8-hour education sessions. The sessions were held once a month for 4 months. Between each of the formal education sessions, participants were expected to self-study via assignments and readings. Activities ranged from asking participants to complete a literature search on moist wound healing to creating a teaching plan for their colleagues incorporating the Braden Risk assessment scale into practice; aspects of teaching, role modeling, and teamwork were highlighted in the program.

The curriculum guidelines. Best practice guideline recommendations from the RNAO — “Risk Assessment and Prevention of Pressure Ulcers” and “Assessment and Management of Stage I to IV Pressure Ulcers” — were reflected in the Resource Nurse program curriculum. Both guidelines provide a comprehensive review of the existing literature to assist nurses who work in diverse practice settings in identifying at-risk adults; they also provide direction in defining early interventions. The RNAO guidelines focus on ensuring the validity and reliability of practice recommendations. Another aspect of best practice incorporated by the UHN was the adaptation of a PCC delivery model that prioritizes patient’s needs in all healthcare decisions and care planning.

Medical directives. Medical directives, defined as a prescription for a procedure, treatment, or intervention that is not patient-specific, are required to allow nurses to initiate treatment within the acute care setting. A medical directive may be implemented for a group of patients when specific conditions are met and when specific circumstances exist. In short, a medical directive provides direction as to when to perform a procedure. The SWCCNLT developed a medical directive to allow nurses to order wound care treatments for the prevention of skin breakdown and management of Stage I and Stage II pressure ulcers. Nurses were provided education via didactic instruction and case studies on the use of medical directives, followed by an opportunity to practice developing and writing wound care treatment orders.

Knowledge assessment. A pre-test was completed during the first session to demonstrate the nurses’ knowledge level at the beginning of the program; the same test was taken during the last session to determine the level of knowledge transfer. The pre- and post-testing comprised two tests. The first consisted of 27 true/false questions that focused on prevention of skin breakdown and management of Stage I and Stage II pressure ulcers.
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The second test consisted of 30 digital photographs of chronic wounds (the picture test). Supporting information about the patient and the wound was provided (e.g., wound location, depth, bone exposure). This information was necessary to augment the limitations of a one-dimensional view of the photographed ulcer. Each participant was required either to stage the photographed pressure ulcer according to his/her assessment or to identify the type of chronic ulcer (e.g., pressure, venous, diabetic foot). Nurses who successfully completed the program, as determined by attendance to all 4 days (or attendance at 3 days and completion of a make up assignment for the day missed), post test scores >80%, and completion of a clinical component, were designated Wound Care Resource Nurses.

**The role of the Wound Care Resource Nurse.** For UHN program purposes, a Wound Care Resource Nurse was defined as a Registered Nurse who functions as a clinical expert, role model, resource, and change agent in the prevention of patients’ skin breakdown related to moisture, friction, shear, and the management of Stage I and Stage II pressure ulcers. Wound Care Resource Nurses actively collaborate with the interprofessional team, patients, and their families. Additionally, they participate in quality improvement activities, pressure ulcer prevalence and incidence surveys, the implementation of the hospital pressure ulcer risk assessment tool, and wound care rounds to prevent skin breakdown through proactive risk interventions.

The Wound Care Resource Nurse complements the RNAO and the UHN partnership with particular regard to implementation of the best practice guidelines. Nurses involved in the Resource Nurse program built teamwork skills in order to transfer their knowledge among their peers through role modeling and adult teaching principles to improve patient outcomes.

**Program Evaluation and Progress**

Participants and the SWCCNLT evaluated the program. Evaluation tools included pre- and post true/false and wound photo staging tests to assess participant knowledge acquisition and written evaluations that required participants to evaluate each presentation topic and each day’s overall program using a scale of 1 (not useful) to 5 (very useful). In addition, participants were provided an opportunity to offer written comments on any aspect of the program at the end of the evaluation; 89% of participants rated the program as 4 or 5 (“not useful” [1] was never selected).

The information was reviewed by the SWCCNLT to improve the content each time the program was delivered and to ensure objectives were met. To date, 65 out of 100 participants in three programs continue to serve as Wound Care Resource Nurses at UHN. For the remaining 35 participants, some of the reasons for not continuing in the role of Resource Nurse included leaving the organization or acquiring a new job or other role opportunity within the organization. As of press time, participants in the third program have not completed the clinical portion.

Results from the pre- and post true and false tests from the first group of participants reflect a class average knowledge improvement of skin breakdown and management of Stage I and II pressure ulcers ranging from 10.5% to 12.7% (see Table 1).

The class average scores for the picture test improved from pre- to post-testing, reflecting a class average improvement of knowledge regarding identification of chronic wound type and staging pressure ulcers. Pre/post picture test data, available for two of the three programs, show that class averages for the pre/post picture tests were lower than scores on the pre/post true/false tests (see Table 1 and Table 2).

The authors acknowledge the program was not a formal research study. The fact that test questions were reviewed and revised each year could have impacted scoring, limiting review and comparison of average test scores. Averages are included to provide insight into the success or failure of knowledge transfer and program

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**TABLE 1**

**AVERAGE SCORES ON TRUE/FALSE TESTS**

<table>
<thead>
<tr>
<th>Year of Program</th>
<th>Pre-test: class average score</th>
<th>Post-test: class average score</th>
<th>Pre- to post-test improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>77.5%</td>
<td>89.5%</td>
<td>12%</td>
</tr>
<tr>
<td>2005</td>
<td>77.7%</td>
<td>90.4%</td>
<td>12.7%</td>
</tr>
<tr>
<td>2007</td>
<td>82.3%</td>
<td>92.8%</td>
<td>10.5%</td>
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evaluation, not to imply any scientific rigor of the resource nurse initiative.

However, it is interesting to note that nurses performed much higher when answering the true/false questions related to intervention and prevention as compared to chronic wound recognition and pressure ulcer staging. The authors recognize that although knowledge regarding the prevention of skin breakdown is a requirement in all basic nursing curricula, nurses did not have the same exposure or knowledge as evidenced by the majority of nurses achieving less than 80% on the pre/post picture tests.

In the first and second programs, a member of the SWCCNLT worked with participants who failed to achieve 80% correct on the picture post test to ensure knowledge transfer. This effort, offered during the clinical component of the program, utilized a variety of teaching strategies. The SWCCNLT has posted an electronic lecture and study picture test on the hospital intranet to facilitate participant review before retaking the picture post test.

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The program has been successful in obtaining strong organizational support and participants dedicated and committed to completion of homework and make-up assignments. Participants’ educational expectations were met and RN medical directives for Stage I and Stage II pressure ulcers and the skin and wound care Resource Nurse role were implemented.

The leadership team enhanced the second offering of the program by implementing the suggestions of the participants from the first program. For example, wound picture quality was evaluated and pictures discarded and replaced when appropriate and the patient care studies were revised to provide more detail and clarity regarding patient-specific plans of care. Additional small group discussion sessions were included to promote the critical thinking process in selecting treatment interventions and to practice team building and communication.

The nurses demonstrated improved knowledge and understanding of the RNAO Best Practice Guidelines. In the self-study component, results of team assignments and individual unit projects improved throughout the program, hopefully indicating a transfer of knowledge to plan and implement care.

Program limitations/obstacles. Several challenges related to this program were identified. Scheduling nurse participants to attend was challenging and attendance at all scheduled sessions was inconsistent. It was difficult to meet the diverse educational needs of the participants and the clinical component requirements in a timely manner and Resource Nurse role expectation in the clinical setting was somewhat unclear.

Within the first year of the program 26% of participants dropped out as a result of job migration — ie, nurses moving to different positions within and outside the organization — and workload management problems. These factors were shared with nurse leaders to highlight the difficulties in sustaining the program due to the demands of patient care and other related factors.

One of the most challenging aspects of the Resource Nurse Program was the lack of confidence among the Resource Nurses to use the approved Medical Directive. This phenomenon was articulated by participant discussion groups held during the program, as well as anecdotally by the SWCCNLT when reviewing healthcare records during consult interactions within the patient care setting. Although empowered to do so, the Resource Nurses remain hesitant to write medical directives to initiate wound management. This unverified finding may be the result of the nurses’ lack of confidence in clinical leadership decision-making potential or lack of team recognition and support to enact the course of treatment proposed by a nursing colleague.

Pressure ulcer incidence and prevalence rates continue to be monitored to ascertain the outcomes of the implemented prevention efforts and programs. Although no direct correlation has been established between implementation of a resource nurse program and nosocomial pressure ulcer incidence, heightened

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<tbody>
<tr>
<td>2005</td>
<td>36.6%</td>
<td>68.6%</td>
<td>32%</td>
</tr>
<tr>
<td>2007</td>
<td>43.9%</td>
<td>70.4%</td>
<td>26.5%</td>
</tr>
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* Data for 2003 not available
awareness and participation in pressure ulcer-related educational opportunities are noted.

**Sustainability.** The SWCCNLT was aware that ongoing administrative support was required to ensure the program could be sustained. The Resource Nurses were encouraged to communicate with their healthcare colleagues to articulate their role on the unit. Resource Nurses in some units conducted skin care assessment rounds, scheduled regular meetings with the unit-based leadership team, and initiated care plans to direct skin and wound care. The SWCCNLT continues to support the Resource Nurses’ clinical decision-making as they embrace their expanded role.

Quarterly educational sessions were offered to the Resource Nurses to nurture their on-going commitment as well as to advance their knowledge. The education sessions also provided an opportunity to share successes and challenges with their Resource Nurse colleagues. On average, these sessions were attended by 50% of the Resource Nurses; participant evaluations were always positive. Other activities to reinforce and impart new knowledge and skills include participation in annual prevalence and incidence surveys of pressure ulcers, shared product evaluation, and support to attend or present information about their accomplishments at conferences.

Approximately 40% to 60% of the resource nurses were recruited by the SWCCNLT to participate in data collection related to the pressure ulcer surveys. The leadership team had hoped the participation would be closer to 80% and are currently working on strategies to meet this goal.

The SWCCNLT members also mentor all Wound Care Resource Nurses who are interested in additional educational opportunities in a wound care specialty — eg, care of patients with venous ulcers, radiation skin reactions, and diabetic foot ulcers. To date, only a few nurses have taken advantage of this opportunity but many continue to attend educational sessions offered within and outside the organization.

Email is utilized to inform all Resource Nurses of pertinent information and upcoming events. A UHN Skin and Wound Care Intranet website is an additional support tool for information on current policies and product information and provides links to educational opportunities and external resources. This website is accessible from any clinical desktop computer within the organization. It is important for education planners to continually adapt and market the program to meet the challenges of the changing environment.

The Wound and Skin Care Leadership Team has considered offering this program to other institutions not only to promote best practice guidelines in the prevention and treatment of pressure ulcers, but also to offset some of the financial constraints of the program. The largest obstacle for this endeavor is time. The SWCCNLT members all have other responsibilities within their portfolios and organizational commitments; therefore, the program has not been expanded to offer the program to registered nurses not employed at UHN.

**Conclusion**

The Resource Nurse Program has been received with enthusiasm. Nurse interest in program participation is ongoing, demonstrating a perceived importance and value of this best practice initiative. The effect of this program on pressure ulcer incidence continues to be assessed.

Anecdotally, the SWCCNLT is confident that the Resource Nurse Program has improved patient care but recognizes that it is difficult to definitively measure and justify the cost and patient care benefits. Currently, the SWCCNLT is identifying specific measurement indicators to objectively validate the program.

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**References**


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