Nursing Residency Program: A Solution to Introduce New Grads into Critical Care More Safely While Improving Accessibility to Services

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Introduction
The shortage of nurses has been one of the main issues in Canadian healthcare organizations over the last decade and will probably continue to be a concern, given that a lack of 60,000 full-time equivalent nurses is expected in the country by 2022 (CNA 2009). Specialized environments, such as critical care units, have been greatly affected owing to the considerable increasing demands for their services over a short period of time (more than 80% over 20 years) (Sibbald et al. 2007). This reality has led many organizations to turn their attention towards newly graduated nurses to maintain accessibility to critical care. However, the integration of inexperienced nurses into this high-acuity setting has created a new challenge related to the training they require to provide safe-quality care.

Abstract
Purpose: Critical care units are particularly affected by the shortage of nurses. In order to overcome this problem, many organizations have increased the hiring of newly graduated nurses. This paper describes a residency program developed to facilitate the safe integration of those nurses into critical care and its outcomes.

Methods: A one-year nursing residency program dedicated to nurses with less than a year of experience was implemented in 2008. Recruitment and retention rates, as well as accessibility to critical care, were evaluated.

Results: A 46% increase in recruitment rate of newly graduated nurses was observed when comparing the same period of time before and after implementation of the program. Moreover, the one-year retention rate rose by 26%; the retention rate, without considering the time since the beginning of employment, rose by 71%. As for accessibility to critical care, it increased by 50% (from 24 to 36 beds). Finally, the program was favourably evaluated by experienced nurses in terms of skills and critical thinking development among nursing residents.

Conclusion: A nursing residency program developed to meet the needs of inexperienced nurses and integrate them into high-acuity settings appears to be one solution to resolving undesirable limited access to safe-quality critical care.

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Indeed, critical care orientation programs that were developed for nurses with medical and surgical backgrounds are often not adapted to the learning needs of newly graduated nurses. In addition, according to our observations, the dilution of expertise resulting from the integration of a significant percentage of inexperienced nurses into critical care units, combined with increasing patient acuity, has created an environment less conducive to the development of the required specialty skills among these nurses.

At our institution, by 2007 suboptimal preparation and support had resulted in a new-graduate turnover rate at one year of 43%, which was comparable to documented rates (between 35% and 61%) over the same period of time (Halfer and Graf 2006; PricewaterhouseCoopers 2007). In order to overcome the difficulties inherent in recruitment and retention of inexperienced nurses, a global strategy was undertaken in critical care units to foster a healthy work environment (AACN 2005), one characteristic of a magnet hospital (Ulrich et al. 2007). In this respect, recommendations were made and implemented with regard to the six healthy work environment standards of the American Association of Critical-Care Nurses (AACN): appropriate staffing, effective decision-making, true collaboration, skilled communication, authentic leadership and meaningful recognition. To meet the appropriate staffing standard (determined by the appropriate number of nurses and their competency), our institution proposed to develop a residency program aiming to facilitate the integration of newly graduated nurses into critical care units, similar to the one created by the University Health System Consortium (UHC) and AACN (Goode and Williams 2004). This paper describes the adaptation of the UHC/AACN program to a Canadian intensive care unit, as well as the program content and its main outcomes three years after implementation.

**Background to the Critical Care Residency Program**

Hôpital du Sacré-Coeur de Montréal is a supra-regional tertiary university teaching centre recognized for its excellence in trauma and critical care. The critical care units (intensive care and intermediate care units) are characterized by uniquely high patient acuity, as well as continuous technological innovation. Despite being very stimulating environments, the recruitment of nurses for these units declined considerably over the years, and the retention of new employees was low. The number of newly hired nurses was therefore insufficient to replace those leaving the units and consequently, between 40% and 50% of critical care beds were closed.

This problem had a variety of causes. Besides the shortage of nurses that affects many critical care units, we also recognized that the profile of nurses applying for a critical care position was an important contributor. Indeed, until the beginning of the 21st century, nurses integrating into critical care had a few years of experience in medical–surgical nursing; more recently, those showing an interest for this specialty
have been newly graduated. However, initiating a career in ICU was intimidating to many nurses, limiting recruitment possibilities. Also, the turnover of inexperienced nurses applying for a critical care position during the first year of employment was significant because they felt unprepared to face this demanding professional experience. A residency program was therefore implemented in June 2008 to overcome the issues related to integrating inexperienced nurses into critical care.

**Description of the Program**

The critical care nursing residency program put in place in our organization was inspired by that of the UHC/AACN in terms of duration, sequence of offered support, targeted knowledge and skills, the use of simulation as a central educational strategy and remuneration. One difference was that we based our program on theoretical fundamentals, leading us to employ problem-based learning cycles. Moreover, the content of our program was determined according to the specific needs of our organization. Thus, the program is of one year’s duration. It is composed of 100 hours of directed learning (reflective days), 200 hours of courses and clinical simulations and at least 500 hours of supervised clinical practice. Nursing residents are paid for those hours. Requirements for acceptance into the program are less than a year of experience after the completion of a nursing curriculum, a marked interest in critical care, an academic profile superior to the average and application for at least a 7/15 days’ position.

The main objective of the residency program is to provide the required support to newly graduated nurses, enabling them to reach competency as determined by Benner (1984). According to this author, a nurse is considered competent when she or he begins to see the nurse’s actions in terms of a plan that helps achieve efficiency and organization. Also, the competent nurse has a feeling of mastery and the ability to cope with and manage the many contingencies of clinical nursing. The fundamentals of the residency program are the competency-based approach (Goudreau et al. 2009; Lasnier 2000; Tardif 2006) and the experiential learning model (Kolb 1984). These were selected because they promote reflective practice, which allows transformative experiences in learning opportunities that guide future practice. To reach this objective, the residency program focuses on developing the following competencies (Faculty of Nursing, Université de Montréal 2010): clinical judgment, scientific rigour, humanistic behaviour, effective communication, provision of continuous integrated care, nursing leadership, professionalism and contribution to decision-making in an interdisciplinary team. Consequently, during the first six months, newly graduated nurses are paired with nurses having more than two years of experience in critical care, and educational activities are provided on a regular basis. An emphasis is placed on the acquisition of knowledge and skills to provide safe care (Table 1). Preceptors use a grid to guide and evaluate nursing residents (Table 2).
<table>
<thead>
<tr>
<th>First 6 Months of the Program (emphasis on provision of safe care)</th>
<th>Competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>June</strong>&lt;br&gt;General orientation:&lt;br&gt;8 days on basic critical care concepts and units’ functioning</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Effective communication</td>
</tr>
<tr>
<td><strong>August</strong>&lt;br&gt;Residency program – Course 1:&lt;br&gt;Physical examination&lt;br&gt;Communication: hands-off and addressing problems to physicians (Situation, Background, Assessment, Recommendations – SBAR)&lt;br&gt;Attitude at work</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Effective communication&lt;br&gt;Provision of continuous integrated care&lt;br&gt;Professionalism&lt;br&gt;Contribution to decision-making in interdisciplinary team</td>
</tr>
<tr>
<td><strong>September</strong>&lt;br&gt;Course 2:&lt;br&gt;Respiratory system and ventilation 1&lt;br.Safe administration of drugs&lt;br&gt;Course 3:&lt;br&gt;Central venous access devices&lt;br&gt;Management of pain, sedation and delirium&lt;br&gt;Family centred approach 1: Meeting family needs</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Humanistic behaviour&lt;br&gt;Effective communication&lt;br&gt;Professionalism</td>
</tr>
<tr>
<td><strong>October</strong>&lt;br&gt;Course 4:&lt;br&gt;Neurological system 1</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Effective communication&lt;br&gt;Provision of continuous integrated care</td>
</tr>
<tr>
<td><strong>November</strong>&lt;br&gt;Course 5:&lt;br&gt;12 leads ECG&lt;br&gt;Course 6:&lt;br&gt;Advanced concepts in hemodynamics</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Effective communication&lt;br&gt;Provision of continuous integrated care&lt;br&gt;Contribution to decision-making in interdisciplinary team</td>
</tr>
<tr>
<td><strong>December</strong>&lt;br&gt;Course 7:&lt;br&gt;Skin care&lt;br&gt;Mid-term evaluation</td>
<td>Clinical judgment&lt;br&gt;Scientific rigour&lt;br&gt;Humanistic behaviour&lt;br&gt;Effective communication&lt;br&gt;Provision of continuous integrated care&lt;br&gt;Professionalism&lt;br&gt;Contribution to decision making in interdisciplinary team</td>
</tr>
</tbody>
</table>
### Table 1 Continued

<table>
<thead>
<tr>
<th>Second 6 months of the program (Emphasis on emergency and complex situations)</th>
<th>Competencies</th>
</tr>
</thead>
</table>
| January | Course 8: Respiratory system and ventilation 2 | Clinical judgment  
Scientific rigor  
Effective communication  
Nursing leadership  
Contribution to decision making in interdisciplinary team |
| February | Course 9: Advanced concept in trauma  
Course 10: Family centered approach 2: end-of-life care  
Advanced concept in organ donation | Clinical judgment  
Scientific rigor  
Humanistic behaviour  
Effective communication  
Provision of continuous integrated care  
Nursing leadership  
Professionalism  
Contribution to decision making in interdisciplinary team |
| March | Course 11 Neurological system 2  
Course 12: Sepsis and multiple organ dysfunction syndrome | Clinical judgment  
Scientific rigor  
Effective communication  
Provision of continuous integrated care  
Nursing leadership  
Contribution to decision making in interdisciplinary team |
| April | Course 13: Advanced concepts in cardiothoracic surgery  
Course 14: ACLS certification | Clinical judgment  
Scientific rigor  
Effective communication  
Nursing leadership  
Professionalism  
Contribution to decision making in interdisciplinary team |
| May | Course 15: TNCC certification | Clinical judgment  
Scientific rigor  
Effective communication  
Nursing leadership  
Professionalism  
Contribution to decision making in interdisciplinary team |
| June | Final evaluation | Clinical judgment  
Scientific rigor  
Humanistic behaviour  
Effective communication  
Provision of continuous integrated care  
Nursing leadership  
Professionalism  
Contribution to decision making in interdisciplinary team |

ACCS = Advanced Cardiac Life Support; ECG = electrocardiograph; THCC = Trauma Nursing Core Course.
Table 2. Sample of the grid used by preceptors to evaluate the development of skills over time

<table>
<thead>
<tr>
<th>Weeks 1 to 4 (month 1)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill:</strong> Integrates the critical care routine and consolidates skills with regard to basic nursing procedures.</td>
<td></td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td><strong>Evaluation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Needs Supervision</strong> (date and initials)</td>
</tr>
<tr>
<td>Rapid evaluation: ABCDE</td>
<td></td>
</tr>
<tr>
<td>A–Airway (patent or not)</td>
<td></td>
</tr>
<tr>
<td>B–Breathing (quality of breathing and SpO₂)</td>
<td></td>
</tr>
<tr>
<td>C–Circulation (HR, BP)</td>
<td></td>
</tr>
<tr>
<td>D–Disability (LOC, agitation, ICP, CPP)</td>
<td></td>
</tr>
<tr>
<td>E–Exposure (bleeding, good functioning of technologies)</td>
<td></td>
</tr>
<tr>
<td>Clinical examination:</td>
<td></td>
</tr>
<tr>
<td>Physical examination</td>
<td></td>
</tr>
<tr>
<td>Head to toe</td>
<td></td>
</tr>
<tr>
<td>Para–clinic exams</td>
<td></td>
</tr>
<tr>
<td>Review of laboratory results</td>
<td></td>
</tr>
<tr>
<td>Data analysis</td>
<td></td>
</tr>
<tr>
<td>Determines the priorities for stable patients</td>
<td></td>
</tr>
<tr>
<td>Basic critical care routine:</td>
<td></td>
</tr>
<tr>
<td>• Programming and adjusting cardiac monitor alarms</td>
<td></td>
</tr>
<tr>
<td>• Hourly vital signs</td>
<td></td>
</tr>
<tr>
<td>• Hourly ins and outs</td>
<td></td>
</tr>
<tr>
<td>• Etc.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weeks 5 to 8 (month 2)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Skill:</strong> Develops the ability to recognize abnormalities, analyzes results of the clinical examination and communicates clearly those results.</td>
<td></td>
</tr>
<tr>
<td><strong>Objectives</strong></td>
<td><strong>Evaluation</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Needs Supervision</strong> (date and initials)</td>
</tr>
<tr>
<td>Chart review:</td>
<td></td>
</tr>
<tr>
<td>• Review physicians’ orders</td>
<td></td>
</tr>
<tr>
<td>• Reassess priorities according to physicians’ order’s</td>
<td></td>
</tr>
</tbody>
</table>
Preceptors receive a four-hour training session focusing on the enhancement of supervisory skills and uniformity in evaluation processes. They get a monetary bonus to act as a preceptor as determined by the local collective agreement. Also, preceptors’ workload is adjusted in collaboration with assistant head nurses to provide them the required time to mentor resident nurses according to the residents’ needs.

During the second six months of the program, residents receive mentoring from nurses who were involved in preceptorship and the clinical educator. Educational activities focus on knowledge and skills related to nursing interventions in emergency and complex situations (Table 1). The program ends following two important certifications: the Advanced Cardiac Life Support (ACLS) and the Trauma Nursing Core Course (TNCC).

In addition to clinical practice, a variety of educational strategies (Table 3) are used in the context of the critical care nurse residency program to promote the development of targeted competencies. These strategies include narration related to challenging personal situations, problem-based learning, concept mapping, reflective discussions on complex themes, case presentations and clinical simulations. The choice of these strategies was influenced by constructivism and cognitivism, the theoretical foundation of the competency-based approach (Barbeau et al. 1997; Lasnier 2000; Tardif 2006). According to these theories, learners need to take an active role in their learning and compare their perceptions with those of others (peers and teachers) during teamwork activities to construct their knowledge base. Also, these theories advocate the need to address information in an in-depth manner through such activities as summarizing and problem analysis. Clinical simulations are also fundamental to the program because this teaching strategy is recognized as creating more “context” to complement clinical practice, thus enhancing the development of critical thinking skills (Hogg et al. 2006; Hovancsek 2007; Issenberg et al. 2005; Jeffries and Rizzolo 2006; Kardong-Edgren et al. 2008; Roche 2010). In this respect, according to Issenberg and colleagues (2005) and Salas and colleagues (2006), simulations accelerate the acquisition of expertise through the provision of a structured learning experience.

| Situation–Background–Assessment–Recommendation (SBAR) approach during hands-off |  |
| Prompt recognition of changes in patients’ status. |  |

BP= blood pressure; HR= heart rate; SpO2= oxygen saturation.
Because nursing residents are expected to be well prepared before each educational activity, they benefit from one paid reflective day before each course. This strategy was deemed necessary to facilitate integration of knowledge without overchallenging residents throughout their clinical days. During reflective days, residents are expected to do the required reading according to their courses’ objectives, reflect on clinical experience and consult scientific articles to articulate their thoughts related to cases they have to present. This directed study fosters the principle that active participation in training encourages experiential learning (Goudreau et al. 2009; Kolb 1984; Lasnier 2000; Tardif 2006).

Finally, residents are evaluated throughout the program using a variety of methods. The step-by-step development of the required knowledge and skills is evaluated at least four times in collaboration with the preceptors and clinical educator. Nursing residents are also evaluated using oral case presentations, simulated oral examinations, objective structured clinical examinations and open-response written tests. These evaluation methods were selected because, according to Goudreau and colleagues (2009) and Tardif (2006), they are complex enough for learners to demonstrate how, and at what level, they can mobilize and combine the resources they have acquired to demonstrate their competencies. Nursing residents must successfully complete all evaluation activities in order to obtain residency certification.

**Data Collection**

Recruitment and retention, accessibility to critical care services and evaluation of the program by experienced nurses and nursing residents were identified as the main outcome indicators. Data were collected and analyzed by the clinical nurse specialist in collaboration with the clinical educator and head nurses of the critical care units. Information pertaining to recruitment and retention since 2005 was retrieved from a database maintained by the clinical educator. Data from 2005 were reviewed to compare periods of time before and after implementation of the residency program. The SAP (systems, applications and products for data processing) program was used to obtain data related to critical care bed accessibility. With regard to the evaluation of the program by experienced nurses, it was performed
through focus groups representing all working shifts. The groups were composed of six to 10 critical care nurses commonly involved in orientation of nursing residents. A questionnaire developed by the clinical nurse specialist was used to guide the discussion. Finally, nursing residents filled in a questionnaire aiming to collect quantitative and qualitative data on their experience of their courses and the program overall.

Results
Several positive findings were obtained after three years following the implementation of the critical care nurse residency program. Table 4 shows the results pertaining to recruitment and retention. From the beginning of the program in June 2008 to March 2011, a 46% increase in recruitment among newly graduated nurses was observed compared to the previous three-year period (46 vs. 67 nurses). The one-year average retention rate reached 71%, representing a 26% increase over the 2005–2008 period. Interestingly, the average retention rate was even higher, reaching 80%, when we isolated resident cohort number 4, which was atypical from the others. In fact, this cohort was associated with a much lower one-year retention rate compared to the other four cohorts (42% vs. 70 –100%).
Also, a 71% increase in retention rate was obtained without considering the time from beginning of employment (41% for new graduates recruited between 2005 to May 2008 vs. 71% for new graduates recruited between June 2008 to 2011). Finally, of the 41 nurses who had completed the program at the time of writing (six more will have completed the program by the end of 2011), 100% are still working in their critical care units.

Improvements in recruitment and retention of newly graduated nurses has contributed to increased accessibility of our organization’s critical care services. Depending on patient acuity, between eight and 12 beds have been opened, despite a 16% reduction in agency nurses’ working hours. Therefore, the population has access, on average, to as many as 50% more critical care beds than in 2008 (from 24 to 36 beds, including intensive care, intermediate care and coronary care units).

From another perspective, core themes that emerged from focus groups with experienced nurses indicated that the program gave preceptors the appropriate amount of time to teach the required skills to new graduates, and that these nurses developed a solid knowledge base associated with better critical thinking compared to those who had the standard orientation. Nevertheless, critical care nurses revealed that it was difficult to evaluate the development of nursing residents’ competencies objectively over a long period of time. Thus, they recommended developing a grid describing skills to be acquired for each month of the residency program.
Table 4. Results related to recruitment and retention

<table>
<thead>
<tr>
<th>Year</th>
<th>Before Program Implementation</th>
<th>After Program Implementation</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recruited</td>
<td>Year</td>
<td>Recruited</td>
</tr>
<tr>
<td>2005</td>
<td>19</td>
<td>2008 (from the beginning of the program in June 2008)</td>
<td>14</td>
</tr>
<tr>
<td>2006</td>
<td>21</td>
<td>2009</td>
<td>20</td>
</tr>
<tr>
<td>2007</td>
<td>1</td>
<td>2010</td>
<td>27</td>
</tr>
<tr>
<td>2008 (January to May)</td>
<td>5</td>
<td>2011 (January to May)</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>Total</td>
<td>67</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years</th>
<th>Retention rate at one year</th>
<th>Year</th>
<th>Retention rate at one year</th>
<th>Improvement in retention rate at one year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005–2008 (January to May)</td>
<td>57% (26/46 new graduates)</td>
<td>2008–2011 (January to May)</td>
<td>71% (47/67 new graduates)</td>
<td>↑ 26% with cohort #4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>↑ 40% without cohort #4</td>
</tr>
<tr>
<td>2005–2008 (January to May)</td>
<td>41% (19/46 new graduates)</td>
<td>2008–2011 (January to May)</td>
<td>71% (47/67 new graduates)</td>
<td>↑ 71% with cohort #4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>↑ 95% without cohort #4</td>
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</table>
Educational activities were evaluated by nursing residents, on average, at 3.7/4 on a Likert scale. As for the clinical usefulness of the program, it was rated at 3.8/4. Recurrent comments on residents’ evaluation forms highlighted the interactivity during courses, clinical scenario analysis, simulations, frequency of feedback on performance, and the belief that the program contributed to their self-confidence and decreased their fears when facing complex technologies and situations. However, residents would have preferred courses to be less condensed at the end of the year.

Ultimately, considering the comprehensiveness of the residency program, university recognition (from University of Montreal and Université du Québec en Outaouais) was obtained. Consequently, nurses with a collegial diploma in nursing who have completed the residency program might acquire credits (12 to 15) related to the critical care module at the baccalaureate level. This university recognition is presently the only one to be attributed to a hospital-based program in the province of Quebec.

Discussion

Three years after its implementation, we have demonstrated that a one-year nursing residency program based on experiential learning and competency approaches can contribute to increased recruitment and retention as well as accessibility to critical care services – this, while addressing the safety issue related to the integration of newly graduated nurses into high-acuity settings.

These positive outcomes are in many ways similar to those obtained by organizations that have implemented a residency program. A residency program in nursing is not a new concept. In fact, such programs emerged in the 1960s and ’70s to ease the transition of new graduates from school to practice (Flemmings et al. 1975; Gordon 1960; Olufson 1982). However, interest in residency programs has increased greatly since the turn of the 21st century. The significant influx of new graduates and the increase in complexity of care in diverse nursing specialties explain the re-emergence of the concept (Beecroft et al. 2001; Berkow et al. 2008; Goode and Williams 2004; Rosenfield et al. 2004).

More recently, positive outcomes such as improved retention rates (Altier and Krsek 2006; Beecroft et al. 2001; Curie et al. 2000; Halfer 2007; Krugman et al. 2006; Lindsay and Kleiner 2005; MeyerBratt 2009; Olson et al. 2001; Owens et al. 2001; Woods 2003), work satisfaction (Altier and Krsek 2006;
Beecroft et al. 2001; Krugman et al. 2006; Woods 2003), self-confidence (Beecroft et al. 2001; Krugman et al. 2006; MeyerBratt 2009; Rosenfield et al. 2004), organization and prioritization (Krugman et al. 2006), critical thinking (MeyerBratt 2009) and reduced costs due to lower turnover rates (Curie et al. 2000; Halfer 2007; Lindsay and Kleiner 2005; MeyerBratt 2009; Olson et al. 2001; Woods 2003) have been reported.

Interestingly, the residency program developed by the UHC and the AACN, which inspired our program, is now implemented at 62 sites in 28 states, and over 16,000 nurses have benefited from it (UHC/AACN 2010a,b,c). In 2007, after the implementation of its residency program in 34 hospitals, the UHC/AACN published data showing a 43% reduction in new graduates’ turnover, a decreased level of stress and improved competencies related to organization, prioritization of care, communication, leadership and teamwork (Williams et al. 2007). Most recently, a return on investment of up to 14:1 has also been demonstrated, the average turnover cost for first-year nurses being estimated at $88,000 per nurse (Jones 2008; Goode et al. 2009; Pine and Tart 2007). Finally, in 2010, a record one-year turnover rate of 4.4% was obtained across the sites where a residency program has been implemented, compared to a US national rate of 27.1% (PricewaterhouseCoopers 2007; UHC/AACN 2010a,b,c).

The positive outcomes associated with the implementation of a nursing residency program in our institution might be explained by several factors.

Addressing the education-to-practice gap
Residency programs are recognized as addressing the education-to-practice gap that makes it more difficult for new graduates to cope with today’s complex, fast-paced healthcare environments. In fact, according to the UHC/AACN (2010a,b), new nurses’ training gives them the requisite theoretical knowledge but does not provide the clinical and situational experience they need to be able to apply their own clinical judgment and contextual knowledge to care delivery. Thus, the optimal orientation program should allow new graduates to progress from advanced beginner to competent professional, a process that, according to Benner (1984), usually takes a year.

This idea was also reinforced in a systematic review of interventions to retain new graduates (Salt et al. 2008) showing that orientation programs provided over a year were associated with better retention rates compared to shorter programs. Essentially, according to Boychuck and colleagues (2004), poorly
managed student-to-nurse transition would be one of the main reasons why new employees leave their initial jobs seeking work environments more closely aligned with their values and aspirations.

Beyond the importance of addressing the student-to-nurse transition, our experience also revealed that new graduates must have as prerequisites a profound interest in the specialty and be highly motivated to develop the required competencies. For example, many of the candidates from cohort number 4 chose the residency program mainly to work with classmate friends and were therefore not meeting identified prerequisites. This might explain the low retention rate associated with that specific cohort.

Acquisition of essential skills
As with the UHC/AACN residency program (Goode and Williams 2004), our program gives new graduates the opportunity to acquire knowledge and skills and to develop competencies identified by nursing experts as essential, including safety, clinical decision-making/critical thinking, organizing and prioritizing, evidence-based practice, communication, role socialization, and delegating and supervising (National Council of State Boards of Nursing 2009; Spector and Echternacht 2010; Spector and Li 2007).

Requirements for retaining young nurses
The residency program addresses recognized requirements for retaining generation Y nurses, specifically, their need for professional development (Arhin and Cormier 2007; Hayes et al. 2006; Lavoie-Tremblay et al. 2002, 2008a, 2010a, 2011; Martin 2005) and a supportive environment (Arhin and Cormier 2007; Bowles and Candela 2005; Boychuck et al. 2004; Laschinger et al. 2001; Hayes et al. 2006; Lavoie-Tremblay et al. 2002, 2008a,b, 2010a,b, 2011; Wai Chi Tai et al. 1998) by providing continuing education and comprehensive support from preceptors and a clinical educator throughout the year. Regular evaluations and releases from clinical practice to attend educational activities, and teaching strategies used during those activities (e.g., case analysis, simulations) also give opportunities to nursing leaders to respond to generation Y nurses’ desire for frequent feedback (Bogdanowicz and Bailey 2002; Glass 2007; Hill 2002; Kupperschmidt 2001; Lavoie-Tremblay et al. 2008a,b; 2010a; Martin 2005) and teamwork collaboration (Kupperschmidt 2001; Lavoie-Tremblay et al. 2008; McVicar 2003).

Other strategies
Although the residency program was cited by new graduates as the main
reason that critical care attracted them, other strategies were implemented concomitantly and might explain, in part, the positive outcomes obtained. One of these strategies was the implementation of the AACN healthy work environment standards. Indeed, these standards were implemented a year before the residency program. Furthermore, work scheduling was reviewed, and nurses integrating into critical care units have had access to 12-hour shifts and day–night rotations, as in most of Montreal’s other healthcare organizations.

Conclusion
The need for critical care nurses is likely to expand in the next 30 years, given innovations in technology and increased complexity of care for an aging population. It will be important for organizations to recruit new graduates, but especially to implement strategies to retain them after these nurses have chosen a career in critical care. A residency program that allows inexperienced nurses to develop the required competencies to work in complex settings, and to integrate competencies optimally, is one solution that merits serious consideration. In times of economic constraint, such a program may appear to be a luxurious initiative. Yet, evidence shows that these programs in fact reduce costs by decreasing nurses’ turnover – and this calculation doesn’t even take into account the capital that might be saved from improvements in patient safety. Nursing residency programs should therefore be contemplated as a means for organizations to meet their objectives with regard to population services while staying in good financial health.

Acknowledgements
The authors gratefully thank France Morissette, associate director, nursing development, for her insightful comments on previous versions of this manuscript. We also thank Johanne Salvail, director of nursing; Sylvie Charlebois, associate director of nursing; Nathalie Brière and Louise Voyer, head nurses of the Critical Care Units; as well as the team of intensivists for their support during the implementation of the critical care nursing residency program.

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