

ADVANCES

Integrating nurse practitioners into Canadian emergency departments: a qualitative study of barriers and recommendations

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ABSTRACT

Objective: The objective of this study was to identify the facilitators and barriers associated with integrating nurse practitioners (NPs) into Canadian emergency departments (EDs) from the perspectives of NPs and ED staff.

Methods: We conducted 24 semi-structured interviews with key multidisciplinary stakeholders in 6 Ontario EDs to gain a broad range of perspectives on implementation issues. Data were analyzed using a grounded-theory approach.

Results: Qualitative analysis of the interview data revealed 3 major issues associated with NP implementation: organizational context, role clarity and NP recruitment. Organizational context refers to the environment an NP enters and involves issues related to the ED culture, physician reimbursement system and patient volume. Role clarity refers to understanding the NP's function in the ED. Recruitment issues are associated with attracting and retaining NPs to work in EDs. Examples of each issue using respondent's own words are provided.

Conclusion: Our study identified 3 issues that illustrate the complex issues involved when implementing NPs in EDs. The findings may inform policy makers and health care professionals in the future development of the role of NPs in Canadian EDs.

Key words: Nurse practitioner, facilitators, barriers, implementation, emergency medicine

RÉSUMÉ

Objectif : Cette étude visait à identifier les éléments de facilitation et les obstacles liés à l'intégration des infirmières praticiennes (IP) dans les services d'urgence du Canada, du point de vue des IP et de celui du personnel des urgences.

Méthodes : Nous avons effectué 24 entrevues semi-structurées avec les principaux intervenants multidisciplinaires de six urgences en Ontario pour obtenir un large éventail de perspectives sur les enjeux de l'affectation. Une théorie à base empirique a servi à l'analyse des données.

Résultats : L'analyse qualitative des données des entrevues a révélé trois principaux enjeux liés à l'affectation des IP : contexte organisationnel, clarté du rôle et recrutement des IP. Le contexte organisationnel est le milieu où arrivent les IP et comprend des enjeux liés à la culture du service d'urgence, au système de rémunération des médecins et au nombre de patients. La

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clarté du rôle se rapporte à la compréhension de la fonction des IP à l'urgence. Les enjeux du recrutement sont liés aux mesures à appliquer pour intéresser les IP au travail dans les urgences et les maintenir en poste. Des exemples de chaque enjeu sont formulés dans les termes des répondants.

Conclusion : Notre étude a identifié trois éléments illustrant les enjeux complexes de l'affectation des IP aux urgences. Les constatations peuvent informer les décideurs et les professionnels des soins de santé aux fins de l'élaboration future du rôle des IP dans les services d'urgence au Canada.

Introduction

Emergency department (ED) overcrowding is a complex system issue that results in increased wait times, challenges to appropriate care delivery and adverse patient outcomes (CAEP 2007).¹ Various Canadian and US sources indicate that a significant proportion of patients visiting most EDs are there for primary care.²⁻⁴ Although these patients are not the primary cause of ED overcrowding, there are longer waiting times and possibly a reduced quality of care for these patients.^{5,6} To accommodate more patients, nurse practitioners (NPs) in the United States⁷ and, more recently in the United Kingdom, Australia^{8,9} and Canada have begun to manage patients who present to EDs with non-urgent and primary health care needs.¹⁰

Introducing NPs into an ED affects the physicians, nursing staff and other health professionals.¹¹ Several studies have been conducted in the United Kingdom¹² and Canada^{10,13} that have examined the implementation of NPs into health care settings. The findings from these studies underscore the importance of preparation, autonomy, role clarity and support by other staff members when introducing NPs into a hospital setting. However, other than the small qualitative study by Tye and Ross,¹² there is little information about how to integrate NPs in a Canadian ED. The 2 above-mentioned Canadian studies^{10,13} employed larger samples, but generally focused on departments outside the ED. An exploration of ED staff perspectives is clearly needed. Further, the 2 Canadian studies relied on ranking possible facilitators and barriers. It is possible that this method did not address all relevant issues involved in NP implementation. One advantage of a qualitative approach is that respondents provide their information without being prompted by specific items and researchers can therefore be more certain that the responses given are important to the respondent.¹⁴ The purpose of this study was to explore, using a qualitative approach, the facilitators and barriers to integrating NPs into Canadian EDs.

Methods

Sample

We identified 20 hospitals in Ontario that employed one or more NPs in their ED in the past 3 years by contacting key informants from the ED Managers of Ontario Committee, the Nurse Practitioner Association of Ontario and the provincial government funding agency. The principle investigator contacted the ED managers, who were responsible for the administrative and personnel duties of the ED and asked for permission to use their ED for data collection. Of the 20 ED managers we contacted, 18 agreed to participate in the study. We used proportional quota sampling¹⁵ to select 6 hospitals from the possible 18 to reflect differences in geographic location, patient volume, affiliation with teaching hospitals and models of physician reimbursement.

At each hospital, an NP, a physician, a registered nurse and the ED manager were invited to participate in the study. Of the 24 ED staff members contacted, all agreed to participate. As an incentive to participate, we offered participants \$100.

Data collection

Data collection took place between January and February 2003. Data was collected by face-to-face interviews with 16 participants and via telephone with 8 participants. Face-to-face interviews took place at a private location, either at the hospital where the participant worked or at another location chosen by the participant. Interviews ranged in length from 45 minutes to 1.5 hours. Content from the interviews was audiotaped and transcribed verbatim.

A semi-structured interview protocol guided the interviewers, who started with broad questions such as, "Why do you think the ED introduced the NP into the ED?" The remaining interview questions focused on reasons for introducing the role, the role of the NP, what would make the role more effective, whether integrating the NP was a good idea and the participant's involvement in the implementation progress. Probe questions were prepared to

elicit more information or garner more clarity from the respondent, if necessary. The principal investigator carried out all interviews.

Ethical considerations

The Ethics Review Boards of participating hospitals as well as McMaster University approved the study. We obtained informed consent from all participants and confidentiality was maintained. All identifying information from the interview transcripts was removed and each participant was assigned a unique code. This code was used to attribute comments during analysis.

Data analysis

We analyzed data using a grounded-theory approach.^{16,17} Data analysis was iterative and proceeded in several closely linked stages as follows:

1. becoming familiar with the data by rereading transcripts;
2. identifying recurrent topics or comments;
3. developing a topic index;
4. using an index to code the data;
5. combining related topics into themes;
6. further collapse or refinement of categories;
7. interpreting the analysis into a narrative.

Data management was conducted using NVivo software (version 2.0, Qualitative Solutions and Research, Victoria, Aus.). The principal investigator, a medical anthropologist, and 2 graduate student research assistants reviewed the transcripts. To ensure the accuracy of the findings, the principal investigator and the 2 graduate student research assistants met frequently to discuss the ongoing review of the transcripts and the findings from the data analysis.

Results

The majority of the 6 EDs selected were located in urban settings (66.7%), were affiliated with teaching hospitals (66.7%), had an annual patient volume greater than 30 000 (83.3%) and remunerated physicians through an alternative payment plan (66.7%). These EDs generally provided primary health care services to the community at large; one ED provided health care services to a predominately pediatric population. Five EDs employed primary care NPs and 1 employed an acute care NP. All of the NPs had less than 4 years of experience.

The majority of ED managers (100%), NPs (83.3%) and registered nurses (100%) were female; and the majority of the physicians were male (83.3%). All of the ED man-

agers, 3 of the registered nurse, and 2 of the physicians had more than 10 years of professional experience. One registered nurse and 1 physician had 5 to 9 years experience, and 1 physician had 3 to 4 years experience. One registered nurse and 1 physician did not report their length of experience.

Three major themes, or issues, emerged from the data analysis: organizational context, role clarity and NP recruitment. Table 1 shows each of these issues and provides a conceptual definition and examples. Each major issue is outlined below, with short verbatim extracts from the interviews to illustrate the points raised.

Organizational context

All of the respondents noted gaps in the current health care system, such as a lack of family practitioners in their communities or the fact that the hours of operation of family practitioners' offices conflicted with families' work schedules. According to 17 respondents, this resulted in more patients using the ED for their non-urgent and primary health care needs. Three ED managers reported that the strain created by patient volume was compounded by the already high workload in the ED and that physicians were generally difficult to recruit and retain. Therefore, changes in the ED structure were deemed necessary to better manage the increasing patient volume and improve patient flow, which in turn facilitated the integration of the NP:

We were perhaps not meeting the needs of patients who presented with minor, but still concerning, problems. . . they would wait longer

Table 1. Definitions and examples of the key issues

Key issue	Definition	Examples
Organizational context	The organizational environment of the ED	Increased patient volume; increased waiting times; ED culture; physician remuneration issues
Role clarity	Understanding the NPs role	Formalized, clear job description; familiarity with the NP's role; strategies to increase awareness of or build support for the NP's role
NP recruitment	Recruiting and retaining NPs to work in EDs	Awareness of hiring efforts; background in emergency medicine; autonomy to work the in the ED; regulatory and legal issues

ED = emergency department; NP = nurse practitioner.

periods of time, they wouldn't get the time and attention of the staff who might be pulled away to the more acute patients. . . So we saw a natural marriage between [the NPs] strengths and our gap of care (ED manager 4).

Regardless of the ED demands, 17 respondents reported that integrating the NP was easier if the ED was affiliated with a teaching hospital or if the ED culture was exceedingly collegial or collaborative.

Moreover, 17 respondents described how physicians on a fee-for-service payment system created a barrier to introducing the NP role into the ED and often prevented the NP from working within his or her full scope of practice. Conversely, 7 respondents reported that physicians, who were working for a salary or within an alternate funding agreement, facilitated the integration of the NP:

Well I, I think there would have been issues had, had we still been on fee-for-service. . . because inevitably the nurse practitioner ends up seeing a lot of the simpler cases and the doctor on-call is uh left with the more complex cases and the simpler cases are sort of their bread and butter. . . Since we did have the alternate funding agreement. . . there was no barrier from the physicians (physician 2).

Role clarity

Twenty respondents reported that clearly defining the NP role was essential to successful integration and that it was easier to integrate the NP into an ED if the staff had previous experience working with an NP. The registered nurses in particular were uncertain of how the NP differed from a nurse and a physician. While there appeared to be little resistance from the nursing staff, one area of conflict was highlighted when other nurses were asked to carry out orders on patients seen by the NP. Some nurses thought the NP should carry out his or her own orders:

Well at first it was a little bit confusing. . . she is also an RN so it was like 'Well what does she do. . . does she count as an RN. . . or. . . is she more like a physician role?'. . . So then we had to meet at first and set some guidelines as to what was her scope of duty and what was ours. . . it causes little rifts sometimes. . . (registered nurse 2)

Although a written job description may be helpful to set the stage for role implementation, ongoing discussions and refinement of the NP's role were important. Four respondents indicated that one of the reasons that the NP's role was so often poorly defined was because it had been so swiftly implemented. In all 6 hospitals, there was separate funding for the NP position. While funding was clearly a facilitating factor, the respondents reported that the time set aside to clearly define the NP's role before

their arrival was inadequate. In fact, the respondents indicated that advanced discussion of the role was an important step in preparing staff and building ongoing support for the NP:

The physician not knowing if this is a nurse, knows beans about the nurse practitioner program, scope of practice, credentialing, expertise. . . doesn't really have any sense of. . . advanced nursing practice and is woefully ignorant. . . so that's the piece we should have done. . . (ED manager 4)

Recruitment of the NP

One of the barriers to integrating the NPs was associated with their recruitment to work in the ED. Thirteen respondents observed that NPs were generally unaware or uninterested in positions available to them in EDs:

[We] had been recruiting for a year plus. . . [the NP] shared with us is that when she was even going into the [NP] program they were being told. . . don't bother trying to specialize in emergency department because they're not hiring. . . (ED manager 4)

Seventeen respondents reported that one of the most important factors associated with fruitless NP recruitment efforts was that an NP had more autonomy working in the community than he or she did in an ED. Under current Ontario legislation, known as the Public Hospital Act, the NP's scope of practice is restricted by what he or she can prescribe and order (e.g., x-rays), and a patient cannot be discharged without first seeing a physician. However, 2 NPs reported that they circumvented current provincial and hospital legislative barriers through medical directives:

[W]hen I first started. . . I sort of was reassured that, that the by-laws of the hospital would be changed and then. . . I could just do. . . do my thing. That didn't really pan out so, so we, I did create medical directives for everything within the nurse practitioner's scope. (NP 2)

Another factor that affected the NP recruitment involved their skills and background experience. Fifteen respondents reported that one of the most important skills for the NP to possess, and which helped accelerate the integration process, was having a background in emergency medicine. Moreover, the NPs who were successfully recruited and integrated into the EDs were described as team players. They were adaptable and flexible to the ED needs and would function as a nurse when required:

I don't replace a physician but I'm an addition to the physicians. . . In addition to that, I do some of the nursing tasks. . . I certainly do, do a lot of nursing tasks. . . If I'm suturing I'll do, I'll do the dressing as well. (NP 5)

Table 2 lists the major findings and possible recommendations for implementing the NP into an ED.

Discussion

Primary care NPs have recently been introduced into a number of Ontario EDs to attend to patients with primary health care needs. These NPs are registered nurses who have been educated at a baccalaureate or masters level and have completed primary health care NP education programs that provide them with advanced knowledge and decision-making skills in assessment, diagnosis and health care management for individuals of all ages. NPs work within an extended scope of practice, which, according to Ontario's Expanded Services for Patients Act,¹⁸ allows them independent authority to communicate a medical diagnosis, prescribe certain medications, and order specific laboratory tests, x-rays and diagnostic ultrasounds. According to a recent systematic review of 11 randomized controlled trials and 23 observational studies comparing NPs and medical doctors on 1 or more of 3

outcomes (patient satisfaction, costs and process of care), NPs provide care comparable to medical doctors in a primary care setting, although NPs spent more time with patients.¹⁹ The NP role is steadily becoming part of mainstream health care delivery in emergency settings. The findings from this study are consistent with implementation issues reported in previous studies.^{10–13,20,21} For example, Tye and Ross¹² identified 5 major issues involved with implementing an NP into EDs: blurring role boundaries, managing uncertainty, individual variation, quality versus quantity and organizational context. Blurring role boundaries and managing uncertainty involved role clarity. For example, registered nurses thought it was the NP's responsibility to carry out his or her own treatments. Individual variation involved the need to select the right person for the NP role. Quality versus quantity concerned perceptions that NPs spent a long time with each patient and did not match the patient throughput of the doctors. Organizational context concerned human resource issues that impacted the NP's workload. For example, owing to nursing staff shortages, the NP frequently had to do traditional nursing duties.

In a Canadian context, Van Soeren and Micevski¹⁰ surveyed 69 staff members (14 NPs, 12 physicians, 9 ED managers, and 34 registered nurses) from various departments at 4 Ontario hospitals and found that for all groups the most important factor for successful role implementation was the level of preparation of the NP. The barriers identified involved lack of knowledge regarding the NP role, and a perceived lack of support and mentorship from administration and physicians. In another more recent Canadian study involving 365 NPs and 718 physicians from various departments,¹³ the factors identified for successful role implementation included a shared vision between NP and staff, a definition of the NP role, having good team dynamics and having a well-prepared NP. The barriers included lack of knowledge and clarity about the NP role, perceived lack of support from administration and physicians, and physician reimbursement issues (in particular, the fee-for-service model).

Limitations and future study

There are several limitations in this study. First, this sample is from one Canadian province, thus the results may not be generalizable to other jurisdictions. However, we attempted to improve generalizability of the results by sampling hospitals across Ontario that represented various geographic, patient and hospital size differences as well as interviewing key stakeholders at each hospital

Table 2. Summary of major findings and recommendations for implementing an NP into an ED

Major finding	Recommendations
Physician remuneration is effected by NP hiring	<ul style="list-style-type: none"> • Consider the effects of NPs on physician remuneration prior to introducing the NP role • Conduct regular meetings with staff, administration and billing personnel to review changes
NPs have limited emergency medicine experience	<ul style="list-style-type: none"> • Develop internships in teaching ED settings for NPs who want to improve their emergency medicine experience • Encourage physicians to participate in NP mentoring programs • Consider prolonged orientation programs for NPs with limited ED experience
NP role is not well defined	<ul style="list-style-type: none"> • Conduct a needs assessment before introducing an NP to determine in what ways the role is desired or needed • Educate the ED staff and patients about the nature and scope of the NP's role before such a role is implemented
Conflicts over roles of the NP and registered nurses	<ul style="list-style-type: none"> • Have regular meetings between the NP and the nursing staff to define and clarify roles
Compared with community practice, the NP's role in the ED is limited	<ul style="list-style-type: none"> • Develop hospital-specific medical directives to deal with limited scope of practice • Consider long-term funding to attract and retain NPs

NP = nurse practitioner; ED = emergency department.

who were directly involved with the NP. All respondents were encouraged to provide not only their own perceptions, but also those of their colleagues. Another limitation was that we employed a cross-sectional design. To fully understand the implementation issues, ED staff would need to be followed over time, beginning when the NP role is first integrated. Despite these acknowledged limitations, our results reinforce and build on existing research in this area,^{10-13,20,21} thus providing convergent validity.

While the introduction of NPs may not be appropriate for all EDs, NPs can help ensure that patients with non-urgent and primary health care needs receive the quality of care they deserve.^{19,21} Individual EDs should first identify their own needs in concert with an examination of their current resources. The results from this study illustrate the issues involved when implementing an NP position in an ED and will, we hope, help to guide policy makers and health care professionals in future developments of NP roles in EDs. Although this study discussed how to implement the NP role and found that the majority of the respondents believed that integrating the role was a good idea, this study did not discuss the related but separate question of whether NPs should be integrated into EDs. Recent research in the United Kingdom comparing NPs and physicians in health care settings revealed that NPs working within agreed guidelines provide safe and effective care, comparable to that of physicians, for patients with minor injuries and that patients are satisfied with the quality of care they receive.^{19,22,23} However, NPs tend to spend more time with patients making the costs of such a service greater.^{19,22} Future research should evaluate the clinical and cost effectiveness of services provided by NPs in EDs working in the United States and Canada as well as patient's perspectives and preferences for health care delivery to determine whether NPs are needed in EDs. Moreover, the aforementioned implementation issues are presumably not restricted to the introduction of primary care NPs to EDs. Future research should examine whether similar issues exist with the introduction of other alternative care providers, including acute care NPs or physician assistants, into ED settings.

Conclusion

Our findings build on previous research and illustrate that introducing NPs into Canadian EDs is associated with a combination of organizational, personal, professional and legal issues. The 3 major issues identified as

facilitators and barriers were organizational context, role clarity and NP recruitment. These 3 issues underscore the complex issues involved in implementing NPs into Canadian EDs.

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