Nurse Practitioner Role Implementation in Ontario Public Health Units

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ABSTRACT

Objectives: To identify the barriers and facilitators associated with the implementation of the nurse practitioner (NP) role in Ontario's public health units (PHUs), the NPs' job satisfaction, and the relationship between NP job satisfaction and practice dimensions.

Methods: This descriptive study involved a postal survey of all NPs (N=29) working in Ontario PHUs.

Results: Twenty-eight (96.5%) NPs completed the survey. The facilitators to role implementation most often identified by the NPs were management support, the NPs' knowledge of the PHU programs, and access to PHU programs for their clients. The barriers most often cited were being the only NP working in the PHU, inadequate salary, and lack of coverage when the NP was away. When working with community physicians, the most common facilitators were the trust shown by physicians when making shared decisions and physician respect for the NP. The most common barriers were the unwillingness of specialist physicians to accept referrals from the NP and physicians' lack of understanding of the role. Overall, the NPs were satisfied with working in the PHU, satisfied with their collaborative relationship with physicians and minimally satisfied with their salaries.

Conclusion: NPs have recently been introduced in PHUs in Ontario. A number of factors have facilitated role integration. At the same time, a number of barriers to their role implementation have been identified and if addressed, can contribute to the optimal utilization of this role in PHUs.

Key words: Nurse practitioners; public health; primary health care; role implementation; job satisfaction

About six percent of nurse practitioners (NPs) practicing in primary health care settings in Ontario work in public health units (PHUs).[1] NPs are "registered nurses with additional educational preparation and experience who possess and demonstrate the competencies to autonomously diagnose, order and interpret diagnostic tests, prescribe pharmaceuticals and perform specific procedures within their legislated scope of practice" (p.4).[2] Primary health care nurse practitioners (NP-PHCs), also known as Family NPs, typically work in the community in settings such as community health centres, family health teams, long-term care and public health[3] and their main focus is health promotion, preventive care, diagnosis and treatment of acute minor illnesses and injuries, and monitoring and management of stable chronic diseases. Horrocks and colleagues conducted a systematic review in which they identified 11 randomized trials and 23 observational studies evaluating NPs and concluded that they are safe, effective primary health care practitioners.[4]

Several funding initiatives assisted some PHUs to introduce NPs. The NP Cervical Cancer Pilot Project (2000-2003) initiated by the Ontario Ministry of Health and Long-Term Care (MoHLTC) enabled five PHUs to each hire an NP to conduct cervical screening.[5] Initially funded for five years (2001-2006), Health Canada's Early Child Development Program Prenatal-Postnatal NP Initiative (PPNP), which was administered through the Ontario Ministry of Children and Youth Services, awarded funds for an NP to each of ten PHUs. These NPs provided prenatal and postnatal health care to pregnant women and young children.[6,7] As well, PHUs applied for several MoHLTC funding opportunities for NPs to address the shortage of primary health care services in communities. These funding opportunities consisted of the Nurse Practitioner Demonstration Project, the Primary Health Care Transition Fund, and the Underserviced Area Program.[8] The PHU is a unique and recent practice setting for NPs; it is important to identify the factors associated with the successful implementation of the NP role.

Despite the funding of NP positions in some Ontario PHUs, these PHUs experienced difficulties recruiting and retaining NPs.[9] This descriptive study sought to identify the NPs' perceptions of barriers and facilitators associated with the implementation of their role in Ontario's PHUs, the NPs' job satisfaction, and the relationship between NP job satisfaction and practice dimensions.

METHODS

Ethics approval for this study was obtained from the McMaster University Research Ethics Board.

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Table 1.   Age and Education of Respondents (N=28)

Characteristic	Number of Respondents (%)
Age (years)	
25-35	2 (7.1)
36-45	18 (64.3)
46-55	7 (25.0)
56-65	1 (3.6)
Education*	
Diploma	7 (25.0)
BScN	17 (60.7)
Baccalaureate (other)	4 (14.3)
Primary Health Care NP certificate	25 (89.3)
Master's in Nursing	4 (14.3)
Master's (other)	3 (10.7)

*   % Total greater than 100% due to multiple responses

Table 2.   Barriers Identified by NPs (N=28)

Barrier	Number of Responses (%)
Being the only NP working in this PHU	14 (50.0)
Salary of NP	14 (50.0)
Coverage when NP is away on vacation, ill	13 (46.4)
Employer knowledge of NP role	12 (42.9)
Time spent traveling from home to practice setting	12 (42.9)
Dealing with complex social issues of clients	11 (39.3)
Union membership	8 (28.6)
Employer support of NP role	7 (25.0)
NP involvement in developing proposal for this role	4 (14.3)
After hours coverage	4 (14.3)
Receiving clerical support	4 (14.3)
NP involvement in developing this NP role	3 (10.7)
Support from management	3 (10.7)
NP's linkage with PHU programs	3 (10.7)
Working with PHNs	3 (10.7)
Knowledge of PHU programs	2 (7.1)
Conducting home visits	2 (7.1)
Access to PHU programs	1 (3.6)
Support from NP colleagues employed in the same PHU	1 (3.6)
Being consulted by PHU staff	1 (3.6)

Subjects and setting

All NPs who held Registered Nurse in Extended Class [RN(EC)] certification, were employed by a PHU in Ontario, and maintained an active clinical practice were invited to participate in the study. These NPs were employed in contract, part-time or full-time capacities.

To locate eligible NPs, the investigator (ADG) spoke with clerical or nursing staff and/or managers in all 36 PHUs in Ontario. Through these telephone inquiries, it was determined that 29 NPs were employed. Snowball sampling did not identify any other NPs working in Ontario PHUs.

Data collection

The survey was developed by adapting a questionnaire used in a study to identify barriers and facilitators associated with the implementation of the NP role in all primary health care settings in Ontario.[10] Additional items were developed based on the results of studies conducted on NPs in Ontario PHUs[5,6] and the literature review.

The questionnaire was designed to collect data about the NPs' demographic characteristics, funding source, practice patterns, professional support, relationship with physicians, practice setting and model as well as barriers and facilitators to their role implementation. NPs were asked to indicate on six-point Likert scales (1 = very dissatisfied; 6 = very satisfied) their global satisfaction with their roles in the PHU, their salaries and their working relationship with collaborating physicians.

Four NPs who did not meet the inclusion criteria were invited to pretest the questionnaire for clarity and length. Based on their feedback, minor revisions were made to the questionnaire. Two weeks later, three NPs completed the questionnaire again, providing similar answers both times.

In January 2007, the questionnaire was mailed to the 29 NPs working in Ontario's PHUs. Included with the mailed questionnaire package were: a personalized cover letter that described the study, a stamped return envelope, a $2.00 coffee shop gift certificate and a ballot to participate in a draw for one of five subscriptions to a health-related journal of choice. Follow-up was conducted with non-respondents two to three weeks after the initial mail-out. The investigator (ADG) telephoned them to ensure that they received the survey package and to address any questions or concerns about the survey.

Analysis

Descriptive statistics included frequencies, means and standard deviations. Associations between NP practice dimensions such as time spent in clinical activities and job satisfaction were analyzed. Because the sample size was small, the data were mostly continuous and ordinal, and testing of several variables violated assumptions for parametric statistical testing, associations were assessed using Spearman correlation.[11,12]

Several survey questions required short written responses. Since the sample was small, the investigator (ADG) was able to code these responses twice (separated by a one-week interval) in order to ensure consistency.

RESULTS

All but one of the 29 NPs (96.5%) returned completed questionnaires. All were female, the majority of whom were between 36 and 45 years of age, had BScN degrees and post-baccalaureate NP certificates (Table 1).

NPs working in PHUs in Ontario were experienced nurses. On average, they had worked as a registered nurse (RN) (including their work as NPs) for a mean of 20.6 years and had practiced as an NP for an average of 6.2 years. The majority were practicing in sexual health programs (71.4%). Some NPs practiced in the Prenatal-Postnatal Initiative (21.4%) and a few (7.1%) practiced in other areas, such as primary health care. They spent most of their time providing clinical care (69.4%), followed by clerical work (7%) and education (7%). Just over half (53.5%) did not receive coverage from another NP when they were absent from work. Most respondents (89.3%) worked in an area designated as being under-serviced for physicians. Of the 19 PHUs that hired NPs, 11 PHUs (57.9%) employed one NP, 6 PHUs (31.5%) employed two NPs, and two PHUs (10.5%) employed three NPs.

Barriers and facilitators associated with the implementation of the NP role

Respondents were given a list of factors that may have hindered (barriers) or helped (facilitators) their NP practice and their relationship with the community physicians. They were asked to check all the barriers and facilitators that applied to them and then rank the top five barriers and facilitators. Respondents could also give written answers to questions exploring some factors known to be facilitators or barriers such as orientation, union membership and ability to practice within full scope.

The three barriers that NPs most frequently identified were: being the only NP working in the PHU, inadequate salary, and lack of coverage when the NP was away on vacation or ill (Table 2). The three highest ranked barriers were: being the only NP working in

Table 3.   Top Ranked Barriers

Barrier	Rank 1	Rank 2	Rank 3	Number of Respondents Who Gave Top Ranking	Percentage of Total Respondents (N=28) %
Being the only NP working in this PHU	5	4	2	11	39.2
Salary of NP	4	2	3	9	32.1
Employer knowledge of NP role	3	6	0	9	32.1
Time spent traveling from home to practice setting	3	4	1	8	28.5
Employer support of NP role	3	1	2	6	21.4
Receiving clerical support	1	2	1	4	14.2
Dealing with complex social issues of clients	1	1	2	4	14.2
Coverage when NP is away on vacation, ill	1	1	1	3	10.7
Union membership	1	1	1	3	10.7
NP involvement in developing this NP role	1	1	0	2	7.1
Being consulted by PHU staff	0	0	1	1	3.6
Access to PHU programs	0	0	1	1	3.6
NP's linkage to PHU programs	0	1	0	1	3.6
Working with PHNs	0	0	1	1	3.6
Support from management	0	0	1	1	3.6

Table 4.   Facilitators Identified by NPs (N=28)

Facilitator	Number of Responses (%)
Support from management	22 (78.6)
Knowledge of PHU programs	22 (78.6)
Access to PHU programs for clients	22 (78.6)
Working with PHNs	21 (75.0)
NP involvement in developing this NP role	21 (75.0)
Being consulted by PHU staff	20 (71.4)
NP's linkage to PHU program	20 (71.4)
Linkage with other community agencies	20 (71.4)
Employer support of NP role	19 (67.9)
Receiving clerical support	19 (67.9)
Employer knowledge of NP role	13 (46.4)
Union membership	13 (46.4)
NP involvement in developing proposal for this NP role	13 (46.4)
Salary of NP	11 (39.3)
Support from NP colleague employed in same PHU	10 (35.7)
Working with Family Home Visitors	8 (28.6)
Coverage when NP is away on vacation	8 (28.6)
After hours coverage	7 (25.0)
Dealing with complex social issues of clients	6 (21.4)
Conducting home visits	3 (10.7)
Being the only NP working in this PHU	2 (7.1)
Time spent traveling from home to practice setting	2 (7.1)

the PHU, inadequate salary, and poor employer awareness of the NP role (Table 3). Similarly, in written responses, the NPs identified these themes as negative aspects of their roles. The theme of professional isolation arose because the NPs reported being the sole NP in the PHU (7/28, 25%), working on their own (1/28, 3.6%), and not being part of a team (7/28, 27%).

The most frequently identified barriers specific to the relationship between the NPs and community physicians were: the unwillingness of specialists to accept referrals from the NP (53.5%), physician lack of understanding of the NP role (42.8%) and the personality and philosophy of the physicians (35.7%). Barriers ranked most highly specific to this relationship were: the unwillingness of specialists to accept referrals from the NPs (53.5%) and the lack of respect shown by the physicians (46.4%). Respondents commented positively on the support from the clinic or consulting physician (3/28, 10.7%) and negatively about the lack of understanding of their role by other health care providers (4/28, 14.2%).

The three facilitators that most NPs identified were: the support received from their managers, NPs' knowledge of PHU programs, and access to PHU programs for their clients (Table 4). The three highest ranked facilitators were: employer support of the NP role, NP involvement in developing their role, and support from management (Table 5). As well, respondents noted the advantages of the health promotion focus (12/28, 42.8%) of the NP role, working with PHNs in operating a nurse-run clinic (12/28, 42.8%), autonomy (6/28, 21.4%), and the public health philosophy (5/28, 17.8%).

The most frequently identified facilitators specific to the relationship between NPs and physicians were: trust shown by the physician in making shared decisions (57.1%), respect shown by the physician (42.8%) and the personality and philosophy of the physicians who worked with the NPs (46.4%). These same factors had the highest rankings.

Some variables were identified as both barriers and facilitators; for example, union membership was identified as a barrier by 28.6% of NPs and as a facilitator by 46.4%; and the personality and philosophy of the physician was identified as a barrier by 35.7% and as a facilitator by 46.4%. Respondents who were in favour of union membership liked the benefits of job security (9/15, 60%), better working conditions (4/15, 27%), salaries and benefits (4/15, 27%) and having a pay grid (1/15, 6%). Respondents averse to union membership cited issues related to being under-represented (4/9, 44%), not having NP needs addressed by unions (1/9, 11%), lack of flexibility with salary and benefit negotiation (1/9, 11%) and a pay grid that did not reflect their years of experience (1/9, 11%).

About half the NPs felt they were able to practice to their full scope of practice (53.6%). Those NPs who did not feel that they practiced to their full scope identified restrictions often related to the parameters of their program, which were influenced by Mandatory Health Program Service Guidelines (MHPSG) and the funding that the PHU program received from the provincial government. The MHPSG set out the minimum requirements for public health programs and services targeted at disease prevention, health promotion and health protection.[13] The Ontario Public Health Standards, 2008 (OPHS) have replaced the MHPSG.[14]

Satisfaction with workplace, collaborating physician and salaries

Using a six-point Likert scale, the mean job satisfaction score was 4.5 (median and mode = 5.0). These findings indicate that the NPs were "satisfied" in their workplace. As well, 35.7% reported that they intended to work five years or more in their PHU. NPs were generally "satisfied" with their collaborative relationship with the physician (mean, median and mode = 5) and minimally satisfied with their salaries (mean = 4, median and mode = 5).

Relationship between NP practice dimensions and NP job satisfaction

There was a positive correlation between the work satisfaction of the NPs and their satisfaction with their collaborative relationship

Table 5.   Top Ranked Facilitators

Facilitator	Rank 1	Rank 2	Rank 3	Number of Respondents Who Gave Top Ranking	Percentage of Total Respondents (N=28) %
Employer support of NP role	9	4	0	13	46.4
NP involvement in developing this NP role	6	4	3	13	46.4
Support from management	2	2	6	10	35.7
Access to PHU programs	3	3	3	9	32.1
Receiving clerical support	6	1	2	9	32.1
Knowledge of PHU programs	6	0	1	7	25
NP involvement in developing proposal for this NP role	4	0	3	7	25
Employer knowledge of NP role	2	3	1	6	21.4
Working with PHNs	2	2	2	6	21.4
Linkage with community agencies	1	1	3	5	17.8
Support from NP colleagues employed in PHU	4	1	0	5	17.8
NP's linkage with PHU programs	1	1	3	5	17.8
Being consulted by PHU staff	1	1	0	2	7.1
Salary of NP	2	0	0	2	7.1
Working with Family Home Visitors	0	1	1	2	7.1
Union membership	1	0	0	1	3.6
After hours coverage	1	0	0	1	3.6

with the physician ($r = 0.59$, $p<0.01$) and their salaries ($r = 0.59$, $p<0.01$), and an inverse relationship between their work satisfaction and the number of orientation events they attended ($r = -0.34$, $p<0.01$) and the number of barriers present in their relationships with the community physicians ($r = -0.46$, $p<0.05$). There was an inverse relationship between NP job satisfaction and the proportion of time spent in clinical activities ($r = -0.399$, $p<0.05$). There were no statistically significant relationships between NP job satisfaction, years they intended to work in the PHU ($r = -0.25$), number of practice locations they worked at ($r = 0.26$) or number of PHU staff to whom they were accountable ($r = 0.13$).

DISCUSSION

Most of the barriers and facilitators identified were consistent with the findings of the survey of NP-PHCs in Ontario,[10] a recent survey of NP-PHCs in Ontario,[3] qualitative program evaluations of NPs in PHUs,[5-7] and a scoping literature review on collaboration between primary care and public health.[15]

A surprising finding was the inverse relationship between NP job satisfaction and the amount of time they spent providing clinical care. This is in direct contrast to the findings of an earlier Ontario survey.[10] This inverse relationship may exist for several reasons. It is possible that some PHU NPs feel overwhelmed by the clinical demands of their role given their solitary work environment and isolation from other PHU staff. As well, the PHU employer may perceive the PHU NP role to be more of a physician replacement, especially in under-serviced areas or in PHU sexual health clinics.

A lack of time to focus on the other dimensions of the APN (Advanced Practice Nursing) role including education, research, leadership and professional development may also explain this finding.[16] APNs value the non-clinical aspects of their role and these activities contribute to their role satisfaction.[17,18] Although the PHU NPs valued their clinical practice, as evidenced by the high priority they placed on providing care to vulnerable populations, their qualitative responses also reflected their appreciation for the health promotion and disease prevention aspects of their role. These components were assigned the top priority as positive aspects of their role and were identified as being an advantage to situating the NP role in the PHUs.

While a strength of this study is its high response rate, telephoning each PHU to speak with the clerk or manager may have inadvertently missed potential respondents because these PHU staff

may not have been aware of whether an NP was working in another PHU program. The small sample size, albeit representing most of the population, may have lacked the power to detect significant relationships.

This study used global measures to assess the satisfaction of the NPs with their roles, their salaries and their working relationship with collaborating physicians. Such measures are highly subjective and may be influenced by the events that are occurring at the time that the respondent completes the survey.

Implications

This study identifies the barriers and facilitators specific to NP role implementation in Ontario PHUs and factors associated with NP job satisfaction. This information can be used to improve role integration in these settings. Further PHU-based investigations should explore the impact of unions, the NPs' collaborative-consultative relationships with physicians, the negative correlation between NP job satisfaction and clinical practice, and perceptions of managers and physicians about the NP role in this setting. Given that PHUs are having difficulties recruiting and retaining NPs, interviews with those who leave these positions may be informative.

Previous studies on the experiences of PHUs that employed NPs have shown that NPs have effectively reached their target populations[5-7,10] and integrated into public health services. [5-7,10] Yet, the funding for their positions has been unstable.[5,6,10] The emergence of NP roles in Ontario PHUs heralds an era of innovative nursing initiatives and service delivery for the clients of PHUs. These NPs need to be supported and the facilitators and barriers to their full integration addressed in order to successfully implement their roles.

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RÉSUMÉ

Objectifs : Définir les éléments qui entravent et ceux qui favorisent l'implantation du rôle des infirmières praticiennes (IP) dans les bureaux de santé publique de l'Ontario, la satisfaction professionnelle des IP et le lien entre la satisfaction professionnelle et divers aspects de l'exercice de la profession.

Méthode : Étude descriptive avec enquête postale auprès de toutes les IP (N=29) travaillant dans les bureaux de santé publique de l'Ontario.

Résultats : Vingt-huit IP (96,5 %) ont répondu au sondage. Les éléments le plus souvent cités comme favorisant l'implantation du rôle des IP étaient l'appui de la direction, la connaissance des programmes du bureau de santé publique par les IP et l'accès à ces programmes pour leurs clients. Les obstacles les plus souvent cités étaient le fait d'être la seule IP à travailler dans le bureau, le salaire insuffisant et l'absence de remplaçants pour les IP. Quand les IP travaillent avec des médecins communautaires, les éléments les plus souvent cités comme favorisant leur implantation étaient la confiance manifestée par le médecin dans la prise de décisions partagées et le respect du médecin envers l'IP. Les obstacles les plus courants étaient le refus des médecins spécialistes d'accepter les personnes dirigées par l'IP et le manque de compréhension du rôle des IP par les médecins. Globalement, les IP étaient satisfaites de leur travail dans les bureaux de santé publique, satisfaites de leur collaboration avec les médecins et marginalement satisfaites de leur salaire.

Conclusion : La présence des IP dans les bureaux de santé publique de l'Ontario est récente. Un certain nombre de facteurs ont facilité leur intégration. Simultanément, des obstacles à l'implantation de leur rôle ont été cernés; l'abolition de ces obstacles pourrait contribuer à optimiser l'utilisation des IP dans les bureaux de santé publique.

Mots clés : infirmiers praticiens; santé publique; soins de santé primaires; implantation du rôle; satisfaction professionnelle