Research Article

Interprofessional Collaboration: Co-workers' Perceptions of Adding Nurse Practitioners to Primary Care Teams

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ABSTRACT

Background: In 2005, nurse practitioners (NPs) were introduced into primary healthcare in British Columbia, Canada. However, no evaluation had been conducted to assess the integration of this new role. Aim: To describe the impact of adding NPs to primary healthcare teams, one of several themes to emerge as part of a larger study.

Methods: This study used a multi-phase mixed methods design. This included surveying NPs about their practice patterns, and surveying and interviewing professionals who worked directly with NPs.

Results: Three themes related to collaboration emerged, including expectations for the role, interprofessional collaboration, and appropriateness of NP practice.

Conclusion: Participants regarded the impact of adding an NP to primary healthcare teams as beneficial. This was demonstrated through the three emerging themes related to collaboration.

Keywords: Nurse Practitioner, interprofessional collaboration, interdisciplinary collaboration, healthcare teams, role integration.

'How this fits in with quality in primary care'

Interprofessional collaboration is recognized as an important means of improving patient care. Collaboration has been defined as all health professionals working collegially as a team in an environment of trust, respect and open communication. Team members openly share their knowledge and expertise with each other and decision making and problem solving occurs naturally among members. This study adds to the knowledge of how NPs collaborate within multidisciplinary teams in primary care.

-What do we know?

There is growing recognition that collaboration improves the patient care. NPs are increasingly collaborating with physicians and others in caring for patients.

-What does this paper add?

This paper contributes to the knowledge of interprofessional team members' perceptions of barriers and facilitators to interprofessional practice and the value of working with NPs collaboratively.

Introduction

In 2005, 50 years after the nurse practitioner (NP) role was created in the United States, it was introduced in British Columbia (BC), Canada. NPs are licenced and regulated by the College of Nurses of BC (CRNBC). NP is a protected title and only nurses who have completed a Masters in Nursing NP program, passed licensing examinations and are registered with the CRNBC may use the title[1].They practice from a holistic nursing perspective and autonomously diagnose and treat acute and chronic illnesses, including prescribe medications.[1] The Provincial government's early expectations were that NPs would increase access to safe, competent care, and fill gaps in the healthcare system through interprofessional collaboration.[2-4]

Interprofessional collaboration has been defined as all health professionals working collegially as a team in an environment of trust, respect and open communication. Collaborative team members share their knowledge and expertise with each other. Decision making and problem solving occurs naturally among members.[5] Collaboration allows for seamless patient transitions, safe patient care, and efficient professional practice.[6] The Canadian Nurse Practitioner Initiative lists interprofessional collaboration as a key component to successful NP integration.[7] Similarly, the CRNBC expects NPs to practice collaboratively in providing safe, appropriate and integrated healthcare.[1]

The purpose of this multi-phase, mixed methods study was to evaluate the integration of NPs into the BC healthcare system and to determine changes that occurred when NPs became members of healthcare teams. As collaboration is associated with patient safety, and integrated care[1], it is critical to evaluate whether NPs are practicing collaboratively, and the perceptions of those with whom they practice. These results are important as they support the BC Ministry of Health's (MOH) strategic focus on primary care and interprofessional collaboration. The aim of this paper is to describe co-workers' perceptions of collaborating with NPs.

Methods

The integration study began in 2011, after obtaining approval from the University of Victoria's Human Research Ethics Board and other appropriate ethics boards, and continued until 2014. Details of all methods used in the larger study may be found in Sangster-Gormley et al.[8] In this arm of the study we obtained permission and adapted the Primary Care Physician Survey-Role of Nurse Practitioners tool, used to evaluate NP role integration in Ontario, [9] to survey co-workers of NPs. We used the term co-worker to identify all professionals and non-regulated personnel who routinely worked with NPs. The survey included demographic information such as role and length of time working with NPs and open and closed-ended questions related to expectations of NPs, facilitators and barriers to integration, understanding and acceptance of the NP role, and the effectiveness of collaboration with NPs. The survey is available upon request. We administered the co-worker survey in Year Two and survey findings were used to inform questions asked during interviews with co-workers. The interviews were conducted in Year Three. Interviews lasted 30 to 60 minutes and included questions related to the participant's working relationship with the NP.

Recruitment strategy

In Year One, NPs in BC were invited to participate in a practice pattern survey (PPS). In order to include the perspective of co-workers, in Year Two we asked NPs who participated in the PPS, and agreed to participate in other research activities, to distribute surveys to their co-workers. Completion of the survey was voluntary and return of the completed survey to the research team indicated informed consent. See Sangster-Gormley et al.[8] for detail of recruitment strategies.

Data analysis

The quantitative co-worker survey data were analyzed using descriptive statistics in Excel. Co-worker interview transcripts were transcribed verbatim and imported into NVivo-10 along with the open-ended co-worker survey responses for thematic analysis.

Results

In total, 68 co-workers participated, either in the survey (n=38) or through interviews (n=30). A response rate is not possible, as we did not collect information related to the total number or types of professionals with whom NPs collaborate. All surveys and interviews were anonymous.

Quantitative results

Participant roles are presented in Table 1. Positions categorized as administrators included directors of care and mangers; nurses included registered nurses (RNs) and licensed practical nurses (LPNs); non-regulated professionals included care workers and child and youth workers; and other health professionals included social workers, pharmacists and other NPs. Participants had a mean of 2.6 years of experience working with NPs (range = 3 weeks to 8 years).

Generally co-workers indicated on the survey that NPs were performing as expected and they understood and accepted the role. Participants were asked to rank the top facilitators and barriers to NP integration out of a list of twelve. Top facilitators included acceptance of the role, the knowledge and abilities of the NP and the structure of the NP-physician working relationship as essential to NP role integration. A summary of the closed-ended survey responses are presented in Table 2.

At the same time, co-workers identified the structure of the NP-physician working relationship and others' acceptance and understanding of the NP role as primary barriers to integration. Indicating that the structure of working relationships and co-workers' understanding and acceptance of the role can help or hinder NP integration. In this study, understanding and acceptance of the NP were facilitative as indicated by co-workers' responses (Table 2). We triangulated qualitative data

Method	Category of Co-worker					
	Administrator	Nurses	Physician	MOA*	Non-regulated professional	Other Health Professional
Survey (n=38)	3	8	9	9	4	5
Case Study interviews (n=30)	7	4	4	5	3	7
Total	10	12	13	14	7	12

Table 1: Co-worker Participants.

* medical office assistant

Table 2: Survey Results.

Question	Responses	n	%
Is the NP performing as expected?	Yes	30	88%
	No	1	3%
	n/a	3	9%
Factors facilitating effective NP integration	Acceptance of the NP role in this practice setting	23	61%
	Knowledge and abilities of the NP	14	37%
	Acceptance of the NP role by patients	13	34%
	The structure of the MD and NP working relationship	13	34%
		15	40%
Factors creating barriers to effective NP integration?	The structure of the MD and NP working relationship	9	24%
	Acceptance of the NP role in this practice setting		
	Understanding of the NP role in this practice setting	8	21%
	Acceptance of the NP role by patients		
		8	21%
How well is the NP role understood?	Fully understood	9	24%
	Understood by most	21	55%
	Poorly understood	4	11%
	Cannot comment	4	11%
How well is the NP role accepted?	Fully understood	11	29%
	Understood by most	21	55%
	Poorly understood	2	5%
	Cannot comment	1	3%
How effective is collaboration/consultation?	Scale of 0 to 10: 0 = "not at all effective" 10 = "extremely effective"	Mean = 9	

with quantitative results.

Qualitative results

Using thematic analysis of co-workers' responses to open-ended survey questions and interviews we identified three themes: 1) expectations for the role, 2) collaboration, and 3) appropriateness of NP practice.

Expectations for the role: In open-ended questions, co-worker participants were asked about their early expectations of the NP role. Most respondents indicated that they expected the NP to be a team member. Generally, administrators expected NPs to fill gaps in care for underserved populations and to act as a resource person for other nurses and health professionals. Furthermore, nurses expected NPs to assess, diagnose, and prescribe treatment, especially for underserved populations. Finally, physicians expected NPs to practice independently by assuming responsibility and managing their own practice.

The above survey item was followed by a question asking participants whether this was the role the NP was now performing, as indicated in Table 2 above, 88% answered "yes." One physician participant commented that the NP was doing more than expected:

I expected her to help in patient care, I didn't expect her to take on a role in helping manage clinic, which is a bonus.

Collaboration: In interviews with co-workers, they described collaboration as: a strong team providing care for patients, NPs assisting with unexpected patient issues, working together as colleagues, and NPs increasing the knowledge and skills of other team members through one-on-one education. One co-worker commented that he felt more professional pride

as a result of working with the NP and regarded the NP as a role model. Physicians commented that NPs were another provider who could:

Take care of the patient load, help to share patients with complex care and chronic disease management. It helps us financially too because she takes care of all those parts (of chronic disease management) and for us it's just a popping in there and making sure, and we can still keep seeing patients.

During interviews other co-workers commented that:

[NP] manages some of our maternity patients and gynecological issues if we have a GP who is more comfortable with them going to [NP] or the patient would be more comfortable, we collaborate on that basis.

Sometimes she's a lifeline because she's the one person who pretty much always will respond if you need somebody.

Similarly, open-ended survey responses from co-workers indicated that NPs were respected and integral to the team.

[NP] and I have worked together for a long time and have a good relationship. We supported each other and collaborated on NP role planning, implementation and evaluation.

The management was 100% supportive of the NP role within the organization which gave the NP confidence and the tools needed to do the job.

Survey data (Table 2) indicated that co-workers perceived collaboration and consultation with the NP to be extremely effective.

Appropriateness of NP practice. Co-worker survey

participants were asked about their perceptions of whether there was any duplication of work or if there were activities that the NP could be or should not be performing. In a closed-ended question, fewer than half of the 38 co-worker participants responded, however they did not believe that there was any inappropriate duplication of work between themselves and the NP. A few of those who perceived NP practice to be appropriate also suggested increasing the numbers of NPs to save the healthcare system money, as this co-worker participant stated:

I would like to see more NPs in our healthcare system to provide easier access to service, save money, provide more time with patients, work more closely with nurses and allow physicians to deal with more complicated health issues.

Some co-worker participants commented that NPs should have increased prescriptive authority, particularly for controlled drugs and substances; and increased authority to complete paper work, such as do-not-resuscitate, disability, and Workers' Compensation Board forms.

When asked if there were activities the NP should not be doing, most co-worker survey participants responded "no." Two participants commented that the NP role was too broad, and NPs should not do work RNs could perform and one administrator commented:

There are a few nurses and physicians that do not think the NP is needed or are resistant to the NP because they think only doctors should practice medicine.

In spite of these comments, the majority of co-worker survey participants did not believe NPs were performing any inappropriate duplicate activities; indeed they were performing as expected (Table 2).

Discussion

Through this study, three themes related to collaboration emerged: expectations for the role, interprofessional collaboration, and appropriateness of NP practice. Our findings were similar to that of others who found that NPs contributed to teams functioning efficiently and effectively.[10]

In another study in Nova Scotia, Canada, the researchers found that physicians, RNs, LPNs, pharmacists, receptionists, dieticians, social workers, physiotherapists, and other NPs felt that their NP colleagues had met or exceeded their expectations.[11] This was based on a survey assessing qualities related to the NP's management of health, communication, and professional accountability and leadership.[11] This is similar to our study findings whereby the majority of co-workers noted their expectations of NPs were met.

Some physicians expected NPs to work independently in a physician-like role by assuming responsibility and managing their own practice. This could be a reasonable expectation if an experienced NP is hired, but has the potential to be problematic. Admittedly, NPs are hired into positions and expected to be another provider and team member. However if the NP is a recent graduate, the first year after graduation is a time of transition and most likely the NP will need mentoring and support.[12,13] Given that co-workers indicated the structure of the NP-MD relationship influences NP integration, if a physician is working with a newly registered NP in need of mentoring and support, this should be clarified, and accepted by the physician and NP before the NP is hired.

In our study, facilitators and barriers to integration were similar, where the presence or absence of a given characteristic was supportive or a hindrance to integration. For example, the "structure of the MD-NP working relationship" could act as a facilitator (e.g. a supportive relationship between the physician and NP) or a barrier (e.g. an unsupportive relationship between the physician and NP). The facilitators and barriers to NP integration identified in this study are similar to those determined previously.[14,15] Lack of understanding of the role results in confusion and uncertainty of how NPs contribute to patient care. It also impedes NPs' abilities to contribute to the team or patient care delivery.[16] Collectively, our findings emphasize the importance of acceptance and understanding of the role by others, and equally important, the structure of the NP-physician working relationship. Consequently, ensuring structures that promote team members working together collaboratively is vital.

Contributions

This research offers the perspective of a variety of healthcare professionals who work with NPs. As well, it provides quantitative and qualitative findings, including in depth descriptions from the interviews. Qualities related to interdisciplinary collaboration were grouped into three categories, which also provide a deeper description of what collaboration means for participants.

Interprofessional collaboration is associated with patient safety, and appropriate and integrated care, and competencies expected of NPs in BC[1]. These findings suggest that NPs are meeting the expectations of co-workers and collaborating on interdisciplinary teams. Findings also identify facilitators and barriers to integration, and the appropriateness of NP practice. In summary, both co-workers and NPs were satisfied with the collaborative relationships they had established with each other. Adding NPs to healthcare teams was identified as beneficial, as evidenced through the co-worker surveys and interviews.

Limitations

NP PPS participants who had indicated their willingness to participate in other components of the larger study were asked to distribute surveys and invitations to participate in the interviews to their co-workers. This method limited our recruitment, resulting in only 38 survey respondents. However, it provided a strong basis for developing questions for the semi-structured interviews.[8]

Conclusion

In summary, the impact of adding NPs to primary healthcare teams involved in this study was beneficial. Overall, co-workers were satisfied with their relationships with NPs and teams functioned collaboratively. The significance of adding NPs to teams included having another provider to increase access for patients and the chance for team members to learn from NPs. Another key benefit was collegial relationships between NPs and other team members.

ETHICAL APPROVAL

Ethical approval was obtained from the University of Victoria Human Research Ethics Board, as well as from the ethics boards of all health authorities which were involved in this study.

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SOURCE OF FUNDING

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