

Introducing a nurse practitioner: experiences in a rural Alberta family practice clinic

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Objective: To report on the experiences of introducing a nurse practitioner (NP) into a rural physicians' clinic in Taber, Alberta.
Design: Case study, grounded theory qualitative approach.
Setting: A rural community-based family practice in Taber, Alberta.
Participants: Twenty relevant stakeholders, including physicians, office staff, Regional Health Authority health professionals and community members.
Method: Open-ended interviews supplemented with a patient survey, billing and work time records.
Main findings: Successful introduction of the NP in the Taber clinic relied on: 1) flexibility in the first stages of developing the role; 2) strong connections to key individuals outside the clinic to maintain integration with the community; 3) support and guidance provided by a mentor group who assisted in developing positive working relationships; and 4) cost sharing (matched with benefits) by the clinic and provincial health system for sustainability of the position.
Conclusions: The NP role in Taber was viewed positively by clinic physicians and other stakeholders because of high patient satisfaction with the NP, billing potential that surpassed salary costs, and increased integration of physician services with RHA initiatives.

Objectif : Présenter un compte rendu des expériences découlant de l'arrivée d'une infirmière praticienne (IP) dans une clinique médicale rurale à Taber, en Alberta.
Conception : Étude de cas, approche qualitative fondée sur une théorie à base empirique.
Contexte : Cabinet de médecine familiale communautaire en milieu rural à Taber, en Alberta.
Participants : Vingt interlocuteurs pertinents, y compris des médecins, des membres du personnel de bureau, des professionnels de la santé de la régie régionale et des membres de la communauté.
Méthode : Entrevues ouvertes complétées par un sondage auprès des patients et étude des dossiers de facturation et des heures de travail.
Principales constatations : L'implantation réussie de l'IP dans la clinique de Taber a reposé sur 1) la flexibilité au début de l'élaboration du rôle; 2) de solides liens avec des personnes clés en dehors de la clinique afin de maintenir l'intégration dans la communauté; 3) l'appui et l'orientation d'un groupe de mentors qui ont aidé à établir des relations de travail positives; 4) le partage des coûts (jumelés aux avantages) entre la clinique et le système de santé de la province pour assurer la viabilité du poste.
Conclusions : Les médecins de la clinique et d'autres intervenants ont jugé positivement le rôle de l'IP à Taber en raison de la satisfaction élevée des patients à l'égard des services de l'IP, de la possibilité de facturer plus que les coûts salariaux et de l'intégration accrue des services médicaux aux initiatives de la régie régionale de santé.

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Introduction

Governments across Canada are pushing for more nurse practitioners (NPs) on primary health care teams. But what does this mean for physician clinics? This paper reports on the experiences of a rural physician clinic in Taber, Alberta. In this case study, we report on qualitative findings about the introduction of the NP role that provide information specific to the experiences of Taber physicians, clinic staff, health region employees and community members.

Twenty years ago in Alberta, NPs worked only in isolated northern areas. Currently there are approximately 140 NPs working in urban and rural areas, and in both acute care and primary health care settings. The professional role is now controlled by legislation[1] and rostered with the provincial nursing association.[2] NPs are registered nurses (RNs) who hold advanced levels of education and experience beyond that of an RN. They carry their own liability insurance, and are able to perform tasks such as diagnosing, prescribing and treating medical conditions within established guidelines. NPs primarily work as part of interdisciplinary teams, and are currently employed in critical care units, active treatment hospital wards, and primary health care settings, as well as isolated northern sites. The Taber project is one location where an NP was integrated into a team of health care professionals providing primary health care services for a community.

NP initiatives with provincial government support are increasing throughout the country.[3–7] Articles in nursing journals report positive outcomes from the introduction of NPs in Canadian locations.[8,9] But so far only a few articles have investigated the impact on a physician clinic of hiring an NP. Way and colleagues[10] identified differences in services provided by NPs compared with family physicians (FPs) in an Ontario clinic and suggested that NPs could be more effective in a clinical setting by increasing their role in managing acute episodic and stable chronic illnesses. Other studies found that NPs were equally cost-effective as family physicians,[11] and quality of care was equal to that provided by physicians, with higher levels of patient satisfaction.[12] These findings are somewhat at odds with a recent study in the Netherlands showing that efficiencies may not result from introducing NPs.[13]

Most literature suggests that NPs can be an effective addition to the primary health care team. But questions remain about situating them inside physician clinics in Canada. Through the analysis of data from this case study, we attempt to answer the following questions: How has the NP role had an impact on perceptions about the delivery of primary health care services in Taber? How can the role be supported financially? and How have changes in working relationships been made as part of introducing the new role? We answer these questions through the analysis of qualitative interviews with key health care and community individuals.

Methods

In 2000, the Taber clinic of 8 physicians entered into a government-sponsored pilot project designed to try out innovative arrangements for integrating primary health care services.[14,15] In addition to an alternative payment plan based on capitation funding, the clinic introduced an NP as a key component of the project. The term of the official project was 2000–2003. But since the NP continued working after the project ended, we report not only on information gathered during the project, but also on statistics available after the completion of the pilot project.

The clinic advertised widely to fill the NP position. The successful candidate held appropriate credentials and had experience working in a northern community. A management team was created to provide support and guidance for the NP. Team members included a physician leader, clinic manager, project coordinator, and a Regional Health Authority (RHA) chronic disease program manager. During the developmental phase, the team met quarterly to guide the development of role parameters and to provide a forum for discussion of logistical issues. After the first year, the role was more established and the team met annually to review accomplishments and provide advice.

We followed a grounded theory approach because we were interested in answering questions about processes of change, and there were no established theoretical frameworks that could be tested.[16,17] We identified key informants who were familiar with the Taber clinic and the role of the NP. These individuals provided a starting point for our snowball sampling methodology.[18] In addition, the NP provided a list of people with whom she worked on a regular or project basis. Over a period of 6 months, we interviewed all individuals willing to be interviewed, who worked with the NP in any capacity.

Interview transcripts provided the primary data source for this part of the research project. To supplement the qualitative data, we analyzed survey data and billing records that were part of the overall research project. Physicians and the NP kept billing

records throughout the project, even though remuneration mechanisms changed to a population-based payment plan. These records were kept in order to evaluate the project overall. For our study we also reviewed local and provincial archival data related to the Taber project in particular, and NPs throughout the province.

Individual interviews lasted from 30 to 60 minutes. They were transcribed and then analyzed with the assistance of qualitative analysis software (QSR-N6). Themes from the data were identified through an iterative process, cycling back and forth between data generated in the field and general concepts about implementing the new role.[19,20] Since our goal was to understand not only what happened, but also *how* the NP role was integrated with processes of change, we focused on developing themes related to process theories.[21]

This study was approved by the Research Ethics Committees at the University of Alberta (Faculty of Business) and the Chinook Health Region in Alberta.

Results

Four doctors, 4 clinic staff, 9 RHA employees and 3 community members took part in the interview process. All interviewees were overwhelmingly positive about the role of the NP. They each identified key aspects of the role that contributed significantly to the overall success of the Taber project. In the early stages of employment, the NP was given flexibility to meet with a variety of individuals in the health care system and broader community. It was during this initial phase that important relationships were established. These connections with key individuals provided a strong foundation for subsequent initiatives, and all interviewees discussed the importance of developing trust in the NP as a critical factor for success. As well, all interviewees pointed out aspects of the NP role that served to more tightly connect the Taber clinic with the broader health care community.

Below we report our findings in 3 broad subcategories. These question areas reflect the broad issues that all our interviewees addressed when asked to explain "How have things changed since the NP was hired?"

I. Has the introduction of the NP improved health care services? If so, how?

Consistent with findings from the UK,[10,11] physicians and the NP reported that patients who consulted the NP were very pleased with services received. Other indicators of high satisfaction with the NP include, increasing numbers of patients requesting the NP; unsolicited testimonials in local health publications;[22] and special mention in a book outlining positive innovations in health care.[23]

All interviewees provided anecdotal information about ways in which health care services improved because of the NP. Several health professionals employed by the RHA worked closely with the NP to develop programs for the treatment of designated chronic diseases. These RHA employees described positive outcomes they attributed to the NP's efforts. Programs were seen to run very smoothly, largely because the NP provided a close connection between the physicians and the RHA. Instead of connecting individually with each physician who had patients in a chronic disease program, the NP became the link. As well, community leaders developed strong working relationships with the NP. These connections were primarily developed with regard to a special initiative on women's health, but the longer term relationships between several community foundations and the Taber clinic were viewed as very positive. Community members believed they could contact the NP on any issue they deemed important to community health, and through this connection could keep physicians informed or seek their input on community problems. Examples of comments follow:

> Clients that I've spoken with have valued her approach, which is different than that of the primary care physician in that it seems to be more educational focused, self care, more empowerment type care. The NP seems to communicate well with people. [RHA employee]

> People are coming in saying, "I've had to deal with asthma for my child every winter for the last four winters. Now since seeing the NP, I've never known as much as I know now about what to do when something happens." Those are the kind of positive things that I'm getting back from my patients. All of a sudden they really see value in the education because now they can self manage, whereas they say they have never had that in the past. [physician]

All physicians interviewed believed that patients received better health care services because of the NP. Consistent with Laurant and coworkers,[13] they reported that their hours of work remained unchanged, but they perceived that their practice pattern had shifted to more acute illnesses and more new patients. Physicians were very positive about the NP's ability to provide services in women's health and asthma treatment. They pointed out vari-

ous examples of patients who reported high satisfaction with women's health services from the NP. The NP developed community-based educational programs and also provided regular check-ups for healthy women. By the end of this study, the NP had developed a strong patient base for women's health services with a 5-week wait for scheduled appointments.

Physicians believed that a decrease in the number of emergency department (ED) visits for asthma was related to the efforts of the NP in educating patients. This appears to be substantiated by provincial statistics. Taber was the only community in the RHA where an NP played an integral role in asthma programs, and the number of asthma-related ED visits in Taber decreased by 61% from 1998–99 to 2003–04, compared with a reduction by 33% in the RHA (excluding Taber).[24]

The NP's job description included time for research and planning. When first hired, she was asked by physicians to review appropriate clinical practice guidelines (CPGs) for selected conditions to ascertain best evidence. She then gained agreement from all 8 physicians about the adoption of these guidelines. In this way, physicians themselves developed agreement about the use of CPGs, introducing a new level of consistency throughout the clinic, which was viewed as valuable. The NP was also asked to plan and develop innovative service delivery models for chronic conditions such as hypertension. Physicians and other respondents reported high levels of satisfaction with these programs.

II. Assessing the cost-effectiveness of the NP role

Table 1 indicates the average breakdown of the NP's time and average number of patient encounters per week. Laboratory records show that the NP increased the number of Pap smears completed per year from 253 (2002–03), to 338 (2003–04), to 426 (2004–05).

Table 1. Allocation of time for NP at a rural physicians' clinic in Taber, Alberta, during a government-sponsored pilot project

Type of services provided	Average no. of patient encounters per week	% of time
Lifestyle education	6	5
Walk-in patients	9	10
Asthma education and treatment	4	10
Planning & research	–	15

From the breakdown of NP time, and billing data, fees associated with NP services, and potential negation amounts (money deducted from clinic income if patients in the population area seek medical services elsewhere) rough estimations of costs compared with financial benefits for the clinic were developed. A significant portion of the NP salary was recovered by the clinic through retention of women's services (attributable to NP), and increased referrals from community members, and long-term cost savings through patient education. Not all associated costs, such as overhead and staff support, were covered. However, clinic staff and physicians reported they were trying to reconcile the short-term costs of patient education with the longer term expected benefits. Several physicians pointed out that it was only because of a comprehensive fee (rather than fee-for-service) that they could consider hiring an NP. And even with this funding arrangement, they pointed out the appropriateness of sharing the NP costs between the physicians and the government. The following quotes show indicators used to assess the cost effectiveness of the NP.

> Now we have to judge if the NP keeps people in this practice versus going to the nearest city. In comprehensive care, obviously that's a benefit. [physician]

> The physicians are being asked to pay [at least partially] for this NP role. We need to look at whether or not nurse practitioners are roles that need to be funded under health regions instead of through physician payments. If the number of patients seeking services outside our clinic is trending down, then I can make a case that she's reducing negation, therefore she's paying for herself. Also the customer satisfaction surveys that are being done show that people really like what she does. And the other programs that she runs have a lot of value-added as well. [clinic staff member]

Based on costing information and high levels of patient satisfaction, all 8 clinic physicians decided to renew the NP's contract at the end of the trial project. However, because of the goals of integrating primary health services between the clinic and the RHA, as well as improving the health status of the population, the physicians sought to develop a new cost-sharing arrangement with the government. Clinic revenues covered the NP's salary for 2 years, but effective November 2005, the clinic entered into a new funding arrangement that provided additional government resources for primary care innovations. This new arrangement recognized the value of inte-

grating community and physician services, and provided support for the NP position.

Physicians believe that in the longer term, the integrating activities of the NP and her patient education initiatives will contribute significantly to the health of the population. All the physicians interviewed believed strongly that this is the right thing to do.

III. How have working relationships been adjusted to include the NP role?

The interview data provided rich insights into the challenging processes associated with the introduction of a new health professional into established practice patterns. These challenges arose both inside the clinic and with RHA staff. Everyone reported that working relationships with the NP were exceptionally positive. But several pointed out that it had taken time to develop an understanding of what the NP could do, and how she would fit in. In developing these relationships, the NP benefited greatly from the thoughtful, reasoned and experienced approach of her management team. Especially during the developmental stage, the NP team's guidance was critical in supporting the NP's need to practise new skills as well as to develop new working relationships with many individuals. Without support from the team, the very steep learning curve may have been overwhelming.

Staff inside the clinic reported that they valued the flexibility of the NP's time at the beginning of the project. Her first task of reviewing CPGs to develop standards for her practice allowed physicians to get to know her, and provided a foundation for her to work with each physician to demonstrate her knowledge and skills. She found ways to work with physicians and clinic staff that minimized perceptions of her as a threat. Her management team mentor group helped to develop strategies that included other staff members in overall project changes. Through these slow but significant processes, staff members overcame their initial wariness and began to consider the NP as an integral part of the team.

In the early stages of the project, the NP used her flexibility to establish working connections with community members and RHA staff members. Her role in developing a very successful women's health day in the community formed the basis for future collaborations. Developing relationships with RHA employees was initially challenging. Regional employees sometimes believed that work was being taken away from them, but with the help of her management team, the NP developed strategies to work together with these individuals, rather than compete. There were challenges along the way, but all RHA employees interviewed reported very strong and favourable relationships with the NP. Selected quotes below illustrate these points.

> She went around with the physicians and then they got to understand the level of her clinical assessment skills and potential treatment skills. So through that process there was significant trust building. The doctors got to see — wow, she knows her stuff, and she's confident. They were very impressed. [clinic staff member]

> I think that it's really instrumental in our program that the NP is a key, close link between us and the physicians. It's very critical that you have that close link between your primary care physicians and your educators, and I think [the NP] is a critical link being in the clinic. All the guys [physicians] know her and she's able to approach them on certain topics and certain things. And of course [the NP] was really instrumental in making things work. [RHA employee]

Discussion

This qualitative study showed strong support for the addition of an NP position in the Taber family practice clinic

Physicians believed that the NP role was cost-effective because of high patient satisfaction with the NP, billing potential that surpassed salary costs, and increased integration of physician services with RHA initiatives.

Introduction of an NP role to the Taber clinic

Four important points about the introduction of an NP role in Taber are highlighted here.

1. Flexibility in first stages of introducing the NP role were critical

When introducing the NP role to an established clinic, it took time for individuals to develop trust. Trust-building was facilitated by funding levels and appropriate timelines that allowed a relatively slow start. In this case, it was critical to build secure relationships and then use them as a foundation for future initiatives.

2. Integrative aspects of the NP role relied on strong connections to key individuals outside the clinic

Policy-makers are continually striving to achieve a

tighter connection between family physicians and the broader health care community. The NP in this project became a strong integrative mechanism, but her continuing ability to do so requires sufficient time to participate in programs that combine aspects of the clinic and health region. These projects and other events allow her to maintain a network of community contacts. It takes time and resources to establish and maintain links with key health care and community members, but these links are critical to integrating services.

3. The NP benefited from support and guidance from a management team who assisted in developing positive working relationships

The NP role is one with many demands. Support from others was required to make the role effective for the clinic and the health care system. In the Taber experience, these managerial skills came from a management team that provided mentoring and guidance related to the navigation of interpersonal issues at organizational levels both above and below the NP.

4. The NP position required funding arrangements that recognized joint benefits (and costs) to the physician clinic and the broader health care system

In Taber, the NP provided valuable services to both physicians and the broader health care system. To sustain this role financially, it was important to develop appropriate joint funding mechanisms to support tasks that directly assist physicians as well as preventive and population-based initiatives that both physicians and health care officials know will improve the future of health care. At this point in time, it appears that the NP role in Taber is viewed as a sustainable and valuable addition to the clinic and the community.

Limitations

This research was completed at only one site and brings with it all the limitations of small sample qualitative research. Whether the findings can be generalized to other locations should be tested through investigations of other clinics where NPs have been introduced.

Quantitative indicators are less clear than qualitative ones about the impact of the NP role. Since many changes were made to the clinic simultaneously, it was not possible to isolate the effects experienced specifically because of the NP. However, some outcome data were closely connected to services provided by the NP (e.g., women's health), and we used these measures with appropriate caution.

Conclusion

The results of this case study point to interesting aspects of the NP position that warrant further investigation. For example, the NP's efforts to establish and maintain strong working relationships with RHA and community members may be creating shared benefits in the clinic and health region. As policy-makers strive to create new, more integrated ways of working for physicians in primary health care, more research into the role of NPs will provide useful information.

The 3-year project is officially completed, but based on positive feedback and promising cost-effectiveness indicators, a decision was made to continue employing the nurse practitioner.

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