Utilization of Nurse Practitioners to Increase Patient Access to Primary Healthcare in Canada – Thinking Outside the Box

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Abstract

In the past decade, all Canadian provinces and territories have launched various team-based primary healthcare initiatives designed to improve access and continuity of care. Nurse practitioners (NPs) are increasingly becoming integral members of primary healthcare teams across the country. This paper draws on the results of a scoping review of the literature and qualitative key informant interviews conducted for a decision support synthesis about advanced practice nursing in Canada. We describe and analyze two novel approaches to NP integration designed to address the gap in patient access to primary healthcare: (1) the integration of NPs in traditional fee-for-service practices in British Columbia, and (2) the creation of NP-led clinics in Ontario. Although fee-for-service remuneration has been a barrier to collaborative practice, the integration of government-salaried NPs into fee-for-service practices in British Columbia has enabled the creation of inter-professional teams, and based on early evaluation findings, has increased patient access to care and patient and provider satisfaction. NP-led clinics are designed to provide inter-professional care in communities with high numbers of patients who do not have a regular primary healthcare provider. Given the shortage of physicians in communities where these clinics are being introduced, the ratio of physicians to NPs is lower than in other primary healthcare delivery models, and physicians function in more of a consulting role. Initial evaluation of the first of 26 NP-led clinics indicates increased access to care and high levels of patient and provider satisfaction. Implementing a creative mosaic of collaborative primary healthcare models that are responsive to patient needs challenges traditional assumptions about professional roles and responsibilities. To address this challenge, we endorse a recommendation that governments establish a mechanism to bring together both physician and non-physician primary healthcare providers to advise on primary healthcare policy development and implementation.

Introduction

Patient access to primary healthcare is a significant issue in Canada. In the 2007 Commonwealth Fund International Health Policy Survey conducted in seven countries (Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom [UK] and the United States [US]) (Schoen et al. 2007), 84% of Canadian adults reported that they had a regular doctor at the time of the survey, second lowest of all the countries (the US was the lowest, at 80%, and the Netherlands highest, at 100%). Canadian adults were the least likely to report same-day access and most likely to report long waits (six days or more) to see a doctor when sick, and along with Americans and Australians, were the most likely to report difficulty getting after-hours care. Canadian adults were the most likely to have gone to a hospital emergency department (ED) in the past two years, to have made multiple visits, and to say they went to the ED for care their doctor could have provided if available. These high rates are contributing to long ED wait times, with 46% of Canadians (the highest of all the countries) reporting waiting two hours or more in the ED to be seen (Schoen et al. 2007).

In the 2008 Commonwealth Fund International Health Policy Survey of eight countries (Australia, Canada, France, Germany, the Netherlands, New Zealand, the UK and the US), data were collected from adults with chronic conditions (Schoen et al. 2009). Patients from Canada and the US were the least likely to report same- or next-day access, and Canadian adults were the most likely to have waited six days or more, or to never have obtained an appointment to see a doctor the last time they were sick. Again, Canadians were most likely to go to the ED for a condition that could have been treated by their regular doctor if available.

Consistent with the emphasis on teams to manage chronic conditions, the survey examined the use of expanded roles for nurses to counsel and to provide and coordinate care. Canadian adults, along with Australians and Germans, were least likely to report having a nurse or nurse practitioner (NP) regularly involved in managing their condition, in comparison to UK adults who were the most likely to report nurse involvement (22% of Canadian versus 48% of UK adults). The low use of nurses/NPs in chronic disease management in Canada is particularly of concern given that, unlike most Organisation for Economic Co-operation and Development (OECD) countries, physician density in Canada remained unchanged between 1990 and 2005 (2.1 practising physicians per 1,000 population) whereas the OECD average increased from 2.2 to 2.9 (Dumont et al. 2008).

In 2004, the first ministers (the prime minister and premiers) of Canada agreed that timely access to primary healthcare was a high priority for all jurisdictions and set the objective that 50% of Canadians would have 24/7 access to multidisciplinary teams by 2011 (First Ministers' Meeting on the Future of Health Care

2004). There is a growing body of evidence about the effectiveness of inter-professional teams in delivering primary healthcare. In a decision support synthesis on this topic, Barrett and colleagues (2007) found that inter-professional collaboration models enable delivery of a broader range of services, more efficient resource utilization, better access to services, shorter wait times, better coordination of care, more comprehensive care and better health outcomes for patients, compared to a uni-professional model of primary healthcare delivery.

In the past decade, all Canadian provinces and territories have launched various team-based primary healthcare initiatives designed to improve access and continuity of care (Beaulieu et al. 2008). NPs are increasingly seen as integral members of primary healthcare teams across the country. While they have worked for many years in long-established primary healthcare organizations such as community health centres (CHCs), the quest to increase patient access to care has recently stimulated novel approaches to NP deployment. In this paper, we use data gathered from published and grey literature and key informant interviews to describe and analyze two novel approaches to NP integration: (1) the introduction of NPs into traditional fee-for-service practices in British Columbia, and (2) the creation of NP-led clinics in Ontario. We have selected these two as unique illustrations of primary healthcare collaborative models that involve NPs and are specifically designed to address the gap in patient access to care.

Methods

This paper draws on the results of a scoping review of the literature and qualitative key informant interviews conducted for a decision support synthesis commissioned by the Canadian Health Services Research Foundation and the Office of Nursing Policy in Health Canada. The overall objective of this synthesis was to develop a better understanding of advanced practice nursing roles (which in Canada include NPs and clinical nurse specialists), their current use, and the individual, organizational and health system factors that influence their effective development and integration in the Canadian healthcare system (DiCenso et al. 2010a).

The methods undertaken for this synthesis are described in detail in an earlier paper in this issue (DiCenso et al. 2010b), but in brief, they included a comprehensive examination of all published and grey literature on advanced practice nursing roles in Canada to the end of 2008 and recent reviews of the international literature (2003 to 2008). Interviews and focus groups were also conducted with 81 national and international key informants, including NPs, clinical nurse specialists, physicians, other health providers, educators, health administrators, nursing regulators and policy makers. For this final paper in this special issue reporting on various aspects of the synthesis, we took a slightly different approach. On the basis of questions asked of interview participants about current pressures facing the

healthcare system and examples of successes in the implementation of advanced practice nursing roles, we identified two recently developed collaborative models that utilize primary healthcare NPs (PHCNPs) to increase patient access to care.

Since these are new models of care, there is very little published literature describing them, and only preliminary evaluations have been completed to date. To learn more about these models, subsequent to the completion of the synthesis we conducted Internet searches (e.g., Ontario government website about NP-led clinics and Interior Health regional health authority website about NPs in fee-for-service practice) and follow-up telephone and e-mail conversations with seven participants associated with these models to ensure more complete and accurate descriptions and analysis. These participants included NP and physician clinicians working in these care models and individuals charged with model implementation. They provided background and descriptive information and commented on the presentation of the models in this paper. We present a descriptive analysis of the development, evolution and early experiences of these two models of care. To the extent possible given the models' brief existence, we summarize facilitators and challenges in establishing and sustaining these models and outline their strengths and limitations. While we describe preliminary evaluations, the intent of this paper is not to evaluate the models, given their recent introduction.

Results

Integration of NPs in Fee-for-Service Primary Healthcare Practices

When NPs were first introduced into urban settings in Ontario in the early 1970s, they were paid by physicians who earned their income through fee-for-service (FFS). Although NPs were shown to safely manage patient problems, maintain patient satisfaction and increase patient access to care (Chambers and West 1978; Spitzer et al. 1973a, 1974b), integration of this role failed, primarily because of this funding arrangement for NP services.

Under publicly funded FFS, the physician bills the state authority (e.g., the provincial government's universal health insurance plan) for each service provided (Beaulieu et al. 2008). The physician may decide to delegate activities to others; however, he or she must be present at some point in the assessment to qualify for payment. When Spitzer et al. (1973b, 1974a) found that the income of six private practices employing NPs declined slightly during a two-year period, it was attributed in part to health insurance billing restrictions for unsupervised services rendered by the NP (Spitzer et al. 1974a). In a study of the financial impact of NP employment on the practices of six FFS family physicians in Newfoundland, Chambers (1979) similarly found that "losses occurred in the fee-for-service method of physician payment environment that discourages delegation of tasks" (Chambers 1979: 347). Since FFS physicians were unable to bill directly for

services provided by NPs and had to pay the NPs out-of-pocket, hiring NPs was financially disadvantageous (van der Horst 1992), posing a significant barrier to NP role implementation (Advisory Committee on Health Human Resources and The Centre for Nursing Studies in collaboration with The Institute for the Advancement of Public Policy, Inc. 2001; de Witt and Ploeg 2005; DiCenso et al. 2003; Goss Gilroy Inc. Management Consultants 2001; Gould et al. 2007; Jones and Way 2004; MacDonald et al. 2005; Schreiber et al. 2005).

Key to integrating an NP into an FFS practice is that the volume of patients seen by the physician does not decrease, as this results in income loss for the physician. NP integration into an FFS practice is best achieved when the practice is full and there are "unattached" patients (i.e., those without a primary healthcare provider) in the community who can now be added to the practice. As one of our nursing regulator participants describes,

> Well, it acts as a barrier because the physician's income is based on volume, so he's not going to want to have a nurse practitioner take away some of his business, if we call it that, because that's income that he would have.

A physician we interviewed also aptly notes,

> If you want doctors to not support [NPs], then you say that funding for NPs is going to take away dollars for doctors and, of course, that's human nature – people are not going to support it.

More recent NP integration strategies have involved payment of the NP's salary by the government to work in primary healthcare practices where physicians are paid through mechanisms other than FFS, such as salary or capitation (a fixed payment made at regular intervals by the government for each enrolled patient, regardless of services provided). While many primary healthcare physicians have moved into these alternate payment plans, the 2007 National Physician Survey revealed that half (48.3%) still derive at least 90% of their income from FFS payment (College of Family Physicians of Canada et al. 2007). Some physicians who continue in FFS practices have indicated an interest in working with NPs. For example, of 355 FFS physicians in Ontario who responded to a survey in late 2002, 42.3% indicated they would be interested in working with NPs (DiCenso et al. 2003).

In 2000, when the Ontario government announced funding for 106 NP positions in underserved communities, a small number of these were introduced into FFS practices. The government paid the NP's salary and some overhead costs, while the physician continued to be paid through FFS. In a survey of Ontario NPs in late 2002, 10.7% of 234 NP respondents indicated they were working in a FFS

physician practice. Site visits were made to four of these practices. In one practice, the NP worked with one physician and provided education and chronic disease management to patients with one specific medical condition, while in the other practices, the NPs worked as generalists, seeing 12 to 15 clients a day. When asked about the benefits of working with an NP, FFS physicians were more likely to indicate that NPs increased the number of patients seen than were physicians in other types of primary healthcare funding arrangements (DiCenso et al. 2003).

Given the number of physicians still remunerated through FFS and the need to improve patient access to care in the short run, other provinces have begun to integrate NPs into FFS practices. For example, in Alberta, NPs are part of Primary Care Networks in which the physicians may be paid by FFS. In British Columbia (BC), at least four regional health authorities (RHAs) have introduced salaried NPs ($n = 12$) into FFS physician practices. The experience of Interior Health RHA is illustrative in this regard.

General Description of This Model

In July 2007, Interior Health RHA introduced the Nurse Practitioner/Family Physician Primary Health Care Model, in which salaried NPs work in FFS physician group practices. To date, four NPs have been hired, with two working in group practices in Trail, one in Castlegar and the fourth in Kelowna. Three of the NPs are functioning in generalist roles in the practices, and one does rapid response home visits to the frail elderly through the Seniors-at-Risk Initiative.

The NPs are employees of the RHA hired in collaboration with the FFS physicians. They function under the terms and conditions of the RHA, which pays their salary and benefits. Physicians complete a proposal providing the rationale for incorporating an NP in their practice. If the proposal is approved, funds are provided annually by the RHA to the practice to cover NP overhead costs such as medical office assistant support, space, supplies and equipment. If the NP consults with the physician about a patient with complex care needs, there is provision for the physician to bill once annually per complex care patient for consultation, without seeing the patient. If a patient who is not identified as a complex care patient presents with an acute illness which leads the NP to consult with the physician, the physician will see the patient and bill for that service. No additional funds are provided to the physician by the RHA for time spent consulting with the NP.

When patients request appointments, the medical office assistant, who is knowledgeable about the NP's scope of practice, offers suitable patients an appointment with the NP. Patients are assigned to the NP; however, patients may be seen by either the physician or NP depending on their presenting problem at the time of each visit. In the case of the Seniors-at-Risk Initiative, seniors are referred to the

NP by community physicians, home care, patients and/or family, and the three physicians whose clinic the NP is affiliated with.

The NP facilitates changes in the delivery of care, addresses patient self-management goals, links with other health resources in the community, provides comprehensive primary healthcare focusing on health promotion and illness prevention, coordinates activities by providing ongoing case management to those requiring complex care, refers to specialists as required, and provides unique learning and health promotion opportunities for nursing students. One of the physicians working in this model described the working relationship with the NP:

> The NP is paid for by the RHA. We have 1,800 patients. She increased my capacity by about 600 patients. She is actually the most responsible provider for over 400 patients. I see about 30–35 patients in the office per day. The NP sees about 15. Three to five of the patients that she sees, she has me see with her. It usually takes less than five minutes, and I bill a routine office visit. She does all the work in those cases ... prescribing, ordering tests, arranging follow-up and consultations. We often discuss patients throughout the day (no charge) and [it is] very gratifying to have two heads on the case. Shared responsibility. I often ask the NP to consult on patients that I see during the day, and I arrange follow-up with her for our complex patients as she has longer appointments and more expertise in congestive heart failure, diabetes and women's health. The NP is an equal. She accepts responsibility for the administration of the office as well. It is a fabulous, complementary and symbiotic relationship…. Our patients are better cared for with less hospital admissions and ER visits and improved, often same day or next day access…. The NP is helping with hospital rounds and co-rounds, and we are both very involved in teaching. I am enjoying practice now more than ever! We need to break down myths with our MD colleagues. The arguments regarding stealing patients, needing too much supervision, not having enough time, etc., are old. It is just not true. I make more income and the job is easier and more fun.

An NP in an FFS practice added the NP perspective:

> There are many days that I do not ask the physician to review a patient case with me. This seems to change given the acuity of my day. Many days are filled with follow-up or chronic care planning, while others will fill quickly with more acute or urgent requests. The policy in the office is that you are offered the first available appointment. If the issues presenting are beyond the scope of the NP, I can still do a history and physical exam, and start any diagnostic required. Then, in less than five minutes the physician

> can confirm and/or suggest other possible treatments. This is all done in the original appointment, thus eliminating the need to come back to see the physician at a separate time. The follow-up may be with the NP or the physician, depending on the presenting problem. The key is the patient has been part of our collaboration and they see us working as a team in their best interest where no one person has the "right" answer. Instead, we are looking for the best solution to the problem. Further, this model has allowed us to move beyond episodic care to more preventive care. It has also provided many opportunities to educate our patients and others about the value of collaborative practice.

Interior Health RHA has completed the first of a three-phase evaluation of this model of care (Hogue et al. 2008). This first phase evaluation was completed at 12 months post-implementation and utilized qualitative data collected through focus groups and individual interviews of health providers and patients. Similar to the quotes noted above, healthcare professionals involved in this model of care reported an increase in job satisfaction, mutual trust and respect between practitioners, open positive communication between the NP and physician, and a heavier focus on patient-centred care. Patients felt they had improved access to healthcare services, more time with a practitioner in one appointment and more comprehensive healthcare, and they felt they were a part of their healthcare team (Hogue et al. 2008).

Facilitators to Establishing and Sustaining This Model

NP role implementation was facilitated by the leadership of the RHA, which set out a clear process for role introduction and evaluation, and through the following activities: establishing supportive policies, infrastructure and practice environments; promoting team functioning and mutual respect for the knowledge and practice of team members; maintaining open and regular formal and informal communication; and clarifying roles on an ongoing basis (Pawlovich et al. 2009).

Challenges to Establishing and Sustaining This Model

The evaluation described above revealed challenges to successful integration of NPs into an FFS physician group clinic (Hogue et al. 2008). One persistent challenge related to the prevailing historical roles within the health system is that the physician is situated at the top of the hierarchy. However, study participants indicated this is slowly changing. Physicians worried that collaboration would increase their workload or expose their knowledge gaps. They were concerned that, while the scope of practice of the NP was similar to theirs, NPs had less formal training. Finally, patients felt that if they continued using NP services, they would lose "their spot" with the physician.

In their evaluation, Hogue et al. (2008) identified a need for more formal infor-

mation and education for healthcare professionals and the public about the NP role. Suggestions to strengthen the implementation strategy included (1) creating a shared physician lead (rather than identifying a lead physician to champion the NP role) to allow all the physicians at the clinic to feel more invested and to fully collaborate with the NP, and (2) involving all members of the clinic at the outset to discuss role clarification and to develop a mission statement and concrete goals for the clinic. Strategies to enhance communication among the team included initial orientation about the NP role with all clinic members, ongoing education related to collaborative practice and regular staff meetings. Finally, an additional strategy to gain NP acceptance among the medical community was to involve physicians in supporting an NP student in their clinic (Hogue et al. 2008).

Strengths of This Model

Very little research has been conducted on this model of care, and more is warranted in order to fully explore its merits and limitations. Experience to date in BC indicates that (1) although FFS remuneration has been identified as a barrier to collaborative practice (Barrett et al. 2007), the addition of a government-salaried NP into an FFS practice enables the creation of inter-professional teams, (2) NP integration into these practices has increased patient access to care, which is often available on the same day, possibly reducing visits to the emergency department for primary healthcare needs, (3) team members offer complementary skills in caring for patients, for example, in chronic disease management and (4) based on the first phase evaluation in the Interior Health RHA, patients feel better informed about their health and feel a part of the decision-making process related to their care, and providers have increased job satisfaction.

Limitations of This Model

Potential limitations of this model include (1) concern over physician's loss of income if the NP instead of the physician is seeing the patients. This assumes a finite number of patients and patient demands, which is not necessarily the case; this is best illustrated by NP integration in communities where there are many unattached patients, some of whom can now be taken on by the practice; (2) concern over physician's loss of income if spending time providing consultation to the NP rather than seeing patients. This can be addressed with a set amount of money paid to the physician by the government on a monthly basis for consulting with the NP (e.g., Ontario) or with a fee code for complex chronic disease management consultation whereby the physician receives a set annual fee per complex patient to cover consultation time with the NP (e.g., BC); and (3) concern about additional cost to the funder if both the NP and physician see the patient during the same visit. This tends to happen for a small proportion of patients who are receiving complementary rather than a duplication of care in much the same way as occurs when a family physician and specialist see the same patient.

NP-Led Clinics

The Ontario Ministry of Health and Long-Term Care (MoHLTC) is funding 26 NP-led clinics. The clinics are described as a new model of care in which NPs work in collaboration with physicians and other members of an interprofessional team to provide comprehensive, accessible, coordinated family healthcare service to a defined population in areas where there are high numbers of patients who do not have a regular primary healthcare provider (Ontario MoHLTC 2010a). In addition to the provision of direct healthcare services, NP-led clinics focus on chronic disease management and disease prevention activities. A distinction of NP-led clinics when compared to other primary healthcare delivery models in Ontario such as CHCs and family health teams (FHTs) is that the ratio of physicians to NPs is lower and physicians function in more of a consulting than a primary provider role.

General Description of This Model

The specific activities of the NP-led clinic are to (1) provide comprehensive family healthcare services through an inter-professional team of NPs, registered nurses (RNs), family physicians and a range of other healthcare providers (e.g., dietitians, mental health workers, social workers, pharmacists and health educators), (2) provide system navigation and care coordination by linking patients to other parts of the healthcare system (e.g., acute care, long-term care, public health, mental health, addictions, and community programs and services), (3) emphasize health promotion, illness prevention, and early detection and diagnosis, (4) facilitate the development of comprehensive community-based chronic disease management and self-care programs, (5) provide patient-centred care in which the patient makes informed decisions about her or his self-care needs (6) link with other healthcare organizations at the community level to address community needs and (7) use information technology linking patient records across healthcare settings and providing timely access to test results (Ontario MoHLTC 2010a). Key indicators for assessing the need for NP-led clinics in local areas include the proportion of unattached patients, the prevalence of one or more of nine chronic diseases including diabetes, the number of full-time-equivalent family physicians in a Local Health Integrated Network (LHIN) per 10,000 population and the number of existing FHTs and CHCs.

Interview participants involved in developing and introducing NP-led clinics described a vision of providing primary healthcare to unattached patients in areas with physician shortages and NP availability where NPs would work to their full scope of practice to meet community needs. The NP-led clinics are, by design, located in settings with physician shortages and are staffed by more NPs than physicians in order to make the best use of available health human resources to increase patient access to primary healthcare among those without a regular family physician. To optimize the use of limited physician availability,

the physician's role is primarily consultative, providing advice to NPs regarding patient care within the NP scope of practice and seeing only patients whose needs and care extend beyond the NP scope of practice.

In November 2006, the first NP-led clinic, in Sudbury, Ontario, was approved and became operational in August 2007. Between February 2009 and August 2010, 25 more NP-led clinics were approved, with all expected to be operational by 2012 (Ontario MoHLTC 2010b).

In Sudbury, 30,000 residents did not have a regular family physician at the time of application for the clinic. The clinic has six NPs, two part-time collaborating physicians, an RN, a pharmacist, an administrator and clerical staff. A full-time social worker and dietician will soon join the interprofessional team (Heale and Butcher 2010). The clinic operates fully out of two locations (Sudbury and Lively) and partially in Chapleau, where well-women care is provided one out of every six weeks. It is expected that each full-time-equivalent NP will build a roster of 800 patients. All patients are registered to the clinic and see their NP for the majority of their healthcare needs. Because patients are registered with the clinic and not rostered to an individual NP, however, they remain patients of the clinic regardless of staffing changes. Physicians are part of the team and available on-site a total of five half days per week to consult about more complex care issues. They receive monthly collaboration fees and can bill FFS for direct patient encounters in cases that go beyond the scope of NP practice.

The clinic has an NP-led governance model with a not-for-profit board, 51% of which must be made up of NPs and 49% from the community. No board members can be employees of the clinic. The board ensures that the clinic policies enable the NP to work to full scope of practice and promote an inter-professional model of care. The clinic director, who is an ex officio member, reports to the board. This director role is purposefully filled by an NP who is responsible for creating the supports to enable the full implementation of the NP role (e.g., clinical policy for care of patients with diabetes) (Heale and Butcher 2010).

A patient satisfaction survey conducted in 2008 by the clinic board indicated high levels of patient satisfaction, with open-ended responses highlighting thoroughness, quality of NP care, adequate time spent with patients and a caring attitude. Two areas for improvement were identified: increased accessibility through expanded hours into the evening and increased physician on-site availability to better facilitate care when the NP must consult with the physician (Sudbury District Nurse Practitioner Clinics Board of Directors 2008). One of the physicians linked with the NP-led clinic states: "I think that patients are getting excellent care. It's like having two primary caregivers at one number. You can't beat that."

(Peters 2008: 69). An evaluation of this first NP-led clinic was commissioned by the MoHLTC, and although completed in 2009, the report has not yet been released.

Facilitators to Establishing and Sustaining This Model

The establishment of the first NP-led clinic was facilitated by the following factors: a large number of unattached patients in the community, a shortage of physicians, availability of NPs to work to full scope of practice in delivering primary healthcare, a substantial amount of local media coverage that increased community awareness about the NP role, a good working relationship with consulting physicians who provide advice to NPs on patient care when needed and see patients with care needs beyond the NP scope of practice, high patient satisfaction, and an NP-led governance structure to support the vision and mission of the clinic. Because previous experience had indicated that working for administrative leads who did not fully understand the NP role led to underutilization of their skill set, it was important to the NPs that the clinic director role be filled by an NP.

Challenges to Establishing and Sustaining This Model

When the NP-led clinic opened its doors in August 2007, the majority of patients seeking care were those with highly complex needs that had not been addressed for some time due to the physician shortage. Assessment and treatment decisions for patients with these multi-faceted care needs entailed lengthy visits with the NP and frequent physician involvement. This complexity of patient care needs associated with longer patient visits meant that the number of patients seen during the first year of operation was not as high as expected.

Another challenge has been opposition by organized medicine. The NP-led clinic arose out of direct lobbying of the government by the Registered Nurses' Association of Ontario and a group of local NPs in Sudbury. It is the only organizational model that has been introduced in the last decade that has not been a product of negotiations between the Ontario Medical Association (OMA) and the Ministry of Health and Long-Term Care (Hutchison in press). The OMA has objected to the government's intention to expand NP-led clinics because they view the NPs as functioning independently rather than in a collaborative care model (Strasberg 2009). Laguë (2008) notes that "NP-run clinics are opening without physicians. This is the first step on a slippery slope at the bottom of which NPs become, essentially, substitutes for family physicians" (Laguë 2008: 1668). These concerns fail to acknowledge that the clinics are based on a collaborative model that includes physicians and other members of the healthcare team. The misperception may be partially attributable to the title "NP-led," which may connote independent NP practice rather than an inter-professional collaborative model. An interview participant states,

> I think, though, with the name nurse practitioner–led clinic, there have been some misunderstandings that that is nurse practitioner solo practice, which it is not. The vision for that is to evolve into a fully inter-professional model, the difference being that it is led by nurse practitioners. And so those goals of being able to offer interprofessional care through a nurse practitioner–led model have not yet been realized.

Strengths of This Model

The NP-led clinic is a new model of care introduced in Ontario in 2007, and as with the integration of NPs into FFS primary healthcare practices, very little research has been conducted to date to fully explore its merits and limitations. Early experience with the first fully operational clinic indicates that (1) in settings with physician shortages and where patients do not have a regular family physician, NPs working to their full scope of practice can increase patient access to care and reduce the number of unattached patients (as of July 1, 2010, the Sudbury clinic had enrolled 3,100 patients, with more new patients enrolling weekly), (2) efficient utilization of scarce physician resources can be facilitated by using physician time to provide consultative services to NPs regarding patient care within the NP scope of practice and to see only those patients whose needs and care extend beyond the NP scope of practice, (3) the model of care enables an inter-professional team approach that includes NPs, physicians, an RN, pharmacist, social worker and dietician, (4) a governing board that includes NPs and community members, none of whom are employed by the clinic, supports the vision and mission of the clinic, (5) patients are registered with the clinic rather than with an individual NP and therefore remain patients of the clinic regardless of staffing changes and (6) based on preliminary evaluation data, patients and providers are satisfied with the clinic services.

Limitations of This Model

Limitations of this model relate to clinic and physician funding. With respect to the first fully operational clinic, (1) there is currently no government funding to increase accessibility through expanded hours into the evening as requested by patients in the patient satisfaction survey, or to provide 24/7 on-call service, (2) the limited amount of consultation funds to compensate physician time when not directly seeing patients constrains their ability to function fully as team members because, for example, they do not receive compensation for time-consuming tasks such as developing medical directives or attending team meetings, and (3) because the patients seen by the physicians have very complex needs, the physicians can see only four patients every hour (with each booked for 15 minutes), which limits their FFS billings.

Discussion

Canada lags behind other Commonwealth countries in providing timely access to high-quality primary healthcare (Schoen et al. 2007, 2009). Innovative models are required to address this problem. In this paper, we have described two examples of novel approaches to NP deployment designed to increase patient access to care, the first being integration of NPs into FFS practices and the second, the NP-led clinic. Our aim was to provide a descriptive analysis of their development and early experiences to date. We recognize that there is very little research about these models of care and that our analysis is based predominantly on information derived from Internet searches and conversations with only seven participants associated with these models. However, this paper provides foundational knowledge that might provide the context for future research.

Preliminary data indicate that both models are increasing patient access; for example, an FFS physician in BC notes that the addition of the NP has increased the practice capacity from 1,200 to 1,800 patients. As of July 1, 2010, the NP-led clinic in Sudbury had enrolled 3,100 patients, with more new patients enrolled every week. While they continue to aim for a target of 4,500 patients, enrolment has been slower than expected for three reasons: (1) the first patients who presented to the clinic were those with highly complex care needs that had not been addressed for some time due to the physician shortage; these patients required more time on the part of the NPs and more physician involvement, thereby reducing the speed at which new patients could be enrolled; (2) lack of sufficient funding for physician remuneration to increase their availability for NP consultations; and (3) space restrictions – the clinicians share examination rooms, limiting the number of patients who can be seen at any one time.

There is movement under way to evaluate these models of care. Initial informal assessments of patient and provider satisfaction are promising. Consistently positive evaluation results for these models could increase support for a "creative mosaic" of primary healthcare models tailored to meet the needs of their regions or populations. Still, there is a need for further research to identify their impact on patient access, the right mix of professionals for the patients they serve, how much and how well professionals truly collaborate with one another, interventions that are effective in improving team collaboration, and the costs and benefits of team-based care. While team-based care may be more expensive, the increased emphasis on health promotion and chronic disease management that teams provide may

result in reduced health resource utilization such as costly hospitalizations over the long term (Health Council of Canada 2009).

In both models, the NPs have strong support from their collaborating physicians. Patient surveys conducted in both models indicate high levels of satisfaction with care. A challenge common to both models is the need to increase patient and provider awareness of the NP role.

Integration of the NP into FFS practices is consistent with a more traditional model in which the physician initiates the request to add an NP to his or her team and for the most part, leads the team. The NP-led clinic is a unique model that challenges traditional ways of delivering primary healthcare, and these differences have resulted in opposition from organized medicine. This opposition, while not yet studied empirically, could be due to a number of reasons. One could be the NP–physician ratio. Unlike most NP–physician collaborative models, with the exception of outpost settings in northern Canada, the NP-led clinic staffing consists of more NPs than physicians (six full-time NPs and two part-time physicians). Physicians play more of a consultative role, seeing only the patients with complex problems.

Another reason for this opposition may relate to leadership. Unlike most NP–physician collaborative models, NPs lead the team, form the clinic as a non-profit organization, create a board and receive government funding (Peters 2008). While the NP-led clinic is inter-professional, it does challenge this traditional hierarchical relationship (albeit replacing it with another hierarchy). This may contribute to physician resistance at the organizational level (Evans et al. 1999). The Family and General Practice section of the OMA, for example, has challenged the provincial government plans to fund NP-led clinics, stating that "only doctors should be the ones leading teams of other healthcare professionals, not nurse practitioners" (The Canadian Press 2009). However, Hutchison notes:

> The move toward collaborative and team-based approaches to care requires a culture shift that will be especially challenging for physicians who are accustomed to being the undisputed team leader. In an interprofessional environment, involvement of other professional and administrative staff in policy and management decisions is no longer discretionary (2008: 13–14).

A third reason for the opposition may relate to the misperception that NPs are working independently, and this may result from the ill-conceived term "NP-led" to describe the clinic. "NP-led" was not intended to connote independent practice, but rather a model of inter-professional primary healthcare delivery in which NPs play a major role in its governance and senior management. NPs provide the majority of care to previously unattached registered clients and consult with other healthcare team members as necessary (Heale and Butcher 2010). Tensions increase when words such as "autonomous" and "independent" are used to describe NP practice. As autonomous practitioners, NPs are registered to practise in an expanded/extended role, and they are liable for their own practice. NPs who function independently are those who set up their own practice and work as "solo" practitioners. While this model exists in the United States, it is rare in Canada.

Health human resource issues, funding constraints, patient access challenges, increased emphasis on chronic disease management, primary healthcare reform, and an aging population have prompted significant transformations to the healthcare division of labour. Most professions are having to adapt as boundaries between professional jurisdictions are continually renegotiated. Physicians may feel threatened by NPs; NPs in turn may feel threatened by physician assistants (PAs); RNs may feel threatened by registered practical nurses (RPNs), and all struggle for clear identities (Beaulieu et al. 2008). This engenders understandable fears related to loss of autonomy and control and leads to resistance. Interestingly, however, at the front-line in primary healthcare most physicians, NPs, healthcare team members and patients report high levels of satisfaction with team-based care (Barrett et al. 2007).

Baerlocher and Detsky (2009) describe turf battles between and within professions when competing to perform the same task. They explain that reliance on self-governing professional bodies to determine appropriate work boundaries is problematic as these bodies may have no reason to cooperate with one another. The authors further note that solving workforce problems requires successful negotiation that keeps the public's rather than the profession's interest in mind. As a result of this tension between professions, we lack a common vision that allows all practitioners to work to their full scope of practice in primary healthcare delivery. Hutchison has suggested that the government establish a mechanism to bring together both physician and non-physician primary healthcare providers to advise on primary healthcare policy development and implementation. He states that

"rather than dealing with policy makers through separate, private bilateral discussions, stakeholders would be obliged to hear each other's perspectives and would be under pressure to serve the public good by constructively addressing areas of conflicting interest" (In press).

In her paper about the future of the NP role, Pogue (2007) notes that NPs can serve as a "disruptive innovation," as described by Uhlig (2006), by being catalysts for healthcare transformation. The models of care described in this paper have provided an impetus for engaging healthcare providers in discussions about how to best utilize all members of the inter-professional team to increase patient access to high-quality primary healthcare.

Historically, NPs have been introduced at times when patient access to care is limited, beginning in the late 1960s in northern Canada, followed by the early 1970s in primary healthcare settings in urban Canada, and continuing with the development of the acute care NP role in specialty areas such as neonatology, cardiology and neurology. An abundant amount of high-quality research has consistently demonstrated NPs' effectiveness and safety (Horrocks et al. 2002). The models described in this paper are promising practices that if implemented more broadly could address patient needs through improved access to care.

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