THE HUNTER PRIZE FOR PUBLIC POLICY

Transforming Healthcare Delivery: Innovations in NP-Led Clinics

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BACKGROUND

As the population ages, accompanied by a surge in chronic conditions, patients increasingly seek complex and specialized care from primary healthcare professionals[10,32]. Worldwide, a staggering 17.9 million lives are lost annually to non-communicable diseases (NCD), including cardiovascular disease, cancer, chronic respiratory disease, and diabetes. Thesechronic conditions contribute to over 80% of all NCD-related premature deaths[14,45]. The burden of managing chronic diseases is putting a strain on healthcare systems around the world. Canada is experiencing a crisis in wait times across primary care, emergency departments (EDs) and acute care services.

A paradigm shift is essential to prevent unnecessary congestion in emergency departments, ensuring that they remain available for those truly in urgent need. Moreover, our aging population often grapples with extended wait times for surgeries such as knee and hip replacements, and cancer procedures. To alleviate delays, we must explore strategies to increase surgical bed capacity for all patients requiring these procedures.

Access to comprehensive healthcare services is associated with enhanced health system efficiencies and positive health outcomes[4]. The Canada Health Act (2020) outlines that five essential criteria must be present for the provision of healthcare services in Canada: public administration, comprehensiveness, universality, portability, and accessibility. Current healthcare wait times demonstrate that the principle of adequate access to essential healthcare services for Canadians should be in high question. Efficient utilization of accessible primary and community-based care is associated with reduced mortality and significant decreases in ED visits and hospitalizations[32]. The scarcity of family physicians and adequate primary care compels patients to visit the ED due to a lack of alternative healthcare options[32].

Current Healthcare Shortages

The current shortage of family physicians in Canada has left various populations increasingly vulnerable due to the lack of timely access to required healthcare. Despite decades of policy decisions directed at recruiting and retaining family physicians, 6.5 million Canadian adults do not have a regular primary care provider. As per Statistics Canada's (2019) report, 14.5% of Canadians aged 12 and older lacked a regular healthcare provider, and only 38.7% of those with a provider could access same or next-day appointments for immediate minor health issues. This situation, combined with a substantial backlog of patients waiting for surgeries, underscores the necessity of maximizing the scope of all healthcare professionals.

What are Nurse Practitioners?

Nurse practitioners (NPs) are master or doctoral-prepared registered nurses who autonomously assess, diagnose, and manage people with both acute and chronic illnesses[11]. This advanced scope of practice positions NPs to provide comprehensive healthcare services independently, thereby addressing the healthcare needs of the population[20]. A growing body of research supports the utilization of NPs to their full scope to help alleviate the strains on healthcare services and improve wait times.

Nurse Practitioners as Alternative Providers

NPs date back to 1967 when the first education program was developed at Dalhousie University in Nova Scotia to prepare NPs to work in nursing units in remote areas in northern Canadaa[13]. Today, NPs in Canada function as independent healthcare providers[6]. Although there have been commitments by the provincial governments to increase the hiring of NPs[33], there are still regulatory and remuneration obstacles that hinder their ability to practice autonomously and develop innovative healthcare delivery methods[26].

Current Payment of Nurse Practitioners

The current utilization of NPs in community settings in Canada is often fragmented due to the absence of a sustainable funding model[22]. PProvincial health insurance plans do not permit NPs to bill governments directly for essential health services in the same manner as physicians. Instead, NPs must rely on salaried positions within health organizations or receive payment directly from patients. This model further exacerbates accessibility barriers and contributes to health inequity.In Alberta, for instance, family physicians can receive a full-time yearly salary of $364,582.42 through this program[18]. NPs do not have the option to enroll in any such programs, despite their ability to provide most of the services offered by family physicians.

Healthcare in Canada

The decentralized nature of the Canadian healthcare system has led to variation in healthcare standards, policies, and practices across jurisdictions[44]. Each province sets its own healthcare priorities, funding models, and service delivery approaches. This jurisdictional diversity also contributes to discrepancies in healthcare access and quality.

Among the 11 highest income countries Canada ranks near the bottom in equity, access, and outcomes[40]. Top-ranked countries share common features: the removal of cost barriers, universal coverage, investment in primary care systems, reduced administrative burdens, and provision of social services[40]. Notably, the top three countries—Netherlands, Norway, and Australia—have implemented NP models of healthcare service delivery[40]. These models grant NPs full prescriptive authority, independent practice, and direct compensation for medically-necessary procedures[1,25,40]. Enabling NPs to work to the full extent of their education and training has enhanced access to care, and addressed healthcare disparities in both urban and rural areas.

Potential Solution

The implementation of NP-led clinics holds significant promise for reducing ED wait times and frequency of ED visits, decreasing hospital admissions and readmissions, and ultimately increasing acute care bed capacity. This comprehensive approach addresses the shortage of family physicians, and enhances healthcare access, ensuring more timely and cost-effective care that focuses on the patients' needs.

Primary care and surgical follow-up NP-led clinics can be a transformative solution. Studies have indicated that increased utilization of NPs is a cost-effective solution and can help ease the strain on primary healthcare systems, including those triggered by reductions in public spending and shifts in demographics9[9,16]. This economical approach holds the promise of enhancing access to primary care services while maintaining quality of care and high levels of patient satisfaction. NPs can provide 93% of primary care services independently, yet their utilization in Canada remains notably underdeveloped[2]. As the group of regulated healthcare professionals with the greatest rate of growth in Canada[5], NPs have seen their role expand alongside their increasing numbers. Their impact includes reduced ED wait times and hospital admissions, significant healthcare-related cost savings and the delivery of holistic, patient-centered care, resulting in remarkable patient satisfaction scores[6,15,23,24,31,42]. Integrating NP-led clinics into the healthcare framework holds the potential to mitigate the volume of ED visits and lengthy wait times, alleviate primary care access challenges, and foster the creation of acute care capacity. The proposed policy requires governments to allocate funding towards NP-led initiatives and develop a sustainable model of remuneration.

PROBLEM STATEMENT

The healthcare system faces clear challenges: an upswing in complex, chronic conditions; a lack of primary care access; unacceptable wait times to see an appropriate healthcare provider; resulting avoidable ED visits and more frequent acute hospital admission[12]. This issue is compounded by a scarcity of family physicians in both rural and urban areas[29]. However, an often ignored aspect is that not all healthcare professionals, including NPs, are utilized to their full capacity. Regulatory and funding model barriers are discouraging NPs from establishing and independently operating primary care facilities and specialized NP-led clinics.

PROPOSED POLICY

We propose a policy to establish NP-led primary care and post-surgical clinics supported by government funding that will enhance patient care and alleviate the burden on EDs while preventing hospital congestion. The introduction of post-surgical clinics brings the added benefit of ensuring surgical patients can be discharged earlier with planned follow-up after discharge, and surgeons have added capacity to see new patients.

Policy Recommendations

We propose that provincial governments provide salary support to NPs in primary and speciality care to integrate with existing services or start new multidisciplinary clinics. Various models of NP compensation and implementation have been described across Canada. These models offer benefits such as streamlined administration across settings, predictable income levels, and compensation that is not tied to visits, tasks, or procedures, in contrast to the fee-for-service model[3,38].

Both the Saskatchewan Association of Nurse Practitioners (SANP) (2018) and the British Columbia Nurse Practitioner Association (BCNPA) (2016) have advocated for NP implementation, featuring direct provincial government funding covering salary, benefits, and overhead costs. SANP proposed an approximate base salary of $113,000 for a full-time NP (1926.4 hours per year) caring for 800 unattached patients, alongside a health benefits package costing $28,250. Saskatchewan's Health Ministry would also allocate funds for NP-related management and administrative expenses, operational supplies, information technology, and professional liability costs[38]. BCNPA (2016), in its strategy to address primary care gaps in British Columbia, suggested an estimated budget for a full-time NP responsible for 800 patients. The proposed base salary was $108,000, with an additional $27,000 for benefits.

In Ontario, NPs typically receive compensation encompassing salary, benefits, and overhead cost recovery[34]. Funding for many NP positions in Ontario originates from the Ontario Government, which includes 25 NP-led clinics and an additional 262 NPs in community settings in 2019[34]. NP-led clinics in Ontario are primary care organizations where the lead provider of the interdisciplinary team is an NP. NP-led clinics enhance care quality by offering health promotion, primary mental healthcare, chronic disease management, and health service coordination to ensure continuity of care[35]. The recommended salary for a full-time NP (37.5 hours per week) in 2013 ranged from $103,000 to $135,000[34]. A study in Alberta found that when an NP independently managed patients the burden on the local primary care system was reduced[22]. Primary Care Networks in Alberta are backed by the provincial government, allocating $125,000 annually for one full-time NP[16].

An illustrative example of the changing climate of healthcare remuneration is British Columbia's recent launch of the Longitudinal Family Physician Payment Model[3]. This model describes an alternative compensation scheme for family physicians that eliminates health authority/organization involvement and is allocated directly from the provincial government. Unfortunately, enrollment in this program is only available to physicians and not open to NPs.

IMPLEMENTATION PLAN

Our proposed policy could take several approaches to incorporate NPs more widely into primary and surgery follow-up care:

1) Revise existing legislation that prevents NPs from receiving financial remuneration for delivering necessary and insurable healthcare services covered by provincial government insurance plans.

2) Promote private insurance companies to cover the out-of-pocket expenses patients incur when receiving healthcare services from NPs, similar to the coverage provided for services by dentists, physiotherapists, and chiropractors.

3) Grant NPs the ability to engage in direct negotiations with the provincial government for a salaried model of remuneration, similar to a physician salary, eliminating healthcare authority and organization involvement. This would enable NPs to offer specific essential health services to designated populations, similar to the role of physicians.

    a) NP-led primary care clinics will

        i) Increased access to primary care for patients, preventative health, health promotion, and education.

    b) NP-led urgent care will

        i) Reduce the burden and wait times in EDs.

    c) NP-led surgical follow-up

        i) To reduce the burden of surgical follow-ups on surgeons, allowing greater capacity to deal with backlog of referrals and management of complex cases.

        ii) To provide an improved transition back into the community, thereby reducing hospital length of stay.

Effective Implementation:

The viability and effectiveness of NP-led primary care, specialty clinics, and post-surgical clinics are contingent on several critical factors that are interwoven to ensure optimal healthcare delivery.

Firstly, prioritized funding from government health ministries is paramount. Adequate financial support from the government is essential for the implementation, sustainability and growth of these clinics. Funding is also required for clinic support staff, necessary infrastructure, equipment, and resources to provide comprehensive patient care. Government funding can also alleviate financial burdens for patients, ensuring that healthcare services remain accessible to a broader demographic.

Of equal importance is the ability of NPs to practice to their full scope. This means allowing NPs to utilize their extensive training and expertise to the fullest extent, encompassing assessments, diagnostics, treatment plans, and prescription authority in accordance with established provincial regulations.

Transitioning NPs to function as independent, autonomous healthcare providers is a critical step in recognizing and utilizing their skills effectively. Regulatory oversight will be important as it will ensure that NPs maintain high-quality care standards, and operate within the ethical framework of their profession. Governing bodies play a vital role in maintaining the credibility and professionalism of NPs, providing a mechanism for ongoing improvement and alignment with evolving healthcare needs.

EVALUATION

The policy evaluation of decisions to support NP-led clinics should include key stakeholders to determine the most important questions to answer. In addition to patient feedback about their experience and satisfaction with NP-led clinic care, the NPs and other staff involved should be consulted on their experience. A suitable pre-post analysis of patient outcomes should be considered, including key measures of health services use (e.g., ED visits, hospitalizations, duration of stay, number of patients seen and frequency of visits). Costs associated with the NP-led model of care provision (e.g., direct and indirect costs of providing services) can inform a more comprehensive and complex cost utility analysis to inform future decisions.

The following examples demonstrate the interconnected nature of patient access to care, both in primary and post-surgical or post-acute care settings. These examples showcase how NP-led clinics can significantly reduce avoidable ED visits, alleviate pressures on acute care facilities, and effectively reduce hospital stays.

Cancer Survivorship NP-led Clinic:

It is projected that 40% of Canadians will receive a cancer diagnosis at some point in their lives[19]. While advancements in technology for screening and treatments are increasing the number of cancer survivors, there's a critical issue in the lack of appropriate follow-up care. This deficiency leads to pain, reduced quality of life, an inability to adapt to their new 'normal,' and difficulty returning to work[8].

In Canada, as in other cases of acute or chronic diseases, the responsibility for survivorship care primarily rests with medical specialists in oncology. However, an NP-led care model has been shown to be both safe and cost-effective for providing follow-up care for cancer survivors[7].

NP-led Lung Cancer Screening Clinic

Lung cancer stands as the primary contributor to global cancer-related fatalities[46]. The implementation of low-dose computed tomography of the chest (LDCT) for lung cancer screening has been shown to lower mortality rates associated with this form of cancer[46]. NPs possessing expertise in oncology are well-suited to tackle the obstacles linked to cancer screenings, and can effectively lead a lung cancer screening clinic (LCSC)[46]. An

example of this is seen in a quality improvement initiative focused on evaluating an NP-led LCSC operating in a rural region of the Midwest USA[46]. An NP-led LCSC was successfully established, leading to a significant increase in lung cancer screenings within the community, which played a vital role in overcoming barriers and enhancing adherence to screening guidelines[46].

NP-led Multidisciplinary Diabetes Clinic

In tertiary care hospitals, diabetes ranks as the fourth most prevalent diagnosis. However, it typically presents as a comorbid condition accompanying the primary reason for admission, rather than being the primary reason itself. Individuals, whether newly diagnosed with diabetes or those in need of escalated care, frequently turn to ED. This is often due to mismanagement stemming from a lack of education in comprehending their diabetes[37]. An NP-led outpatient clinic (NPC) was piloted at the Metabolic Centre of the University of Alberta (Edmonton, AB), in which the clinic was supervised by the NP, and staffed with a diabetes educator and a registered dietitian[37].

Patients referred to the NPC received appointments within 3 to 21 days[27,37]. Prior to the clinic visit, they also received telephone support from a nurse educator. In contrast, the typical wait time to see a primary care provider was 1 to 8 weeks, and for a specialist, it was 3 to 8 weeks[37]. Eligible patients who could not be seen right away were provided interim phone support while appointments were arranged with their physicians within 4 weeks. Furthermore, patients who utilized the NPC experienced timely management of hypoglycemia after discharge and found their diabetes management simplified[37]. Rather than going into ED with questions, concerns, or a decline in health, patients leaving the NPC received a structured diabetes care plan, and 75% of them returned to their family physicians for ongoing care[37].

NP-Led Cardiac Clinics

Cardiovascular disease (CVD) poses a significant worldwide public health concern across the world[43]. In Canada, CVD is projected to incur an annual cost of approximately $22 billion, positioning it as the second most significant contributor to the country's healthcare expenditures[36].

Among cardiovascular conditions, heart failure is one of the most demanding diagnoses for healthcare providers to manage, leading to heightened risk of hospitalization and increased health system expenditures[47]. Progress in cardiac surgery has extended the lifespans of individuals; nevertheless, postoperative care remains a concern[39]. Follow-up cardiac NP-led clinics report high levels of patient satisfaction[39]. Positive outcomes are attributed to NPs devoting more time to explaining the patients' illnesses and offering valuable support[47]. Patients who attended a NP-managed clinic report significantly fewer symptoms and exhibit a superior functional status compared to those under the conventional follow-up care model[39].

Impact

NPs provide patients with more extensive information, primarily because NPs often allocate longer consultation times to thoroughly address patients' concerns[10]. Patients exhibit greater adherence to treatment plans when under the care of NPs, possibly due to the in-depth personal education they receive about their medical condition, treatment options, and self-management[10]. Furthermore, NPs are more inclined to order additional investigations and schedule follow-up appointments, leading to a more comprehensive and proactive approach to patient care[10]. In addition to these clinical benefits, the positive impact extends to the nursing workforce, as NPs working autonomously and within the full scope of their practice are associated with higher levels of workforce retention[26].

CONCLUSION

In conclusion, addressing the wait times across the healthcare system depends on strong policy decisions. The NP role provides the potential to realize meaningful progress in providing much-needed primary and surgical care follow-up. The success of NP-led clinics depends on strategic policy direction that encourages NPs to practice to their full scope as independent autonomous healthcare providers. This comprehensive approach not only maximizes the potential of NPs but also enhances the overall healthcare ecosystem, benefiting both patients and the broader healthcare system.

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