



Coordination and Delivery of HIV Prevention, Treatment, Care and Support by Nurse Practitioners



Question

What models of HIV prevention, treatment, care and support have been used, which are led by or primarily delivered by Nurse Practitioners?

Key Take-Home Messages

- Medical care, including primary care, delivered by nurse practitioners is often equivalent to the care administered by physicians. Care delivered by nurse practitioners generally rates higher on measures of patient satisfaction.
- The literature supports training HIV-specialist nurse practitioners as a means to enhance access to services and improve quality of service for people with HIV. HIV nurse practitioner led care has also been found to be a more cost effective method of delivering interventions and interdisciplinary care.
- There is some data that specialist HIV nurses and nurse practitioners deliver more effective care to people with HIV than generalist physicians.
- Nurses and nurse practitioners can also play important roles in care coordination and case management for people living with chronic disease.

EVIDENCE INTO ACTION

The OHTN Rapid Response Service offers HIV/AIDS programs and services in Ontario quick access to research evidence to help inform decision making, service delivery and advocacy.

In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

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The Issue and Why It's Important

The role of nurse practitioners in HIV/AIDS prevention, treatment, care and support in Ontario is neither well-defined nor well integrated. In 2004-2005 the AIDS Bureau of the Ministry of Health and Long-Term Care undertook a community HIV/AIDS planning process across Ontario (1), bringing together relevant stakeholders to establish community HIV/AIDS strategies that respond to local needs and issues. One of the concrete suggestions identified in this analysis was to make more effective use of a wide range of skilled professionals, particularly nurse practitioners (1). Additionally, some communities identified the potential to make more use of nurse practitioners to enhance both primary and secondary care for people living with HIV (1). This potential is supported by the nearly ubiquitous lack of primary care physicians, except in major urban centres, with specific knowledge and skill in providing care for people living with HIV (1).

In response to this identified need, an emerging interdisciplinary team of nurse practitioners, policy makers, and community-based researchers and KTE specialists has come together. The team aims to identify opportunities to increase the involvement of nurse practitioners in the prevention, treatment, care and support of HIV/AIDS in Ontario, and more specifically to identify and test effective strategies for doing so. As a starting point, the team has identified the need for a better understanding of the ways and models through which nurse practitioners have been effectively involved in responding to HIV/AIDS.

What We Found

Little attention has been paid in the literature to the roles of nurse practitioners in treatment, care and support for people with HIV. The most attention has been paid to the roles of nurse practitioners in delivering medical care, as primary providers or as part of interdisciplinary teams.

It has been repeatedly documented that in primary care, nurses and nurse practitioners provide equivalent or better care when compared to doctors (2-4). Nurses tend to provide more information and health advice and achieve higher levels of patient satisfaction (4). A systematic review focused on patients with undifferentiated medical problems found no significant difference in care when nurse practitioners were compared to physicians on measures of prescriptions, referrals or repeat consultations. Nurse practitioners, however, spent more time with their patients and performed more investigations (5). These reviews of the roles of nurses and nurse practitioners in primary care document the effectiveness of utilizing nurse practitioners to the fullest, especially in areas with few physicians.

Ding et al (2008), utilizing data from a cohort of people with HIV, found that patients with an identified primary care provider, whether physician, nurse practitioner or physician assistant, were more likely to access services at a site that specializes in HIV, less likely to access emergency departments and various allied health professionals such as social workers and mental health professionals, and were more likely to be on HAART (6). These findings seem to indicate that primary care providers are critical to keeping people with HIV healthy and decreasing utilization of the healthcare system. Additionally, according to Ding et al., nurse practitioners can effectively and efficiently

perform this role in the lives of people with HIV.

A review of 6651 medical records in the US found that twenty percent of people with HIV received most of their HIV care from nurse practitioners or physician assistants (during the year of the study, more than 46% of these patients were also seen by a physician) (7;8). In some cases, specialized nurse practitioners provided better care than generalist physicians who were not HIV-experienced providers and the level of care was similar to that provided by infectious disease-trained physicians and generalist HIV experts (7;8). Specifically, Valenti (2006) reports that nurse practitioners had higher performance rates for pap smears, tuberculin skin testing, HAART therapy use, HIV RNA level control for patients on HAART, influenza vaccine use and visits (7).

An HIV outpatient clinic in London has found that increasing numbers of patients and better health among those patients requires a new formulation of care-pathways. Griffiths et al. (2006) conducted a qualitative evaluation consisting of interviews with health professionals and patients and identified three models of treatment that were acceptable to both groups:

1. "Patients are managed by a nurse practitioner until their care needs increase to the point that they must be transferred to a doctor;
2. Nurse practitioners and physicians jointly provide medical care, with specific appointment intervals between the two providers; or
3. Doctors refer patients to the nurse practitioner for defined periods of time, and doctors and patients discuss the care pathway." (9, p. 24)

The professionals interviewed saw these solutions as potentially decreasing waitlists, doctor visits and increasing clinic capacity (9). It is important to note that these proposed models were based on clients with asymptomatic HIV and few health complications. When these three options were presented to a focus group of clinic staff, support for a model that combined the three options emerged. Nurse practitioners would take an increasing role as primary contact and work closely with doctors and other health professionals to ensure that complications, when they arise, are managed efficiently.

A mid-sized city in the United States developed a collaborative model of care that utilized electronic medical records accessible to a range of physicians, nurses, social workers and nurse practitioners. Key to this model was the creation of a leadership position, held by a nurse practitioner, to monitor patient flow as well as be available for consultation on health matters pertaining to HIV. This health system saw improvements in adherence, vaccination against comorbidities and quality of life indicators among patients (10).

The data is preliminary, and further investigation is necessary, but evidence suggests that a wide range of interventions implemented by nurses and nurse practitioners (as well as other health care providers) can have a positive impact on adherence to anti-retroviral regimens (11). While the interventions reviewed vary in protocol, they primarily consisted of a combination of cognitive (activities intended to teach or instruct) and behavioral (activities that aim to influence, reinforce or shape behavior) strategies. As nurse practitioners tend to spend more time with patients, they are well positioned to implement these interventions.

A Cochrane review of home-based care strategies for people with HIV (12), found ten relevant studies, primarily conducted in the US (one was conducted in

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France, one in Uganda). When home-based nursing was compared to standard care, significant improvements were noted in level of knowledge regarding HIV and medications, HAART adherence, and pharmacy drug refill. There were, however, no significant differences in CD4 counts or viral loads. The remainder of the studies primarily focused on support for people with HIV including efforts to reduce social isolation, improve nutrition and exercise and, in the Ugandan study, water chlorination and safe storage. Computer based strategies utilizing nurses and nurse practitioners to reduce social isolation have proven effective for reducing social isolation (after controlling for depression), but have not had an effect on health related quality of life.

There are also important roles beyond medical and primary care that nurses and nurse practitioners can play in supporting people living with chronic diseases. A review of studies evaluating the effectiveness of nurses acting as case managers for people living with chronic illness found, “excellent evidence for the effectiveness of nurses working in a specialized, care co-ordinating role...” (13, p. 2898). Furthermore, patients with diabetes, chronic obstructive pulmonary disease or coronary heart disease showed marked improvement in health, adherence, and quality of life outcomes when case management/ coordination was among the services offered by nurses. Support for such a role can be seen in the US as nurses and nurse practitioners are increasingly encouraged to receive specialist training and be able to offer disease management services to patients (14).

Another potential role of nurses and nurse practitioners in reducing the spread of HIV is partner notification. Although the data is not robust due to study characteristics, it was found that offering newly diagnosed patients the option for patient or provider notification of partners resulted in more partners being notified. Partners notified by a provider were more likely to get tested (15).

Factors that May Impact Local Applicability

The literature discussed in the rapid review was all conducted in countries with developed economies (with the exception of the Ugandan study included in the Cochrane review of home-based care strategies). Much of the research evidence included in this summary is from the United States where nurse practitioners are used more for the delivery of primary healthcare as compared to Canada, which may decrease the generalizability of the findings to the Canadian context. In addition, implementing an expanded model of nurse practitioners likely requires consideration of scaling-up considerations such as resources for increased training, accreditation and coordination of care between multiple healthcare providers. Lastly, few of the studies reported population characteristics such as race, gender, ethnicity, culture, ability or sexuality.

What We Did

To identify any systematic reviews we searched Health Systems Evidence (HSE), which provides a repository of syntheses of research evidence about governance, financial and delivery arrangements within health systems, and about implementation strategies that can support change in health systems. Specifically, we combined the search term nurs* with all 'Skill mix' categories under the 'By whom care is delivered' domain under delivery arrangements in health systems. In addition, we searched Health-Evidence.ca and DARE using the following combination of search terms: nurs* AND HIV. We did not search the Cochrane Library as HSE contains all Cochrane reviews related to health systems arrangements. Next, we searched Medline and Embase using the following combination of search terms: Lastly, we searched CINAHL using a combination of text terms (nurse practitioner AND HIV). We restricted our searches to the last 10 years and only considered literature based in developed countries and published in English.