



# The role of nurse practitioners in HIV care

## Questions

- What role do nurse practitioners play in HIV care?
- What are the benefits of nurse practitioners in HIV care?

## Key Take-Home Messages

- Nurses are playing an increasingly important role as people diagnosed with HIV live longer (1;2).
- HIV care provided by nurse practitioners is equal to or better than care provided by physicians, including infectious disease specialists (3-6).
- Nurses are effective in screening for and helping to manage co-morbidities among people living with HIV (7;8).

## The Issue and Why It's Important

Over the next few years, the demand for HIV care is expected to grow. This is due to three key factors:

- With improvements in antiretroviral treatment regimens, people with HIV are living longer (1;1).
- As people with HIV live longer, their health care needs are changing (e.g. more co-morbidities and issues associated with aging) and are expected to grow (1).
- With the recent focus on testing as part of routine medical care, the number of people diagnosed with HIV will likely increase (2).

The increasing demand for HIV primary care and specialty care is occurring at a time when physicians who began providing care early in the epidemic are expected to retire or transition out of clinical practice (2). To avoid human resource shortages in HIV healthcare settings, there is widespread professional support for the greater involvement of nurses in HIV care, particularly with patients who

## References

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2. Position statement: Advanced practice registered nurses full practice authority. *Journal of the Association of Nurses in AIDS Care* 2014;25(5):465-7.
3. Wilson IB, Landon BE, Hirschhorn LR, McInnes K, Ding L, Marsden PV, et al. Quality of HIV care provided by nurse practitioners, physician assistants, and physicians. *Annals of Internal Medicine* 2005;143(10):729-36.
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are medically stable (1). Nurses are already providing a significant amount of HIV care. In a 2008 study of 2,430 non-institutionalized adults living with HIV in the U.S., 12% named a nurse practitioner or physician assistant as the HIV clinician who knew them best (9)—a number that rose to 23% among patients with no health insurance (9).

There is a strong focus on task shifting – that is, shifting HIV care and other tasks to alternative providers (10-13). For the healthcare system to know how best to use nurses – particularly advanced practice nurses – in HIV care, it is important to understand the role played by nurses and its impact.

## What We Found

### Nurses providing HIV care

In a 2008 U.K. study, independent nurse prescribers perceived widespread satisfaction among their patients (14). In their view, patient satisfaction reflected the trust and openness that can arise in a long-term patient/nurse relationship (14).

Other studies support the nurses' impressions. In 2005, Wilson et al. (3), assessed the performance of nurse practitioners and physician assistants in the role of primary HIV care provider. The study surveyed 177 physicians and 66 nurse practitioners and physician assistants in 68 Ryan White clinics across 30 states. It also included a review of the medical records of 6,651 patients receiving care at those clinics – 20% of whom were receiving most of their care from nurse practitioners or physician assistants (3).

The study, which compared the performance of nurse practitioners and physician assistants to the performance of infectious disease specialists, generalist HIV experts, and generalist non-HIV experts across eight quality measures, found that nurse practitioners and physician assistants scored as high as or higher than physician for all eight measures. Specifically:

- Nurse practitioners and physician assistants had higher performance rates for tuberculin skin testing and pap smears than all physicians.
- There were no significant differences between nurse practitioners/physician assistants and physicians for *P carinii* prophylaxis and hepatitis C testing.
- For HAART use, HIV RNA level control, flu vaccine and visits, rates were higher for nurse practitioners/physician assistants than for generalist non-HIV experts, and were similar to those of infectious disease specialists and generalist HIV experts.

6. Coyne KM, Kerley A, Mandalia S, McOwan AG. OptionE: Innovative model of HIV care increases satisfaction and reduces clinic visits. *International Journal of STD & AIDS* 2008;19(5):351-2.

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The study noted that nurse practitioners and physician assistants were all experienced HIV providers; most of their patients had HIV but not AIDS; and nurse practitioners and physician assistants typically practiced in multidisciplinary environments with access to HIV specialists. According to the authors, high levels of experience, a focus on a single condition, and either participation in HIV care teams or other easy access to physicians with HIV expertise may be key factors in the high performance scores among nurse practitioners and physician assistants (3).

Other studies have come to similar conclusions about the quality and effectiveness of care provided by HIV nurses:

- A 2004 Dutch study surveyed 250 HIV patients receiving care from both physicians and HIV nursing consultants (i.e., specialized HIV nurses) at four regional HIV centres to assess how they judged the quality of care provided by the nurses (5). The questionnaire included issues such as providing information about antiretroviral therapy, taking time to talk with the patient, and discussing the pros and cons of treatment. The overall score for quality of care provided by the HIV nursing consultants was good and comparable to that of HIV specialists and general practitioners (5).
- A 2008 U.K. study assessed patient satisfaction with a system called “OptionE,” offered by a London clinic to medically stable patients on or off antiretroviral therapy (6). OptionE involved nurse-led HIV clinics, the review of blood results by doctors, patient contact by e-mail and the option of home delivery of medication. After one year, results showed that compared to clinic patients who had not enrolled in OptionE, OptionE patients were much more likely to have had discussions about post-exposure prophylaxis and sexual health and also more likely to have been screened for hepatitis C and assessed for hepatitis B immunity. No patients in OptionE experienced virologic failure and all had a recorded adherence assessment (6).
- A 2009 Dutch study gathered information about the role of HIV nursing consultants working at HIV treatment centres (4). In 10 centres, the HIV nursing consultant provided care on a traditional or “parallel basis,” meaning patients saw both the doctor and the nurse at each visit while in 14 centres, they provided care on the “substitution basis,” meaning the doctor and nurse took turns seeing patients on an alternating basis (usually with a subgroup of stable patients). Patient outcomes were equal in both models. The authors noted that the substitution model could contribute to lower health care costs with no loss of quality (4).

14. Bennett J, Jones M. Nurse prescribing in HIV: opportunities and threats. *HIV Nursing* 2008;8(4):12-6.

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## Nurses managing comorbid conditions

As people with HIV live longer, all providers – including nurse practitioners -- will be caring for patients with comorbidities and more complex clinical issues (15). Two studies looked at nurse-led interventions to manage comorbidities:

To determine whether a nurse-led screening intervention could improve screening rates for non-AIDS comorbidities in people living with HIV, a 2015 Australian study (7) implemented and evaluated a nurse-led screening tool and education sessions at an outpatient sexual health clinic. All comorbidity screenings were initiated by sexual health nurses rather than clinic physicians. Audits were conducted before and after the intervention was implemented. The post-intervention audit showed that, after one year, there had been a significant increase in screening for 20 of 22 items (including urinalysis, mental health, sexually transmitted infections and cardiovascular risk). The authors concluded that nurse-led comorbidity screening for people living with HIV can improve screening rates in this population (7).

The nurse-led PATH intervention (Preventing AIDS Through Health) for people living with HIV who also have serious mental illness was assessed through a randomized control trial (8). PATH, delivered by advanced practice nurses working in the community, promotes antiretroviral therapy adherence as well as adherence to psychiatric medications. Nurses provided in-home services at least once a week and worked with physicians and pharmacists to organize medication regimens and help participants overcome adherence barriers. Of 238 study participants living with HIV and co-occurring mental illness, 128 were assigned to the PATH intervention and 110 to usual care (control group). Viral load and CD4 counts were measured for all participants at baseline and 12 months. CD4 counts did not significantly change between groups, but the intervention group exhibited a significantly greater reduction in viral load at 12 months. According to the authors, the nurse-led intervention improved patient outcomes and was likely cost-effective (8).

## Factors That May Impact Local Applicability

All papers cited in this review were written in the U.S., Canada, the U.K., Australia or the Netherlands therefore the findings are likely applicable to other high-income country settings. However, in all these jurisdictions, there may be some differences in definitions and training between “advanced practice nurses,” “nurse practitioners” and “HIV nursing consultants”, which should be taken into account when assessing the ability to adapt or scale up any of these interventions.

## What We Did

We searched Medline using a combination of text terms (nurse practitioner\$ or Nurse clinician\$. or advanced practice registered nurse\$) or MeSH terms (Nurse Practitioners or Nurse Clinicians) with HIV (text term or MeSH term). We also searched CINAHL using a combination of text terms (nurse practitioner\* or Advanced Practice Nurse\*) or CINAHL headings (Nurse Practitioners or Advanced Practice Nurses) with the text term HIV. The searches were conducted on December 14, 2015 and limited to articles published in English since 2005. Only studies from high-income countries were included in this review. Reference lists of included studies were also reviewed.

## Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers 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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