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Australasian Society for HIV Medicine Inc

**Models of Access and Clinical
Service Delivery
for HIV Positive People Living
in Australia**



**International approaches
to access and delivery of clinical services
for people with HIV**

Background paper for models of access and clinical service
delivery project

**Prepared by
the Australasian Society for HIV Medicine**

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Introduction

A range of models is applied across the world to improve access and delivery of clinical services for people with HIV. These models exist in a variety of social, political and health settings and serve diverse target groups. Few of these models have been evaluated. Evaluation has focused on process, rather than clinical outcomes or cost benefit. In this paper, models will be presented and their findings summarised. The applicability to the Australian situation will be discussed and recommendations will be made.

Background

There are many factors which determine the existence, types and effectiveness of general and HIV specific health service accessibility and delivery. These have been summarised in Australia under the following areas, however they are equally applicable to the international setting:

1. service distribution which is not matched to population patterns or change, nor is it regulated;
2. cost of services;
3. range of service availability, such as ancillary or specialist health providers;
4. workforce, undersupply of all health providers, related to ageing, attrition and insufficient recruitment or retention;
5. organisation of health systems, the federal model with different funding responsibilities and differing levels of organisational centralisation; and
6. policy responses that are inadequate to meet the current or anticipated needs of the population. Causes of this relate to funding difficulties, technological problems, political issues or social and cultural forces (Wells 2006).

Models of access to clinical services for HIV

Service access involves a complex relationship between factors such as service existence, availability, suitability, staffing, cost and uptake or engagement in desired outcomes, consumer response or behaviour, and wider social determinants. It is not synonymous with the material presence of a service. In the United States of America, with a very different health care system from Australia's, the Report of the Committee on Public Financing and Delivery of HIV Care (2005) sets out findings that parallel our experiences regarding access and service types:

The care delivery system, and the financing that supports it, has struggled to adapt to the shift in the locus of service delivery and to integrate HIV care among numerous and multidisciplinary providers;

The relationship between the HIV/AIDS care-delivery system and the HIV/AIDS care-financing system is such that financing mechanisms determine in a large part how care is delivered or whether it is delivered at all;

and

The standard of care for HIV/AIDS includes HAART¹, other drug therapies that prevent complications and that support retention in care, obstetrics and reproductive health services for HIV-infected women, pediatric care for infants and children with HIV, primary care services, substance abuse and mental illness treatment, case management services directly related to clinical care, and HIV prevention services.

There is little evidence about the impact of HIV clinical service access on health outcomes in people with HIV. In published studies, the types of services examined, the outcomes and standards of care vary considerably. The Cochrane Collaboration review of *Settings and organisations of care for persons living with HIV* (Handford 2006) found mixed results. It concluded that 'it is difficult to draw conclusions for practice ...but there are enough promising findings to indicate that multidisciplinary and multi-faceted treatments, health information system and hours of operation (evening and weekends) should be considered when designing health services and should be research priorities. ... but evidence about their effectiveness is lacking'.

Another study found that free clinical services and highly active antiretroviral therapy (HAART) are associated with improved virological outcomes and survival in developing countries (Souteyrand 2008). A Ugandan study has emphasised the lack of data, but noted that 'distance to service points, perceived quality of care and availability of drugs are key determinants of utilisation' (Kiwauka 2008). For women in New York, a range of factors including older age, attitudes towards physical access to the primary health care service and benefits of therapy as well as ease of appointments and lack of waiting times were associated with a greater number of primary health care consultations (Palacio 1999). Being medically uninsured or a current injecting drug user (IDU) was associated with less primary health care access and service use.

Korthuis et al stated that patient centred care is an important determinant of positive clinical outcomes and examined the impact of access and communication on patients from different ethnic backgrounds (Korthuis 2008). The authors concluded that 'minority HIV infected patients had poorer access to care, but there was no difference in the evaluation of patient-provider communication once they were in a service'.

In responding to 'hard-to-reach' patients with HIV, Neville et al evaluated an access-to-care program in their community-based service in New York. Integration of this program with a dedicated staff resulted in a substantial increase (37%) in the primary care patient caseload. They proposed that increased outreach services could lead to further improvements (Neville 2003).

The international data on strategies to improve access to HIV services are scant. There are difficulties with comparing findings because of the many variables of each study. There are overarching problems related to the standard of clinical services and outcomes that are

¹ HAART is highly active antiretroviral therapy.

required. Improving access is one aspect, but access to what? Michael Saag (Kaiser Foundation 2006) was succinct:

But I have to say that, what good are medications if there are no providers to provide care? This is tough business. This is hard to do well. It is easy to mess up. You need educated, well-versed practitioners seeing these patients and if they aren't there the medications are just going to be misused and we are going to have a health care crisis of resistant virus like you can't imagine.

and

Without drugs providing care is difficult to impossible, true, but add to that without qualified care providers in clinics, HIV drugs mean nothing and that is a fact...

A further discussion of health care access would be strengthened by definitions of the standards of care to be applied and the minimal outcomes anticipated.

When considering the factors that have an impact on service access it may be useful to group them into domains which relate to:

1. The health system
2. The service model applied
3. Qualities of service providers
4. Qualities of HIV service consumers

and later to consider these in relation to the Australian situation (see Appendix 1). Again, though, it must be emphasised that there is no evidence of effective interventions to service access that result in improved health outcomes.

Models of clinical service delivery for HIV

The Cochrane Collaboration review's stated aim was to assess the evidence regarding activities at the health service organisational level that improve health care for people with HIV (Handford 2006). Their assumption was that such interventions 'may have an effect on patient outcomes including mortality and the use of antiretroviral therapy'.

There is evidence (from hospitals, wards and clinics) that services with a high volume of patients with HIV have lower mortality rates; there is no further detail on the interventions which may account for these differences (significant and trends). For example, the benefits may be related to higher levels of HAART or prophylaxis use; or more skilled clinical assessment or more judicious application of guidelines – however no conclusions can be made about such mechanisms. The review notes too that the tertiary services included in the studies were high volume, but the clinical status of the patients may have been significantly worse than that of patients attending primary services – so the relationship of patient volume on outcome (mortality) may have been underestimated by this bias.

Higher rates of HAART use were found in settings that undertook clinical trials. No information about potential confounders such as patient volume or prescriber expertise was given.

Three studies that looked at case management found this service model resulted in a) significantly lower mortality (Laraque 1996); b) higher rates of HAART use and prophylaxis (Katz 2001) and c) increased entry and continuity of medical care (Messerli 2002).

Further conclusions were guarded: 'The outcomes for other setting of care and organization of care interventions demonstrated mixed results' (Handford 2006). There was an association between increased antiretroviral use and multidisciplinary services in two of three studies. One study on health information systems which provided alerts to primary care physicians showed an association with increased antiretroviral and prophylaxis use. 'The relationship between interventions and health care utilization outcomes was mixed' (Handford 2006). There were promising results in the area of case management and ongoing care, increased primary health care attendances in a Californian multi-faceted ancillary service (with a support and multidisciplinary approach), improved communication between hospital and general practitioners (GPs) on patient discharge and 24-hour phone access to HIV specialist by GPs.

Significantly, Handford et al conclude that 'Policy makers and clinicians are faced with a serious gap in evidence about the characteristics of settings that are most effective for HIV/AIDS care and ways in which services should be organized to maximize beneficial outcomes' (Handford 2006). When considering the implications of their review for future research, their conclusions were equally clear and disappointing – 'Whether to centralize care in regional centres or distribute it in the community and what types of health care workers and teams are best able to provide effective care are key questions in the organization of HIV/AIDS care, especially in developing countries. We did not identify sufficient evidence to guide these decisions.'

The British HIV Association (BHIVA) provides a report on the organisation of standards of care for adults with HIV under the British National Health Service (BHIVA 2007). Key principles are the provision of a full range of services to people with HIV, both clinical (HIV and non-HIV) and social and for services to be provided collaboratively.

The aim is to provide services through managed clinical networks which conduct the implementation of clinical standards, professional development, service audits and public and consumer consultation, resource allocation and planning. Hospital based specialist (either infectious diseases or sexual health) clinics are the foundation of this service model. Outpatient units are available in most areas, with fewer, more centralised, highly specialised services available. All clients with HIV are recommended to register with a GP; the GP provides non-HIV care and co-ordinates the liaison with HIV services. At least one practice GP and one practice nurse must have undertaken HIV professional development (there is a Diploma in HIV Medicine available nationally for a practice to be able to provide enhanced primary health care (although what this entails is unclear).

The service models are underpinned by workforce support for clinicians and consumer support via peer and other professional support appears to be integral to the standards of care.

The BHIVA report does not offer supporting evidence for its recommendations. While the audit process is fundamental to the implementation of these standards, it concentrates on process, rather than health outcomes.

Two papers from the UK raise important features of any response to HIV services. Cameron et al (Cameron 2009) present findings on housing support and the effect on HIV health outcomes and Smith et al (Smith 1996) highlighted the health benefits which accrued from improved communication and information systems.

In Hong Kong, the framework for the delivery of HIV clinical care is also based in the public sector and heavily reliant on HIV clinical (medical) specialists (Scientific Committee on AIDS 2005). Its stated principles include applying a multidisciplinary team approach, easy access to quality clinical care and services, a continuum of prevention and care and integration of care and public health prevention and promotion of community involvement. There is no role identified for the primary health care sector in Hong Kong. All services are hospital and public-sector based and very medically oriented. Again, in Hong Kong, as for the United Kingdom, this framework is based on the existing health services and assumptions about good practice. There is no reference to evidence bases which may have guided its development.

The New York State Department of Health is limited by similar systemic and financial constraints as the UK and Hong Kong systems when presenting its standards of HIV clinical care (AIDS Institute case management (2006) and ambulatory care (2007) and continuum of care (2006)).

The service model comprises a comprehensive range of HIV clinical and support services from prevention to hospice care (see Appendix 2). Within the model, there are different services available for individuals at different stages in their illness and for those coping with non-HIV issues that may affect their health outcomes. For example:

- a) **Designated AIDS Centres** are hospital based programs providing multidisciplinary inpatient and outpatient services across the state. These are coordinated through hospital based case management activities.
- b) **Integration of services** by the co-location of HIV prevention and primary care services in other health settings such as services for youth, women (including obstetric) and drug and alcohol issues.
- c) **Ambulatory care programs** which are a response to the decreased need for hospital inpatient services and involve access to clinical services provided or supported by HIV specialists.
- d) **Community Follow-up Plans (COBRA)** target those who have had difficulty accessing medical and other care and require a higher level of support to help them maintain their health.
- e) **Case Management** is a 'Multistep process to ensure timely access to and coordination of medical and social services for a person living with HIV ... and family/close support'. There is an emphasis on assessment, planning, service coordination and communication underpinned by service flexibility. The AIDS Institute funds supportive case management to respond to the immediate needs of a person with HIV and comprehensive care management for individuals with high needs.

People with HIV may move between the comprehensive and supportive models depending on their situation. If they are initially seen in a service that does not provide case management, they are referred to other agencies.

- f) **Housing support for homeless people with HIV:** public housing people with HIV has led to greater engagement with health services and improved health outcomes. Aspects of this service are integrated with other services provided through the AIDS Institute.
- g) **Coordinated community planning** by HIV Care Networks throughout New York State involving health care providers, community based organisations and people with HIV. These have a planning and programmatic focus, rather than direct service delivery.

The model draws on many features of the chronic care management model (Wagner 1998) and applies it to a hospital-based funder pays system. Additional components of this model support coordination of care and address social determinants of health for more marginalised clients. No formal evaluation of these programs can be found.

Other US studies provide little data on outcomes, but their findings are of interest to the Australian context because they may be applied here.

Goulet et al investigated older people with HIV and found that co-morbidities are the rule and multi-morbidities are very common for veterans; the co-morbidity pattern varies with age and HIV severity (Goulet 2007).

Patients who received care by a multidisciplinary team were more likely to receive any or more care and have more consultations than those who were not linked to a service. Less regular care was predicted by female gender, younger age, fee-for-service and IDU (Sherer 2002).

For women with HIV, supportive services increase access to and satisfaction with HIV and non-HIV related health care. If support services were provided through a medical clinic, the clients would access non-HIV services from there, if from a non-medical service, care for non-HIV issues would be sought from a hospital (Pillai 2008). This study also highlights the adverse impact of drug, alcohol and housing problems on mortality. It concludes that regular assessments of and response to housing and drug use issues comprise optimal HIV management.

In Canada, there is a broad based national strategy for HIV care (Canadian Public Health Association 2006). It does not set out service models or how they mesh into the health system there, but recognises the need for:

1. Improved access especially for the marginalised, Indigenous, prisoners and IDU
2. Culturally appropriate services
3. Support services
4. Services for those with co-morbidities
5. A continuum of services.

These features, in essence, are those of a comprehensive, multidisciplinary health service for those with HIV.

There is little in the literature on the evaluation of HIV services for those in rural and remote areas of developed countries. In Lesotho, a medical aviation partnership has been integral to developing responses and providing HIV prevention and treatment for health problems of those who live with HIV in the remote mountainous areas of the country (Furin 2008).

In Thailand, a study of people with HIV and their families revealed that family caregivers developed their own model of providing care, in the face of great fears of disclosure and stigmatisation (Wacharasin 2008). This care included seeking treatment and help and providing care and support.

Issues arising

The first point to make in this discussion of international approaches to models of access and clinical service delivery for people with HIV is that there is very little evidence that supports the implementation of programs or guides decisions about one program or service delivery model over another. The majority of models presented in this paper appear to have been developed from, or meshed, existing models which sit in an unwieldy health system. There are little data on models' effectiveness and none on cost benefit at a service level. There are no data that inform decision-making about the sustainability of particular models, particularly those that target marginalised populations, where there is frequently a history of delivery of one pilot program after another. Very few of the studies that are available consider the effect of engagement with clinical services and health outcomes. The studies where outcomes are considered generally have diverse endpoints; so that it is difficult to assess them together and add power to an analysis.

The second point relates to generalisability of these findings, to the developed world, to Australia and to particular groups in Australia. What are the similarities and differences between our populations, the effect of our geography and demographic patterns and our health systems and those of the international studies? How well can we apply these findings and what are they assumptions we make and risks that we take in doing so?

Despite the lack of evidence to support particular models of access and clinical service delivery, recurrent themes emerge in the literature. These include:

- patient-centred care;
- continuity of care and a continuum of care;
- self management;
- case management;
- integrated, multidisciplinary team based approaches;
- coordinated delivery system;
- response to non-clinical health determinants (such as housing, employment) and the importance of support services; and
- effective information management system.

These areas provide international and Australian researchers in HIV service delivery with a starting point in the search to identify evidence which will guide policy and program.

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Appendix 1

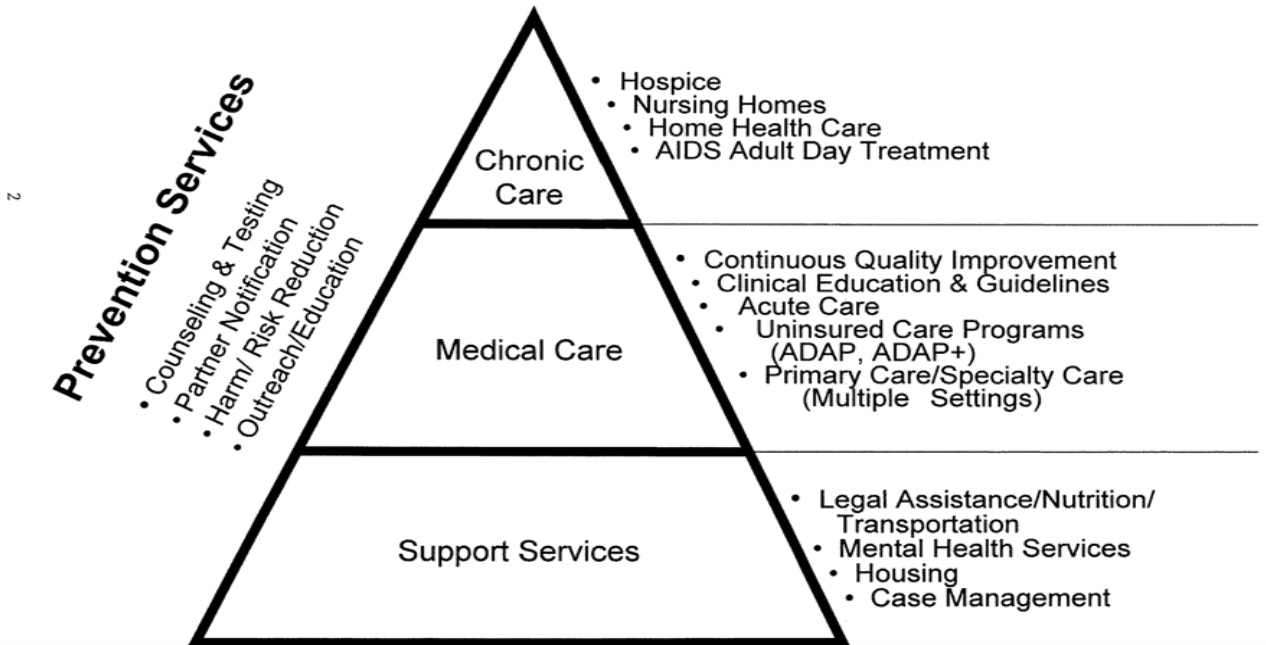
Domains which may impact on health service access

1. Health system:
 - a. Funding and the Commonwealth, state and territories mix
 - b. Private/public mix
 - c. Insurance
2. Service model:
 - a. Acute vs chronic
 - b. Hospital inpatient and outpatient
 - c. Primary health care models (after Wakerman 2006)
 - i. Discrete (walk in/walk out)
 - ii. Integrated
 1. Shared care
 2. Coordinated care trials
 3. Primary health care teams (multidisciplinary)
 4. Multipurpose services
 5. Case management
 6. Teams
 - iii. Comprehensive
 1. Community health (including outreach)
 2. Aboriginal community controlled health service (ACCHS)
 - iv. Outreach services
 1. Hub and spoke
 2. Visiting services
 3. Fly in/fly out
 4. Telehealth /telemedicine
 - d. Secondary and tertiary services
 - i. HIV specialists
 - ii. Non-HIV specialists
 - e. Support and bridging services
 - f. Mixed service model (co-morbidities)
3. Provider:
 - a. HIV knowledge, experience and skills
 - b. Communication
 - c. Team include allied health
 - d. Support services (eg laboratories)
 - e. Service hours
 - f. Service location
 - g. Physical accessibility
4. Consumer
 - a. Knowledge
 - b. Health literacy
 - c. Attitudes
 - d. Behaviour
 - e. Co-morbidity

- f. Social determinants
 - i. Income
 - ii. Education
 - iii. Place of resident
 - iv. Culturally and linguistically diverse (CALD)
 - v. Indigenous
 - vi. Gender
 - vii. Employment status

New York State - The Evolving Continuum of Care

HIV Service Continuum



² From New York State Department of Health AIDS Institute (2006)