

Infections and Immunology Health Network

HIV Model of Care

Prepared by the
Infections and Immunology Health Network
Working Party
11 March 2008

Health Networks Branch

Working Together to Create a Healthy WA





© Department of Health, State of Western Australia (2008).

Copyright to this material produced by the Western Australian Department of Health belongs to the State of Western Australia, under the provisions of the Copyright Act 1968 (C'wth Australia). Apart from any fair dealing for personal, academic, research or non-commercial use, no part may be reproduced without written permission of the Health Networks Branch, Western Australian Department of Health. The Department of Health is under no obligation to grant this permission. Please acknowledge the WA Department of Health when reproducing or quoting material from this source.

Suggested Citation:

Department of Health, Western Australia. HIV Model of Care. Perth: Health Networks Branch, Department of Health, Western Australia; 2008.

Important Disclaimer:

All information and content in this Material is provided in good faith by the WA Department of Health, and is based on sources believed to be reliable and accurate at the time of development. The State of Western Australia, the WA Department of Health and their respective officers, employees and agents, do not accept legal liability or responsibility for the Material, or any consequences arising from its use.



Table of Contents

EXECUTIVE SUMMARY	5
1. INTRODUCTION.....	9
1.1 Key Objective	9
1.2 Guiding Principles.....	9
1.3 Methodology.....	10
2. BACKGROUND	11
2.1 Definition and Clinical Presentation of HIV/AIDS	11
2.2 HIV/AIDS Epidemiology	11
2.3 HIV Trends in WA.....	12
2.4 Snapshot of PLWHA Population in WA	13
2.5 Economic, Personal and Social Impact of HIV/AIDS	14
3. CURRENT SERVICE PROVISION	16
3.1 Primary Prevention	16
3.1.1 Community and peer-based prevention programs	16
3.1.2 Nosocomial Infection Control	17
3.1.3 Post-exposure Prophylaxis	17
3.1.4 Blood and Blood Products	18
3.2 Secondary Prevention and Early Detection.....	18
3.2.1 HIV Testing	18
3.2.2 Contact Tracing Services	19
3.2.3 HIV Case Management Program	20
3.3 Disease Management and Tertiary Prevention.....	20
3.3.1 Clinical services for people living with HIV/AIDS	20
3.3.2 Rural and remote services	22
3.3.3 Community-based support and care services.....	23
3.4 Surveillance and Research	24
3.4.1 Surveillance	24
3.4.2 Research	25
3.5. Workforce Development.....	25
4. FUTURE MODEL OF CARE	27
4.1 Primary Prevention	27
4.2 Secondary Prevention and Early Detection.....	29
4.3 Disease Management and Tertiary Prevention.....	31
4.4 Workforce Development.....	35
4.5. Evaluation	36



5. KEY RECOMMENDATIONS	38
REFERENCES	40
ACRONYMS	42
APPENDICES	43
Appendix 1: Infections and Immunology Health Network Executive Advisory Group	43
Appendix 2: HIV/AIDS Epidemiology and Trends	44
Appendix 3: Risk Data for HIV/AIDS	46
Appendix 4: HIV/AIDS Model of Care Matrices	48
Appendix 5: Diagrammatic HIV/AIDS Models of Care	53
Appendix 6: HIV/AIDS Model of Care Implementation	55



Index of Figures

Figure 1	Number of notifications for HIV, AIDS and deaths in persons infected with HIV, WA, 1983 To 2006.....	12
Figure 2	Year of notification for all HIV cases and cases living with HIV	13
Figure 3	Age groups of all cases living with HIV at March 2007	14



HIV/AIDS - A MODEL OF CARE FOR WESTERN AUSTRALIA

EXECUTIVE SUMMARY

Models of Care, developed as part of Western Australia (WA)'s health reform, aim to describe best practice care and services within the WA health care system for a person or population group prior to and following diagnosis with a particular condition. The complexities of human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) clinical care and an increasing HIV case load highlight the need for a review of current HIV/AIDS service provision. In WA, the Infections and Immunology Health Network was tasked with the development of a state-based model of care to address all aspects of HIV/AIDS education, prevention, treatment and care.

In WA, the current partnership for HIV/AIDS of government and community-based sectors and the education, medical, health, scientific and research sectors is strong. On the whole, current services are effective, accessible, patient-centred, and safe. They are supported by a dedicated workforce, which provides evidence-based treatment and care to people living with HIV/AIDS (PLWHA) at different stages along the continuum of care. The current partnership recognises the importance of the centrality of PLWHA and their participation in policy and program development and implementation.

The proposed future HIV/AIDS model of care must:

- recognise the importance of maintaining the strong partnership and the need to build upon the current successes within WA;
- acknowledge that health service delivery is undergoing major reform in WA, including the anticipated transfer of services from Royal Perth Hospital (RPH) to the Fiona Stanley Hospital at Murdoch;
- recognise that current and future significant workforce challenges need to be adequately addressed;
- consider emerging epidemiological trends and changes due to the economic boom in WA and global travel and the emerging needs of at-risk populations;
- promote equity of health services throughout WA, be evidence-based and forward looking, respond to existing policy, influence future planning and involve consultation and collaboration with all stakeholders;
- be patient-centred and focus on the following principles of respect, choice and empowerment, patient involvement in health policy, access and support, and information. For PLWHA who are living longer as a result of improved treatments, their health and psycho-social needs as they age are important considerations within the model.



Key Recommendations of the Future Model of Care

Primary Prevention

The key recommendations for primary prevention are to:

- continue and enhance state-wide community and peer-based prevention interventions;
- continue to actively support programs which reduce stigma and misconceptions around HIV by the general community and health care providers;
- continue policy and legislative reform to ensure an enabling environment for primary prevention;
- continue to develop and provide quality school-based health/life skills education and prevention;
- invest in existing, new and emerging areas for prevention;
- continue to build the evidence base;
- continue to promote availability of post-exposure prophylaxis (PEP) including non-occupational post-exposure prophylaxis (NPEP);
- promote the introduction and widespread use of needleless technologies in the health care setting in order to reduce injury and risk of blood-borne virus (BBV) transmission.

Secondary Prevention and Early Detection

The key recommendations for secondary prevention and early detection are to:

- remove barriers to HIV and STI testing;
- enhance early intervention through primary health care providers;
- continue policy reform to ensure an enabling environment for secondary prevention and early detection;
- improve HIV early detection and intervention, particularly for high-risk populations;
- expand contact tracing/partner notification capacity within the metropolitan area and throughout the rest of WA;
- adopt the recommendations of the National review regarding recklessly or knowingly placing others at risk of infection with HIV;
- incorporate HIV prevention into the medical care of people living with HIV/AIDS (PLWHA).



Disease Management and Tertiary Prevention

The key recommendations for disease management and tertiary prevention are to:

- decide upon the future provision and location of the HIV clinical services currently provided at RPH and Fremantle Hospital;
- maximise the role of general practitioners (GPs) in HIV management;
- recognise and support the broad and changing roles undertaken by HIV specialist nurses in the areas of chronic HIV management, assessment and management of adherence, and patient education and support;
- enhance HIV/AIDS services in rural and remote areas;
- utilise information and communication technology to improve service delivery;
- reorientate services for the asymptomatic or uncomplicated HIV disease (i.e. Chronic Disease Self Management);
- undertake regular clinical audits of HIV clinical services;
- consider the need to strengthen links and interaction between HIV, BBV and sexual health clinical services;
- enhance mainstream service provision for PLWHA;
- prioritise auxiliary specialist services to meet PLWHA's requirements over the next 10 years;
- continue to support the current internationally-competitive research programs to develop new treatments, diagnostic tests and a vaccine for HIV infection being undertaken by RPH, Fremantle Hospital, the University of Western Australia (UWA) and Murdoch University.

Workforce Development

The key recommendations for workforce development are to:

- continue to implement workforce development and training in HIV/AIDS education, prevention, treatment and care;
- train and support GPs to provide HIV shared care in both the metropolitan and rural/remote areas of WA;
- continue to update and disseminate best practice guidelines for primary health care providers involved with the management of sexually transmitted infections (STIs) including HIV/AIDS;
- support appropriate specialist training to meet the changing needs of an ageing HIV-positive population;
- enhance current training for specialists in clinical immunology and infectious diseases;



- provide WA-based training programs to meet the ongoing education and training needs of HIV specialist nurses;
- enhance awareness about cultural sensitivity in training programs for health care providers and other staff.



1. INTRODUCTION

The complexities of HIV/AIDS clinical care and an increasing HIV case load highlight the need for a review of current HIV/AIDS service provision. Nationally, a *Models of HIV Clinical Service Delivery Working Group* has been established to examine current and new models of service delivery. In Western Australia (WA), the Infections and Immunology Health Network was tasked with the development of a state-based model of care which will address all aspects of HIV/AIDS education, prevention, treatment and care.

1.1 Key Objective

The broad objective of the HIV/AIDS Model of Care is to ensure people get the right care, at the right time, by the right team and in the right place (DoH 2007a). The aim of this document is to describe a model of best practice care and services within the WA health care system for a person or population group prior to infection and as they progress through the stages of testing, treatment and care for HIV/AIDS. It will consider:

- **Primary prevention** - to limit the incidence of HIV in the population by measures that eliminate or reduce causes or determinants of departures from good health, including controlling exposure to risk and the promotion of factors that are protective of health.
- **Secondary prevention and early detection** - to reduce progression of HIV and ongoing transmission through early detection, usually by screening/testing at an asymptomatic stage and early intervention.
- **Disease management and tertiary prevention** - to improve function and minimise the impact of established HIV/AIDS, and prevention or delay of complications and subsequent events through effective management and rehabilitation (adapted from NPHP 2006).

1.2 Guiding Principles

The proposed HIV/AIDS Model of Care is guided by the following principles, which also inform both the *National HIV/AIDS Strategy 2005-2008* (DoHA 2005a) and the *Western Australian HIV/AIDS Action Plan 2006-2008* (DoH 2006a):

- **Leadership** - The Australian Government provides national leadership and a policy framework. Within WA, the Department of Health (DoH) provides overall strategic direction for the control and management of HIV/AIDS including funding via the Public Health Outcome Funding Agreement.
- **The HIV/AIDS partnership** - This recognises the importance of strengthening partnerships between the government sector, community-based organisations representing priority target groups, and the education, medical, scientific and research communities, with a commitment to consultation and joint decision making.
- **The centrality of people living with HIV/AIDS (PLWHA)** - The Model should be patient-focused and recognise the importance of PLWHA's participation in policy and program development and implementation.



- **An enabling environment** - The success of the Model of Care is dependent upon a supportive social, legal and policy environment that encourages health education and prevention, promotes access to appropriate testing, treatment and care services, and addresses stigma and discrimination.
- **A non-partisan response** - According to the National HIV/AIDS Strategy (DoHA 2005), a non-partisan response involves “support for pragmatic social policy and for innovative interventions that effect sustainable behaviour change among more marginalised groups in society”.
- **Health promotion and harm minimisation** - Health promotion is set within the overall framework of the *Ottawa Charter for Health Promotion* (WHO 1986). The five principles of the Ottawa Charter are building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health services from curative to prevention service delivery. Harm reduction (one of the three elements that make up the principle of harm minimisation) supports access to any necessary and proven technologies, such as new or safe injecting equipment, or condoms, which reduce or prevent the transmission of HIV/AIDS.

1.3 Methodology

The Project Leaders were recruited from the Infections and Immunology Network’s Executive Advisory Group (see Appendix 1) and a small working party was formed to develop a draft HIV/AIDS Model of Care, which was circulated twice to key stakeholders throughout WA, for input and comment. The final draft was endorsed by the Executive Advisory Group.

Development of the HIV/AIDS Model of Care also included reference to and integration of the following documents:

- *Western Australian HIV/AIDS Action Plan 2006-2008* (DoH 2006a) which provides a framework under which HIV/AIDS education, prevention, treatment and care can be developed and implemented and identifies key actions to be addressed;
- *National HIV/AIDS Strategy 2005-2008* (DoHA 2005a);
- *National Aboriginal and Torres Strait Islander Sexual Health and Blood-borne Virus Strategy 2005-2008* (DoHA 2005b);
- *Western Australian Aboriginal Sexual Health Strategy 2005-2008* (DoH 2005a);
- *WA Aboriginal Health Impact Statement and Guidelines* (DoH 2005b);
- *Declaration on patient-centred healthcare* as adopted by the Health Consumers’ Council (WA), which outlines five principles - respect, choice and empowerment, patient involvement in health policy, access and support, and information.



2. BACKGROUND

2.1 Definition and Clinical Presentation of HIV/AIDS

HIV infection is caused by Human Immunodeficiency Virus type 1 and 2. HIV disease is characterised by depletion and/or dysfunction of the cells of the immune system. HIV infection targets macrophages (which ingest and process infectious agents) and CD4+ T lymphocytes. These cells are central to all functions of the immune system, so that when they are affected by the disease process there is a very extensive immune deficiency.

Up to 80 per cent of people who are infected by HIV will experience a glandular fever-like illness within six weeks of infection. This occurs at the time of HIV antibody appearance, and is called a seroconversion illness or primary HIV infection syndrome. Subsequently, there is a period of months to years during which the person is well, even though there is a progressive depletion of CD4+ T lymphocytes. Eventually, immune function becomes so poor that infections and/or cancers develop. This stage is known as acquired immunodeficiency syndrome (AIDS). The most common cancers are Kaposi's sarcoma and lymphoma. A wide range of infections, mostly viral and fungal, are common in AIDS, including *Pneumocystis jiroveci* pneumonia (formerly *Pneumocystis carinii* pneumonia), cytomegalovirus infections and severe infections with *Candida* and *Mycobacterium sp.*

HIV infection may also affect immune system cells in the nervous system and cause neurological diseases. The most common neurological disease is chronic encephalitis, which may result in a sub-cortical dementia associated with other neurological abnormalities (AIDS-dementia complex).

2.2 HIV/AIDS Epidemiology

Since the first HIV case was reported in WA in 1983, there have been 1,318 newly diagnosed HIV infections reported amongst WA residents to the end of 2006; 502 (38 per cent) of these cases were diagnosed with AIDS and 398 (30 per cent of cases) have died within this period (see Figure 1) (DoH 2007b). There have been 1,139 males, five transgender persons and 174 females with a male to female ratio of 6.5:1, and a median age at diagnosis of 34 years (range: less than 1 to 78 years).

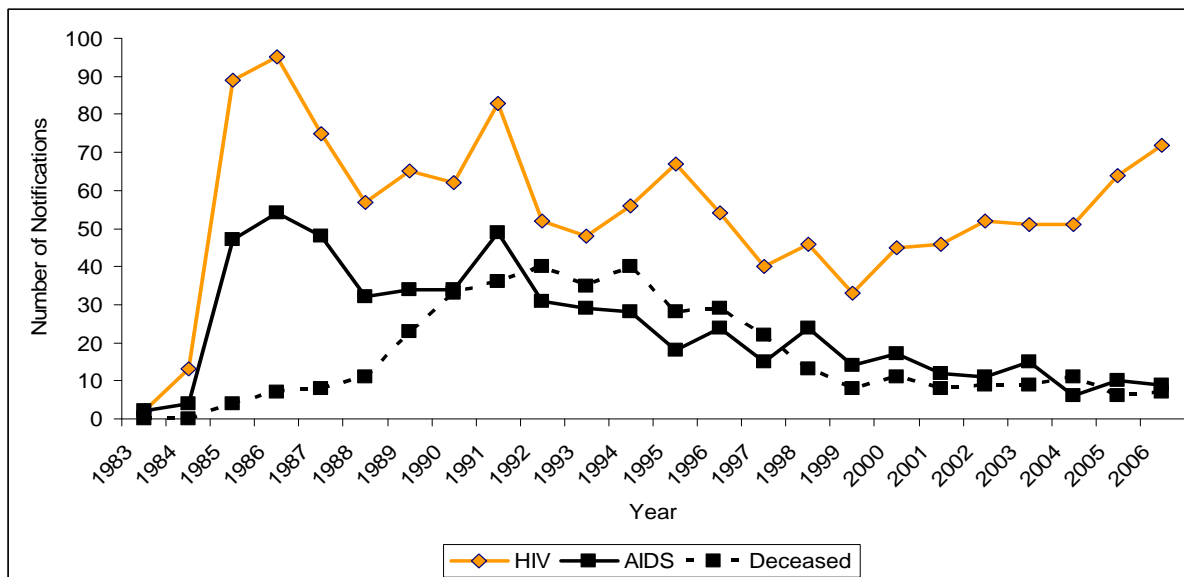
HIV notifications peaked in 1986 followed by a decline in notifications until 1999. Since then there has been an increase in the number of notifications. The age standardised rates increased from 1.8 per 100,000 in 1999 to 3.6 per 100,000 in 2006.

AIDS cases have remained more stable since the uptake of highly active antiretroviral therapy (HAART).

For more information on HIV/AIDS epidemiology see Appendix 2.



Figure 1 Number of notifications for HIV, AIDS and deaths in persons infected with HIV, WA, 1983 to 2006.



Risk of acquiring HIV infection

Data about the risk of transmission following a single unprotected exposure to an HIV-infected person and the prevalence of HIV in Australian and overseas populations can be found in Appendix 3.

2.3 HIV Trends in WA

In WA, the emerging trends of new diagnoses include:

- HIV diagnoses in homosexual men are decreasing as a proportion of all new diagnoses, but have increased in real terms.
- Heterosexual diagnoses (for both men and women) are increasing as a proportion of all new diagnoses and in real terms.
- The majority of cases resulting from heterosexual exposure report acquiring their infection overseas.
- The HIV notification rate is higher in the Aboriginal population than in the rest of the population.
- HIV diagnoses in people who inject drugs remain low.

For more information on trends see Appendix 2. These changes provide further challenges in developing HIV prevention strategies. Some of the relevant factors to be considered include:

- WA is located in a geographical region with high HIV prevalence.
- The WA resource industry boom has led to high levels of international travel for work and recreation. This is likely to continue for the foreseeable future.



- A shortage of skilled workers in WA, particularly in the resource industry, and the subsequent migration of skilled workers from countries with a high HIV prevalence is projected.
- The number of overseas students from high prevalence countries undertaking secondary and tertiary study in WA will continue to increase.
- There do not appear to be any changes or improvements to the current factors which influence the transmission of HIV in the Aboriginal population.
- Just under half of the newly diagnosed HIV cases notified in WA from 2001-2006 were born overseas.

2.4 Snapshot of PLWHA Population in WA

With the introduction of HAART, HIV-positive people are living longer and the PLWHA population is ageing.

The numbers of cases diagnosed with HIV and cases still living with HIV by year of diagnosis up to March 2007 are shown in Figure 2. Of the 1,329 cases, there were 995 cases (75 per cent) with no record of having died and 254 cases (25 per cent) of the 995 cases were diagnosed prior to 1991.

Figure 3 shows the age distribution of all cases of people living with HIV as at March 2007. The age range was 4 to 87 years, with 61 per cent in the 40-59 years age group and 10 per cent aged over 60 years.

For the 2005 to 2006 period, 85 per cent of HIV cases reported they were residents of metropolitan Perth and 13 per cent reported non-metropolitan areas as their place of residence.

Figure 2 Year of notification for all HIV cases and cases living with HIV

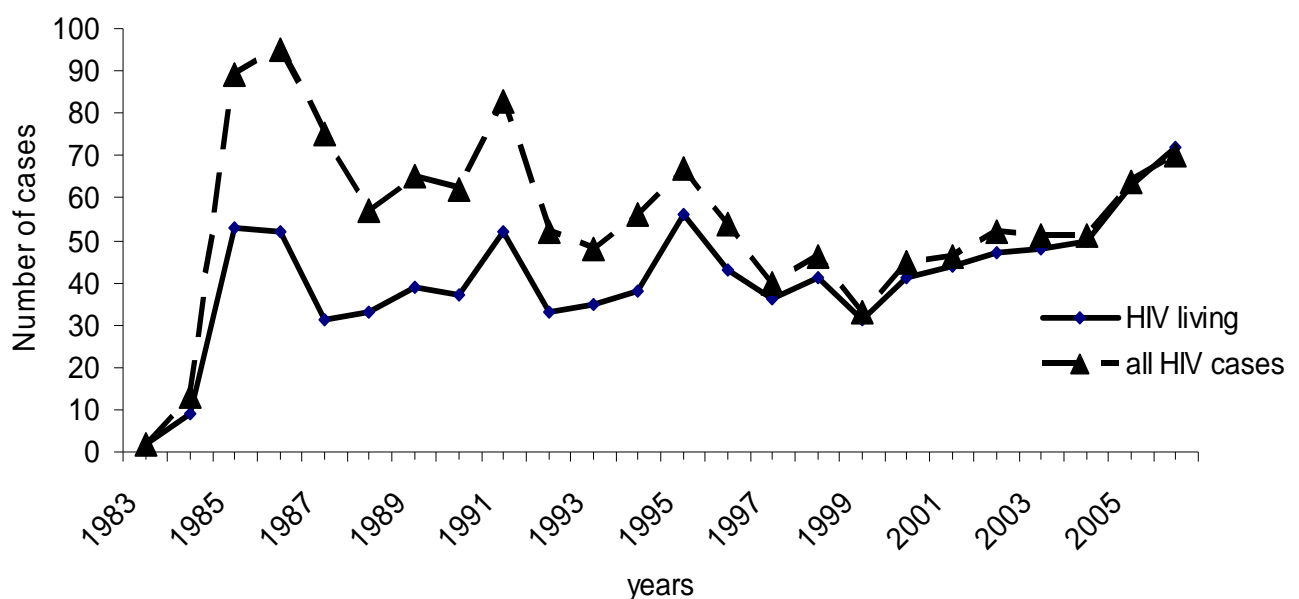
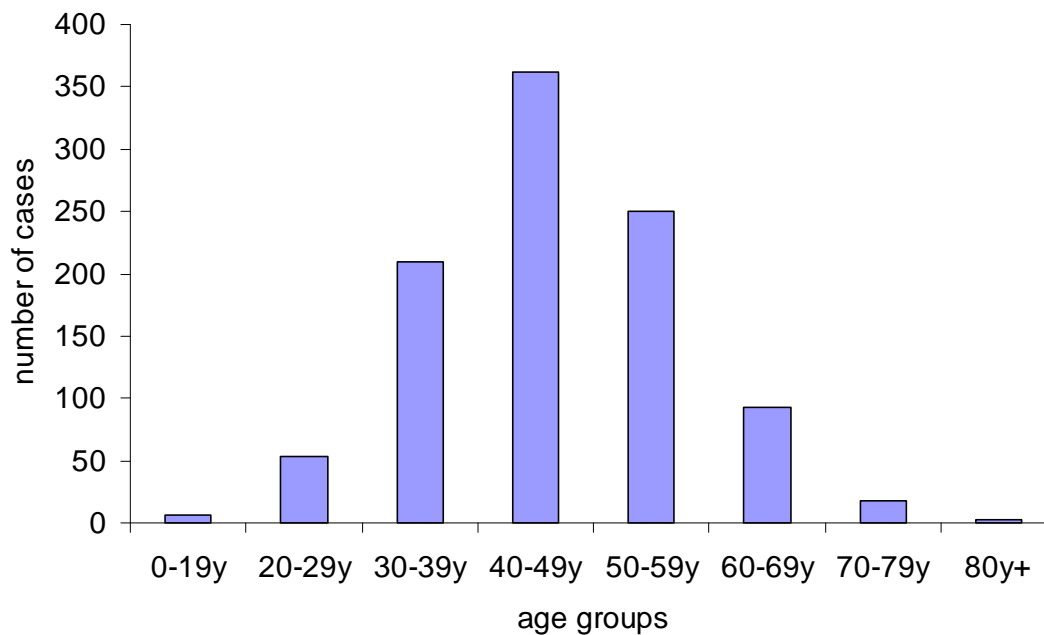




Figure 3 Age groups of all cases living with HIV at March 2007



2.5 Economic, Personal and Social Impact of HIV/AIDS

The economic, personal and social impacts of HIV/AIDS are great. According to the National HIV/AIDS Strategy 2005-2008, “social research indicates that PLWHA may experience difficulty accessing health care services, housing, insurance, employment, education and other aspects of public life that contribute to social exclusion and isolation. The cost burden of care on PLWHA is also significant” (DoHA 2005a). According to recent research (Grierson et al 2006):

- 28.3 per cent of PLWHA surveyed were living below the poverty line;
- more than half reported experiencing at least some difficulty in meeting the cost of daily living;
- just over half of respondents (51.2 per cent) were currently in paid employment.

In addition, data provided by the Department of Health’s Epidemiology Branch highlights the burden of disease and the impact of HIV/AIDS on the hospital system. Of the overall number of Disability Adjusted Life Years (DALYs)¹ due to infectious diseases, 7.6 per cent is attributed to HIV/AIDS. Between 1989 and May 2006, there were 46,545 hospital bed-days and the average length of hospital stay was 5.03 days for HIV/AIDS recorded as either principal diagnoses or as secondary diagnoses (both symptomatic and asymptomatic). Between 1994 and May 2006, the total cost of hospitalisation for HIV/AIDS recorded as either principal diagnoses or as secondary diagnoses (both symptomatic and asymptomatic) was \$26,660,910.²

¹ Statistics for Disability Adjusted Life Years are only available for 2000.

² Epidemiology Branch, Analysis and Performance Reporting, Department of Health July 2007.



A recent study showed that the investment in the NSW HIV/AIDS Program between 1981/1982 and 2005/2006 had been \$1,259 million (\$1,606 million in 2005/2006 prices) (NSW Health 2007). Of this, 70 per cent was allocated to clinical care services and 30 per cent to prevention initiatives. The financial return on investment indicated that “a total of \$18,027 million (in 2005/2006 prices) in clinical care costs that would otherwise be borne by the NSW Government would be saved over the lifetime of the HIV cases avoided by the prevention initiatives funded under the Program”.



3. CURRENT SERVICE PROVISION

Australia developed the first coordinated national approach to HIV/AIDS in 1989. Since that time, there have been five National HIV/AIDS Strategies which have provided strong leadership at both the international and National level, funding to States and Territories and a strategic approach to HIV care.

Following the National lead, WA took a strategic and consultative approach to HIV education, prevention, treatment and care and developed its first *HIV/AIDS Treatment and Care Plan for Western Australia* and *HIV/AIDS and Sexually Transmitted Infections Education and Prevention Plan for Western Australia* in 2001 and 2002 respectively. The current *Western Australian HIV/AIDS Action Plan 2006-2008* (DoH 2006a) outlines current service provision and provides a framework under which HIV/AIDS education, prevention, treatment and care can be developed and implemented and identifies key actions to be addressed.

In WA, the partnership of government and community-based sectors and the education, medical, health, scientific and research sectors continues to be strong. The roles and responsibilities of the members of the partnership are outlined in the WA HIV/AIDS Action Plan. Current HIV/AIDS services successfully address the continuum of prevention, treatment, care and support and provide multidisciplinary patient-centred care.

3.1 Primary Prevention

Primary prevention aims to limit the incidence of HIV in the population by measures that eliminate or reduce causes or determinants of departures from good health, control exposure to risk and promote factors that are protective of health.

3.1.1 Community and peer-based prevention programs

The Department of Health, through the Sexual Health and Blood-borne Virus Program, funds non-government organisations, such as the WA AIDS Council (WAAC), FPWA Sexual Health Services (FPWA), Magenta, the WA Substance Users' Association (WASUA) and the Sexuality Education Counselling and Consultancy Agency (*secca*) to develop and provide specific prevention interventions targeting men who have sex with men, sex workers, people who inject drugs, Aboriginal people, young people, people with disability and other groups at risk of acquiring HIV. These programs aim to reduce the risk of HIV acquisition through the provision of:

- targeted education and interventions for the general community and at-risk groups;
- appropriate policies and legislation to support intervention programs such as the provision of information and health hardware that reduces the risk of HIV acquisition in at-risk groups;
- strategies designed to ameliorate related bio-psycho-social risk factors;
- education and skill-building for individuals to help maintain safe behaviours and avoidance of high-risk behaviours;



- support, rehabilitation and ongoing management of PLWHA to maximise their wellbeing, and to minimise further risk of transmission.

The following are examples of existing programs:

- WAAC develops and promotes health education materials, and provides outreach health education through community workshops, events and settings within the gay and general communities.
- FPWA develops targeted resources and provides health education including the Mooditj and PASH (Promoting Adolescent Sexual Health) Programs.
- Magenta, under the auspice of FPWA, provides health education materials and workshops for sex workers on safe sex and prevention of HIV/STIs.
- secca develops targeted resources and provides workshops and counselling for people with disability, their families and carers.
- For people who inject drugs, there is a comprehensive program for the distribution of needles and syringes through needle and syringe exchange programs (NSEPs) (e.g. WAAC and WASUA provide fixed and/or mobile needle exchange programs) and needle and syringe programs (NSPs) (e.g. provided through pharmacies, non-metropolitan hospitals and some other health-related agencies throughout WA).

Targeted education and prevention programs for the general community and priority target groups are outlined the *Western Australian HIV/AIDS Action Plan 2006-2008* (DoH 2006a).

3.1.2 Nosocomial Infection Control

Infection control is a key priority within all WA private and public hospitals and residential care facilities. Hospitals and other clinical settings adhere to the National Infection Control Guidelines (DoHA 2004). In addition, the Department of Health has a number of operational directives which address infection control:

- *Standard and Additional Infection Control Precautions* (DoH 2006b);
- *Policy for Health Care Workers with Blood-borne Virus Infections* (DoH 2007c);
- *Management of Occupational Exposure to Blood and Body Fluids in the Health Care Setting* (DoH 2007d).

3.1.3 Post-exposure Prophylaxis

The Department of Health has Operational Directives in place to address management of exposure to infectious diseases such as HIV in both occupational and non-occupational settings:

- *Standard and Additional Infection Control Precautions* (DoH 2006b);
- *Management of Occupational Exposure to Blood and Body Fluids in the Health Care Setting* (DoH 2007d);



- *Protocol for Non-occupational Post-exposure Prophylaxis (NPEP) to Prevent HIV in Western Australia (DoH 2007e) which supports the Australian Government Department of Health and Ageing's National Guidelines for Post-exposure Prophylaxis after Non-occupational Exposure to HIV (DoHA 2006a).*

Occupational exposure

People such as health care workers, prison officers and community workers who have had a possible exposure to HIV and other BBV infections (e.g. via a needle-stick injury) are able to access post-exposure prophylaxis through a treating hospital. They are assessed, managed and followed up by nursing and medical staff; and have access to the use of antiretroviral therapy and appropriate education and counselling.

Non-occupational exposure

Post-exposure prophylaxis after a non-occupational exposure (NPEP) is available in WA. Since 2005, the Department of Health and WAAC have conducted a targeted campaign to raise awareness about NPEP amongst people at high risk of exposure (e.g. men who have sex with men and serodiscordant couples). Clients are able to access NPEP through a treating hospital, other clinical services and a few GPs.

3.1.4 Blood and Blood Products

Since the introduction of HIV screening of blood, blood products and tissue in Australia in April 1985, the levels of HIV infection in blood donors have been below 1 per 100,000 donations (NCHECR 2006). People donating blood are required to complete a medical questionnaire which covers health, lifestyle and medical questions used to assess their eligibility to donate, and to ensure the donation is safe for both themselves and for recipients. All information provided is strictly confidential. Donated blood is tested for HIV prior to use.

3.2 Secondary Prevention and Early Detection

Secondary prevention and early detection aims to reduce progression of HIV and ongoing transmission through early detection, usually by screening/testing at an asymptomatic stage and early intervention.

3.2.1 HIV Testing

Principles of HIV testing are guided by the *National HIV Testing Policy 2006* (DoHA 2006b) as endorsed by the HIV/AIDS and STIs Subcommittee of the Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis. This policy states that HIV testing must always be accompanied by appropriate pre-test discussion, informed consent and post-test discussion. Actions to address HIV testing are included in the *Western Australian HIV/AIDS Action Plan 2006-2008* (DoH 2006a).

The Department of Health disseminates best practice guidelines for the management of STIs to primary health care providers throughout WA. The *Guidelines for Managing Sexually Transmitted Infections 2006* address HIV testing and treatment (DoH 2006c).



Location of Testing

HIV testing is available from:

- GPs and other primary health care providers, e.g. FPWA;
- sexual health clinics at RPH and Fremantle Hospital (FH) (including outreach clinics);
- some Public Health Units;
- outreach clinics situated at Magenta, WASUA, WAAC and some commercial sex-on-premises venues (SOPVs);
- prison-based health centres across WA;
- women's health services.

Payments for HIV testing

HIV testing has been placed on the Commonwealth Medicare Benefits Schedule (CMBS) and therefore, a much larger proportion of testing will be conducted by private laboratories. PathWest bulk-bills Medicare and continues to provide screening testing free of charge to the patient. PathWest also provides free diagnostic testing that is not covered by the CMBS or hospitals (e.g. anonymous testing for some at-risk groups) and free supplementary testing. Private laboratories also bulk-bill nearly all non-commercial HIV tests.

Antenatal Testing

The goals of antenatal HIV testing are to:

- decrease the incidence of mother-to-child HIV transmissions through the provision of combination antiretroviral therapy (ART) to the mother and baby;
- enable an HIV-positive woman to receive optimal care for herself;
- decrease the risk of transmission to sexual partners.

As recommended in the Department of Health and Ageing's *National HIV Testing Policy 2006* (DoHA 2006b), the Department of Health has prepared an Operational Directive (DoH 2007f) stating that HIV serology testing should be routinely offered to all women at the first antenatal visit. Antenatal testing must only be performed with the informed consent of the woman. When testing for HIV, pre- and post-test discussions should be undertaken as outlined in the Department of Health's *Guidelines for Managing Sexually Transmitted Infections 2006* (DoH 2006c).

Women at high risk for acquiring HIV infection (e.g. women who inject drugs, or who are sexual partners of HIV-infected men or men at high risk of HIV) should be retested in the third trimester.

3.2.2 Contact Tracing Services

The Metropolitan Contact Tracing Service provides contact tracing for HIV and other STI cases. Currently, only two disease control/community health nurse positions provide STI



and HIV/AIDS contact tracing and other services for almost the entire metropolitan area, including new cases identified in a custodial setting, with the exception of a small proportion of cases diagnosed at Royal Perth Hospital Sexual Health Service and Fremantle Hospital Sexual Health Service. Those services are responsible for their own client contact tracing. HIV cases referred from GPs and other health agencies/immunology departments usually take a day to follow up provided contact can be established. Once clients have been interviewed, liaison with other health professionals is usually required. Some clients may require a second interview.

3.2.3 HIV Case Management Program

The HIV Case Management Program is funded through the Department of Health's Communicable Disease Control Directorate and is situated in central Perth. It works closely with other service providers and aims to:

- reduce the risk of HIV transmission from HIV-positive individuals who knowingly expose others to the risk of infection;
- reduce the risk of infected individuals with mental illness and/or intellectual disability that place others at risk of HIV infection, but this behaviour is not wilful.

The program uses a case management approach which accommodates the complex social, psychological and health care needs of the clients.

The HIV Case Management Program has a state-wide responsibility and operates in the regions through the local population health units. In response to the need to contain and prevent the spread of HIV in one remote region, a Case Management Officer has been appointed as part of the region's multidisciplinary Communicable Disease Team.

3.3 Disease Management and Tertiary Prevention

Disease management and tertiary prevention aims to improve function and minimise the impact of established HIV/AIDS, and prevention or delay of complications and subsequent events through effective management and rehabilitation.

In WA, the following services are currently available for the treatment, care and support of PLWHA, their families, friends and carers:

3.3.1 Clinical services for people living with HIV/AIDS

The principal clinical services for HIV exist within the metropolitan public hospital system - Royal Perth Hospital (RPH), Fremantle Hospital, Sir Charles Gairdner Hospital (SCGH) for adults, Princess Margaret Hospital (PMH) for children and King Edward Memorial Hospital for Women for antenatal care. There are also a few GPs who are qualified to prescribe HIV s100 drugs (HAART) for people with HIV.

Adults with HIV

The Departments of Clinical Immunology and Microbiology and Infectious Diseases at RPH provide a comprehensive clinical and laboratory service for the diagnosis and management of patients with HIV/AIDS. The clinical service is provided by four consultant Clinical Immunologists, two consultant Infectious Diseases Physicians, three Clinical



Immunology Registrars, two Infectious Diseases Registrars and four full-time equivalent (FTE) nursing positions. They are supported by two Social Workers and a Clinical Psychologist and a liaison consultant Psychiatrist and other specialists (e.g. gastroenterologists for the care of patients with HCV co-morbidity).

RPH has an active research program and works in conjunction with the University of Western Australia (UWA) and Murdoch University, along with national and international HIV research centres. It should be noted that the research has led to some PLWHA having special access to therapies not available on the Pharmaceutical Benefits Scheme (PBS) as well as the capacity for having tailored treatments. Areas of research are discussed in section 3.4.1.

The **Infectious Diseases Department** at Fremantle Hospital provides a comprehensive clinical service for HIV-positive people, including a liaison nurse and clinical psychology support, sexual health, and management of viral hepatitis co-infection. There are opportunities to participate in clinical trials of new HIV treatments.

The **Department of Clinical Immunology** at SCGH provides clinical services in immune deficiency including HIV infection. The HIV caseload is relatively small. Approximately 40 patients attend the outpatient clinic for regular treatment. The Department also provides a Diagnostic Immunology Laboratory Service throughout PathWest at the Queen Elizabeth II Medical Centre. Currently, there are no medical staff members committed totally to HIV services at SCGH. There is only one consultant clinical immunologist who works 0.5 FTE at SCGH and 0.5 FTE at PathWest. The Department is currently not directly involved in HIV research. However, cases treated at SCGH are included in a database held at RPH, which is used extensively for research.

Services provided outside public hospitals

In WA, a small number of GPs, immunologists and infectious diseases physicians see HIV-positive patients in private practice. Medications are accessed through the public hospital system and blood tests are carried out at the public hospitals or through private laboratories. A multidisciplinary Communicable Disease Team has been established in one region of WA (see section 3.3.2 “Rural and remote services”).

PathWest Laboratory Medicine at RPH, SCGH, Fremantle Hospital and PMH provide the following laboratory tests relevant to the diagnosis and management of HIV infection:

- HIV antibody testing;
- plasma HIV RNA assays and detection of antiretroviral drug resistance mutations using plasma HIV RNA;
- detection of HIV proviral DNA in blood leucocytes;
- measurement of circulating lymphocyte subpopulations, including CD4+ T cells, by flow cytometry.

Pregnant HIV-positive women

Generally, pregnant HIV-positive women are referred to King Edward Memorial Hospital for Women (KEMH) and managed by a specialist obstetrician with HIV experience. KEMH



is part of the Multidisciplinary Inter-hospital (KEMH, RPH, FH, PMH) Pregnancy Team comprising obstetricians, adult and paediatric immunologists, infectious diseases physicians, neonatalists, paediatricians and nurses. The team is coordinated by nurses from RPH and PMH, and supported by social workers, community health and psychology services.

Babies born to HIV-positive women are followed up at PMH for the first 6 months of life on a regular basis.

Children with HIV

Infants and children with HIV are managed at PMH by a multi-disciplinary team. Two paediatric immunologists/infectious diseases specialists oversee care for a small group of children. These children are seen in an outpatient department setting at PMH every two months. They are managed by specialty nurses, doctors and social workers who provide total care for the children in relation of disclosure, support during adolescence and compliance with medications.

Psychological assessment and therapies

- RPH provides a state-wide HIV/AIDS clinical psychology service, and social work and psychiatric services.
- Fremantle Hospital Infectious Diseases Department provides an HIV/AIDS clinical psychological service.
- Some community-based organisations, e.g. WAAC and Ruah Health Services address psycho-social issues for PLWHA.
- PLWHA who require a neuro-psychological assessment are generally referred to a neuro-psychologist who provides services to a range of people (not only PLWHA) within the community.

General Practitioners

A few GPs are HIV s100 prescribers and others have a high HIV caseload. Many GPs are involved with 'shared care' without having expertise in HIV management.

Access to Highly Active Antiretroviral Therapy (HAART)

In WA, HAART is only dispensed through hospital pharmacies (i.e. not through community pharmacies) with no co-payment for their HIV medication. This policy is in place to encourage a higher uptake of treatments by HIV-positive people.

3.3.2 Rural and remote services

RPH coordinates a rural and remote service in non-metropolitan regions of WA to support patients with HIV infection and the medical and nursing staff managing them. When the service commenced in 1998, it had 28 clients. The service now has 214 registered patients, of whom approximately 180 are active clients.³ Despite the increase in client number, the number of staff has not increased in that time.

³ Allii Cain, Royal Perth Hospital, Personal communication 2008



From 1994-1998, a cohort of Aboriginal people living in one region of WA⁴ were infected with HIV through heterosexual contact. In response to the need to contain and prevent the spread of HIV, a multidisciplinary Communicable Disease Team was established within the relevant Population Health Unit. The team, comprising a Public Health Physician, a Communicable Disease Control Nurse, Aboriginal Health Workers and a Case Management Officer, have provided community-based education, containment, case management, medical services and palliative care for HIV-positive clients and their community. Unfortunately, the Public Health Physician position was vacant for nine months and was filled recently on a part-time basis and there have been no Aboriginal Health Workers for two years despite multiple recruitment attempts. In addition, a clinician and the rural nurse coordinator from RPH visit the “region with special needs” three times a year. Clinics are also operated in other regions of WA where they are judged to be necessary. Some funding has been provided by Rural Health West and the Medical Specialist Outreach Program.

Specific sexual health clinical services run by dedicated health professionals with general public health training are also currently available through the population health units in the Pilbara and Goldfields regions. A pilot STI clinic run by community nurses is currently underway in Albany.

Clients can also access clinical services at state health services such as Emergency Departments, from GPs and at a number of Aboriginal Community Controlled Health Services around the state. However, in small communities patients are often reluctant to use services where they may be known personally by staff.

3.3.3 Community-based support and care services

Community-based agencies work in close collaboration with each other as well as with other clinical service providers to ensure seamless care for PLWHA.

WA AIDS Council (WAAC)

WAAC provides a range of services for PLWHA, their carers and families using an empowerment model of service delivery. Services include welfare, practical and material assistance, housing and income support advocacy, referrals to non-HIV/AIDS organisations, psycho-social support such as groups, forums and retreats, information about treatments, complementary therapies, counselling and life coaching.

⁴ In order to maintain the confidentiality of this potentially highly visible and vulnerable community, the area is referred to as “the Region with Special Needs”



Ruah Health Services

Ruah Health Services provides services for the management of PLWHA with “chaotic lifestyles” and/or serious adherence difficulties via a community-based case management model. Clients include PLWHA who experience complex psycho-social issues such as homelessness, problematic substance use, and/or family and social violence. The work is carried out in close liaison with other service providers in the field, in a cooperative service delivery manner, to provide support to clients.

Silver Chain

Silver Chain provides specialised home-based nursing care and end of life care for some HIV patients as required, on a fee-for-service unit cost basis. The service provides outpatient case management and some directly observed therapy (DOT) as appropriate.

The Living Centre

The Living Centre advocates and provides support services for PLWHA, as well as people affected by HIV, including a drop-in centre with access to professional support and advocacy, outreach support for PLWHA at home, in hospital or in prison, complementary therapies and creative programs to enhance self support.

Murdoch Community Hospice and Bethesda Hospital

Murdoch Community Hospice and Bethesda Hospital currently provide short-term respite care and palliative care for PLWHA in addition to acute hospital services. In addition, home support is available through Home and Community Care (HACC) Program coordinated through WAAC.

HIV/AIDS Peer Advisory Network (HAPAN)

HAPAN is the peak representative body for PLWHA in WA. Its purpose is to assist PLWHA to improve their quality of life through the provision of information; advocacy and advice to relevant policy makers, service providers and government; working to eliminate HIV-related isolation, discrimination and stigma; and supporting opportunities for PLWHA representation on relevant bodies.

3.4 Surveillance and Research

3.4.1 Surveillance

The objectives of HIV/AIDS surveillance programs are to:

- collect sufficient good quality and relevant data nationally to be able to monitor the number of new diagnoses and health consequences of HIV/AIDS;
- assist with planning of appropriate public health strategies (DoHA 2005a).

In WA, HIV surveillance is managed centrally by the Communicable Disease Control Directorate. Under the *Health Act 1911* and the *Health Amendment Act 2006*, all medical practitioners practising in WA and pathology/clinical laboratories are legally required to report the diagnosis of infectious diseases that are of public health significance, including



HIV infection. Once collated by the Department of Health, data are sent to the National Centre in HIV Epidemiology and Clinical Research (NCHECR), which has responsibility for aggregating the National HIV data.

3.4.2 Research

In WA, a number of clinical and social research projects have been conducted in collaboration with interstate and overseas researchers and have received international recognition.

Clinical Research

RPH has an active research program and works with UWA and Murdoch University, along with national and international HIV research centres. Research is being undertaken on HIV clinical trials (national and international), metabolic and other complications of antiretroviral therapy, disorders of immune reconstitution in HIV patients, cellular immunology of HIV and other chronic viral infections. Fremantle Hospital Infectious Diseases Service also participates in multicentre national and international HIV clinical trials.

Social research

- The WA Centre for Health Promotion Research in conjunction with the National Centre for HIV Social Research conducts the biennial Perth Gay Community Periodic Survey. The survey provides a snapshot of sexual and HIV-related practices within the gay community (Zablotska et al 2006).
- Murdoch University and the West Australian Transcultural Mental Health Centre were commissioned to research HIV and sexual health knowledge with members of WA's West African community.
- A consortium led by the WA Centre for Health Promotion Research has been engaged to conduct research with males who acquired HIV while living or working overseas during the period 2000 to 2006.

3.5. Workforce Development

Specialist HIV and related training is provided by the following bodies:

- **RPH and Fremantle Hospital** provide postgraduate teaching for Fellow of the Royal Australian College of Physicians (FRACP) basic and Immunology and Infectious Diseases advanced trainees, science students (biotherapeutics), service trainees (residents), and GPs as well as lectures and tutorials for undergraduate medical students from UWA.
- **Curtin University Health Promotion Course** provides undergraduate and postgraduate training in health promotion, program design and evaluation.
- **WAAC** provides training on HIV-related issues including HIV acquisition, pre- and post-HIV-test discussion and sexuality and sexual diversity to medical practitioners, nurses and other health workers as well as bodies such as Health Services Australia.



- **FPWA** provides a number of training programs in the sexual health area, which incorporate HIV, e.g. Indigenous Educators' Program, Graduate Nurse Program, Preceptor Program to enable nurses seeking Sexual and Reproductive Health Certificates to undertake clinical training.
- The **Australasian Society for HIV Medicine (ASHM)** provides training for GPs in collaboration with the Department of Health and other bodies such as the WA General Practice Network and Divisions of General Practice throughout WA.
- *secca* provides education programs targeted at health care providers and allied professionals, which incorporate specific educational components on HIV/STIs, BBVs and related diseases; and human relationships and sexuality as they pertain to people with disabilities.



4. FUTURE MODEL OF CARE

A new HIV/AIDS model of care must recognise and build upon the current targeted education and prevention, and treatment and care services that are being provided throughout WA. It must also address ways to improve access to targeted education and prevention, testing and intervention and other services along the continuum of care.

The model must also consider and address both the clinical and non-clinical needs of PLWHA in a holistic way, ensuring that the quality of care is maintained or improved. This includes the needs of ageing PLWHA and those living outside the metropolitan area. These services should be evaluated regularly to ensure they continue to meet the needs of PLWHA.

4.1 Primary Prevention

- **Continue and enhance state-wide community and peer-based prevention interventions**
 - Provide peer-based education and skill building to maintain/improve safe sex culture as well as regular HIV/BBV and STI testing.
 - Develop and undertake appropriate and targeted social marketing aimed at people at risk of acquiring HIV and emerging at-risk groups.
 - Develop and implement strategies to reinforce condom use and uptake of regular STI testing for people at risk of acquiring HIV and other STIs.
 - Continue to provide and increase access to health hardware, such as condoms and dental dams, and needle and syringe programs using best-practice and innovative models.
 - Increase opportunistic testing for STIs.
 - Improve access to HIV/BBV and STI testing, particularly for antenates and people engaged in high risk behaviour as well as for those living in rural and remote areas.
 - Maintain an HIV treatments culture, e.g. increased uptake of HAART to reduce the number of infectious individuals in the community.
 - Maintain and enhance, where required, links and interactions between sexual health and HIV services.
 - Ensure timely methadone replacement programs and support in prisons to reduce the risk of HIV transmission for people who inject drugs.
- **Continue to actively support programs which reduce stigma and misconceptions around HIV by the general community and health care providers**
- **Continue policy and legislative reform to ensure an enabling environment for primary prevention**
 - Promote and enable consistent uptake of updated NPEP and other HIV-related protocols.



- Enactment and/or reform of the following legislation will help to address HIV prevention, education and health promotion, as well as testing and treatment:
 - new Public Health Bill intended to replace the Health Act 1911;
 - Prostitution Amendment Bill 2007 and Sex Industry Code of Practice;
 - Poisons Act;
 - Human Rights Act in WA.
- **Continue to develop and provide quality school-based health/life skills education and prevention**
 - Continue to work with the Department of Education and Training (DoET) to ensure that schools are encouraged and supported to provide school sexual health education and teacher professional development.
 - Develop innovative models (such as self-directed on-line learning) to support the roll-out of existing teacher professional development. School-based sexual health and relationships education should be compulsory and supported by high quality workforce development for teachers, Indigenous education officers, school nurses and staff at Education Support Centres and Units.
 - Continue to develop appropriate sexuality education in schools and include protective behaviour content for primary school aged children. This must be underpinned by the availability of high quality professional development for teachers, school health nurses and Child and Adolescent Health Service health promotion officers.
 - Develop Aboriginal health promotion and education resources for Aboriginal parents on healthy and developmentally staged sexuality development, including information on protective behaviour and responding to children who disclose abuse.
 - Recognise sexual health as an important public health issue when identifying priorities for the development of local service agreements between the Department of Health and the DoET and increase the number of Memorandums of Understanding between the DoET and regional PHUs to enable increased STI prevention and testing in schools.
 - Increase availability of training provided to teachers and school health nurses to enhance competence and confidence in the delivery of comprehensive sexual health education. In regional areas this role could be carried out by regional STI teams.
 - Develop and implement an education resource aimed at parents.
- **Invest in existing, new and emerging areas for prevention**
 - Develop targeted education and prevention strategies directed to overseas workers, CALD groups and migrants from countries with high HIV/AIDS prevalence (e.g. evaluate the peer-intervention to educate West African community members being developed by Murdoch University and, if successful, extend it to other migrant communities).
 - Develop prevention and education strategies in partnership with the private sector such as the resource industry to reduce the risk of overseas-acquired HIV infection.



- Utilise new technologies, including use of SMS text messages and computer-based technologies such as the Internet and mediums such as Facebook and YouTube, to provide interactive education and develop websites that provide education and information “in the context of facilitating on-line communities and support” (Spina and Fowler 2007).
- Continue to fund non-government organisations to develop and provide specific activities targeting at-risk groups.
- **Continue to build the evidence base**
 - Track progress and monitor performance, e.g. continue to monitor epidemiology and undertake clinical research, Perth Gay Community Periodic Surveys, the Annual Finger Prick Survey for NSEP clients, the National Prison Entrants’ BBV Survey in WA prisons, and social research (e.g. overseas-acquired HIV).
- **Continue to promote availability of post-exposure prophylaxis (PEP) including non-occupational PEP**
- **Promote the introduction and widespread use of needleless technologies in the health care setting in order to reduce injury and risk of BBV transmission.**

4.2 Secondary Prevention and Early Detection

- **Remove barriers to HIV and STI testing**
 - Maintain and enhance opportunities for at-risk groups to access HIV and STI testing (e.g. outreach services).
 - Raise awareness amongst health care providers of the potential barrier to testing resulting from the “three-test rule”.

Most Australians diagnosed with STIs are managed in the private sector. Currently, the Medicare funding of STI tests generally does not cover the algorithm of STI tests required for patients. Medicare imposes conditions, including: rebating only three pathology tests ordered by a GP for any one patient on any one day (the “three-test rule”). To meet this short fall in funding, STI patient services are heavily subsidised by the private sector.

The three-test pathology testing rule was reported to be the most common perceived barrier to gonorrhoea screening (Donovan et al 2001). A standard HIV monitoring visit includes determination of T-cell subsets, viral load and haematology and biochemistry profiles, which automatically exhausts any Medicare rebate for pathology providers. The cost of investigating any concurrent medical conditions, such as hepatitis C or HIV-related symptoms, must then be absorbed by the pathology service. Adding screening tests for bacterial STI (gonorrhoea, chlamydia and syphilis), particularly if required for several patients a day, inevitably strains the relationship between the ordering doctor and the pathology service.



■ **Enhance early intervention through primary health care providers**

The SHBBVP is continuing to fund the Australasian Chapter of Sexual Health Medicine (ACSHM) to conduct sexual health training for GPs. The aim of the training is for primary health care providers to be made aware of:

- the needs for HIV and STI testing and screening with appropriate pre-test and post-test discussion;
- early signs and symptoms of HIV.

Primary health care providers should also be made aware of the importance of timely diagnosis of primary/early infection (symptomatic or asymptomatic) as the best opportunity for prevention of secondary transmission.

■ **Continue policy reform to ensure an enabling environment for secondary prevention and early detection**

- Promote consistent uptake of National HIV Testing Policy and the Department of Health's Antenatal testing policy.
- Continue to update best practice guidelines.

■ **Improve HIV early detection and intervention, particularly for high-risk populations**

- Enhance sexual health clinical services with adequate staff numbers.
- Increase the number and accessibility of services to high-risk groups.
- Implement patient registers and recall systems.
- Improve community knowledge to encourage people at risk to seek early intervention, e.g. testing with appropriate pre-test and post-test discussion, resources, counselling.
- Increase the number of GPs who feel confident and competent to provide HIV/STI and BBV testing following National guidelines.
- Encourage regular STI testing amongst groups at high risk of HIV.

■ **Expand contact tracing/partner notification capacity within the metropolitan area and throughout the rest of WA**

Expansion of the current contact tracing services has been identified as a strategic priority by the WA Committee on HIV/AIDS and STIs (WACHAS).

- Establish well resourced Metropolitan-based contact tracing teams under the auspices of population health units, which are aligned with tertiary clinical services and supported by policy guidelines and training.
- Increase the number of GPs who identify partner notification and/or contact tracing as part of their role and who provide partner notification or refer patients appropriately for contact tracing.
- Increase the number of practice nurses who can assist GPs with contact tracing.
- Embed contact tracing within the sexual health practice of all STI endemic regions.



- Facilitate the use of Aboriginal sexual health staff to coordinate contact tracing for Aboriginal clients.
- Expand outreach services in rural and remote areas to include additional staff for contact tracing, as there are few or no staff employed as general community health nurses who are able to carry out contact tracing in the community. This role is usually performed from the Population Health Unit.
- Enable better integration of prison health services and contact tracing services.
- **Adopt the recommendations of the National review regarding recklessly or knowingly placing others at risk of infection with HIV**

The HIV Case Management Program will be consistent with the recommendations in the Australian Population Health Development Principal Committee's *Review of Policies for the Management of People with HIV who Risk Infecting Others* (Griew 2007) and current legislation.

- Develop an Operational Directive aimed at health care providers about reporting of HIV-positive people suspected of recklessly or knowingly placing others at risk of HIV infection.
 - Continue to assess the need for a suitable facility for the long-term isolation of individuals who continue to place others at risk of HIV infection.
 - Complete the revision of the HIV Case Management Program (CMP) Guidelines in line with the National review.
 - Further update the CMP Guidelines when the new Public Health Act is promulgated.
 - Consider case management requirements for rural and remote areas.
 - **Incorporate HIV prevention into the medical care of people living with HIV/AIDS**
- Health care providers can affect transmission of HIV by screening HIV-positive patients for risk behaviours, and testing for and treating other STIs.

4.3 Disease Management and Tertiary Prevention

- **Decide upon the future provision and location of the HIV clinical services currently provided at RPH and Fremantle Hospital**

Through the Health Reform Implementation Taskforce, the plan is for RPH to transfer to the Fiona Stanley Hospital in Murdoch. However, the vast majority of PLWHA in WA who receive services from RPH live in the inner city and nearby suburbs. HIV clinical services provided by the Department of Clinical Immunology and Microbiology and Infectious Diseases at RPH should remain in a Perth central city 'Communicable Diseases Clinic' and/or transfer to Sir Charles Gairdner Hospital (SCGH). Services provided by Fremantle Hospital should remain in the Fremantle central city area with HIV clinical care being provided in an infectious diseases ambulatory centre co-located with a sexual health services and/or transferred to the Fiona Stanley Hospital at Murdoch.

- Ensure planning decisions are made well in advance, involve relevant stakeholders and take into account the needs of PLWHA.



It should also be noted that when HIV/AIDS services in Melbourne were relocated from Fairfield Hospital (a hospital with a national and international reputation for its work in infectious diseases and research) to the Alfred Hospital (a large tertiary hospital) in 1996, the relocation involved significant changes for both staff and HIV patients. However, the Alfred Hospital actively sought to retain and rebuild the “culture of care” that many referred to as the hallmark of Fairfield.

- Ensure service providers are aware of the potential impact that the pending closure or change of services at RPH and Fremantle Hospital and the transfer of HIV services to SCGH and/or the Fiona Stanley Hospital at Murdoch might have upon both staff and patients.

▪ Maximise the role of GPs in HIV management

Consideration must be given about how to maximise opportunities for GPs to participate in HIV/AIDS management.

Training of new HIV s100 prescribing GPs is extremely difficult due to the increasing complexity of HIV treatment. There are many antiretroviral drugs on the market and in the pipeline and managing viral resistance and ‘salvage therapy’ requires a considerable degree of skill. Therefore, GPs could be up-skilled in HIV “troubleshooting” (i.e. have the capacity to understand when problems are occurring for PLWHA on stable regimens with stable results and be able to refer them to HIV physicians or HIV s100 drug prescribers if these results change). Medicare Chronic Disease Management items, which have replaced Enhanced Primary Care items on the Medicare Benefits Scheme, make it easier for GPs to manage the health care of patients with chronic medical conditions, including patients needing multidisciplinary care.

One specific model is for GPs to receive appropriate training to enable them to share patient management with a specialist clinician (instead of becoming an HIV s100 prescriber). Specific training could also be provided to GPs who have HIV-positive patients but are not actually involved in their HIV care. This model may be applicable to GP practices where one doctor is an HIV s100 drug prescriber but other GPs could assist with other medical management matters.

To support this shift, the Sexual Health and Blood-borne Virus Program (SHBBVP) is funding the WA General Practice Network, in collaboration with the Australasian Society for HIV Medicine (ASHM) to develop HIV shared care training for GPs and nurses, using a partnership approach with key stakeholders in WA.

The WA General Practice Network has been funded to:

- undertake an analysis of HIV shared care training requirements for GPs and practice nurses;
- scope and facilitate the delivery of a HIV shared care training model through local Divisions of General Practice in response to the needs of GPs and nurses in WA;
- liaise with key stakeholders such as WAAC and the Clinical Immunology/Infectious Diseases clinics to facilitate a partnership approach in the development and delivery of workforce development.



After attending an HIV shared care training course, GPs who wish to share the care of HIV-positive patients with specialists should be given the opportunity to pursue further clinical training, e.g. at one of the Clinical Immunology/Infectious Diseases clinics.

- **Recognise and support the broad and changing roles undertaken by HIV specialist nurses in the areas of chronic HIV management, assessment and management of adherence, and patient education and support**
- **Enhance HIV/AIDS services in rural and remote areas**

Further to the HIV-Shared Care training project discussed above, a regional model has been proposed for the care and management of regionally-based PLWHA. Ideally a number of regionally-based nurses would be available throughout WA to provide day-to-day patient management in consultation with a local GP who has a special interest in HIV (not an HIV s100 prescriber but a GP who has attended ASHM training). This would involve regular meetings between the nurse and the GP as required to discuss the management of shared care clients. Both the nurse and GP would liaise with and share patient care with a specialist clinician and other allied health care workers based in the metropolitan area and with the Rural and Remote Service based at RPH, which would provide expert knowledge and specialist care as required. In summary:

- develop and implement a regional model of shared care for the care and management of regionally-based PLWHA;
- develop and implement referral pathways as well as communication protocols and shared care documentation;
- tailor training and shared care mechanisms for individual GPs;
- provide general support for rural and remote services to meet the needs of PLWHA including maintaining the workforce capacity of the regional public health unit teams;
- refer to “Utilise information and communication technology to improve service delivery” below.

The Model of Care also proposes that current rural and remote services are enhanced and supported.

- Ensure adequate funding is provided to support an expanded RPH-based Rural and Remote Service taking into account population shifts.
 - Review coordination of the RPH-based Rural and Remote Service when the whole HIV management service at RPH is considered.
 - Ensure that the workforce capacity of the Communicable Disease Team within the “Region with Special Needs” is maintained in order to meet the needs of PLWHA in the region.
- **Utilise information and communication technology to improve service delivery**
 - Ensure that information and communication technologies used to improve service delivery are patient-focused.
 - Establish a secure and confidential patient-focused state-wide HIV patient database to enhance patient management in hospital clinics, high volume general practice clinics and rural and remote areas with adequate support (e.g.



information technology and human resources) and funding by the Department of Health. The database should have built-in capacity for continuous service evaluation with measurement and reporting against key agreed clinical quality indicators.

- Use Telehealth for the management of HIV patients by local rural and remote staff in partnership with HIV specialists.

- **Reorientate services for the asymptomatic or uncomplicated HIV disease (i.e. Chronic Disease Self Management)**

Health services need to be reorientated towards a model of care that encourages or views the individual from a holistic wellness approach. For PLWHA who are managing quite well, there is a need for health enhancing services, life skills coaching and return to work training in order that their health can be maintained.

With the increasing recognition that HIV infection increases susceptibility to 'non-AIDS HIV diseases', such as atherosclerotic vascular disease (heart attacks and strokes) and kidney disease, it is important to promote healthy lifestyle measures including cessation of smoking, exercise and good diet.

- **Undertake regular clinical audits of HIV clinical services**

Clinical audits should be undertaken on a regular basis to ensure that appropriate HIV clinical management strategies are being implemented by clinical services.

- **Consider the need to strengthen links and interaction between HIV, BBV and sexual health clinical services**

It is important to have good sexual health services at all levels of HIV prevention. This and the need for optimal management of chronic co-infections such as herpes simplex virus and human papilloma virus in PLWHA highlights the need for continued strong links between and co-location of sexual health clinical services and infectious diseases/immunology clinical services in tertiary hospitals.

- Promote the need for and undertake regular STI testing amongst PLWHA.

- **Enhance mainstream service provision for PLWHA**

As more PLWHA resume their lives in the community there will be increased demand upon mainstream health and allied services to be able to cater for their needs. It is essential that HIV/AIDS education and training is provided for staff of these services and that services have high clinical standards.

- **Prioritise auxiliary specialist services to meet PLWHA requirements over the next 10 years**

- **Aged care services** - There is growing evidence that PLWHA over the age of 55 to 60 years are experiencing worse health and psycho-social outcomes than younger PLWHA. The problem is exacerbated because aged care facilities are generally not set up to care for PLWHA and in some cases may be reluctant about providing care. A new model of care must provide services aimed specifically at the complex needs of older PLWHA and those requiring long-term care. Clinically, there will be a need to involve gerontologists and other



experts in ageing issues to enhance the delivery of clinical services. At a psycho-social level the needs of aged PLWHA, e.g. to have appropriate accommodation and social support, will necessarily involve the aged care sector.

- **Dental health services** - The major barrier to dental health services is cost and access for PLWHA on low incomes is limited.
- **Mental health services** - The high prevalence (Coghlan et al 2001) of co-morbidity of HIV/AIDS and mental illness needs to be addressed by mental health service providers with responding strategic planning in workforce development. This requires sustained efforts and cooperation from service providers working in both mental health and HIV/AIDS and related services.
- **Dementia care services** - PLWHA are at risk of developing AIDS Dementia Complex (ADC). ADC can cause great isolation and loneliness for PLWHA, which adds to the other problems they face. Alzheimer's Australia and WAAC currently offer support information, education and counselling. However, as PLWHA live longer, the incidence of ADC may increase and dementia care services will need to be developed.
- **Services for people with HIV/HCV and HBV co-morbidity** - The promotion of truly collaborative multi-disciplinary clinical services for co-infected patients needs to be actively pursued.
- **Continue to support the current internationally-competitive research programs to develop new treatments, diagnostic tests and a vaccine for HIV infection being undertaken by RPH, Fremantle Hospital, UWA and Murdoch University**

It is important that physical space is provided to enable current and new research programs to proceed.

4.4 Workforce Development

- **Continue to implement workforce development and training in HIV/AIDS education, prevention, treatment and care**

In 2006, the Sexual Health and Blood-borne Virus Program (SHBBVP) conducted a review of Sexual Health, HIV/AIDS and Hepatitis C Workforce Training Needs (DoH2007g). The key recommendations derived from this review were that the SHBBVP:

- take a coordinated approach to the promotion and provision of sexual health and BBV training and education;
- continue to provide funding for a range of workforce training and development opportunities;
- expand the training opportunities available to staff, with focus on regional and practice nurses, teachers, those in regional areas and those working with marginalised groups (particularly Aboriginal and Torres Strait Islander people);
- explore and expand on the use of flexible training and education modalities (such as video conferencing, online materials, self-directed learning packages, workshops, forums and mentoring).



In addition:

- develop mechanisms to provide management with the capacity to encourage and support staff to attend workforce development training and education opportunities.
- Train and support GPs to provide HIV shared care in both the metropolitan and rural/remote areas of WA
- Continue to update and disseminate best practice guidelines for primary health care providers involved with the management of STIs including HIV/AIDS
- Support appropriate specialist training to meet the changing needs of an ageing HIV-positive population
- Enhance current training for specialists in clinical immunology and infectious diseases
- Provide WA-based training programs to meet the ongoing education and training needs of HIV specialist nurses
- Enhance awareness about cultural sensitivity in training programs for health care providers and other staff.

4.5. Evaluation

Suggested key performance indicators to assess the effectiveness of the proposed HIV/AIDS Model of Care include:

- the number of HIV/AIDS notifications per year by age, gender, mode of transmission, ethnicity, region;
- age standardised rates for HIV/AIDS;
- the level and appropriateness of testing;
- uptake of treatment;
- levels of adherence;
- the number of PLWHA in paid employment;
- the number of PLWHA above the poverty line;
- the number of GPs and regionally-based nurses involved in HIV/AIDS shared care;
- HIV/AIDS morbidity and mortality data, e.g. hospital bed days; average length of hospital stay;
- the average number of admissions per PLWHA;
- the average monthly cost to provide hospital care for HIV-positive patients;
- the average age of hospitalized patients with HIV;



- the health of the HIV/AIDS partnership, e.g. level and diversity of participation in advisory committees, input into planning and policy development;
- the frequency of and findings from clinical audits;
- the number of times the HIV database is used to manage patients with HIV infection;
- the number of Aboriginal Health Workers working in HIV services;
- the number of contact tracing nurses per region per 1000 people;
- the number of contacts traced and within what time frame.



5. KEY RECOMMENDATIONS

Primary Prevention

The key recommendations for primary prevention are to:

- continue and enhance state-wide community and peer-based prevention interventions;
- continue to actively support programs which reduce stigma and misconceptions around HIV by the general community and health care providers;
- continue policy and legislative reform to ensure an enabling environment for primary prevention;
- continue to develop and provide quality school-based health/life skills education and prevention;
- invest in existing, new and emerging areas for prevention;
- continue to build the evidence base;
- continue to promote availability of PEP including NPEP;
- promote the introduction and widespread use of needleless technologies in the health care setting in order to reduce injury and risk of BBV transmission.

Secondary Prevention and Early Detection

The key recommendations for secondary prevention and early detection are to:

- remove barriers to HIV and STI testing;
- enhance early intervention through primary health care providers;
- continue policy reform to ensure an enabling environment for secondary prevention and early detection;
- improve HIV early detection and intervention, particularly for high-risk populations;
- expand contact tracing/partner notification capacity within the metropolitan area and throughout the rest of WA;
- adopt the recommendations of the National review regarding recklessly or knowingly placing others at risk of infection with HIV;
- incorporate HIV prevention into the medical care of PLWHA.

Disease Management and Tertiary Prevention

The key recommendations for disease management and tertiary prevention are to:



- decide upon the future provision and location of the HIV clinical services currently provided at RPH and Fremantle Hospital;
- maximise the role of GPs in HIV management;
- recognise and support the broad and changing roles undertaken by HIV specialist nurses in the areas of chronic HIV management, assessment and management of adherence, and patient education and support;
- enhance HIV/AIDS services in rural and remote areas;
- utilise information and communication technology to improve service delivery;
- reorientate services for the asymptomatic or uncomplicated HIV disease (i.e. Chronic Disease Self Management);
- undertake regular clinical audits of HIV clinical services;
- consider the need to strengthen links and interaction between HIV, BBV and sexual health clinical services;
- enhance mainstream service provision for PLWHA;
- prioritise auxiliary specialist services to meet PLWHA requirements over the next 10 years;
- continue to support the current internationally-competitive research programs to develop new treatments, diagnostic tests and a vaccine for HIV infection being undertaken by RPH, Fremantle Hospital, the University of Western Australia (UWA) and Murdoch University.

Workforce Development

The key recommendations for workforce development are to:

- continue to implement workforce development and training in HIV/AIDS education, prevention, treatment and care;
- train and support GPs to provide HIV shared care in both the metropolitan and rural/remote areas of WA;
- continue to update and disseminate best practice guidelines for primary health care providers involved with the management of STIs including HIV/AIDS;
- support appropriate specialist training to meet the changing needs of an ageing HIV-positive population;
- enhance current training for specialists in clinical immunology and infectious diseases;
- provide WA-based training programs to meet the ongoing education and training needs of HIV specialist nurses;
- enhance awareness about cultural sensitivity in training programs for health care providers and other staff



REFERENCES

- Australian Department of Health and Ageing, 2004. *Infection control guidelines for the prevention of transmission of infectious diseases in the health care setting*, Commonwealth of Australia, Canberra.
- Australian Department of Health and Ageing, 2005a. *National HIV/AIDS Strategy - Revitalising Australia's Response 2005-2008*, Commonwealth of Australia, Canberra.
- Australian Department of Health and Ageing, 2005b. *National Aboriginal and Torres Strait Islander Sexual Health and Blood-borne Virus Strategy 2005-2008*, Commonwealth of Australia, Canberra.
- Australian Department of Health and Ageing, 2006a. *National Guidelines for Post-exposure Prophylaxis after Non-occupational Exposure to HIV*, Commonwealth of Australia, Canberra.
- Australian Department of Health and Ageing, 2006b. *National HIV Testing Policy*, Commonwealth of Australia, Canberra
[http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/F4F093E1E22A7478CA256F1900050FC7/\\$File/hiv-testing-policy-2006.pdf](http://www.health.gov.au/internet/wcms/Publishing.nsf/Content/F4F093E1E22A7478CA256F1900050FC7/$File/hiv-testing-policy-2006.pdf)
- Coghlan R, Lawrence D, Holman CDJ and Jablensky AV, 2001. *Duty to Care: Physical illness in people with mental illness*, Perth: The University of Western Australia.
- Commonwealth Department of Health and Ageing, 2002. *Return on Investment in Needle and Syringe Programs in Australia*, Report prepared by Health Outcomes International in association with the National Centre in HIV Epidemiology and Clinical Research and Professor Michael Drummond, Canberra
<http://www.health.gov.au/internet/wcms/publishing.nsf/content/health-pubhlth-publicat-document-roireport-cnt.htm>
- Department of Health, 2005a. *Western Australian Aboriginal Sexual Health Strategy*, Department of Health, Perth.
- Department of Health, 2005b. *WA Aboriginal Health Impact Statement and Guidelines*, Department of Health, Perth.
- Department of Health, 2006a. *Western Australian HIV/AIDS Action Plan 2006-2008*, Department of Health, Perth.
- Department of Health, 2006b. *Standard and Additional Infection Control Precautions (OP 2039/06)*.
- Department of Health, 2006c. *Guidelines for Managing Sexually Transmitted Infections 2006*, Department of Health, Perth.
- Department of Health, 2007a. *An Overview of the Model of Care*, WA Health Networks, Department of Health, Perth.



Department of Health, 2007b. *The Epidemiology of Notifiable Sexually Transmitted Infections and Blood-borne Viruses in Western Australia 2006*, Department of Health, Perth.

Department of Health, 2007c. *Policy for Health Care Workers with Blood-borne Virus Infections (OD 0092/07)*, Department of Health, Perth.

Department of Health, 2007d. *Management of Occupational Exposure to Blood and Body Fluids in the Health Care Setting (OD 0091/07)*, Department of Health, Perth.

Department of Health, 2007e. *Protocol for Non-Occupational Post-Exposure Prophylaxis (NPEP) to Prevent HIV in Western Australia (OD0077/07)*, Department of Health, Perth.

Department of Health, 2007f. *Antenatal Testing for Sexually Transmissible Infections and Blood-borne Viruses (OD 0064/07)*, Department of Health, Perth.

Department of Health, 2007g. *Sexual Health, HIV/AIDS and Hepatitis C Workforce Development Review Report (summary)*, Department of Health, Perth.

<http://www.public.health.wa.gov.au/cproot/974/2/FINAL%20Review%20of%20Sexual%20Health%20Needs%20Report.pdf>

DoH - see Department of Health

DoHA - see Australian Department of Health and Ageing

Donovan B, Wright V, McNulty AM et al, 2001. Gonorrhoea screening in general practice: perceived barriers and strategies to improve screening rates. *Medical Journal of Australia*, 175:412-414.

Grierson J, Thorpe R and Pitts M, 2006. *HIV Futures 5: Life as we know it*, Monograph series number 60. The Australian Research Centre in Sex, Health and Society, LaTrobe University, Melbourne, Australia.

Griew R, 2007. *Review of Policies for the Management of People with HIV who Risk Infecting Others*. Report submitted to the Blood-borne Virus and STI Subcommittee, Australian Population Health Development Principal Committee.

Guy R, Lim M, Tomnay J et al 2006. *Sustained increase of HIV diagnoses in Victoria: epidemiology, testing and interventions*. Victorian Infectious Diseases Bulletin, 9:6-11.

National Centre in HIV Epidemiology and Clinical Research, 2006. *HIV/AIDS, Viral Hepatitis and Sexually Transmissible Infections in Australia Annual Surveillance Report 2006*. National Centre in HIV Epidemiology and Clinical Research, The University of Sydney, Sydney, NSW: Australian Institute of Health and Welfare, Canberra, ACT.

National Public Health Partnership, 2006. *The Language of Prevention*. Melbourne: NPHP.

NCHECR - see National Centre in HIV Epidemiology and Clinical Research



NPHP - see National Public Health Partnership

NSW Health 2007. *The Impact of HIV/AIDS in NSW - Mortality, Morbidity and Economic Impact*. Report prepared by Health Outcomes International in association with the National Centre in HIV Epidemiology and Clinical Research
<http://www.health.nsw.gov.au/sexualhealth/pdf/ROI.Report.pdf>

Spina A and Fowler D, 2007. *Mapping HIV & STI Prevention Programs and Activities Targeting Gay and Other Homosexually Active Men in 2005/06*. Australian Federation of AIDS Organisations.

WHO - see World Health Organization

World Health Organization, 1986. *Ottawa Charter for Health Promotion, First International Conference on Health Promotion Ottawa 17-21 November 1986*, Ottawa.

Zablotska I, Brown G, Frankland A, Prestage G, Kippax S and Langdon T, 2007. *Gay Community Periodic Survey: Perth 2006* (GCPS Report 3/2007). National Centre in HIV Social Research, The University of New South Wales, Sydney.



ACRONYMS

ACSHM	Australasian Chapter of Sexual Health Medicine
ADC	AIDS Dementia Complex
AFAO	Australian Federation of AIDS Organisations
AHW	Aboriginal Health Worker
AIDS	Acquired Immunodeficiency Syndrome
AMA	Australian Medical Association
ART	Antiretroviral Therapy
ASHM	Australasian Society for HIV Medicine
ASR	Age Standardised Rate
ATSI	Aboriginal and Torres Strait Islander
BBV	Blood-borne Virus
CALD	Culturally and Linguistically Diverse
CDCD	Communicable Disease Control Directorate
CMBS	Commonwealth Medicare Benefits Scheme
DALY	Disability Adjusted Life Year
DCD	Department of Community Development
DGP	Division of General Practice
DoH	Department of Health
DoHA	Department of Health and Ageing
FH	Fremantle Hospital
FPWA	FPWA Sexual Health Services
FTE	Full-time Equivalent
GP	General Practitioner
HAART	Highly Active Antiretroviral Therapy
HACC	Home and Community Care
HAPAN	HIV/AIDS Peer Advisory Network
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
NCHECR	National Centre in HIV Epidemiology and Clinical Research
NGO	Non-government Organisation
NPEP	Non-occupational Post-exposure Prophylaxis
NSEP	Needle and Syringe Exchange Program
NSP	Needle and Syringe Program
PBS	Pharmaceutical Benefits Scheme
PEP	Post-exposure Prophylaxis
PHU	Population Health Unit
PLWHA	People Living with HIV/AIDS
PWID	People who Inject Drugs
RPH	Royal Perth Hospital
SCGH	Sir Charles Gairdner Hospital
<i>secca</i>	Sexuality Education Counselling and Consultancy Agency
SHBBVP	Sexual Health and Blood-borne Virus Program
STI	Sexually Transmitted Infection
UWA	University of Western Australia
WA	Western Australia/Western Australian
WAAC	Western Australian AIDS Council Inc.
WACHAS	Western Australian Committee on HIV/AIDS and Sexually Transmitted Infections
WACHS	Western Australian Country Health Service
WAGPN	WA General Practice Network
WAISHAC	Western Australian Indigenous Sexual Health Advisory Committee
WASUA	Western Australian Substance Users' Association
WHO	World Health Organization



APPENDICES

Appendix 1: Infections and Immunology Health Network Executive Advisory Group

The Model of Care was endorsed by the Infections and Immunology Health Network Executive Advisory Group which comprises:

Dr James Flexman	Network Co-Lead; Consultant Clinical Microbiologist, PathWest and Royal Perth Hospital; Clinical Associate Professor, Microbiology and Immunology, UWA
Dr Lewis Marshall	Network Co-Lead; Sexual Health Physician, Fremantle Hospital; Clinical Senior Lecturer, Sexual Health Medicine, UWA
Dr Wendy Cheng	Head of Liver Service, Royal Perth Hospital
Ms Crystal Connelly	Clinical Nurse and Clinical Trial Coordinator, Royal Perth Hospital
Dr Charles Douglas	Public Health Physician, WA Country Health Service, Goldfields
Dr John Dyer	Director, Infectious Diseases Service, Fremantle Hospital
Prof Martyn French	Head of Clinical Service, Clinical Immunology, Royal Perth Hospital; Consultant Immunologist, PathWest Immunology, Royal Perth Hospital; Clinical Professor, School of Surgery and Pathology, UWA
Dr Tony Keil	Head of Department, Microbiology, Princess Margaret Hospital
Ms Michele Kosky	Executive Director, Health Consumers' Council
Ms Trish Langdon	Executive Director, WA AIDS Council; Member, Hepatitis Council of WA
Dr Paul Van Buynder	Director, Communicable Disease Control Directorate, Department of Health
<u>Ex officio</u>	
Ms Gae Sawyer	Program Officer - Nursing in General Practice, WA General Practice Network
<u>Secretariat</u>	
Ms Julia Fallon-Ferguson	Senior Development Officer, Health Networks Branch.



Appendix 2: HIV/AIDS Epidemiology and Trends

HIV notifications peaked in 1986 with 95 reported cases, followed by an overall decline in the number of notifications per year until only 33 cases were notified in 1999. Since 1999, there was an increase in HIV notifications with an average of 49 cases for the 2000 to 2004 period, followed by 64 and 72 cases notified in 2005 and 2006 respectively (DoH 2007b). The age standardised rate (ASR) increased from 2.4 cases per 100,000 population in 2000 to 3.6 cases per 100,000 population in 2006. For the 2005 to 2006 period, 85 per cent of HIV cases reported they were residents of metropolitan Perth and 13 per cent reported non-metropolitan areas as their place of residence. The number of AIDS cases and deaths in people infected with HIV declined from the mid to the late 1990's, remaining stable thereafter.

In 2006, 72 new cases of HIV and 14 cases of AIDS were notified to the Department of Health and seven deaths were reported in HIV-infected persons. Six (eight per cent of cases) of the cases were Aboriginal people. Of the 2006 HIV notifications, there were 53 males and 19 females with a median age of 36 years (range: 19 to 70 years). In the previous five years, there were on average 42 male cases and 11 female cases per year.

HIV Trends in WA

The 72 cases of HIV notified in 2006, was the highest number of notifications since 1991. This trend of increasing HIV notifications began in 2000 and has also been observed in other regions of Australia (NCHECR 2006). The main increase in notifications in 2006 was among the non-Aboriginal population with a 14 per cent increase compared to 2005.

Aboriginal population

It is less apparent if there is a trend for an increase in Aboriginal HIV notifications as numbers have fluctuated during the 2001 to 2006 period from two to 11 cases. In both 2005 and 2006, there were six Aboriginal HIV cases notified, with a total of six male and six female cases. However, even with this small number of notifications, the HIV notification rate was higher in the Aboriginal population with an ASR of 9.4 cases per 100,000 population compared to 3.4 cases per 100,000 population in the non-Aboriginal population. Heterosexual contact was the major exposure route among Aboriginal cases.

Men who have sex with men

In 2006, men who have sex with men (MSM) was the largest exposure group which was consistent with previous years and this trend was also reported nationally (NCHECR 2006). However, in 2006, among male cases there was a decrease (Table 1) in the proportion of MSM (64 per cent of male cases from 2001 to 2005 to 57 per cent of male cases in 2006). Most MSM cases reported acquisition of HIV in Australia. In Victoria, the majority of cases with a homosexual and/or bisexual exposure also reported acquiring their infection in Australia (Guy et al 2006).



Table 1: HIV notifications in WA by exposure group and year of notification (%)

Exposure group	2001	2002	2003	2004	2005	2006
Men who have sex with men	21 (46)	26 (50)	28 (55)	31 (61)	27 (42)	30 (42)
Male heterosexual	14 (30)	9 (17)	9 (18)	10 (20)	21 (33)	23 (32)
Female heterosexual	8 (17)	12 (23)	10 (20)	7 (14)	11 (17)	17 (24)
Male and female other/unknown	3 (7)	5 (10)	4 (8)	3 (6)	5 (8)	2 (3)
Total	46	52	51	51	64	72

Heterosexual exposure

In WA, there has been an increase in the proportion of males with heterosexual exposure and a reduction in the proportion of males with a homosexual/bisexual exposure (Table 1).

In 2006, the main proportional increase was among male cases reporting heterosexual exposure (30 per cent of male cases in the 2001 to 2005 period to 43 per cent of male cases in 2006) (DoH 2007). This increase in heterosexual exposure was not observed in other regions of Australia (NCHECR 2006).

Overseas acquired HIV

Most of the male cases with heterosexual exposure reported acquiring their infection overseas. The overseas acquisition of HIV by this exposure group was also observed in previous years in WA but it is unclear why there has been a rise in the number of cases recently. Thailand was the main country of overseas acquisition in 2006, which was also observed in the 2001 to 2005 period.

These changes provide further challenges for the development of HIV prevention strategies. Some of the relevant factors to be considered include:

- the high levels of international travel;
- the shortage of skilled workers in WA and the subsequent migration of skilled workers from countries with a high HIV prevalence.

Female cases

There were 19 female HIV cases notified in 2006, a 73 per cent increase on the average of 11 cases for the 2001 to 2005 period. The median age of female cases was 29 years, more than 10 years younger than the median age of male cases (41 years) (DoH 2007b); this age difference was also evident in previous years. Among female cases, there were no major changes in the proportions of exposure groups with heterosexual exposure predominating in 2006 (89 per cent) and in the previous 5 years (87 per cent). In 2006, the majority of female cases (63 per cent) acquired their infection in Australia, which was similar to the previous 5 years (60 per cent).

Age of PLWHA population

With the introduction of HAART, HIV-positive people are living longer and the PLWHA population is ageing. At March 2007, the age range was four to 87 years with a median age of 46 years and 61 per cent were in the 40-59 years age group. According to research, over 75 per cent of PLWHA are on HIV treatments (Grierson et al 2006, Zablotska et al 2007).



Appendix 3: Risk Data for HIV/AIDS

Table 1: Risk of transmission following a single unprotected exposure to an HIV-infected person

TYPE OF EXPOSURE WITH KNOWN HIV-POSITIVE SOURCE	ESTIMATED RISK OF HIV TRANSMISSION /EXPOSURE ⁵
Receptive anal intercourse	1/120
Use of contaminated injecting equipment	1/150
Occupational needle-stick injury	1/333
Receptive vaginal intercourse	1/1000 ⁶
Insertive anal or vaginal intercourse	1/1000 ⁶
Receptive fellatio with or without ejaculation	Not measurable ⁷
Insertive fellatio	Not measurable
Cunnilingus	Not measurable
Bites etc.	Not measurable
Other trauma	Not measurable
Non-occupational exposure of intact mucous membrane ⁸ and skin	Not measurable
Community needle-stick injury	Not measurable

Source: Australian Department of Health and Ageing, 2006a. *National Guidelines for Post-exposure Prophylaxis after Non-occupational Exposure to HIV*, Commonwealth of Australia, Canberra.

⁵ These estimates are based on prospective studies, not cross-sectional data or figures derived from modelling.

⁶ This estimate has been rounded down from 1/909 to 1/1000.

⁷ Although there have been some case reports of transmission, the risk associated with the exposures below is so low that it is not measurable.

⁸ Conjunctival, oral or nasal mucosa.



TABLE 2: Prevalence of HIV in Australian and overseas populations

COMMUNITY GROUP	ESTIMATED HIV SEROPREVALENCE (%)
Homosexual men (men who have sex with men) in Australia <ul style="list-style-type: none"> • Sydney • Melbourne • Brisbane • Perth (2006 Gay Community Periodic Survey) 	14.2 9.1 6.0 4.9
Injecting drug users (in Australia) <ul style="list-style-type: none"> • Homosexual men • All others 	17.0 ⁹ 1.0
Heterosexuals (in Australia) <ul style="list-style-type: none"> • Blood donors • STI clinic attendees 	0.0005 <0.2
Commercial sex workers (in Australia) - Australian born	0.1
HIV seroprevalence in selected regions¹⁰ <ul style="list-style-type: none"> • Oceania, Western and Central Europe, North Africa and Middle East, East Asia, New Zealand • Latin America, North America, South and South East Asia, Eastern Europe and Central Asia • Caribbean • Sub-Saharan Africa 	≤ 0.5 0.6-1.0 1.6 7.2

Source: Australian Department of Health and Ageing, 2006a. *National Guidelines for Post-exposure Prophylaxis after Non-occupational Exposure to HIV*, Commonwealth of Australia, Canberra.

⁹ The rates of HIV in homosexual injecting drug users vary considerably between different studies; they are also based on small samples. Prescribers are recommended to seek out local data to assist.

¹⁰ This varies greatly. A predictor of HIV-positivity is being born in a country with a high prevalence of HIV (>1%). Other predictive factors include injecting drug use, commercial sex work and men who have sex with men. Country specific information for the general population and subgroups is available at www.who.int/globalatlas/.



Appendix 4: HIV/AIDS Model of Care Matrices

PRIMARY PREVENTION

Primary Prevention - See also <i>HIV/AIDS Action Plan 2006-2008: section 4.1</i>			
	POLICY LEVEL	ORGANISATIONAL LEVEL	INDIVIDUAL LEVEL
WHAT	<p>Continue to promote and monitor the implementation of relevant actions in the HIV/AIDS Action Plan 2006-2008 and any future plans.</p> <p>Continue policy and legislative reform to ensure an enabling environment.</p> <p>Invest in existing, new and emerging areas of prevention.</p> <p>Continue to build the evidence base.</p>	<p>Continue and enhance state-wide community and peer-based prevention interventions:</p> <p>provide peer-based education and skill building;</p> <p>undertake appropriate social marketing;</p> <p>improve access to health hardware and testing.</p> <p>Continue to actively support programs which reduce stigma and misconceptions around HIV by the general community and health care providers.</p> <p>Continue to develop and provide quality school-based health/life skills education and prevention:</p> <p>enhance school-based education;</p> <p>better engagement with the Department of Education and Training and ongoing teacher training.</p> <p>Invest in existing, new and emerging areas of prevention.</p> <p>Continue to promote availability of PEP including NPEP.</p> <p>Promote the introduction and widespread use of needleless technologies in the health care setting in order to reduce injury and risk of BBV transmission.</p>	<p>Deliver prevention education and health promotion strategies to priority target groups and other groups within the wider community:</p> <ul style="list-style-type: none"> • campaigns • resource production • peer-based education • school-based education • professional education • improved access to NSEPs • improved access to condoms • access to PEP/NPEP • access to needleless technologies in health care settings.
WHO	<p>Department of Health - CDCD</p> <p>WACHAS</p> <p>Government of Western Australia</p>	<p>SHBBVP</p> <p>Government agencies</p> <p>PHUs</p> <p>NGOs - WAAC, WASUA, <i>secca</i>, Magenta, FPWA</p> <p>GPs</p> <p>Professional training providers, e.g. ASHM</p>	<p>SHBBVP</p> <p>Government agencies</p> <p>PHUs</p> <p>NGOs - WAAC, WASUA, <i>secca</i>, Magenta, FPWA</p> <p>GPs</p> <p>Professional training providers, e.g. ASHM</p> <p>Hospitals</p>
WHERE	<p>State-wide</p>	<p>Within general community</p> <p>Within targeted communities</p>	<p>Within general community</p> <p>Within targeted communities</p>



SECONDARY PREVENTION AND EARLY DETECTION

Secondary Prevention and Early Detection - See also <i>HIV/AIDS Action Plan 2006-2008: section 4.5 HIV Testing</i>			
	POLICY LEVEL	ORGANISATIONAL LEVEL	INDIVIDUAL LEVEL
WHAT	<p>Continue to promote and monitor the implementation of relevant actions in the HIV/AIDS Action Plan 2006-2008 and any future plans.</p> <p>Continue policy reform to ensure an enabling environment for secondary prevention and early detection:</p> <ul style="list-style-type: none"> consistent uptake of National HIV Testing Policy and DoH antenatal testing policy; update best practice guidelines. <p>Endorse and implement the business case for expansion of contact tracing services within the metropolitan area (and throughout WA).</p> <p>Adopt the recommendations of the National review and develop a State-based operational directive regarding recklessly or knowingly placing others at risk of HIV infection.</p>	<p>Remove barriers to HIV and STI testing.</p> <p>Enhance early intervention through primary health care providers: provide funding and training to raise awareness of the needs for testing and screening and early signs and symptoms of HIV.</p> <p>Improve HIV early detection and intervention, particularly for high-risk populations:</p> <ul style="list-style-type: none"> implement patient registers and recall systems; improve community knowledge to encourage people at risk to seek early intervention, e.g. resources, counselling. <p>Expand contact tracing/partner notification capacity within the metropolitan area and throughout the rest of WA.</p> <p>Implement policy regarding recklessly or knowingly placing others at risk of HIV infection.</p> <p>Incorporate HIV prevention into the medical care of people living with HIV/AIDS.</p>	<p>Deliver early detection and intervention programs to priority target groups and other groups within the wider community:</p> <ul style="list-style-type: none"> provide contact tracing services; promote and provide accessible, and culturally appropriate testing services.
WHO	<p>Department of Health (CDCD) - SHBBVP and HIV Case Management Program</p> <p>Department of Corrective Services</p> <p>WACHAS</p> <p>WACHS</p>	<p>Government agencies</p> <p>NGOs - FPWA, WAAC, secca</p> <p>PHUs</p> <p>WAGP Network</p> <p>Professional training providers, e.g. ASHM, ACSHM</p> <p>Area Health Services</p> <p>HIV Case Management Program (CDCD)</p>	<p>Government agencies</p> <p>PHUs</p> <p>NGOs - sauna clinic, Magenta clinic</p> <p>Clinical services</p> <p>GPs</p> <p>PathWest</p>
WHERE	State-wide	<p>Within general community</p> <p>Within at-risk communities</p>	<p>Within general community</p> <p>Within at-risk communities</p>

DISEASE MANAGEMENT AND TERTIARY PREVENTION



Disease Management And Tertiary Prevention

See also HIV/AIDS Action Plan 2006-2008: section 4.2 - Improving the Health of PLWHA and section 4.3 - Responding to Changing Care and Support Needs

	POLICY LEVEL	ORGANISATIONAL LEVEL	INDIVIDUAL LEVEL
WHAT	<p>Continue to promote and monitor the implementation of relevant actions in the HIV/AIDS Action Plan 2006-2008 and any future plans.</p> <p>Decide upon the future provision and location of the HIV clinical services currently provided at RPH and Fremantle Hospitals.</p> <p>Consider the need to strengthen links and interaction between HIV, BBV and sexual health clinical services.</p> <p>Enhance HIV/AIDS services in rural and remote areas.</p>	<p>Maximise the role of GPs in HIV management.</p> <p>Recognise and support the broad and changing roles undertaken by HIV specialist nurses in the areas of chronic HIV management, assessment and management of adherence, and patient education and support.</p> <p>Provide HIV/AIDS services in rural and remote areas.</p> <p>Utilise information and communication technology to improve service delivery.</p> <p>Reorientate services for the asymptomatic or uncomplicated HIV disease (i.e. Chronic Disease Self Management).</p> <p>Undertake regular clinical audits of HIV clinical services.</p> <p>Enhance mainstream service provision for PLWHA.</p> <p>Prioritise auxiliary specialist services to meet PLWHA requirements over the next 10 years:</p> <ul style="list-style-type: none"> aged care, dental health, mental health, dementia care, services for people with co-morbidity. <p>Continue to support current internationally-competitive research programs.</p>	<p>Deliver programs that aim to improve the health of PLWHA.</p> <p>Participate in HIV shared care training and liaise with clinical specialists and relevant allied health care providers.</p> <p>Provide aged care, dental health, mental health, dementia care services for PLWHA and services for people with co-morbidity.</p>
WHO	<p>Department of Health - Area Health Services/PHUs</p> <p>Department of Health - CDCD</p> <p>WACHAS</p> <p>WACHS</p>	<p>Government agencies</p> <p>NGOs</p> <p>WAGP Network and GPs</p> <p>Tertiary clinical services including state-wide HIV shared care service</p> <p>Tertiary education institutions</p> <p>PHUs</p>	<p>Government agencies</p> <p>PHUs</p> <p>NGOs - WAAC, Ruah, Silver Chain, The Living Centre, HAPAN</p> <p>GPs</p> <p>Auxiliary specialist services</p>
WHERE	<p>Statewide</p>	<p>Within the general community</p> <p>Primary health care facilities; e.g. GP practices</p> <p>Tertiary health care facilities</p> <p>Community-based care facilities</p> <p>PHUs</p>	<p>Within the PLWHA community</p> <p>Primary health care facilities; e.g. GP practices</p> <p>PHUs</p>



WORKFORCE DEVELOPMENT

Workforce Development

See also *HIV/AIDS Action Plan 2006-2008: section 4.2 - Improving the Health of PLWHA* and *section 4.3 - Responding to Changing Care and Support Needs*

	POLICY LEVEL	ORGANISATIONAL LEVEL	INDIVIDUAL LEVEL
WHAT	<p>Continue to promote and monitor the implementation of relevant actions in the HIV/AIDS Action Plan 2006-2008 and any future plans.</p> <p>Continue to update and disseminate best practice guidelines for primary health care providers involved with the management of STIs including HIV/AIDS.</p>	<p>Continue to implement workforce development and training in HIV/AIDS education, prevention treatment and care:</p> <ul style="list-style-type: none"> • take a coordinated approach to the promotion and provision of sexual health and BBV training and education; • continue to provide funding for a range of workforce training and development opportunities; • expand the training opportunities available to staff, with focus on regional and practice nurses, teachers, those in regional areas and those working with marginalised groups; • explore and expand on the use of flexible training and education modalities; • develop mechanisms to provide management with the capacity to encourage and support staff to attend workforce development training and education opportunities. <p>Train and support GPs to provide HIV shared care in both the metropolitan and rural/remote areas of WA.</p> <p>Support appropriate specialist training to meet the changing needs of an ageing HIV-positive population.</p> <p>Enhance current training for specialists in clinical immunology and infectious diseases.</p> <p>Provide WA-based training programs to meet the ongoing education and training needs of HIV specialist nurses.</p> <p>Enhance awareness about cultural sensitivity in training programs for health care providers and other staff.</p>	<p>Provide and participate in sexual health and BBV training and education.</p> <p>Participate in shared care training and liaise with clinical specialists and relevant allied health care providers.</p>

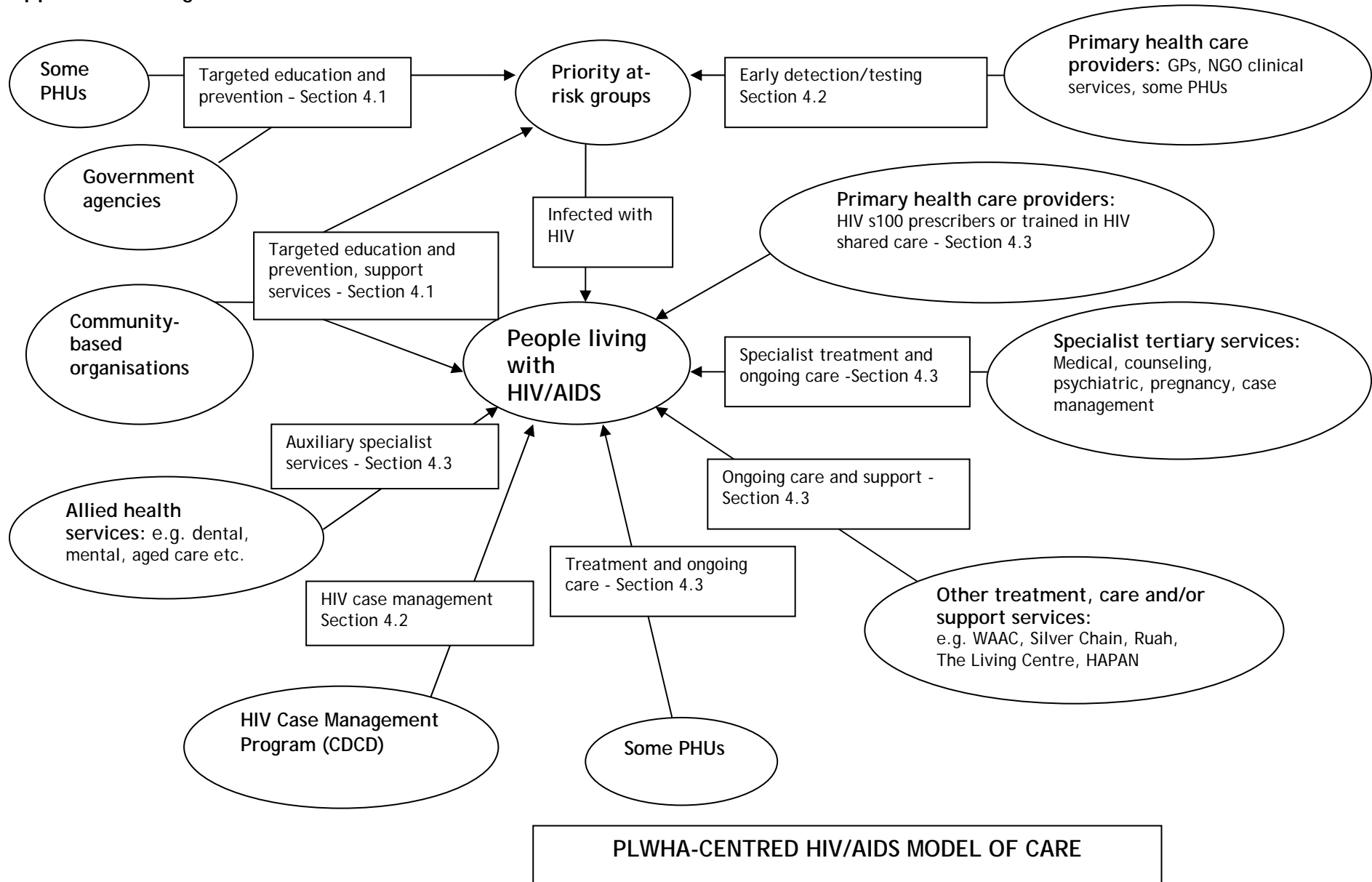


WORKFORCE DEVELOPMENT (continued)

	POLICY LEVEL	ORGANISATIONAL LEVEL	INDIVIDUAL LEVEL
WHO	Department of Health - CDCD WACHAS WACHS	Government agencies Clinical Services - RPH, FH NGOs which provide training - WAAC, ASHM, FPWA, ACSHM, secca WA GP Network	Government agencies Clinical Services - RPH, FH PHUs NGOs GPs undertaking shared care Sexual health and BBV workforce
WHERE	Statewide	Statewide	Statewide

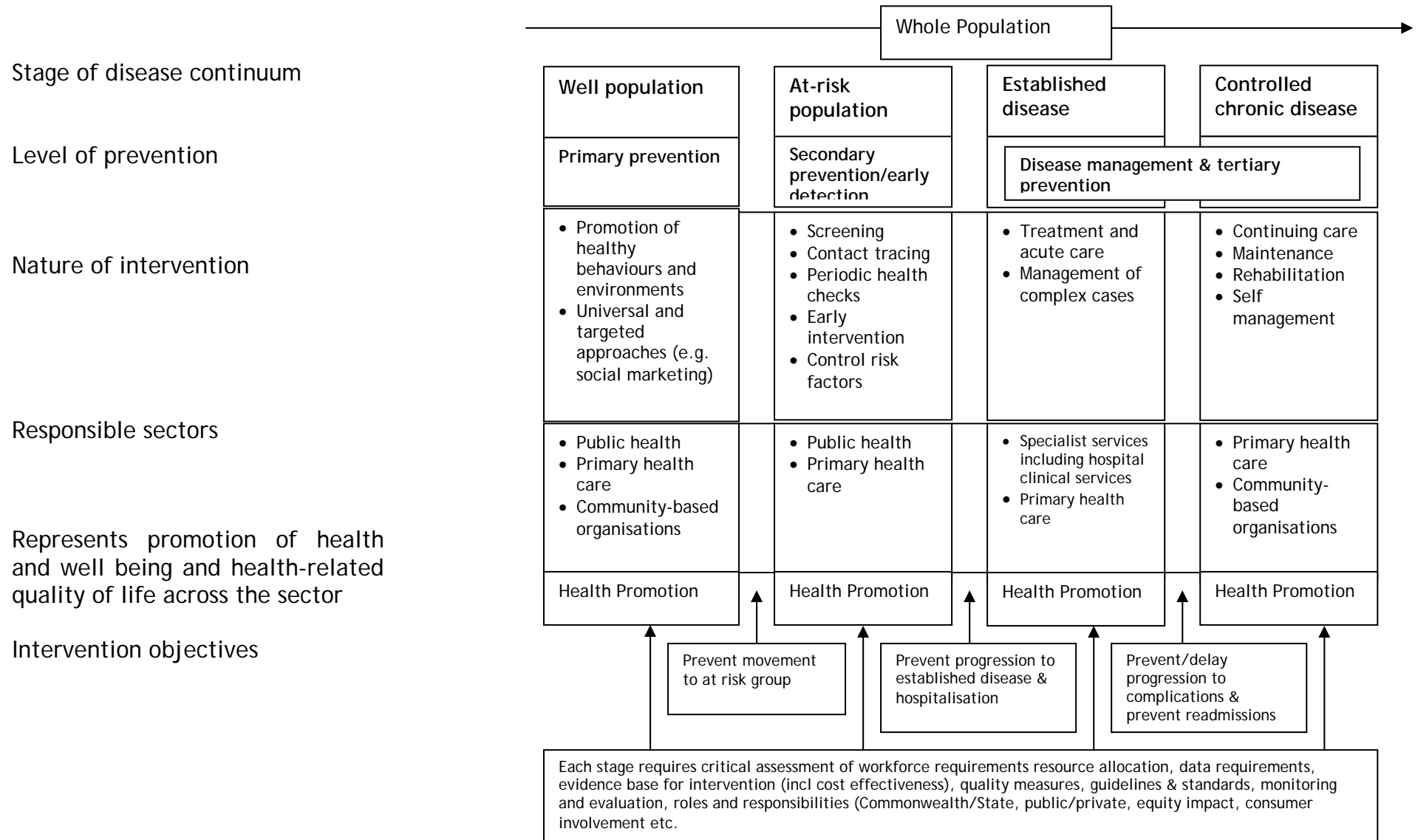


Appendix 5: Diagrammatic HIV/AIDS Models of Care





COMPREHENSIVE HIV/AIDS MODEL OF CARE (adapted from NPHP 2006, plus input from the Infections and Immunology Network)





Appendix 6: HIV/AIDS Model of Care Implementation

PHASE ONE: IMMEDIATE/SHORT TERM

Already agreed to:

Secondary prevention and early detection

- Expand contact tracing/partner notification capacity in the metropolitan area and throughout WA.
Two new contact tracing positions to be established in South Metropolitan Public Health Unit (from Rubin report).

Immediate at low cost

Primary prevention

- Continue to promote availability of PEP including NPEP.
Some funding has been allocated.

Short term at new cost

Secondary prevention and early detection:

- Adopt the recommendations of the National review regarding recklessly or knowingly placing others at risk of infection with HIV.
A new operational directive is under development.

Disease management and tertiary prevention:

- Maximise the role of GPs in HIV management.
Some funding has been allocated.

Workforce:

- Train and support GPs to provide HIV shared care in both the metropolitan and rural/remote areas of WA.
Some funding has been allocated.

PHASE TWO: MEDIUM TERM

Medium term - requires further planning and development

Primary prevention:

- Continue and enhance state-wide community and peer-based prevention interventions.
- Continue to actively support programs which reduce stigma and misconceptions around HIV by the general community and health care providers.
- Continue policy and legislative reform to ensure an enabling environment for primary prevention.
- Continue to develop and provide quality school-based health/life skills education and prevention.
- Invest in existing, new and emerging areas for prevention.



- Continue to build the evidence base.
- Promote the introduction and widespread use of needleless technologies in the health care setting in order to reduce injury and risk of BBV transmission.

Secondary prevention and early detection

- Remove barriers to HIV/STI testing.
- Enhance early intervention through primary health care providers.
- Continue policy reform to ensure an enabling environment for secondary prevention and early detection.
- Improve early detection and intervention for high-risk populations.

Disease management and tertiary prevention

- Decide upon the future provision and location of the HIV clinical services currently provided at RPH and Fremantle Hospital.
- Recognise and support the broad and changing roles undertaken by HIV specialist nurses in the area of chronic HIV management, assessment and management of adherence, and patient education and support.
- Enhance HIV/AIDS services in rural and remote areas.
- Utilise information and communication technology to improve service delivery (e.g. establish a patient-focussed database).
- Reorientate services for the asymptomatic or uncomplicated HIV disease (i.e. Chronic Disease Self Management);
- Undertake regular clinical audits of HIV clinical services.
- Consider the need to strengthen links and interaction between HIV, BBV and sexual health clinical services.
- Enhance mainstream service provision for PLWHA.
- Prioritise auxiliary specialist services to meet PLWHA requirements over the next 10 years.
- Continue to support the current internationally-competitive research programs to develop new treatments, diagnostic tests and a vaccine for HIV infection being undertaken by Royal Perth Hospital, Fremantle Hospital, the University of WA and Murdoch University.

Workforce Development

- Continue to implement workforce development and training in HIV/AIDS education, prevention, treatment and care.
- Continue to update and disseminate best practice guidelines for primary health care providers involved with the management of STIs including HIV/AIDS.
- Support appropriate specialist training to meet the changing needs of an ageing HIV-positive population.
- Enhance current training for specialists in clinical immunology and infectious diseases.
- Provide WA-based training programs to meet the ongoing education and training needs of HIV specialist nurses.
- Enhance awareness about cultural sensitivity in training programs for health care providers and other staff.



Delivering a Healthy WA

Health Networks Branch
Level 1, 1 Centro Ave
Subiaco
Western Australia 6008

