



WA Mid-term review of the Western Australian:

- **HIV/AIDS Model of Care
Implementation Plan 2010-2014**
- **Sexually Transmitted
Infections Model of Care
Implementation Plan 2010-2014**
- **Hepatitis C Model of Care
Implementation Plan 2010-2014**
- **Implementation Plan for the
National Hepatitis B Strategy
2010-2013**

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Acronyms

ACIR	Australian Childhood Immunisation Register
ASHM	Australasian Society for HIV Medicine
BBV	Blood-borne virus
CALD	Culturally and linguistically diverse
CDCD	Communicable Disease Control Directorate
DoHA	Department of Health and Ageing
ECU	Edith Cowan University
FIFO	Fly-in, fly-out
FPWA	FPWA Sexual health services
FTE	Full-time equivalent
GP	General practitioner
HCV	Hepatitis C virus
HIV	Human immunodeficiency virus
HSDWP	Highly specialized drugs working party
IDU	Injecting drug users
MOC	Model of care
MSM	Men who have sex with men
NPEP	Non-occupational post-exposure prophylaxis
NSEP	Needle and syringe exchange program
NSP	Needle and syringe program
PrEP	Pre-exposure prophylaxis
SHBBVP	Sexual Health and Blood-borne Virus Program, WA Department of Health
SiREN	WA Sexual Health and Blood-borne Virus Applied Research and Evaluation Network
STI	Sexually transmitted infection
WA	Western Australia
WACBVS	Western Australian Committee for Blood-borne Viruses and Sexually Transmitted Infections
WA DOH	Department of Health, Western Australia
ZAP	Azithromycin, amoxicillin and probenecid

Executive Summary

The Western Australian (WA) Department of Health's (WA Health) Sexual Health and Blood-borne Virus Program (SHBBVP) undertook a mid-term review of the four year Implementation Plans of the Models of Care for Human Immunodeficiency Virus (HIV)/Sexually Transmitted Infections (STI)/ Hepatitis C Virus (HCV) and the Implementation Plan for the National Hepatitis B Strategy (the Plans). This review involved both a stakeholder survey and a desktop review of key performance indicators as outlined in the Plans.

Surveyed stakeholders generally felt that most areas of implementation were showing progress in the first two years of the Plans. Among the most notable achievements was the opening of the M Clinic to reach priority populations in a community setting. Other key achievements that emerged from the survey included:

- expansion of needle and syringe program (NSP) sites across WA
- implementation of the Online Chlamydia Testing Program
- increases in chlamydia and gonorrhoea testing rates over the 2009 to 2011 period
- the gazetting of amendments to the Poisons Regulations (1965) to allow for nurses to distribute azithromycin, amoxicillin and probenecid (ZAP) packs
- increased uptake of hepatitis C treatments, particularly through the hepatitis C treatment clinic at Next Step
- improvements in access to HIV treatment, for Medicare ineligible patients
- development of the "Talk Soon Talk Often Guide" for parents and children
- launch of the Edith Cowan University (ECU) training courses in Viral Hepatitis and STIs
- launch of the online NSP training.

The stakeholder survey highlighted concerns about the challenges inherent in WA's changing demographic profile, with respondents citing the need to develop strategies focused on emerging populations such as fly-in, fly-out (FIFO) workers and culturally and linguistically diverse (CALD) populations, including new and temporary migrants. In addition, respondents highlighted the ongoing challenges across the continuum of care in regional and remote settings and in addressing key priority populations, including at-risk youth, Aboriginal people, injecting drug users (IDU) and prison populations.

Results from the stakeholder survey demonstrated that of the action areas, the area which requires the most attention for the duration of the Plans is disease management, tertiary prevention and clinical services. Respondents highlighted a number of service gaps and key challenges including:

- the need for better engagement and education of general practitioners (GPs) to be involved in STI and blood-borne virus (BBV) care and treatment
- the need for integration of a chronic disease model and community-based practices into disease management for BBVs so that care is co-managed with tertiary hospitals
- lack of specialist nurses in hepatology and BBVs in the regions
- limited knowledge of hepatitis B disease management and treatment among GPs
- difficulty in implementing complex treatment regimes in rural and remote areas
- lack of access to HIV treatment and care for Medicare ineligible HIV-positive patients.

Finally, respondents highlighted a number of emerging trends and new challenges which require attention in the coming years of the Plans. These include advances in new technologies

such as rapid testing for STIs and HIV, and the availability of pre-exposure prophylaxis (PrEP) for HIV.

Findings from this review will be used to strategically plan for the final two years of the Plans. At the end of 2014 a final review will be undertaken by an independent body to evaluate implementation and measure the achievement of the goals and objectives of the Plans.

1. Background

Models of Care, developed as part of WA's health reform agenda, 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. Between 2008 and 2009, the Infections and Immunology Network developed the *Sexually Transmitted Infections Model of Care*; the *Hepatitis C Virus Model of Care*; and the *Human Immunodeficiency Virus Model of Care*; to address all aspects of STI, HCV and HIV education, prevention, treatment and care.

To implement the Models of Care, WA Health's Sexual Health and Blood-Borne Virus Program (SHBBVP) undertook significant consultation with clinicians, researchers, consumer and community organisations, the government sector and other key opinion leaders from health and education sectors to develop implementation plans. With the release of the first *National Hepatitis B Strategy 2010-2013*, an implementation plan for WA was also developed in 2011. However, a WA Model of Care is yet to be developed for hepatitis B.

The Implementation Plans of the Models of Care for HIV/STIs/HCV and the Implementation Plan for the National Hepatitis B Strategy support the goals and principles that underpin the relevant National strategies including the *Third National Hepatitis C Strategy 2010-2013*, the *National Hepatitis B Strategy 2010-2013*, the *Second National STI Strategy 2010-2013*, the *Sixth National HIV Strategy 2010-2013*, and the *Third National Aboriginal and Torres Strait Islander Blood-Borne Virus and Sexually Transmissible Infections Strategy 2010-2013*.

The implementation of the Plans included a commitment that a mid-term review would be conducted by the SHBBVP. In line with a similar process undertaken for the National Strategies, the review is intended as a 'snapshot' of the progress of the Plans and not an in-depth recording of all activities undertaken or planned. A more comprehensive assessment of the Plans will be conducted at the time of their completion in late 2014.

1.1 Purpose of the mid-term review

The aim of the mid-term review is to determine the achievements of the Plans to date, priorities that still require action, and what can be achieved in the remaining term of the Plans.

2. Methodology

The review included both a desk-top analysis of the performance indicators specified within each of the Plans and an on-line survey of key informants and stakeholders.

2.1 Stakeholder survey

A stakeholder survey formed the primary component of the consultation for this review, running over a four week period during September and early October 2012. In order to provide an efficient method of completion, the survey was set up as an online questionnaire using Survey Monkey™. To encourage stakeholder participation in the face of a lengthy and repetitive survey process, one combined survey was created so that participants could evaluate progress against the plans depending on their areas of expertise. The survey was sent via email to 59 stakeholder organisations including, but not limited to, organisations which were signatories to the Memorandum of Understanding included in each of the Plans (government health service providers, non-government organisations, researchers, and policy makers). As the committee responsible for the overall monitoring of the Plans, the survey was also sent out to the individual members of the WA Committee for Blood-borne Viruses and Sexually Transmitted Infections (WACBBVS). Appendix A includes a list of organisations and individuals invited to participate in the online survey.

A mixture of closed and open-ended questions was included in the survey to elicit information about progress against the broad strategies and action areas of all the Plans for the period of their implementation (from early 2010 to the present time) and to identify priority areas and target groups, and emerging challenges and future directions. Survey completion took around 20 minutes.

Participants self-selected provided responses on the survey responses were then sorted according to the implementation plan. Implementation plan relevant to these work or area of Interest. Where surveys were incomplete, any available useable data was kept for analysis. For closed-ended questions using a Likert scale response, responses were collated and reported as crude numbers and percentages. Data collected from open-ended questions were analysed to identify themes and commonality between responses. Where identified themes applied only to certain topic areas of expertise, these were noted separately in the presentation of results.

2.2 Performance indicators

Each of the Plans contains a number of key performance indicators to be used to monitor progress under the Plans. These performance indicators can be broadly categorized into six areas:

1. STI and BBV notification data
2. STI and BBV testing data
3. Service development and implementation
4. Treatment, vaccination and morbidity and mortality
5. Sentinel surveillance
6. Workforce development.

In order to provide a summary of progress against these key performance indicators, data was collected from WA Health's databases and reports, key research publications and from consultation with health service providers and non-government organisations. Where possible, data was collected for the period from 1 July 2009 to 30 June 2012 and analysed by financial year. In some instances, the appropriate data was not available to report against a performance indicator, but it is anticipated that data for these performance indicators will be available for the final review of the Plans scheduled for the end of 2014.

3. Results

3.1 Stakeholder Survey

The stakeholder survey yielded 28 responses, of which 10 had fewer than two fields entered. Responses by topic area were evenly distributed. One third of respondents self-identified as responding to all four of the Plans. One third of respondents only addressed the HIV and/or STI Plans and one third only addressed the hepatitis B and C plans.

The results presented below are a summary of the responses received from participants and, as such, do not necessarily represent the views of the SHBBVP.

3.1.1 Prevention and Education

The first section of the stakeholder survey asked respondents about their views on how prevention and education have progressed in the first two years of the Plans. Respondents cited several notable successes in this regard. These included the new M Clinic, expansion of NSP sites, the development of the *Get The Facts* online education site for younger age groups; the Online Chlamydia Testing Program, and some expansion of services into prisons and through Aboriginal kinship networks.

The majority of respondents agreed or strongly agreed that there have been improvements in both access to prevention services (72%) and education (83%) in the first two years of the Plans. Respondents that disagreed with these statements cited insufficient improvements in reaching priority groups in community settings and in expanding broad-based STI and BBV prevention including reducing stigma. Respondents generally agreed (73%) that prevention strategies have improved at reaching priority groups with the caveat that some cited room for further improvement in reaching Aboriginal youth, prison populations and injecting drug users (IDU).

Respondents felt that the following populations should be the focus for the development of prevention strategies in the remaining term of the Plans:

- Aboriginal populations
- at risk youth
- overseas travellers at high risk of acquiring STI and BBVs and fly-in, fly-out (FIFO) workers
- prison-based populations.

3.1.2 Diagnosis and Testing

Approximately two-thirds (63%) of respondents agreed that strategies are being implemented to increase the availability of best practice diagnosis and testing, including through primary care providers, for people at risk of STIs and BBVs. Notable examples of this were the M Clinic and the Online Chlamydia Testing program. Respondents who addressed only hepatitis B and hepatitis C felt that, while STIs and HIV had shown improvements in this regard, there was not the same progress for hepatitis B and C.

In relation to the availability of diagnosis and testing services for priority groups, around half of the respondents (50%) agreed that access has improved, while 31% neither agreed nor

disagreed. Many of the respondents noted that there was still work to be done targeting Aboriginal populations, youth and IDU.

There was strong agreement (69%) that barriers exist to the implementation of best practice diagnosis and testing. Respondents highlighted the following barriers:

- limited integration of sexual health and BBV services into general practice
- lack of access to rapid STI testing technologies to reduce time to provide results and follow up appointments
- staff retention and turnover in rural and remote areas
- inadequate access to culturally sensitive services for people from CALD backgrounds
- lack of sexual health services in northern metropolitan suburbs.

In the remaining term of the Plans, respondents highlighted the following key diagnosis and testing strategies that require particular focus:

- improving the availability and accessibility of STI testing, particularly through rapid testing and exploring the implications of point of care testing products newly approved for use in USA.
- early testing and detection in migrant populations such as 457 visa holders.
- improving testing rates among Aboriginal youth.
- improving the availability of free, accessible and acceptable youth friendly services.

3.1.3 Disease Management, Tertiary Prevention and Clinical Services

Among the most significant achievements listed by respondents with regards to treatment, care and support in the last two years were:

- establishment of the M Clinic.
- additional workforce in the Midwest Country Health Service, which has facilitated improved HIV treatment, care and support.
- amendments to the Poisons Regulations (1965) to allow nurses to distribute ZAP packs.
- increased uptake of hepatitis C treatments, particularly through the hepatitis C treatment clinic at Next Step.
- improved short-term access to HIV treatment of Medicare ineligible patients through the Treatment Access Program.

The majority of respondents (53%) felt that there has been an increase in the uptake of treatment and in adherence rates for priority populations across the Plans. Exceptions to this were for Aboriginal populations. With respect to hepatitis C and hepatitis B specifically, barriers included:

- perceptions about treatment efficacy and side effects.
- lack of knowledge about new treatments.
- lifestyle/disease management priorities.

In relation to care and support services for people living with or affected by STIs and BBVs, the majority of respondents (57%) neither agreed nor disagreed that appropriate services are being made available, particularly in rural and remote areas. Respondents felt that within regional settings, services for people living with HIV have improved, but not in all regions. However, with respect to viral hepatitis, this was not felt to be true. A lack of specialist nurses in hepatology or BBVs as well as a general lack of contemporary knowledge of assessment and management of BBVs were seen as barriers.

Respondents were asked whether or not they felt disease management services are being expanded and enhanced to address the emergence of chronic disease management and the needs of an ageing population. Forty-three percent of respondents agreed with this statement, while 36% neither agreed or disagreed. Respondents addressing BBVs noted a need for further progress on chronic disease approaches around lifestyle and patient-focused care as well as treatment. Furthermore, respondents noted that with respect to hepatitis B, GP education was needed to improve knowledge of disease management and treatment availability. For HIV-positive patients, respondents highlighted the need to better integrate HIV services into general practice, as GPs are best equipped to deal with the chronic diseases of an ageing population of people living with HIV because the disease profile is similar to that of the general population.

Respondents had only cautious agreement (43%) that STI and BBV disease management, tertiary prevention and clinical services are being successfully integrated throughout the WA health system. Identified service gaps were focused on primary care settings (including GPs and Aboriginal Medical Services). One respondent commented on the low number of s100 prescribers for HIV and hepatitis C and insufficient succession planning for future s100 prescribing numbers. Similar to the previous question, respondents commented that there was a need for greater GP education on hepatitis B management and availability of treatment.

Respondents focusing on hepatitis B and C noted that remote areas require improved access to specialist nurses for patient treatment and support.

The greatest priorities in disease management, tertiary prevention and clinical services that were listed by respondents for the remaining term of the Plans were:

- reducing barriers to HIV treatment, specifically increasing the number of s100 GP prescribers and sexual health physicians
- prioritising Aboriginal communities, regional/remote communities and CALD communities
- integration of chronic disease model and community based practice into disease management for BBVs so that care is co-managed with tertiary hospitals
- maximizing opportunities to work in prison populations
- improved access to HIV treatment and care for Medicare ineligible HIV-positive patients.

Respondents highlighted several key gaps in STI and BBV services in rural and remote regions:

- complex treatment regimes are difficult to implement successfully in rural and remote areas.
- lack of staff in remote/regional areas with cultural awareness training.
- limited access to hepatitis C and B antiviral therapy, particularly in high prevalence areas for hepatitis B in Aboriginal populations.

3.1. 4 Workforce Development

Survey results showed agreement or strong agreement (71%) that education, training and staff development initiatives are being developed and are accessible, including in rural and regional areas. The two respondents who disagreed with this statement advocated for further training of sexual health registrars and sexual health educators.

Respondents were asked whether or not there was adequate training and resources to support CALD and Aboriginal staff and the majority of respondents either neither agreed or disagreed (43%) or disagreed (36%). Those who disagreed with this statement suggested certified training courses and mentoring programs for Aboriginal workers were needed. In addition, respondents

felt that there needed to be more links with Aboriginal health services and more opportunities for career progression need to be created for Aboriginal staff.

The survey highlighted several workforce initiatives that have been the most effective to date:

- ECU's Viral Hepatitis and STI online training programs
- online NSP training provided by the Drug and Alcohol Office and WA Health
- community-based, sustainable funding increases for workforce development
- ongoing SHBBVP quarterly forums
- presentations at conferences from providers with "on-the-ground" experience.

3.1.5 Research and Surveillance

The majority of respondents (64%) agreed that current data collection and dissemination systems are providing adequate information to meet the needs of their organisations with respect to workforce development.

Respondents highlighted the following areas of research or surveillance as of particular importance in the remaining term of the Plans:

- greater research and surveillance with respect to certain priority populations, especially CALD communities, Aboriginal people and FIFO workers
- Increased research into sexual behaviour
- enhanced surveillance of site of chlamydia infection as, anecdotally, there appears to be an increase in pharyngeal and rectal cases, but data limitations make interpretation difficult.

3.1.6 Policy and Legislation

The most important areas of policy and/or legislation identified by respondents for the remaining term of the Plans were:

- New Public Health Act
- Prostitution Bill (2011)
- policy around PrEP for HIV exposure
- need for advanced practice nurses in STI management
- inclusion of sex education in the national curriculum roll-out.

3.1.7 Priority Populations

In relation to priority populations, 43% of respondents agreed that the strategies outlined in the Plans are adequately targeting priority populations across the continuum of care. Those who did not agree (29%) cited a greater need to focus on youth, IDU, CALD and Aboriginal communities.

In addition to funding needs, respondents listed the following as the greatest challenges in providing services to priority populations across the continuum of care for the remainder of the Plans:

- high STI rates in Aboriginal populations and difficulties reaching these communities for HIV and STI testing
- addressing psycho-social issues that act as a barrier across the continuum of care for affected populations
- exploring best practices around point-of-care testing for HIV and de-stigmatizing HIV testing generally
- greater integration of hepatitis C and B services into community settings.

Respondents listed several major achievements so far in the term of the Plans across the continuum of care for priority populations:

- increased community consultation and engagement
- the Talk Soon Talk Often Guide for parents and children
- establishment of the M Clinic
- maintaining the services of hepatitis C nurses in Great Southern and Southwest regions
- increasing chlamydia and gonorrhoea testing rates over the 2009 to 2011 period.

3.1.8 Partnerships

This section of the survey related to the partnership approach which underpins the Plans. The majority of respondents either strongly agreed (8%) or agreed (61%) that the partnership approach has been successful in increasing access to clinical services and supporting priority populations. The remaining 31% of respondents neither agreed nor disagreed with this statement.

A number of new partnerships that have been developed under the Plans were highlighted in the survey responses. These included:

- WA Sexual health and blood-borne virus Applied Research and Evaluation Network (SiREN).
- the Online Chlamydia Testing Program
- Aboriginal Health Council of Western Australia and SHBBVP
- Department of Health and the Department of Education around online teacher professional development
- partnerships with local Aboriginal Community Controlled Health services, tertiary hospitals in Perth and the Department of Corrective Services to deliver care across these organisations
- partnerships between hepatitis organisations and the Cancer Councils.

3.1.9 Emerging challenges, future directions and other comments

Respondents were asked to provide open-ended comments on any emerging challenges, suggestions for the future or general comments on the Plans. Several respondents noted that the Plans were very comprehensive and well designed and that the challenges to implementation were funding and political will. Other comments included:

- the need for continued innovation both in WA and within the Commonwealth around HIV rapid testing and more controversial HIV programs such as PrEP
- enhancing consultation with consumers, “on-the-ground” staff and stakeholders
- the suggestion that future Plans be written with a greater emphasis on measurable, appropriate, more focused performance indicators
- greater focus on chronic disease models in addition to clinical disease management and tertiary centres
- the demand for a northern suburbs sexual health service with satellite clinics.

3.2 Performance indicators

3.2.1 STI and BBV notification data

Unless otherwise specified, data is presented in this section (3.2.1) for financial year time periods. For example, 2011/2012 is referring to the time period 1 July 2011 – 30 June 2012, and 'year' refers to financial year.

3.2.1.1 Number, rates and proportions of STI notification per year by age gender, Aboriginality and region

Chlamydia

There were a total of 11,744 genital chlamydia notifications in WA in 2011/2012, which is comparable to the 11,059 notifications received in 2010/2011, but an increase of 25% above the 9,454 notifications received in 2009/2010. The notification rate increased by 18% over the three year period between July 2009 and June 2012 (412 to 485 notifications per 100,000 population).

The age distribution was similar for each of the three years; with the largest proportion of notifications reported among 15 to 24 year olds (65%) (Appendix C, Table 1). Gender distribution was also stable over the three years with females comprising 58% of total notifications in 2011/2012 year (Appendix C, Table 2).

In 2011/2012, 79% of chlamydia notifications were reported in non-Aboriginal people, 13% in Aboriginal people and 7% of notifications had an unknown Aboriginal status. This is similar to the proportions reported for 2010/2011 and 2009/2010, except the proportion of notifications with unknown Aboriginal status was slightly higher in 2009/2010. The Aboriginal to non-Aboriginal rate ratio decreased from 6.5 in 2009/2010 year to 5.1 in 2011/2012 due to an increase in non-Aboriginal notifications (Appendix C, Table 3).

The Kimberley, Pilbara and Goldfields regions had the highest notification rates for chlamydia across all three years. The proportionate change in notification rates varied across regions, with the largest increase observed in the Wheatbelt region (37% increase in the notifications between 2009/2010 and 2011/2012) (Appendix C, Table 4, Figure 1).

Gonorrhoea

There were a total of 2,040 gonorrhoea notifications in WA in 2011/2012, which is an increase of 30% above the 1,570 notifications received in 2010/2011 and an increase of 61% above the 1,264 notifications received in 2009/2010. The notification rates for gonorrhoea increased over 52% between July 2009 and June 2012 (55 to 84 notifications per 100,000 population).

The age distribution was similar for each of the three years, with the largest proportion of notifications reported among 15 to 24 year olds (55% in 2011/2012) (Appendix C, Table 5). Gender distribution was also stable over the three years with males comprising a slightly greater proportion of the notifications than females (Appendix C, Table 6).

In 2011/2012, 60% of gonorrhoea notifications were reported in Aboriginal people, this is similar to the proportion reported for 2010/2011 and 2009/2010. Aboriginal and non-Aboriginal notification rates increased by 48% and 70%, respectively between 2009/2010 and 2011/2012 (Appendix D, Table 7).

The Kimberley had the highest gonorrhoea notification rates for all three years; in 2011/2012, its rate was more than twice that in 2009/2010 (1950 notifications per 100,000 population compared to 938 notifications per 100,000 population). Increases of lesser magnitude were

reported over the three-year period in the Wheatbelt, Great Southern, Midwest, North and South Metropolitan regions (Appendix C, Table 8, Figures 2a & 2b).

Infectious Syphilis

In 2011/2012, there were a total of 97 infectious syphilis notifications (primary and secondary cases) reported in WA. This was a 14% decrease compared to the 113 notifications in 2010/2011. This decline was in part the result of a diminishing outbreak of infectious syphilis among non-Aboriginal men who have sex with men (MSM) during the first quarter of 2011 which subsequently declined during the last quarter of 2011. In 2009/2010, a total of 76 notifications were reported.

The age distribution of notifications was relatively evenly distributed among adults aged from 20 to 49 years old for each of the three years. Gender distribution was also stable over the three years with males making up a vastly larger proportion of the notifications than females. Between July 2011 and June 2012 males comprised 86% of the infectious syphilis notifications (Appendix C, Table 10).

In 2011/2012, 18% of infectious syphilis notifications were reported in Aboriginal people, similar to 2010/2011 (in which 21% of notifications were reported in Aboriginal people) but lower than 2009/2010 in which 30% of notifications were reported among Aboriginal people. The decrease in the Aboriginal to non-Aboriginal rate ratio from 15.5 in 2009/2010 to 7.3 in 2011/2012 was due to an increase in non-Aboriginal notifications (Appendix C, Table 11).

There were small decreases in the number of infectious syphilis notifications across most of the regions over the three year period. Notification rates continued to be highest in the Kimberley and Goldfields over the three year time period (Appendix C, Table 12, Figure 3).

3.2.1.2 Number of HIV notifications per year by age, gender, mode of transmission, ethnicity and region.

A total of 127 HIV notifications were reported in WA in 2011/2012, which was higher than both 2010/2011 and 2009/2010, when 99 and 113 HIV notifications, respectively were seconded.

The age distribution of notifications was relatively evenly distributed across age groups among adults aged 20 to 54 years old for each of the three years. In 2011/2012, 35-39 year olds accounted for 20% of notifications, followed by 25-29 year olds with 16% of notifications (Appendix C, Table 13). Gender distribution was also stable over the three years with males comprising approximately 70% of notifications in each time period (Appendix C, Table 14).

The increase in HIV notifications in 2011/2012 was most evident among exposures attributed to MSM. In 2011/2012, notifications among MSM increased by 32% compared to the previous year (53 compared to 40 notifications, respectively). The number of HIV infections in males attributed to heterosexual exposures in 2011/2012 was similar to the number reported for 2010/2011 but 25% less than 2009/2010 (26 compared to 27 and 34 notifications, respectively). There was a 21% increase in the number of HIV infections in females attributed to heterosexual exposures in 2011/2012 compared to 2010/2011 period. There were five HIV notifications attributed to IDU exposure in 2011/2012, which was higher than the number recorded for the two previous years (Appendix C, Table 15).

In 2011/2012, 98% of HIV notifications were reported in non-Aboriginal people and 2% in Aboriginal people. This is similar to the proportions reported for 2010/2011 and 2009/2010 (Appendix C, Table 16).

The distribution of HIV notifications by region of birth has remained relatively stable over the reporting period. People born in Australia made up the largest proportion of HIV notifications in

each of the years, with people born in Sub-Saharan Africa and South East Asia accounting for the second and third largest proportion of notifications. In the most recent year, 45% of HIV notifications were reported among people born in Australia, followed by 18% among people born in Sub-Saharan Africa and 16% among people born in South East Asia (Appendix C, Table 17).

Finally, the majority of HIV notifications reported for each of the three years were reported among people who reside in the metropolitan area, accounting for over 85% of the notifications reported in 2011/2012 (Appendix C, Table 18).

3.2.1.3 Age specific rates of HIV

In 2009/2010, the 35-39 year old age group recorded the highest crude rates of HIV notifications (15 notifications per 100,000 population), followed closely by the 30-34 and 25-29 year old age groups, which recorded crude rates of 14 notifications per 100,000 population and 13 notifications per 100,000 population, respectively.

In 2010/2011, the 30-34 year old age group recorded the highest crude rates of HIV notifications (12 notifications per 100,000 population), followed closely by the 25-29 and 30-34 year old age groups, which recorded crude rates of 9 notifications per 100,000 population and 8 notifications per 100,000 population, respectively.

In 2011/2012, the 35-39 year old age group recorded the highest crude rates of HIV notifications (15 notifications per 100,000 population). Both the 25-29 and 30-34 year old age groups recorded the second highest crude rate of 11 notifications per 100,000 population (Appendix C, Table 19).

3.2.1.4 Number of HIV negative babies born to HIV positive women

This data is not currently available.

3.2.1.5 Proportion of newly diagnosed HIV infections that are late diagnosis

Late diagnosis is defined as a newly diagnosed HIV infection with an initial CD4+ count of less than 200 (cells/mL). CD4 count data excludes cases previously diagnosed with HIV overseas.

Between July 2009 and June 2012, the proportion of HIV notifications per year that were late diagnoses varied from 17% (2010/2011) to 23% (2009/2010).

3.2.1.6 Number of newly acquired and unspecified hepatitis B notifications per year by age, gender, ethnicity, region, where acquired (WA/interstate/overseas)

In WA, hepatitis B notifications are classified as “newly acquired” (evidence of acquiring infection in the 24 months prior to diagnosis) or “unspecified” (infections of unknown duration).

In 2011/2012, there were a total of 601 hepatitis B notifications, 18 newly acquired notifications and 583 unspecified notifications. This was slightly higher than in 2010/2011 when a total of 584 notifications were received (19 newly acquired and 565 unspecified notifications), but less than in 2009/2010 with 664 hepatitis B notifications (37 newly acquired 627 unspecified notifications).

The age distribution of hepatitis B notifications was similar for the three years; almost 60% of hepatitis B notifications were among 25 to 39 year olds (Appendix C, Table 20). The gender distribution of hepatitis B notifications was also similar for all three years, with approximately 1.3 times more notifications in males than in females (Appendix C, Table 21).

Over the three year reporting period, there were slight changes in the distribution of hepatitis B notifications by Aboriginality. The proportion of hepatitis B notifications diagnosed in non-

Aboriginal people has decreased from 91% in 2009/2010 to 78% in 2011/2012. Correspondingly, the proportion of hepatitis B notifications reported in Aboriginal people has increased from 5% in 2009/2010 to 9.5% in 2011/2012. The proportion of notifications received for which Aboriginal status was unknown also increased from 5% in 2009/2010 to 12% in 2011/2012 (Appendix C, Table 22).

The distribution of hepatitis B notifications by region is shown in Appendix C, Table 23. For each of the years, the metropolitan regions comprised the majority of notifications while the Kimberley recorded the highest number of notifications among the rural and remote regions.

Finally, for those hepatitis B notifications where the place of acquisition is known, the majority were reported as being overseas acquired (Appendix C, Table 24).

3.2.1.7 Age specific rates of hepatitis B

For each of the three years, age groups between 25 and 34 years recorded the highest age-specific hepatitis B notification rates (Appendix C, Table 25).

3.2.1.8 Number of hepatitis C notifications per year by age, gender, ethnicity, region

In WA, hepatitis C notifications are classified as “newly acquired” (evidence of acquiring infection in the 24 months prior to diagnosis) or “unspecified” (infections of unknown duration).

In 2011/2012, a total of 1,041 hepatitis C notifications were reported, along with 100 newly acquired notifications and 941 unspecified notifications. This was slightly lower than the number of notifications in 2010/2011 (1,087 notifications, 107 newly acquired and 980 unspecified notifications). The highest number of notifications was reported in 2009/2010, with a total of 1,117 hepatitis C notifications (83 newly acquired and 1,034 unspecified notifications).

The age distribution of hepatitis C notifications was similar across the three years, with the majority of notifications occurring among 20-54 year olds (Appendix C, Table 26). The gender distribution of hepatitis C notifications was also similar for all three years, with approximately 2 times more notifications in males than in females (Appendix C, Table 27).

In 2011/2012, 78% of hepatitis C notifications were reported in non-Aboriginal people, which is slightly lower than 2009/2010 when 83% of notifications were reported in non-Aboriginal people. The proportion of hepatitis C notifications reported in Aboriginal people increased slightly from 11% in 2009/2010 to 15% in 2011/2012. The proportion of notifications received for which Aboriginal status was unknown also increased from 6% in 2009/2010 to 8% in 2011/2012 (Appendix C, Table 28).

The distribution of hepatitis C notifications by region is shown in Appendix C, Table 29. For each of the years, the metropolitan regions made up the majority of notifications, while the Southwest, Midwest and Kimberley regions recorded the highest number of notifications among the rural and remote regions.

3.2.1.9 Age specific rates of hepatitis C

For each of the three years, age groups between 30 and 54 years recorded the highest age-specific hepatitis C notification rates (Appendix C, Table 30).

3.2.2 STI and BBV testing data

Data reported for STI and BBV testing related performance indicators are based on the WA Department of Health report *Report on testing data for notifiable sexually transmissible*

*infections and blood-borne viruses in Western Australia*¹. In line with this report, testing data are reported for the three most recent calendar years, 2009, 2010 and 2011.

3.2.2.1 Number, rates and proportion of STI tests carried out per year by age, gender, Aboriginality, and region

Chlamydia

Between January to December 2011 there were a total of 132,576 chlamydia test performed in WA, which was higher than both the 2010 and 2009 calendar years when 121,283 and 119,006 chlamydia tests were performed, respectively.

Between 2009 and 2011 calendar years, chlamydia testing rates in 15-24 year olds (target group for WA's chlamydia campaigns) increased by 8% (71 to 77/1,000) and 4% (223 to 231/1,000) in males and females, respectively. There was wide variation in testing rates between remote regions with rates in the Kimberley (714/1,000 in 2011) being far higher than those in other regions.

If current Australian preventive health guidelines recommending annual chlamydia testing for all sexually active young people were being followed, testing rates among 15-24 year olds would be expected to be in the order of 734/1,000 population. This estimate is based on data from *Secondary students and sexual health 2008*, which indicates that 27.4% and 56.1% of year 10 (16 year olds) and year 12 (18 year olds) students respectively, and 100% of people aged 19 years and over are sexually active (Smith et al., 2008), and Australian Bureau of Statistics census data (Australian Bureau of Statistics, 2011). Only the Kimberley region has testing rates in this vicinity.

The age distribution of chlamydia tests performed were similar for each of the three years, with the majority (approximately 60%) of the tests performed in over 25 year olds. Thirty-nine percent of tests performed in each year were performed in 15-24 year olds, however, the testing rate was the highest in this age group and increased 5% over the three year time periods (141 to 155/1, 000 population) (Appendix D, Table 1).

The majority of chlamydia tests for each of the three years were performed in females; in 2011 86% of tests were performed in females. In addition, the testing rate for females was considerably higher than males for each of the three time periods; in 2011 the testing rate among females was 81 per 1,000 compared to 32 per 1,000 in males (Appendix D, Table 2).

The Kimberley and Pilbara regions reported the highest rates of chlamydia test for each of the three years and in 2011 reported a testing rate of 287/1,000 population and 103/1,000 population, respectively. Testing rates in the other 7 regions range from 22/1,000 population to 62 per 1,000 population (Appendix D, Table 3).

Gonorrhoea

There were a total of 118,613 gonorrhoea tests performed in WA during the 2011 calendar year, which was higher than the 109,085 and 105,963 tests performed in the 2010 and 2009 calendar years respectively. Between 2009 and 2011, the WA gonorrhoea testing rate increased by 7% (47 to 50/1,000 population).

The age distribution of gonorrhoea tests performed were similar for each of the three years, with the majority (approximately 60%) of the tests performed in adults aged over 25 years. Thirty-

¹ http://www.public.health.wa.gov.au/cproot/4674/2/report_on_testing_data_for_notifiable_sti_and_bbv_in_wa.pdf

nine percent of tests performed in each year were among 15-24 year olds and the testing rate was the highest in this age group, increasing by 5.5% over the three year time periods (128 to 135/1, 000 population) (Appendix D, Table 4).

The majority of gonorrhoea tests for each of the three years were performed in females; 69% of tests were performed in females in 2011. In addition, the testing rate for females was considerably higher than males for each of the three time periods; in 2011 the testing rate among females was 71 per 1,000 compared to 30 per 1,000 in males (Appendix D, Table 5).

Similar to the chlamydia testing rates, the Kimberley and Pilbara region reported the highest rates of gonorrhoea tests for each of the three years and in 2011 reported a testing rate of 287/1,000 population and 101/1,000 population respectively. Testing rates in the other public health regions ranged from 20/1, 000 population to 58/1,000 population (Appendix D, Table 6).

Infectious syphilis

There were a total of 83,634 infectious syphilis tests performed in WA during the 2011 calendar year, which was higher than the 78, 206 and 78,119 tests performed in the 2010 and 2009 calendar years, respectively. Between 2009 and 2011, the WA infectious syphilis testing rate remained stable (34 to 35/1,000 population).

The age distribution of infectious syphilis tests performed were similar for each of the three years. In 2011, 71% of infectious syphilis tests were performed in adults aged over 25 years compared to 28% tests performed among 15-24 year olds. However, the testing rates recorded were highest among the 15-24 year old age group for each of the three year, increasing 4.5% over the time period (66 to 69/1,000 population) (Appendix D, Table 7).

The gender distribution of infectious syphilis tests remained stable over the three year time periods, with approximately two-thirds of test performed in females (Appendix D, Table 8).

Once again, the Kimberley and Pilbara regions reported the highest rates of infectious syphilis tests for each of the three years and in 2011 reported a testing rate of 176/1,000 population and 65/1,000 population, respectively. Testing rates in the other 7 regions range from 17/1,000 population to 39/1,000 population (Appendix D, Table 9).

HIV

Between January to December 2011, a total of 120,079 HIV tests were performed in WA, which was higher than both the 2010 and 2009 calendar years when 114, 665 and 116,558 HIV tests were performed, respectively. Between 2009 and 2011, the WA HIV testing rate remained stable (50 to 52/1,000 population).

The age distribution of HIV tests performed were similar for each of the three years. In 2011, 75% of HIV tests were performed in adults aged over 25 years compared to 24% of tests being performed in 15-24 year olds; the latter group had the highest testing rates which remained relatively stable over the three year period (85 to 87/1,000 population) (Appendix D, Table 10).

The gender distribution of HIV tests remained stable over the three year time periods, with approximately 60% of test performed in females (Appendix E, Table 11).

The Kimberley region reported the highest rates of HIV tests for each of the three years and in 2011 reported a testing rate of 146/1,000 population. The Pilbara, North metropolitan and Goldfields regions reported the next highest testing rates and in 2011 reported testing 69/1,000 population, 61/1,000 population and 59/1,000 population respectively (Appendix D, Table 12).

3.2.2.2 Number of people tested for hepatitis B in the past twelve months, including people in custodial settings

There were a total of 101,402 hepatitis B tests performed in WA during 2011, similar to the number of tests performed in both the 2010 and 2009 calendar years. Between 2009 and 2011, the hepatitis B testing rates remained relatively stable in WA (Appendix D, Table 13).

Data on the number of people tested for hepatitis B in custodial settings was provided by the WA Department of Corrections. Only data from March to October 2012 is available, and during this six month period a total of 2366 hepatitis B surface antibody tests were performed.

3.2.2.3 Number of people tested for hepatitis C per year, including people in custodial settings

Similarly to hepatitis B tests, the number of hepatitis C tests performed and the testing rates remained relatively stable over the three year period between 2009 to 2011. There was a total of 116,983 hepatitis C tests performed in WA during 2011, equating to a testing rate of 50/1,000 population (Appendix D, Table 14).

Also similarly to hepatitis B, data on the number of people tested for hepatitis C in custodial settings was provided by the WA Department of Corrections. Only data from March to October 2012 is available, and during this six month period a total of 2431 hepatitis C antibody tests were performed.

3.2.3 Service development and implementation

3.2.3.1 Number and type of outreach STI services established in the metropolitan area

Over the past two years the B2 Clinic at Fremantle Hospital have established three new outreach STI services including:

- a GP session at Rockingham in conjunction with the B2 nurses clinic (0.1FTE) and a registrar that attends once every fortnight (0.05 FTE).
- a screening clinic at Fremantle needle and syringe exchange program (NSEP) (0.1FTE).
- clinic at Headspace (0.2 FTE).
- Mandurah Billy Dower Centre (0.1FTE).

3.2.3.2 Number of gaps in clinical services in rural and remote regions identified

This data is not currently available.

3.2.3.3 Number and impact of STI social marketing campaigns

The “Could I have it” campaign provided by the WA DoH occurs every year. Due to annual changes in the types and approaches to media used, objective findings on the impact of each year’s campaign are not possible.

Examples of social media campaigns run by non-government organisations include:

- “Sex in Other Cities” – WA AIDS Council
- “Safe Sex, No Regrets” - WA AIDS Council
- “Travel safe” – WA AIDS Council
- “National Condom Day” – FPWA sexual health services

3.2.3.4 Number of new needle and syringe program (NSP) sites established

Between July 2010 and June 2012, there were a total of six new NSP sites established throughout WA, two within the metropolitan area and four in regional areas. Four out of these six new NSP sites were established as needle and syringe exchange programs (NSEPs); WA AIDS Council's Fremantle fixed site, WA Substance Users Association's (WASUA) Bunbury fixed site, Palmerston Mandurah fixed site exchange and the Midwest Community Drug Service's fixed site NSEP in Geraldton. The other two new NSP sites were established within health care centres.

3.2.4 Treatment, vaccination and morbidity and mortality

3.2.4.1 HIV Model of Care Implementation plan performance indicators

The *HIV Model of Care Implementation Plan* includes a number of indicators relating to treatment and quality of life, including the following:

- HIV/AIDS morbidity and mortality data, e.g. hospital bed days; average length of hospital stay
- average number of hospital admissions per individual living with HIV
- average monthly cost to provide hospital care for people living with HIV
- average age of hospitalized patients with HIV
- number of times the proposed state-wide HIV database is used to manage patients with HIV infection
- percentage of people living with HIV in paid employment
- percentage of people living with HIV above the poverty line (e.g. HIV Futures Study)
- uptake of treatment
- proportion of people living with HIV who report their general health status and general wellbeing to be good or excellent (e.g. HIV Futures Study).

However, data for the majority of these performance indicators are currently not available. For example, the majority of quality of life related indicators are reliant on the HIV Futures Study, which is yet to be completed.

3.2.4.2 Number of people with chronic hepatitis B dispensed drugs for hepatitis B infection through the Pharmaceutical Benefits Scheme: Highly Specialised Drugs Program - Section 100 per year

Data for this performance indicator was provided by The Kirby Institute and were based on the most up-to-date information available from the Highly Specialised Drugs Program Public Hospital Dispensed National Pack Number Report. Only data for 2010 is available at this current time.

In 2010, there were a total of 275 person-years dispensed drugs for hepatitis B infection through the Highly Specialised Drugs (s100) program in WA. Entecavir monohydrate was the most commonly dispensed drug, accounting for 140 person-years, whereas lamavudine and adefovir dipiroxil accounted for 56 and 79 person-years, respectively.

Please note for lamivudine the number of person years treated was based on lamivudine 100mg only. Patients treated with lamivudine for hepatitis B/HIV coinfection were not included in this figure.

3.2.4.3 Coverage of hepatitis B vaccination among children (as per Essential Vaccines National Partnership Agreement and the National Childhood Immunisation Program)

Australian Childhood Immunisation Register

Information regarding the coverage of hepatitis B vaccination in early childhood was obtained from the Australian Childhood Immunisation Register (ACIR). A child's immunisation details are recorded on ACIR when information is submitted by a recognised immunisation provider. Hence, the accuracy of reports greatly depends on provider participation and the transitional flow of data between providers and ACIR.

The following definition is used to determine whether a child is classified as fully immunised:

12-<15 Month Age Cohort

Fully vaccinated = DTPx3 + Poliox3 + HIBx3 + HepBx3 (all previous doses are presumed as given). Only those immunisation services a child has received up to 12 months of age are included in the calculations.

24-<27 Month Age Cohort

Fully Vaccinated = DTPx3 + Poliox3 + HIBx3 + HepBx3 + MMRx1 (All previous doses are presumed as given).

Only those immunisation services a child has received up to 24 months of age are included in the calculations.

Appendix E, Table 1 illustrates the percentage of children fully vaccinated by financial year and indigenous status for the 12-<15 Month age cohort. For the most recent financial year only data up to March 2012 is included. The vaccination coverage remain relatively stable over the three year period, with approximately 90% of children fully vaccinated in each year. Vaccination coverage was lower among Aboriginal children compared to non-Aboriginal children. In 2011/2012, approximately 81% of Aboriginal children were fully vaccinated compared to 91% of non-Aboriginal children.

Appendix E, Table 2 illustrates the percentage of children fully vaccinated by financial year and Indigenous status for the 24-<27 Month age cohort. For the most recent financial year, only data up to March 2012 is included. Similar to the 12-<15 month cohort, the vaccination coverage remain relatively stable over the three year period, with approximately 93-94% of children fully vaccinated in each year. Vaccination coverage was comparable between Aboriginal and non-Aboriginal children for all three years. In 2011/2012, approximately 92% of Aboriginal children were fully vaccinated compared to 93% of non-Aboriginal children.

Year 7 Program

The year 7 vaccination data is based on calendar/school year and cannot be provided by financial year. In addition, at the time of writing, only data from the 2009, 2010 and 2011 calendar years were available. Between 2009 and 2011, the percentage of children fully vaccinated through the year 7 hepatitis B program remain relatively stable. In 2011, 67% of children were fully vaccinated against hepatitis B (Appendix E, Table 3).

3.2.4.4 Quantity of hepatitis B vaccination provided to at-risk adults (in accordance with Operational Directive OD 0146/08: Guidelines for the Provision of Hepatitis A and B Vaccine to Adults in Western Australia at Risk of Acquiring these Infections by Sexual Transmission and Injecting Drug Use).

This data is not currently available.

3.2.4.5 Number of people with chronic hepatitis C dispensed drugs for hepatitis C infection per year through the Pharmaceutical Benefits Scheme: Highly Specialised Drugs Program: Section 100

Data for this performance indicator was provided by The Kirby Institute and were based on the most up to date information available from the HSD Program Public Hospital Dispensed National Pack Number Report. Only data for 2010 was available at the time the report was being written.

In 2010, there were a total of 317 person-years dispensed pegylated interferon and ribavirin combined and 30 person-years dispensed pegylated Interferon alone for hepatitis C infections through the Highly Specialised Drugs program in WA. Based on the assumption that 50% of people were receiving treatment for 6 months and the remaining 50% were receiving treatment for 12 months it is estimated that a total of 462 person-years dispensed drugs for hepatitis C infections through the HSD program in WA.

3.2.4.6 Number of people who received treatment whilst in custodial settings per year

Data for this performance indicator was provided by the WA Department of Corrections. Between the 1 July 2011 and 30th June 2012 a total of 60 patients commenced treatment for hepatitis C while in custodial settings which is slightly higher than the 52 patients, which commenced treatment in the 2010/2011 financial year.

3.2.5 Risk behaviours/Sentinel surveillance

3.2.5.1 The level of HIV and STI testing in at risk groups

Information regarding the level of HIV and STI testing in at risk groups is relatively limited and based on a small number sentinel research projects. Information is available for only some of the at-risk groups.

Gay men and other MSM

The 2010 Perth Gay Community Periodic Survey reported that 80% of study participants had ever been tested for HIV, which is similar to the 83.2% of participants who reported ever been tested in the 2008 survey (Hull et al., 2011). Among HIV positive men participating in the 2010 study, 93.3% of respondents reported participating in STI testing in the last 12 months, which was slightly, but not significantly, higher than the 83.9% of HIV positive participants who reported undergoing STI testing in 2008 study (Hull et al., 2011). The proportion of HIV negative men reporting undergoing an STI test in the past 12 months was significantly higher in the 2010 study compared to the 2008 study (71.9% in 2010 compared to 64.2% in 2008) (Hull et al., 2011).

The M Clinic is a peer-based sexual health service for men who have sex with men that offers free confidential STI and BBV testing services. Since opening in mid 2010, the M-clinic has performed 2,543 HIV tests (27 positive results or 11 per 1000 tests) , 2,614 syphilis tests (37 positive results or 14 per 1000 tests) , 7,525 gonorrhoea tests (202 positive results or 27 per 1000 tests) , 7,537 Chlamydia tests (275 positive results or 36 per 1000 tests) , 1,580 hepatitis A tests (no positive results), 1,593 hepatitis B tests (2 positive results or 1.3 per 1000 tests), and 1,809 hepatitis C tests (1 positive result or 0.6 per 1000 tests) .

Injecting drug users

The Australian NSP Survey National Data Report 2007-2011 reported that in 2011, 87% of study participants in WA had ever been tested for HIV (54% had undergone a HIV test in the last 12 months, 33% had undergone a HIV test over a year ago) (Iversen & Maher, 2012). These results were similar to those reported for the previous five years of the study.

3.2.5.2 Proportion of men who have unprotected anal intercourse with casual sex partner

Results from the 2010 Perth Gay Community Periodic Survey indicated that 39.8% of respondents had participated in unprotected anal intercourse with a casual partners. This was slightly higher than the 2008 Perth Gay Community Periodic Survey in which 34.5% of respondents reported participating in unprotected anal intercourse with a casual partners. This change in results from 2008 to 2010 was reported to be not statistically significant (Hull et al., 2011).

3.2.5.3 Proportion of people who inject drugs, who re-used another person's used needle and syringe in the previous month.

In 2011, 19% of WA IDU participating in the Australian NSP Survey reported having re-used another person's used needle and syringe in the previous month (Iversen & Maher, 2012). This is slightly higher than the 14% of participants who reported re-using another person's used needle and syringe in the previous month in 2010, but slightly lower than the 21% in 2009 (Iversen & Maher, 2012). For all three years, the majority of people who reported sharing needles in the previous month reported doing so with a regular sex partner or close friend (Iversen & Maher, 2012).

3.2.5.4 Findings from sentinel population surveillance (Hepatitis C Model of Care Implementation Plan and Implementation Plan for the National Hepatitis B Strategy)

The Australian NSP Survey National Data Report 2007-2011 illustrates that the self-reported BBV transmission risk behaviours among Western Australian survey respondents has remained relatively stable throughout the last three years (2009-2011) (Iversen & Maher, 2012). In 2011, 70% of respondents reported using a new sterile needle and syringe for every injection in the previous month and only 19% of participants reported recent receptive sharing (use of someone else's used needle/syringe). Sixty percent of respondents reported never having used another persons injecting drug equipment (excluding needles and syringes) in the previous month, where as 23% of participants reported receptive sharing of spoons, 10% of participants reported receptive sharing of filters, 8% of participants reported receptive sharing of water and 6% of participants reported receptive sharing of the drug mix. In addition, only 15% of respondents reported being injected by someone after that person had injected themselves or others in the previous month (Iversen & Maher, 2012).

Reported BBV testing and antibody prevalence has also remained relatively stable over the last three years (2009-2011) of the Australian NSP Survey. In 2011, 90% of participants reported ever being tested for hepatitis C (60% had undergone a test for hepatitis C in the last 12 months, 30% had undergone a hepatitis C test over a year ago). Four (2.1%) WA study participants in the 2011 Australian NSP Survey tested positive for HIV antibodies, while 57% of participants tested positive for hepatitis C antibodies (Iversen & Maher, 2012).

The National Prison Entrants' Bloodborne Virus and Risk Behaviour Study provides routine surveillance on the prevalence of blood-borne viruses and associated risk behaviours among Australian prisoner entrants (Butler et al., 2011). In the 2010 study, only 2% of respondents reported having injected in prison in the last month, while a larger proportion of participants reported injecting at home (55%) or at a friend's house (57%) prior to incarceration. In regards

to BBV transmission risk, 60% of respondents reported using a new sterile needle and syringe for every injection in the previous month and only 10% of participants reported recent receptive sharing (use of someone else's used needle/syringe) (Butler et al., 2011). Twenty two percent of participants reported receptive sharing of filters or drug mix, 20% of participants reported receptive sharing of spoons, 16% of participants reported receptive sharing of water and 2% of participants reported receptive sharing of a tourniquet (Butler et al., 2011).

In regards to BBV testing, 61% of IDU respondents and 44% of non-IDU respondents reported ever being tested for HIV. In addition, 69% of IDU respondents and 42% of non-IDU respondents reported ever being tested for hepatitis C. There were no participants in the 2010 study that tested positive for HIV, however, 36% of IDU participants tested positive for hepatitis C antibodies (compared to 0% of non-IDU participants). Finally, only 44% of IDU respondents and 18% of non IDU respondents reported being vaccinated against hepatitis B (Butler et al., 2011).

3.2.6 Workforce development

3.2.6.1 Number of teachers and school health nurses undertaking sexual health training (e.g. Growing and Developing Healthy Relationships)

Between 2009 to 2012, WA Health Education Services was contracted by the Department of Health to deliver a 2-day face-to-face professional development course in support of the *Growing and Developing Healthy Relationships* (GDHR) curriculum support materials to teachers and school health nurses in WA. In the 2009/2010 and 2010/2011 financial years a total of 42 and 26 teachers, teaching assistants, community and school based nurses from the metro area attended training, respectively. Finally, in 2011-2012 a total of 13 metro, 10 participants from Bunbury and 9 participants from Albany completed the professional development training.

On the 30th March 2012 the *Teaching Sexuality Education Online Professional Learning Course* was launched. The Departments of Health and Education funded this new and innovative online professional development course for teachers to assist them deliver comprehensive sexual health education. Data received from the WA Department of Education indicate that as of Friday 19 October 2012 there were 659 teachers and school nurses registered into this course, of which 136 have completed all eight modules of the training and additional 266 have engaged in content from various modules.

3.2.6.2 Number of health care providers involved in HIV shared care.

Currently there are two GPs who are involved in the WA GP Mentoring at the Time of HIV Diagnosis Program provided by Australasian Society for HIV Medicine (ASHM).

3.2.6.3 Primary health care providers, both government and non-government undertaking sexual health training

FPWA provided a mixture of both assessable or accredited courses and seminars and workshops to primary health care providers and medical students between 2010 and 2012. FPWA report that in 2010 a total of 275 health care providers and 33 medical students participated in assessable or accredited courses, while seminars and workshops were attended by a total of 1,694 participants (1,407 health care providers and 287 students). In 2011, a total of 260 health care providers and 1 medical student participated in assessable or accredited courses and a total of 1,296 participants (784 health care providers and 512 students) attended FPWA's seminars and workshops. Finally, in the first six months of 2012, a total of 107 health care providers attended assessable or accredited courses provided by FPWA and a total of 520 participants (195 health care providers and 325 students) attended seminars and workshops.

ASHM provided a number of training sessions, workshops and conferences on a range of sexual health and BBV related topics throughout WA between 2010 and 2012. ASHM reports that, over this three year period, a total of 508 participants attended training sessions provided by them. Just over forty percent (209) of these participants attended training in 2012, while 185 participants attended training in 2011 and 114 participants in 2010.

ECU provides accredited online training courses in hepatitis B, hepatitis C and STIs to health care providers throughout WA. In the 18 months leading up to the end of June 2012, a total of 112 participants completed at least one of these online training courses (higher numbers of participants have completed at least module 1 of the training courses. The figure given is for those that have completed both modules for hepatitis B and STIs; and all three modules for hepatitis C).

3.2.6.4 Number of GPs taking up training placements at sexual health services

Currently, the B2 Clinic at Fremantle Hospital has 0.1 FTE available for GPs wanting to take up training placements in sexual health services and over the past two years a total of six GPs have taken up this placement. Royal Perth Hospital Sexual Health Clinic has 0.5 FTE available for GPs wanting to take up training placements. FPWA has provided eight specialist skills placements to doctors undertaking GP training.

3.2.6.5 Number of sexual health physicians and trainees

There are currently three sexual health physicians in WA, all of which are located in the metropolitan area, either at the B2 Clinic at Fremantle Hospital or the Royal Perth Hospital Sexual Health Clinic.

3.2.6.6 Number of specialists in high resolution anoscopy

There is currently three specialists in high resolution anoscopy in WA.

3.2.6.7 Number and location of nurse practitioners working in sexual health

Among WA DoH services and Community Sector Organisation, there is only 1.0 FTE nurse practitioner working in sexual health across WA. The nurse practitioner is based at the Fremantle Hospital B2 Clinic.

3.2.6.8 Number and location of sexual health promotion officers

Among WA DoH services and Community Sector Organisation funded by the SHBBVP, there are a total of 31.75 FTE sexual health promotion officers working in sexual health across WA. The majority of these sexual health promotion officers are located in the metropolitan area, except for 0.5 FTE in the Pilbara, 0.2 FTE in the Wheatbelt and 2 FTE in the Goldfields.

3.2.6.9 Number of GPs authorised as hepatitis C treatment prescribers, and the number of patients for who authorised GPs participated in care and management (including prescribing) for

There are currently 28 practitioners authorized as hepatitis C s100 treatment prescribers. Information about the number of patients for whom authorised GPs provided care and management is currently unavailable.

4. Conclusion

The Mid-Term Review of the Implementation Plans has provided a valuable opportunity to reflect on the achievements of the Plans to-date, and to identify key priorities relating to viral hepatitis, HIV/AIDS and STIs which require attention and action over the next 24 months.

Results from the stakeholder survey highlighted the ongoing challenges across the continuum of care in regional and remote settings and in addressing key priority populations, including at-risk youth, Aboriginal people, IDU and prison populations. In addition, the results demonstrated that of the action areas, the area which requires the most attention for the duration of the Plans is disease management, tertiary prevention and clinical services. In particular, respondents highlighted the a number of services gaps particularly in regional areas as well as a need for better engagement and education of GPs to be involved in STI and BBV care, including co management of BBV cases with tertiary hospitals. Chronic disease management for BBV, in particular hepatitis B, was also an area in which respondents felt significant improvements were required.

Reporting against key performance indicators has provided a snapshot of the effectiveness of the Plans and identified key challenges, such as rising chlamydia, gonorrhoea and HIV rates and the disproportionate STI rates between Aboriginal and non-Aboriginal populations. This evaluation has also allowed the identification of specific improvements, such as increases in STI testing rates, the expansion of needle and syringe programs across WA and the launch of an online sexual health training course for WA teachers.

Findings from this review will be used to strategically plan viral hepatitis, HIV and STI prevention and treatment services in WA for the remaining two years of the Plans.

At the end of 2014, a final review of the Plans will be undertaken by an independent body to evaluate the implementation of the Plans and to measure the achievement of the goals and objectives of the Plans

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Appendix A

List of stakeholders invited to participate in survey

Name	Representing
Vicki O'Donnell	Aboriginal Health Council of WA
Des Martin	Aboriginal Health Council of WA
Melissa Ledger	Cancer Council of WA
Ken Waddell	Case Management Program
Mark Salmon	Child and Adolescent Health Service
Martyn French	Clinical Immunology, Royal Perth Hospital
Michael Watson	Clinipath Pathology WA.
Lisa Cunningham	David Wirrpanda Foundation
Crystal Connelly	Department of Corrective Services WA
Alison Turner	Department of Education
Neil Guard	Drug and Alcohol Office
Moira Sim	Edith Cowan University
Maria Saraceni	Ethnic Communities Council of WA
Steve Blackwell	FPWA Sexual Health Services
John Dyer	Fremantle Hospital
Lindsay Mollison	Fremantle Hospital
Lewis Marshall	Fremantle Hospital - B2 Clinic
Gavin Finkelstein	Haemophilia Foundation of WA
Gio Terni	Health Consumers' Council
Russ Milner	Health Networks Branch, System Policy & Planning
Frank Farmer	Hepatitis WA
Patrick Lyndon	WACBBVS
Max Taylor	Magenta
Anne Sorenson	Metropolitan Migrant Resource Centre
Susan Carruthers	National Drug Research Institute
Ros Elms	North Metropolitan Area Health Service
John Tunney	Office of Aboriginal and Torres Strait Islander Health
David Smith	Pathwest
Diane Lloyd	WACBBVS
Tony Keil	Princess Margaret Hospital.
Tim Koh	Royal Australian College of General Practice
Rosie Lee	Royal Perth Hospital
Jenny McCloskey	Royal Perth Hospital
Wendy Cheng	Royal Perth Hospital
David Nolan	Royal Perth Hospital Department of Immunology
James Flexman	Royal Perth Hospital
Simon Mallal	Royal Perth Hospital, Clinical Immunology (and IIDDD)
Simone Hosgood	Ruah
Peter Hollingsworth	SCGH
Linda Selvey	Chair of WACBBVS
Bruce Maycock	School of Public Health, Curtin University
Amanda Negus	SECCA
May Wong	Silver Chain
Gary Jeffrey	Sir Charles Gairdner Hospital
Karen Banks	South Metropolitan Area Health Service
Anne Mahont	WA Country Health Service - Goldfields

Tim O'Brien	WA Country Health Service - Kimberley
Margaret Abernethy	WA Country Health Service - Pilbara
Jo Moore	WA Country Health Service – South West
David Richardson	WA Country Health Service Population Health – Midwest
Kate Gatti	WA Country Health Service
Sandra Crowe	WA Country Health Service – Great Southern
Suzanne Dimitrijevic	WA Health Education Services
Jill Rundle	WA Network of Alcohol & Other Drug Agencies
Trish Langdon	Western Australian AIDS Council Inc
Debra Selway	Western Australian General Practice Network
Louise Grant	Western Australian Substance Users' Association Inc
Ann Deanus	Women's Health Services
Craig Comrie	Youth Affairs Council of Western Australia

Appendix B

Quantitative results from stakeholder survey

Prevention and education

Table 1 Summary of responses to prevention and education section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Access to prevention has improved	3 (17)	10 (55)	3 (17)	2 (11)	0 (0)
Access to education has improved	3 (18)	11 (65)	1 (9)	1 (9)	1 (9)
Prevention strategies have better targeted priority populations	3 (18)	10 (55)	2 (12)	2 (12)	0 (0)

Diagnoses and testing

Table 2 Summary of responses to diagnoses and testing section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Strategies are being implemented to improve the availability of best practice diagnosis and testing, including through primary care providers, for people at risk of HIV/STIs/HCV/HBV	3 (19)	7 (44)	6 (37)	0 (0)	0 (0)
Access to diagnosis and testing for high priority groups has improved	0 (0)	8 (50)	5 (31)	3 (19)	0 (0)
Barriers exist in the implementation of best practice diagnosis and testing	1 (6)	10 (63)	5 (31)	0 (0)	0 (0)
Contact tracing/partner notification capacity within the metropolitan area and in rural and remote WA is being expanded	0 (0)	5 (31)	10 (62)	0 (0)	1 (6)

Disease Management, Tertiary Prevention and Clinical Service

Table 3 Summary of responses to Disease Management, Tertiary Prevention and Clinical Service section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Uptake of treatment and adherence rates has increased in the priority populations	0 (0)	8 (53)	4 (27)	3 (20)	0 (0)
Appropriate care and support services are being made available, particularly in rural and remote areas, for people living with or affected by HIV/STIs/HCV/HBV	0 (0)	4 (29)	8 (57)	2 (14)	0 (0)
Disease management is being expanded and enhanced for addressing emerging chronic disease management and the needs of an ageing population as related to HIV/STIs/HCV/HBV	0 (0)	6 (43)	5 (36)	3 (21)	0 (0)
HIV/STIs/HCV/HBV disease management, tertiary prevention and clinical services are being successfully integrated throughout the WA health system including GPs and other health care providers	0 (0)	6 (43)	3 (21)	5 (36)	0 (0)

Workforce development

Table 4 Summary of responses to workforce development section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Education/training/staff development initiatives are being developed and are accessible, including in rural and regional areas	1 (7)	9 (64)	2 (14)	2 (14)	0 (0)
Appropriate support is being provided in the sector to increase staff recruitment and retention of Culturally and Linguistically Diverse and Aboriginal staff	0 (0)	3 (21)	6 (43)	2 (14)	0 (0)

Research and surveillance

Table 5 Summary of responses to research and surveillance section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Current data collection and dissemination systems are providing adequate information to meet the needs of your organisation	1 (7)	8 (57)	4 (29)	1 (7)	0 (0)

Priority populations

Table 6 Summary of responses to priority populations section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
Across the continuum of care, the priority populations identified in the Implementation Plans are being adequately targeted with the strategies outlined	0 (0)	6 (43)	4 (29)	4 (29)	0 (0)

Partnerships

Table 7 Summary of responses to partnerships section of stakeholder survey

Question	Responses: Total number (%)				
	Strongly Agree	Agree	Neither agree or disagree	Disagree	Strongly disagree
The partnership approach is working to increase access to clinical services and support priority populations	1 (8)	8 (62)	4 (30)	0 (0)	0 (0)

Appendix C

STI and BBV notification data

Chlamydia

Table 1 Number, proportion and crude rate of chlamydia notifications in WA by age group, for the three most recent financial years.

Age group (Years)	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
00-09	4	0%	1	3	0%	1	1	0%	0
10-14	117	1%	79	138	1%	92	114	1%	75
15-19	2602	28%	1654	3210	29%	1995	3250	28%	1986
20-24	3530	37%	2047	4006	36%	2240	4373	37%	2352
25-29	1680	18%	966	2013	18%	1097	2119	18%	1091
30-34	700	7%	440	768	7%	475	865	7%	518
35-39	371	4%	221	359	3%	207	422	4%	240
40-44	198	2%	120	245	2%	146	249	2%	146
45-49	107	1%	65	123	1%	73	150	1%	87
50-54	73	1%	48	88	1%	57	86	1%	54
55-59	37	0%	27	54	0%	39	57	0%	40
60+	35	0%	9	52	0%	13	58	0%	14
Unknown	0	0%	0	0	0%	0	0	0%	0
Total	9454	100%	412	11059	100%	469	11744	100%	485

Note: Rate = Crude notifications rate per 100,000 population

Table 2 Number, proportion and crude rate of chlamydia notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	4014	42%	345	4721	43%	394	4874	42%	396
Female	5440	58%	481	6338	57%	546	6870	58%	577
Total	9454	100%	412	11059	100%	469	11744	100%	485

Note: Rate = Crude notifications rate per 100,000 population

Table 3 Number, proportion and crude rate of chlamydia notifications in WA by Aboriginality, for the three most recent financial years.

Aboriginality	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Aboriginal	1422	15%	1895	1618	15%	2129	1585	13%	2057
non-Aboriginal	6453	68%	291	8447	76%	370	9282	79%	396
Ratio (Aboriginal/non Aboriginal)	0.2	N/A	6.4	0.2	N/A	5.8	0.2	N/A	5.2
Unknown	1579	17%	N/A	994	9%	N/A	877	7%	N/A
Total	9454	100%	412	11059	100%	469	11744	100%	485

Note: Rate = Crude notifications rate per 100,000 population

Table 4 Number, proportion and crude rate of chlamydia notifications in WA by region, for the three most recent financial years.

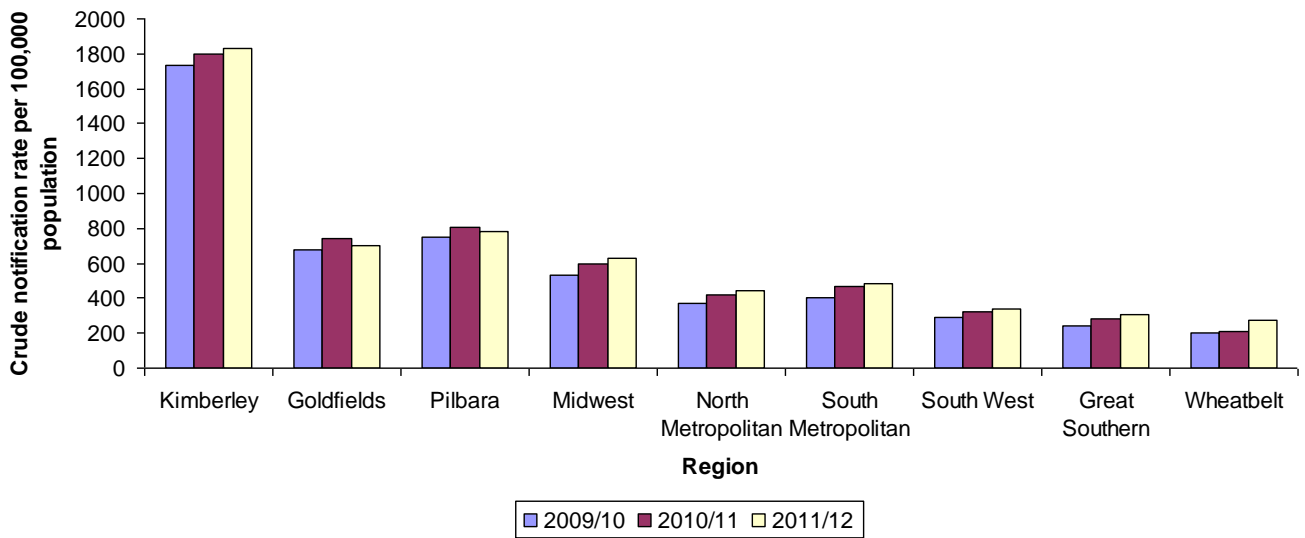
Region	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	153	2%	198	162	1%	207	216	2%	272
Goldfields	384	4%	677	430	4%	743	410	3%	700
Great Southern	149	2%	241	180	2%	286	195	2%	304
Kimberley	620	7%	1736	661	6%	1797	687	6%	1828
Midwest	351	4%	535	397	4%	594	429	4%	631
North Metropolitan	3512	37%	371	4114	37%	422	4402	37%	440
Pilbara	363	4%	747	402	4%	809	398	3%	781
South Metropolitan	3378	36%	403	4058	37%	470	4308	37%	484
South West	466	5%	287	538	5%	322	584	5%	339
Other	69	1%	N/A	99	1%	N/A	108	1%	N/A
Unknown	9	0%	N/A	18	0%	N/A	7	0%	N/A
Total	9454	100%	412	11059	100%	469	11744	100%	485

Note: Rate = Crude notifications rate per 100,000 population

Region Other = Interstate + Overseas residents diagnosed in WA

Region Unknown = Unknown residential address within Australia

Figure 1 Crude rate of chlamydia notifications in WA by region, for the three most recent financial years.



Gonorrhoea

Table 5 Number, proportion and crude rate of gonorrhoea notifications in WA by age group, for the three most recent financial years

Age group (Years)	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
00-09	0	0%	0	0	0%	0	0	0%	0
10-14	44	3%	30	52	3%	35	80	4%	53
15-19	344	27%	219	365	23%	227	565	28%	345
20-24	323	26%	187	363	23%	203	547	27%	294
25-29	191	15%	110	305	19%	166	316	15%	163
30-34	122	10%	77	169	11%	104	211	10%	126
35-39	90	7%	54	119	8%	69	101	5%	57
40-44	68	5%	41	55	4%	33	86	4%	50
45-49	35	3%	21	44	3%	26	50	2%	29
50-54	22	2%	14	46	3%	30	42	2%	26
55-59	11	1%	8	33	2%	24	21	1%	15
60+	14	1%	4	19	1%	5	21	1%	5
Total	1264	100%	55	1570	100%	67	2040	100%	84

Note: Rate = Crude notifications rate per 100,000 population

Table 6 Number, proportion and crude rate of gonorrhoea notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	760	60%	65	972	62%	81	1159	57%	94
Female	504	40%	45	598	38%	52	881	43%	74
Total	1264	100%	55	1570	100%	67	2040	100%	84

Note: Rate = Crude notifications rate per 100,000 population

Table 7 Number, proportion and crude rate of gonorrhoea notifications in WA by Aboriginality, for the three most recent financial years.

Aboriginality	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Aboriginal	814	64%	1085	932	59%	1226	1234	60%	1602
non-Aboriginal	448	35%	20	636	41%	28	801	39%	34
Ratio (Aboriginal/non Aboriginal)	1.8	N/A	53.7	1.5	N/A	44.0	1.5	N/A	46.9
Unknown	2	0%	N/A	2	0%	N/A	5	0%	N/A
Total	9454	100%	412	11059	100%	469	11744	100%	485

Note: Rate = Crude notifications rate per 100,000 population

Table 8 Number, proportion and crude rate of gonorrhoea notifications in WA by region, for the three most recent financial years

Region	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	6	0%	8	10	1%	13	19	1%	24
Goldfields	155	12%	273	155	10%	268	121	6%	206
Great Southern	2	0%	3	6	0%	10	18	1%	28
Kimberley	335	27%	938	451	29%	1226	733	36%	1950
Midwest	33	3%	50	71	5%	106	109	5%	160
North Metropolitan	243	19%	26	344	22%	35	412	20%	41
Pilbara	276	22%	568	226	14%	455	210	10%	412
South Metropolitan	178	14%	21	277	18%	32	363	18%	41
South West	20	2%	12	10	1%	6	26	1%	15
Other	14	1%	N/A	16	1%	N/A	27	1%	N/A
Unknown	2	0%	N/A	4	0%	N/A	2	0%	N/A
Total	1264	100%	55	1570	100%	67	2040	100%	84

Note: Rate = Crude notifications rate per 100,000 population

Region Other = Interstate + Overseas residents diagnosed in WA

Region Unknown = Unknown residential address within Australia

Figure 2a Crude rate of gonorrhoea notifications in WA remote regions, for the three most recent financial years.

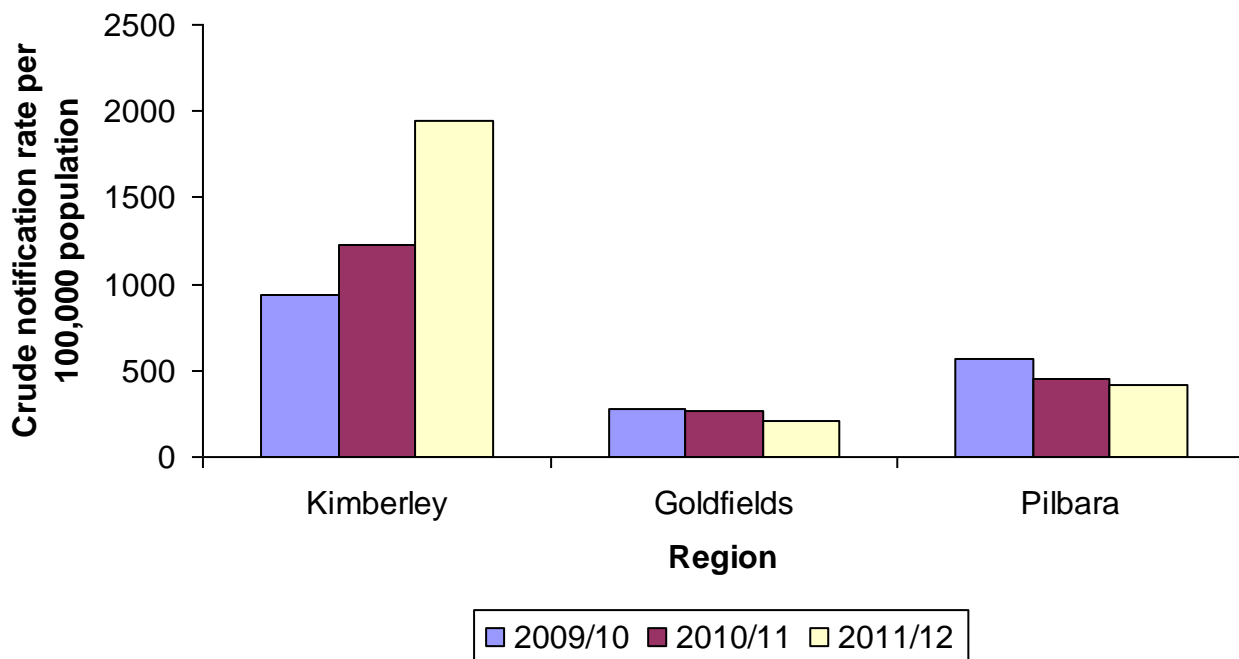
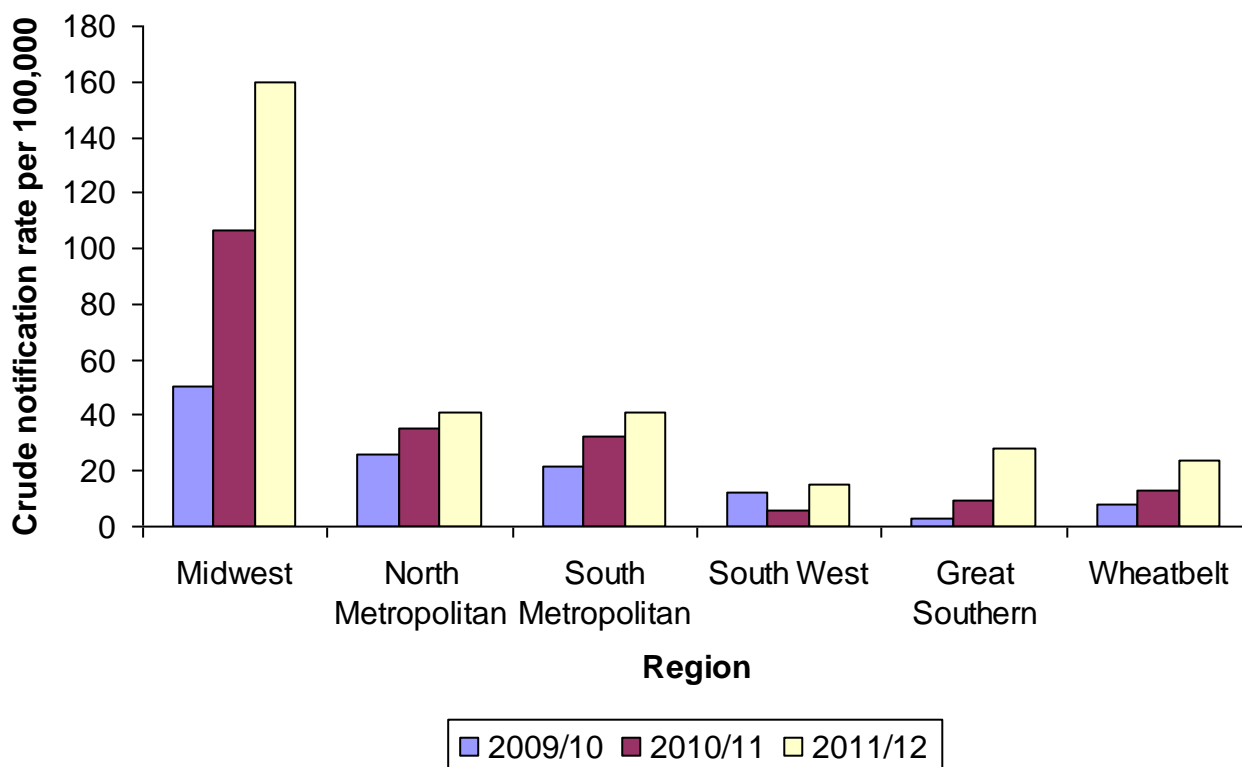


Figure 2b Crude rate of gonorrhoea notifications in WA non-remote regions, for the three most recent financial years.



Infectious Syphilis

Table 9 Number, proportion and crude rate of infectious syphilis notifications in WA by age group, for the three most recent financial years.

Age group (Years)	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
00-09	0	0%	0	0	0%	0	0	0%	0
10-14	0	0%	0	1	1%	1	0	0%	0
15-19	3	4%	2	5	4%	3	3	3%	2
20-24	9	12%	5	24	21%	13	11	11%	6
25-29	13	17%	7	22	19%	12	14	14%	7
30-34	15	20%	9	16	14%	10	10	10%	6
35-39	10	13%	6	8	7%	5	11	11%	6
40-44	8	11%	5	15	13%	9	13	13%	8
45-49	8	11%	5	10	9%	6	11	11%	6
50-54	4	5%	3	6	5%	4	7	7%	4
55-59	4	5%	3	3	3%	2	9	9%	6
60+	2	3%	1	3	3%	1	8	8%	2
Total	76	100%	3	113	100%	5	97	100%	4

Note: Rate = Crude notifications rate per 100,000 population

Table 10 Number, proportion and crude rate of infectious syphilis notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	55	72%	5	95	84%	8	83	86%	7
Female	21	28%	2	18	16%	2	14	14%	1
Total	76	100%	3	113	100%	5	97	100%	4

Note: Rate = Crude notifications rate per 100,000 population

Table 11 Number, proportion and crude rate of infectious syphilis notifications in WA by Aboriginality, for the three most recent financial years.

Aboriginality	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Aboriginal	23	30%	31	24	21%	32	17	18%	22
non-Aboriginal	53	70%	2	89	79%	4	79	81%	3
Ratio (Aboriginal/non Aboriginal)	0.4	N/A	12.8	0.3	N/A	8.1	0.2	N/A	6.5
Unknown	0	0%	N/A	0	0%	N/A	1	1%	N/A
Total	76	100%	3	113	100%	5	97	100%	4

Note: Rate = Crude notifications rate per 100,000 population

Table 12 Number, proportion and crude rate of infectious syphilis notifications in WA by region, for the three most recent financial years

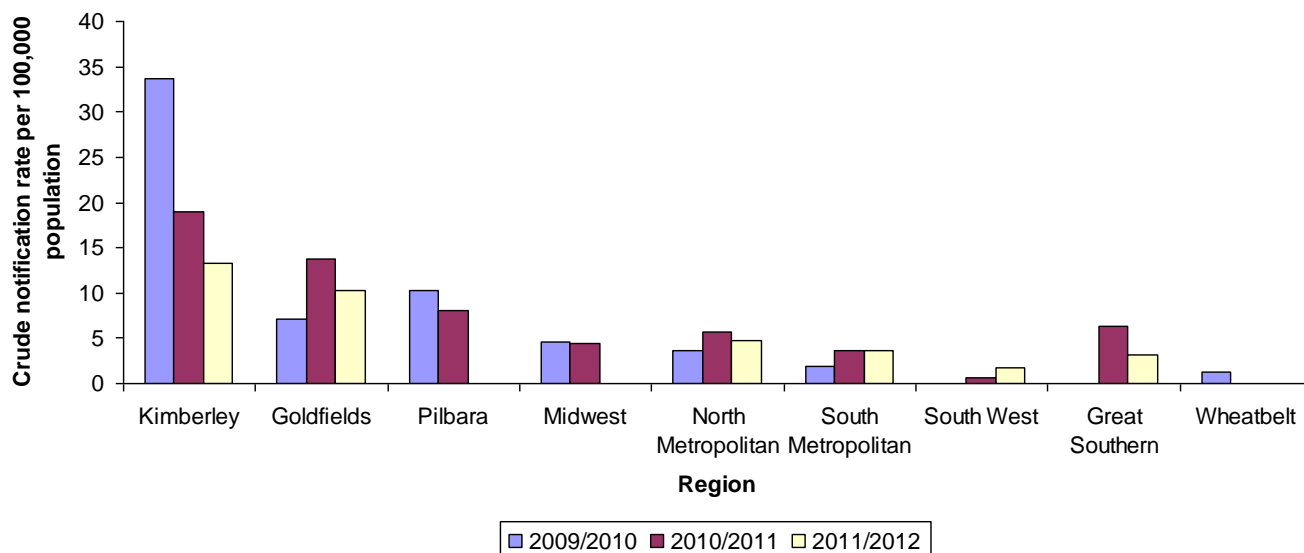
Region	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	1	1%	1	0	0%	0	0	0%	0
Goldfields	4	5%	7	8	7%	14	6	6%	10
Great Southern	0	0%	0	4	4%	6	2	2%	3
Kimberley	12	16%	34	7	6%	19	5	5%	13
Midwest	3	4%	5	3	3%	4	0	0%	0
North Metropolitan	34	45%	4	55	49%	6	47	48%	5
Pilbara	5	7%	10	4	4%	8	0	0%	0
South Metropolitan	16	21%	2	31	27%	4	33	34%	4
South West	0	0%	0	1	1%	1	3	3%	2
Other	1	1%	N/A	0	0%	N/A	1	1%	N/A
Unknown	0	0%	N/A	0	0%	N/A	0	0%	N/A
Total	76	100%	3	113	100%	5	97	100%	4

Note: Rate = Crude notifications rate per 100,000 population

Region Other = Interstate + Overseas residents diagnosed in WA

Region Unknown = Unknown residential address within Australia

Figure 3 Crude rate of infectious syphilis notifications in WA by region, for the three most recent financial years.



HIV

Table 13 Number of HIV notifications in WA by age group, for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Number	Number	Number
00-09	2	1	3
10-14	1	0	0
15-19	1	1	2
20-24	5	10	6
25-29	22	16	21
30-34	22	19	18
35-39	26	14	26
40-44	14	10	16
45-49	10	9	15
50-54	5	9	10
55-59	3	5	6
60+	2	5	4
Total	113	99	127

Table 14 Number of HIV notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Male	80	69	88
Female	33	30	39
Total	113	99	127

Table 15 Number of HIV notifications in WA by mode of transmission, for the three most recent financial years.

Mode of transmission	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Men who have sex with men	43	40	53
Heterosexual Male	34	27	26
Heterosexual Female	30	28	34
Injecting Drug Use	2	0	5
Vertical	3	1	4
Unknown/other	1	3	5
Total	113	99	127

Table 16 Number of HIV notifications in WA by Aboriginality, for the three most recent financial years

Aboriginality	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Aboriginal	2	4	3
non-Aboriginal	111	95	124
Ratio	0.02	0.04	0.02
Total	113	99	127

Table 17 Number of HIV notifications in WA by region of birth, for the three most recent financial years.

Mode of transmission	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Australia	47	36	57
Asia (excludes South East Asia)	4	4	5
Europe	5	11	10
Oceania (excludes Australia)	2	8	7
South East Asia	24	12	21
Sub-Saharan Africa	29	24	23
Other/Unknown	2	4	4
Total	113	99	127

Table 18 Number of HIV notifications in WA by region, for the three most recent financial years.

Area of residence	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Metropolitan	101	84	109
Rural	6	7	9
Remote	5	6	7
Unknown	1	2	2
Total	113	99	127

Table 19 Crude age specific rates of HIV notifications for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Rate	Rate	Rate
00-09	1	0	1
10-14	1	0	0
15-19	1	1	1
20-24	3	6	3
25-29	13	9	11
30-34	14	12	11
35-39	15	8	15
40-44	8	6	9
45-49	6	5	9
50-54	3	6	6
55-59	2	4	4
60+	1	1	1
Total	5	4	5

Note: Rate = Crude notifications rate per 100,000 population

Hepatitis B

Table 20 Number of hepatitis B notifications in WA by age group, for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Number	Number	Number
00-09	6	2	2
10-14	10	9	6
15-19	21	22	34
20-24	64	43	54
25-29	113	111	97
30-34	119	98	100
35-39	81	78	94
40-44	69	53	63
45-49	57	45	49
50-54	46	45	41
55-59	31	27	29
60+	47	51	32
Total	664	584	601

Table 21 Number of hepatitis B notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Female	299	256	264
Male	365	328	337
Total	664	584	601

Table 22 Number of hepatitis B notifications in WA by Aboriginality, for the three most recent financial years

Aboriginality	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Aboriginal	31	51	57
non-Aboriginal	602	480	469
Ratio (Aboriginal/non Aboriginal)	0.05	0.11	0.12
Unknown	31	53	75
Total	664	584	601

Table 23 Number of hepatitis B notifications in WA by region, for the three most recent financial years.

Region	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Wheatbelt	6	9	3
Goldfields	16	32	29
Great Southern	5	15	9
Kimberley	10	22	21
Midwest	9	10	13
North Metropolitan	301	239	248
Pilbara	16	9	14
South Metropolitan	279	225	238
South West	16	13	22
Other	2	3	2
Unknown	4	7	2
Total	664	584	601

*Note: Region Other = Interstate + Overseas residents diagnosed in WA
Region Unknown = Unknown residential address within Australia*

Table 24 Number of hepatitis B notifications in WA by region acquired, for the three most recent financial years.

Region where acquired	2009/2010	2010/2011	2011/2012
	Number	Number	Number
WA	68	72	62
Interstate	8	9	3
Overseas	370	272	235
Unknown	218	231	301
Total	664	584	601

Table 25 Crude age specific rates of hepatitis B notifications for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Rate	Rate	Rate
00-09	2.0	0.7	0.6
10-14	6.7	6.0	3.9
15-19	13.4	13.7	20.8
20-24	37.1	24.0	29.0
25-29	65.0	60.5	49.9
30-34	74.8	60.6	59.9
35-39	48.3	45.0	53.5
40-44	41.7	31.7	37.0
45-49	34.5	26.6	28.4
50-54	30.1	28.9	25.8
55-59	22.7	19.5	20.6
60+	11.8	12.4	7.5
Total	29.0	24.8	24.8

Note: Rate = Crude notifications rate per 100,000 population

Hepatitis C

Table 26 Number of hepatitis C notifications in WA by age group, for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Number	Number	Number
00-09	2	4	1
10-14	4	2	1
15-19	26	35	29
20-24	90	130	117
25-29	165	124	135
30-34	144	163	170
35-39	177	140	128
40-44	137	128	126
45-49	147	123	105
50-54	138	136	114
55-59	50	67	69
60+	37	35	46
Total	1117	1087	1041

Table 27 Number of hepatitis C notifications in WA by sex, for the three most recent financial years.

Sex	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Female	404	357	346
Male	713	730	695
Total	1117	1087	1041

Table 28 Number of hepatitis C notifications in WA by Aboriginality, for the three most recent financial years

Aboriginality	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Aboriginal	121	153	151
non-Aboriginal	926	894	807
Ratio (Aboriginal/non Aboriginal)	0.1	0.2	0.2
Unknown	70	40	83
Total	1117	1087	1041

Table 29 Number of newly acquired hepatitis C notifications in WA by region, for the three most recent financial years

Region	2009/2010	2010/2011	2011/2012
	Number	Number	Number
Wheatbelt	27	24	16
Goldfields	37	51	49
Great Southern	30	29	29
Kimberley	33	31	27
Midwest	29	31	41
North Metropolitan	397	397	383
Pilbara	34	18	18
South Metropolitan	393	399	371
South West	85	84	73
Other	14	7	12
Unknown	38	16	22
Total	1117	1087	1041

*Note: Region Other = Interstate + Overseas residents diagnosed in WA
Region Unknown = Unknown residential address within Australia*

Table 30 Crude age specific rates of hepatitis C notifications for the three most recent financial years.

Age group (Years)	2009/2010	2010/2011	2011/2012
	Rate	Rate	Rate
00-09	0.7	1.3	0.3
10-14	2.7	1.3	0.7
15-19	16.5	21.8	17.7
20-24	52.2	72.7	62.9
25-29	94.9	67.6	69.5
30-34	90.5	100.8	101.9
35-39	105.4	80.8	72.8
40-44	82.7	76.5	73.9
45-49	89.1	72.7	60.9
50-54	90.3	87.3	71.7
55-59	36.7	48.5	48.9
60+	9.3	8.5	10.8
Total	48.7	46.1	43.0

Note: Rate = Crude notifications rate per 100,000 population

Appendix D

STI and BBV testing data

Chlamydia

Table 1 Number, proportion and rate of chlamydia test carried out in WA by age group, for the three most recent calendar years.

Age group (Years)	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
< 15	2,177	2%	5	2,137	2%	4.8	1,891	1%	4.1
15-24	46,902	39%	144	47,427	39%	144	51,248	39%	151
25+	69,927	59%	47	71,719	59%	47	79,437	60%	51
Total	119,006	100%	53	121,283	100%	53	132,576	100%	56

Table 2 Number, proportion and rate of chlamydia test carried out in WA by gender, for the three most recent calendar years.

Sex	2009			2010/			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	34,164	29%	30	35,868	16%	31	38,864	14%	32
Female	84,842	71%	77	85,415	84%	76	93,712	86%	81
Total	119,006	100%	53	121,283	100%	53	132,576	100%	56

Table 3 Number, proportion and rate of chlamydia test carried out in WA by region, for the three most recent calendar years.

Region	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	1,834	2%	24	1,727	1%	22	1,726	1%	22
Goldfields	3,830	3%	65	3,003	2%	51	3,099	2%	51
Great Southern	2,439	2%	41	2,555	2%	43	3,069	2%	51
Kimberley	9,599	8%	274	9,389	8%	263	10,563	8%	287
Midwest	3,699	3%	57	3,821	3%	58	4,125	3%	62
North Metropolitan	47,699	40%	51	49,674	41%	52	54,638	41%	56
Pilbara	4,924	4%	104	5,132	4%	106	5,132	4%	103
South Metropolitan	40,378	34%	49	41,861	35%	50	45,807	35%	53
South West	4,604	4%	29	4,121	3%	25	4,417	3%	26
Total	119,066	100%	412	121,283	100%	469	132,576	100%	485

Gonorrhoea

Table 4 Number, proportion and rate of gonorrhoea test carried out in WA by age group, for the three most recent calendar years.

Age group (Years)	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
< 15	2,058	2%	4.7	2,011	2%	4.5	1,778	1%	3.9
15-24	41,700	39%	128	42,515	39%	129	45,915	39%	135
25+	62,205	59%	42	64,559	59%	4	70,920	60%	45
Total	105,963	100%	47	109,085	100%	48	118,613	100%	50

Table 5 Number, proportion and rate of gonorrhoea test carried out in WA by gender, for the three most recent calendar years.

Sex	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	31,902	30%	28	33,612	31%	29	36,379	31%	30
Female	74,061	70%	67	75,473	69%	67	82,234	69%	71
Total	105,963	100%	47	109,085	100%	48	118,613	100%	50

Table 6 Number, proportion and rate of gonorrhoea test carried out in WA by region, for the three most recent calendar years.

Region	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	1,725	2%	23	1,626	1%	21	1,598	1%	20
Goldfields	3,577	3%	61	2,892	3%	49	2,898	2%	48
Great Southern	2,266	2%	39	2,366	2%	40	2,823	2%	47
Kimberley	9,539	9%	272	9,385	9%	263	10,560	9%	287
Midwest	3,452	3%	53	3,589	3%	55	3,902	3%	58
North Metropolitan	41,732	39%	45	44,165	40%	47	48,776	41%	50
Pilbara	4,738	4%	100	5,007	5%	103	5,041	4%	101
South Metropolitan	34,745	33%	43	36,333	33%	43	38,969	33%	45
South West	4,189	4%	27	3,772	3%	23	4,064	3%	24
Total	105,963	100%	412	109,135	100%	469	118,631	100%	485

Infectious syphilis

Table 7 Number, proportion and rate of infectious syphilis test carried out in WA by age group, for the three most recent calendar years.

Age group (Years)	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
< 15	1,368	2%	3.1	1,220	2%	2.7	1,134	1%	2.5
15-24	21,436	27%	66	21,170	27%	64	23,286	28%	69
25+	55,315	71%	37	55,816	71%	37	59,214	71%	38
Total	78,119	100%	35	78,206	100%	34	83,634	100%	35

Table 8 Number, proportion and rate of infectious syphilis test carried out in WA by gender, for the three most recent calendar years.

Sex	2009/2010			2010/2011			2011/2012		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	25,073	32%	22	25,646	33%	22	28,601	33%	24
Female	53,046	68%	48	52,560	67%	46	55,033	67%	47
Total	78,119	100%	35	78,206	100%	34	86,634	100%	35

Table 9 Number, proportion and rate of infectious syphilis test carried out in WA by region, for the three most recent calendar years

Region	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	1,326	2%	17	1,403	2%	18	1,305	2%	17
Goldfields	2,553	3%	43	2,120	3%	36	2,376	3%	39
Great Southern	1,726	2%	29	1,842	2%	31	1,840	2%	30
Kimberley	6,827	9%	195	6,171	8%	173	6,485	8%	176
Midwest	2,076	3%	32	2,154	3%	33	2,091	3%	31
North Metropolitan	32,395	41%	35	32,144	41%	34	35,195	42%	36
Pilbara	3,158	4%	66	3,270	4%	67	3,217	4%	65
South Metropolitan	25,116	32%	31	26,401	34%	32	27,957	33%	32
South West	2,942	4%	19	2,701	3%	17	3,168	4%	19
Total	78,119	100%	412	78,206	100%	469	83,634	100%	485

HIV

Table 10 Number, proportion and rate of HIV tests carried out in WA by age group, for the three most recent calendar years.

Age group (Years)	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
< 15	1,209	1%	2.8	1,110	1%	2.5	898	1%	2.0
15-24	28,217	24%	87	28,033	24%	85	29,408	24%	87
25+	87,132	75%	59	85,522	75%	56	89,701	75%	57
Total	116,558	100%	52	114,665	100%	50	120,079	100%	51

Table 11 Number, proportion and rate of HIV tests carried out in WA by gender, for the three most recent calendar years.

Sex	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Male	47,963	41%	42	47,322	41%	41	49,869	42%	42
Female	68,595	59%	62	67,343	59%	60	70,210	58%	61
Total	116,558	100%	52	114,665	100%	50	120,079	100%	51

Table 12 Number, proportion and rate of HIV tests carried out in WA by region, for the three most recent calendar years.

Region	2009			2010			2011		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
Wheatbelt	1,735	1	23	1,872	2	24	1,685	1	22
Goldfields	3,271	3	56	3,346	3	57	3,548	3	59
Great Southern	2,441	2	41	2,388	2	40	2,348	2	39
Kimberley	5,183	4	147	4,753	4	133	5,384	4	146
Midwest	2,612	2	40	2,586	2	39	2,566	2	38
North Metropolitan	57,758	50	62	56,005	49	59	59,017	49	61
Pilbara	3,597	3	76	3,500	3	72	3,444	3	69
South Metropolitan	35,725	31	44	35,895	31	43	37,303	31	43
South West	4,281	4	27	4,320	4	27	4,784	4	29
Total	116,558	100%	412	114,665	100%	469	120,079	100%	485

Hepatitis B

Table 13 Number of hepatitis B tests carried out in WA, for the three most recent calendar years.

Year	Number	Rate
2009	100,877	45
2010	101,240	44
2011	101,402	43

Hepatitis C

Table 14 Number of hepatitis C tests carried out in WA, for the three most recent calendar years.

Year	Number	Rate
2009	112,009	50
2010	112,919	49
2011	116,983	50

Appendix E

Hepatitis B vaccination data

Table 1- Percentage of children fully vaccinated in the 12-<15 months cohort in WA by Aboriginality, for the three most recent financial years.

Aboriginality	2009/2010	2010/2011	2011- March 2012
Non-Aboriginal	91.45%	90.14%	91.08%
Aboriginal	81.39%	80.52%	80.88%
Total	90.81%	89.58%	90.46%

Table 2- Percentage of children fully vaccinated in the 24-<27 months cohort in WA by Aboriginality, for the three most recent financial years.

Aboriginality	2009/2010	2010/2011	2011- March 2012
Non-Aboriginal	93.73%	93.25%	92.95%
Aboriginal	93.25%	92.29%	92.18%
Total	93.70%	93.72%	92.90%

Table 3- Percentage of children fully vaccinated through the year 7 school program in WA for the three most recent calendar years.

Aboriginality	2009	2010	2011
Total	66.32%	65.60%	67.24%

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