HIV / AIDS AND RELATED DISEASES

ANNUAL SURVEILLANCE REPORT 1997

edited by National Centre in HIV Epidemiology and Clinical Research

PREFACE

This report is the first annual review of available surveillance data pertaining to the occurrence of HIV/AIDS and related diseases in Australia. It is intended to be a reference document for organisations and individuals interested in the occurrence of these infectious diseases in Australia, drawing together relevant data from many sources into a single comprehensive report.

The main findings of this report are presented as text, supported by figures. The underlying data are presented as tables and follow the main report. The tables are provided with no commentary, except for brief explanatory footnotes. A methodological summary follows the tables, along with references to other documents and reports which provide further information.

Unless specifically stated otherwise, all data provided in this report are to the end of 1996, as reported by 31 March 1997.

This report could not have been achieved without the collaboration of a large number of organisations involved in health services throughout Australia. The support of all collaborating organisations, listed in the following section, is gratefully acknowledged.

ACKNOWLEDGEMENTS

AIDS Council of New South Wales, Sydney, NSW

Australian Defence Force, Department of Defence, Canberra, ACT

Australian Paediatric Surveillance Unit and its contributors

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Communicable Diseases Network Australia New Zealand, Canberra, ACT

Macfarlane Burnet Centre for Medical Research, Melbourne, VIC

National Centre in HIV Social Research, Macquarie University, NSW

National Centre for Research into the Prevention of Drug Abuse, Perth, WA

National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW

National Serological Reference Centre, Melbourne, VIC

School of Statistical Science, La Trobe University, Bundoora, VIC

St Vincent's Hospital, Sydney, NSW: Alcohol and Drug Service; Centre for Immunology

Sydney Children's Hospital, Randwick, NSW

State/Territory health departments

Communicable Disease Control, Department of Health and Community Care, Canberra, ACT

AIDS/Infectious Diseases Branch, NSW Health Department, North Sydney, NSW

AIDS/STD Unit, Communicable Diseases Centre, Darwin, NT

Queensland Health, Brisbane, QLD

South Australian Health Commission, Adelaide, SA

Department of Community and Health Services, Hobart, TAS

Communicable Disease Control Unit, Health Department of Western Australia, Perth, WA

Sexual health clinics

Sydney Sexual Health Centre, Sydney Hospital, Sydney, NSW

Parramatta Sexual Health Clinic, Parramatta, NSW

Clinic 34, Darwin, NT

Brisbane Sexual Health Clinic, Brisbane, QLD

Clinic 275, Adelaide, SA

Melbourne Sexual Health Centre, Melbourne, VIC

Murray Street Clinic, Perth, WA

Needle and syringe exchanges

ACT IV League, ACT

Kirketon Road Centre, Kings Cross[1]; St George Needle Exchange, Kogarah; Western Sydney AIDS Prevention Service, Blacktown and Harris Park, NSW

AIDS Council of Central Australia, Alice Springs; Northern Territory AIDS Council, Darwin, NT

Bodyline needle exchange, Brisbane; Community Alcohol and Drug Services, BIALA; Cairns Base Hospital, Kobi House, Toowoomba; GAIN; QuIVva, QLD

Clovelly Park; Noarlunga; SAVIVE; Salisbury; South Australian Drug and Alcohol Services Council, SA

Tasmanian AIDS Council, Hobart, TAS

Ballarat Community Health Services, Ballarat; Geelong Community Health Services, Geelong; Melbourne Inner Needle Exchange, Collingwood; St Kilda Crisis Centre, St Kilda; SHARPS, Frankston, VIC

AIDS Council of Western Australia, Perth, WA

Methadone clinics and programmes

Jacaranda House, South Western Sydney; Praxis Centre, Coffs Harbour, NSW

Brisbane South Region Alcohol and Drug Program, QLD

Warrinalla Clinic, SA

Barkly Street Clinic, VIC

Carrellis Centre; Alcohol and Drug Authority, Perth, WA

Hospitals contributing to the national monitoring programme for occupational exposure to blood and body fluids

Calvary, Canberra and John James Memorial hospitals, ACT

Bathurst Base, Bankstown/Lidcombe, Blacktown, Bloomfield (Orange), Calvary (Wagga Wagga), Concord, Goulburn Base, Mount Druitt, Nowra Community, Prince of Wales, Royal Women's, St Vincent's Public, St Vincent's Private, Strathfiels Private, Tamworth and Westmead hospitals, NSW

Cairns Base, Holy Spirit Ipswich, Logan and Royal Brisbane hospitals, QLD

Lyell McEwin, Royal Adelaide and Whyalla hospitals, SA

Beleura, Box Hill, Epworth, Mildura, St John of God, St Vincent's and West Gippsland hospitals, VIC

Mount, St John of God (Murdoch), Silver Chain Community Health Care and Sir Charles Gardiner hospitals, WA

State/Territory Departments of Corrective Services

ACT Corrective Services, Woden, ACT

Prison Medical Service, Matraville, NSW

Department of Correctional Services, Darwin, NT

Queensland Corrective Services Commission, Brisbane, QLD

Department of Correctional Services, Adelaide, SA

Corrective Services Division, Department of Justice, Hobart, TAS

Forensic Health Services, Health and Community Services, Coburg, VIC

Strategic and Specialist Services, Ministry of Justice of Western Australia, Perth, WA

Red Cross Blood Transfusion Services

Australian Red Cross Blood Service, Fitzroy, VIC

ACT Red Cross Transfusion Service, Canberra, ACT

NSW Red Cross Blood Transfusion Service, Sydney, NSW

NT Red Cross Blood Transfusion Service, Darwin, NT

Queensland Red Cross Blood Transfusion Service, Brisbane, QLD

Australian Red Cross Blood Service South Australia, Adelaide, SA

Red Cross Blood Transfusion Service, Hobart, TAS

Red Cross Blood Bank Victoria, Melbourne, VIC

Australian Red Cross Blood Transfusion Service Western Australia, Perth, WA

Australian Gonococcal Surveillance Programme

Reference Laboratories

Microbiology Department, Canberra Hospital South, Canberra, ACT

Department of Microbiology, Prince of Wales Hospital, Sydney, NSW

Microbiology Department, Royal Darwin Hospital, Darwin, NT

Queensland Health Scientific Services, Cooper Plains, Brisbane, QLD

Infectious Diseases Laboratories, Institute of Medical and Veterinary Science, Adelaide, SA

Microbiology Department, Royal Hobart Hospital, Hobart, TAS

Microbiological Diagnostic Unit[2], University of Melbourne, Melbourne, VIC

Microbiology Department, Royal Perth Hospital, Perth, WA

1. Also contributed as an HCV testing and diagnosis site.
2. Also contributed as a coordinating centre for monitoring occupational exposure to blood and body fluids in health care workers.

SUMMARY

It is estimated that there were 11,080 people living with HIV infection in Australia by the end of 1996.

AIDS surveillance to the end of 1996 indicates that a peak in incidence was reached in 1994, and that a slow but steady decline in incidence may be expected for the coming years. This pattern is largely a consequence of the sharp rise and subsequent decline in the number of HIV infections transmitted in the mid-1980s. The extent to which the use of new therapeutic agents and combinations has also contributed to the decline remains uncertain.

The decline in AIDS incidence is likely to occur earlier in New South Wales, which experienced the highest rates of HIV transmission, and also the earliest peak and decline in HIV incidence.

Most cases of HIV infection in Australia continue to be transmitted by sexual contact between men. There has been relatively little transmission through other sources of exposure to HIV. Among homosexually active men, there is no evidence of an increase in HIV transmission, although a behavioural monitoring program in Sydney indicated a recent increase in the proportion of men who did not use condoms with casual sexual partners.

Among indigenous people in Australia, the rate of diagnosed HIV infection remains low, but a number of communities are still experiencing very high rates of other sexually transmissible diseases.

Reuse of equipment for injecting illicit drugs has been an infrequent mode of HIV transmission in Australia, but transmission of hepatitis C infection is occurring at very high rates in people who inject drugs.

People living with HIV infection in Australia have benefitted from improved prevention of some opportunistic infections, especially *Pneumocystis carinii* pneumonia (PCP), but gains in survival following AIDS have been limited since about 1987. Of major interest will be the impact at a population level of the new therapeutic agents and combinations in reducing HIV-related illness and mortality.

HIV/AIDS AND RELATED DISEASES IN AUSTRALIA

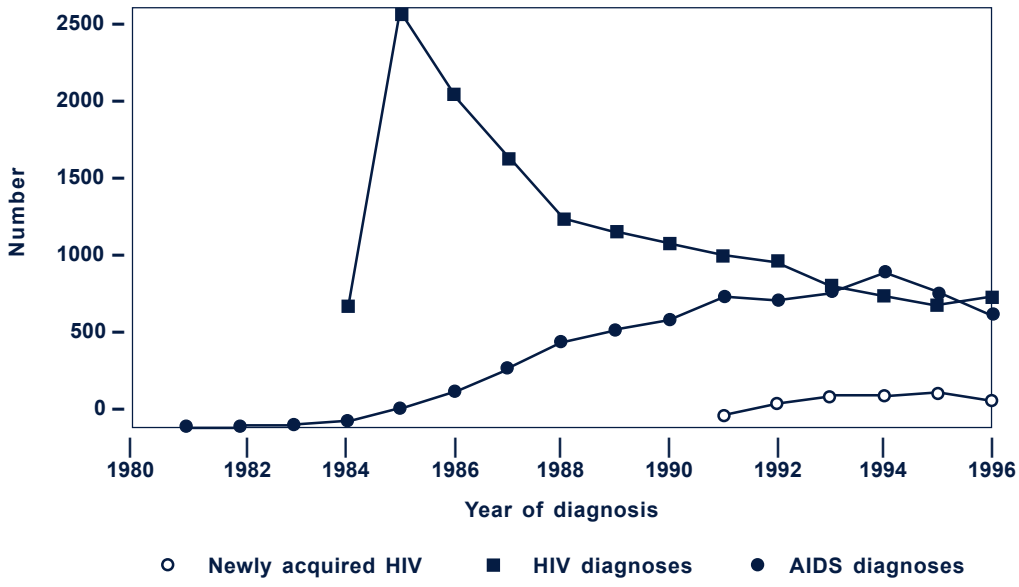
General patterns

HIV/AIDS

The annual number of AIDS diagnoses in Australia, after adjustment for reporting delay, appears to have reached a peak in 1994 with an estimated 962 AIDS diagnoses, and is estimated to have declined to 706 cases in 1996 (Figure 1). The peak in the number of AIDS diagnoses has been predicted for several years on the basis of back-projection analyses (Figure 2), which indicated that the annual number of new HIV infections in Australia peaked around 1984, followed by a rapid decline. The 1994 peak in AIDS diagnoses, however, was around 100 cases higher than the predictions of earlier back-projections, and the subsequent decline has also been more rapid than previously predicted. Recent improvements in antiretroviral treatments may also have contributed to the decline in AIDS incidence, to an extent which cannot yet be estimated with any precision.

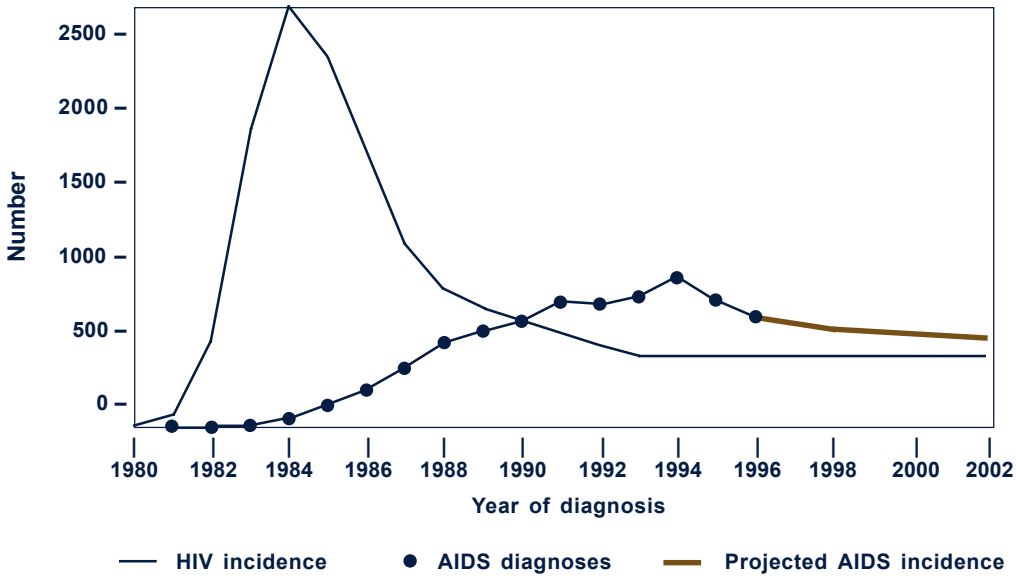
The cumulative number of HIV infections in Australia to the end of 1996 is estimated to be 16,700 cases, after adjusting for under-reporting of AIDS diagnoses, currently thought to be about 5%. It is estimated that there were 11,080 people living with HIV infection in Australia by the end of 1996. AIDS incidence is projected to continue to decrease slowly to 630 cases in 1998 and 600 cases in 2000.

Figure 1 **Diagnoses of HIV infection, newly acquired HIV infection and AIDS[1], 1980 – 1996**



1. HIV diagnoses adjusted for multiple reporting. AIDS diagnoses adjusted for reporting delay

Figure 2 **Estimated HIV incidence, observed AIDS diagnoses and projected AIDS incidence[1], 1980 – 2002**



1. Observed AIDS diagnoses adjusted for reporting delay. HIV and projected AIDS incidence estimated by back-projection.

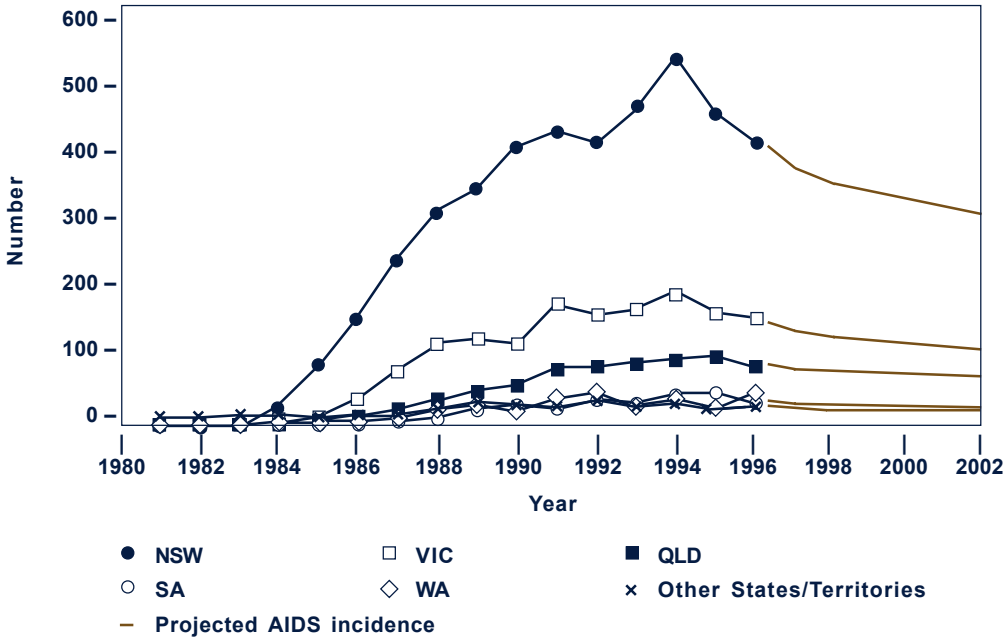
In parallel with the fall in AIDS incidence, there has been a continuing decline in the annual number of HIV diagnoses in Australia, from over 2,500 in 1985 to around 800 since 1993 (Figure 1). It is clear, however, that new HIV infections continue to occur in Australia, with around 200 diagnoses of newly acquired HIV infection being reported each year since 1993 (Figure 1). This count provides a lower limit of the number of cases of HIV transmission that actually occurred in Australia over this time period.

Despite the apparently similar trends over time in AIDS incidence across the Australian States and Territories (Figure 3), there have been some differences between them in the estimated time trends in HIV incidence (Figure 4): peak HIV incidence is believed to have occurred first in New South Wales, and somewhat later in other States/Territories. In Queensland, HIV incidence is estimated to have increased rather slowly, reaching a plateau only by 1988. The total estimated *per capita* number of HIV infections was highest in New South Wales at 157 HIV infections per 100,000 resident population, followed by Victoria (75), Queensland (58), South Australia (52), Western Australia (46) and the other States and Territories combined (37). AIDS incidence is projected to decline in all States/Territories over the coming few years, most rapidly in New South Wales because of the earlier peak in HIV incidence (Figure 4).

Transmission of HIV in Australia continues to be overwhelmingly through sexual contact between men (Figure 5). Over 85% of all HIV transmission in Australia is estimated to have been via this route. Similarly, most reported diagnoses of newly acquired HIV infection are in men who were exposed through homosexual contact (Figure 6).

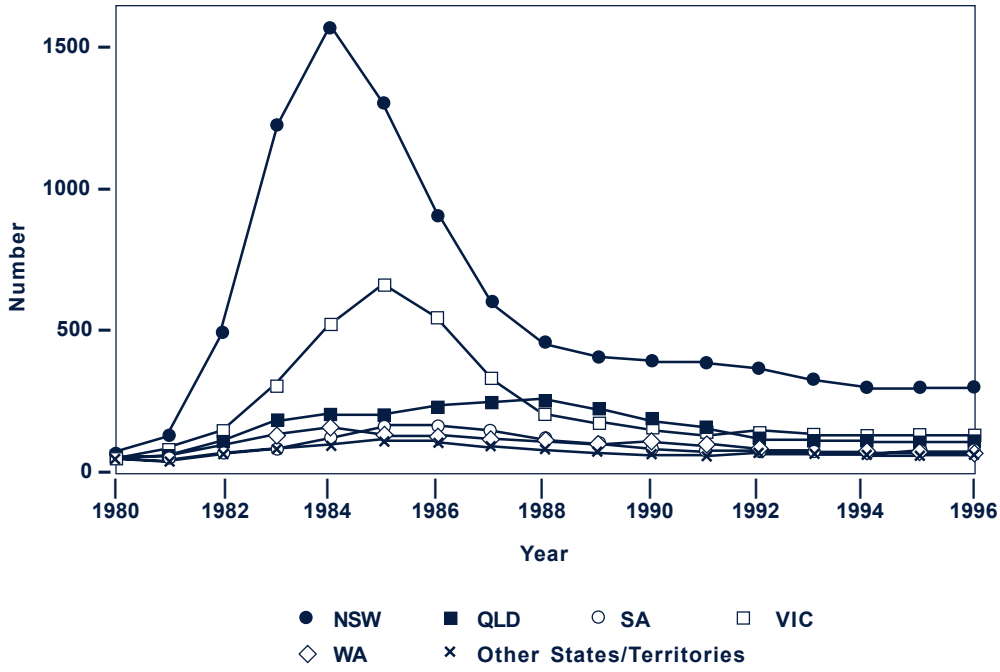
Other sexually transmissible diseases and blood borne viruses

Figure 3 **Observed AIDS diagnoses[1], 1980 – 1996, and projected AIDS incidence, 1997 – 2002, by State**



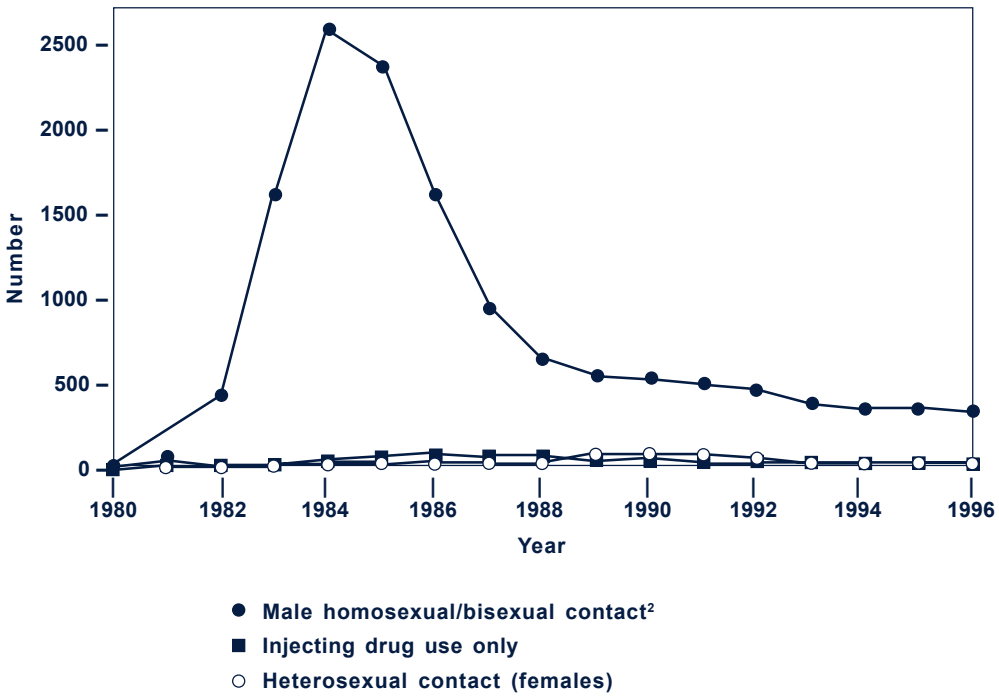
1. Observed AIDS diagnoses adjusted for reporting delay. Projected AIDS incidence estimated by back-projection.

Figure 4 **Estimated HIV incidence[1], 1980 – 1996, by State/Territory**



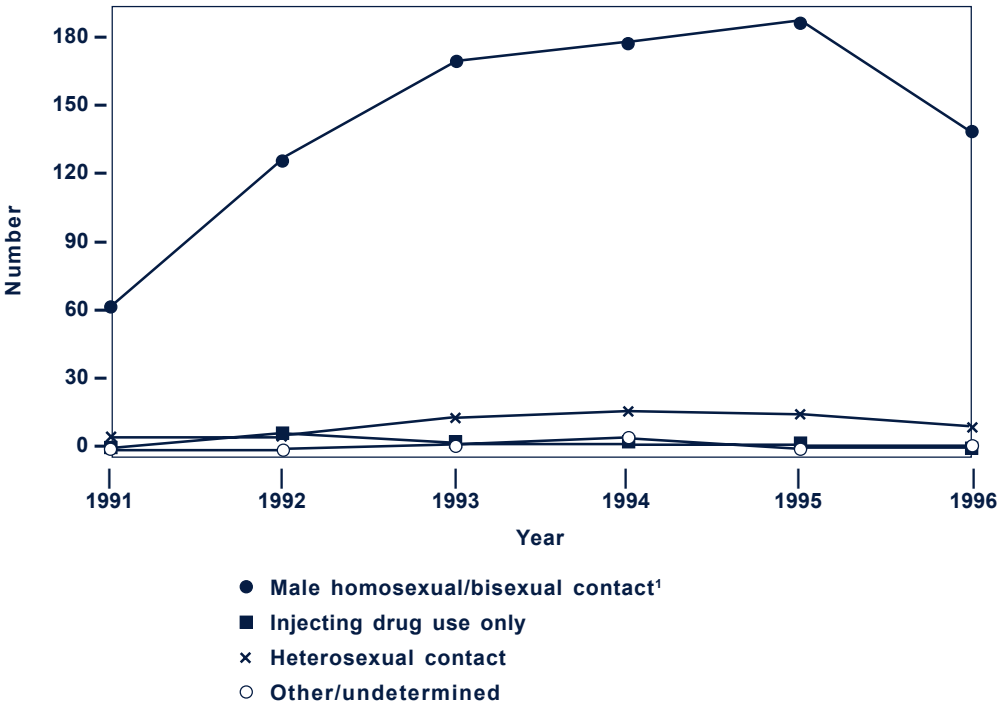
1. HIV incidence estimated by back-projection.

Figure 5 **Estimated HIV incidence[1], 1980 – 1996, by HIV exposure category**



1. HIV incidence estimated by back-projection.
2. With or without a history of injecting drug use.

Figure 6 **Number of diagnoses of newly acquired HIV infection by HIV exposure category**



1. With or without a history of injecting drug use.

National reporting of other sexually transmissible diseases is most readily interpretable for gonorrhoea and syphilis. Incidence of diagnosed gonorrhoea and syphilis per 100,000 population between 1991 and 1996 was highest in the Northern Territory (Figures 7 and 8), followed by Western Australia and Queensland for gonorrhoea, and New South Wales, Queensland and Western Australia for syphilis. Notifications of gonorrhoea increased by 51% over the interval 1991 to 1996 whereas notifications of syphilis declined by 29%. The patterns of notification of these sexually transmissible diseases may be influenced by changing diagnostic tests and notification procedures, and by the completeness of notification.

In 1996, hepatitis C infection was the most commonly notified condition, of HIV and related notifiable conditions. Diagnostic tests for hepatitis C antibody first became available in 1990. From 1991 – 1993, the annual number of notifications of hepatitis C infection increased steadily whereas in 1994 – 1996, the annual number of notifications remained relatively stable at about 9,000 notifications per year. Surveillance for cases of newly acquired hepatitis C infection, while incomplete, indicates that hepatitis C infection continues to be transmitted in Australia.

Global comparisons

AIDS incidence in 1996 in other countries in the Asia Pacific Region was generally lower than in Australia (Figure 9), except for Thailand (17.9 per 100,000). Estimated HIV prevalence, on the other hand, was substantially higher in several countries, notably Cambodia and Thailand, with rates of 511 and 1161 per 100,000 respectively, indicating that the rate of new HIV infection in these countries in recent years has been particularly high. In comparison with other industrialised countries, AIDS incidence and HIV prevalence in Australia were higher than in New Zealand and the United Kingdom, and lower than in France, Canada and the USA (Figure 10).

Figure 7 Gonorrhoea diagnoses by State/Territory

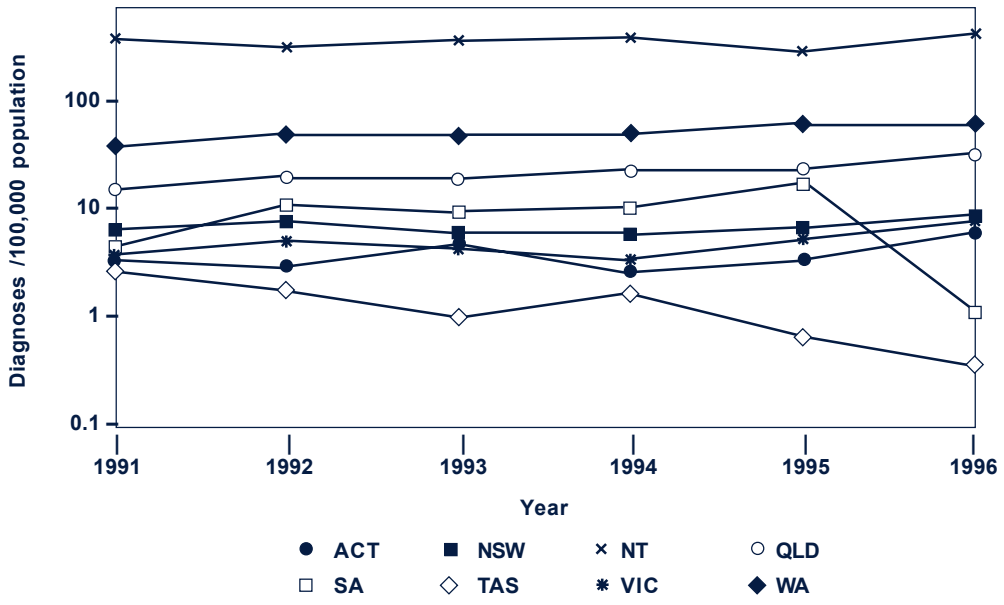


Figure 8 Syphilis diagnoses by State/Territory

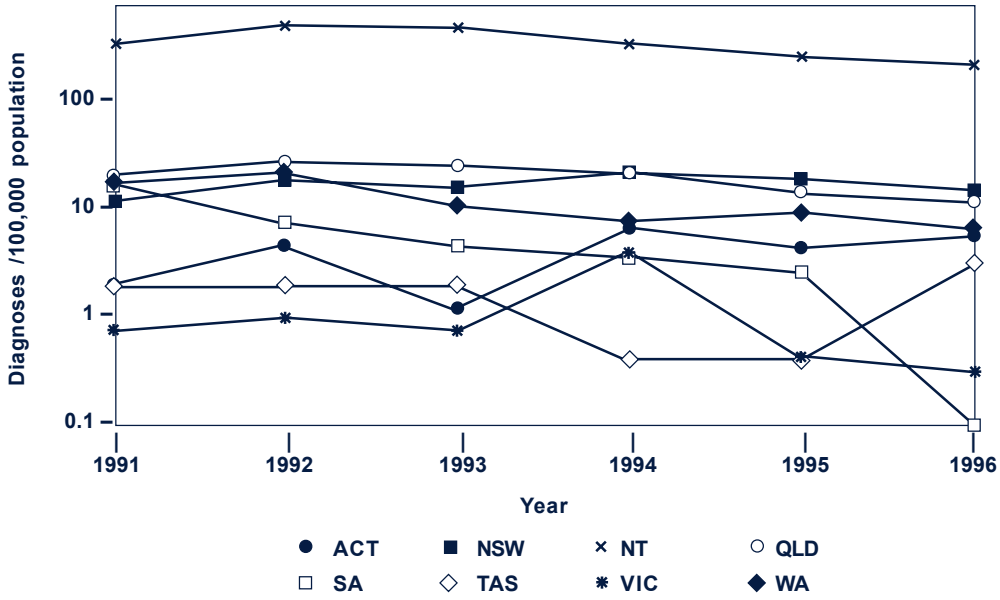


Figure 9 AIDS incidence in 1996 and HIV prevalence in 1994 in selected countries

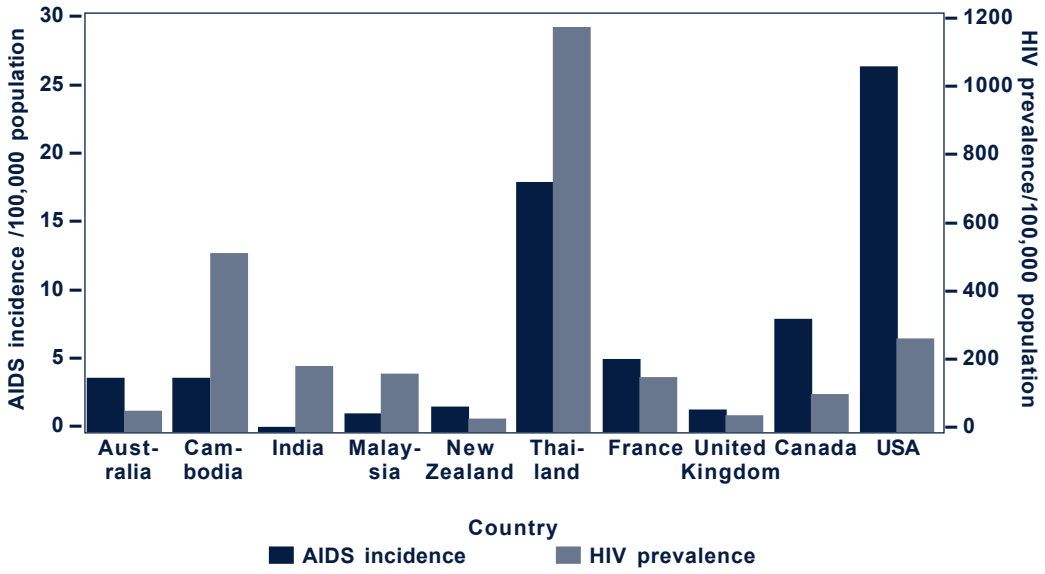
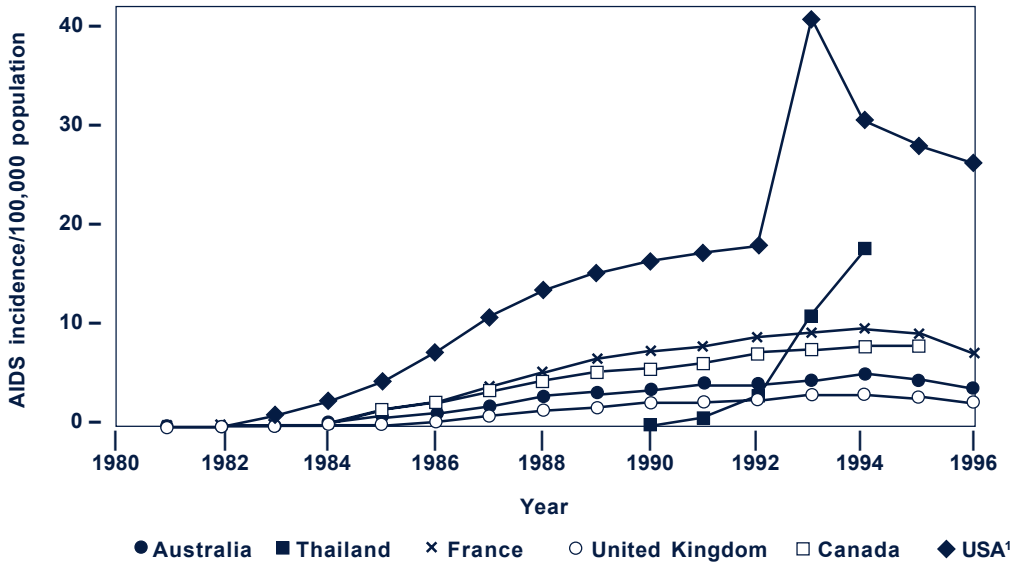


Figure 10 AIDS incidence, 1981 – 1996, in selected countries



1. US AIDS case definition changed in 1993 to include people with a CD4+ count < 200/μl.

Homosexually active men

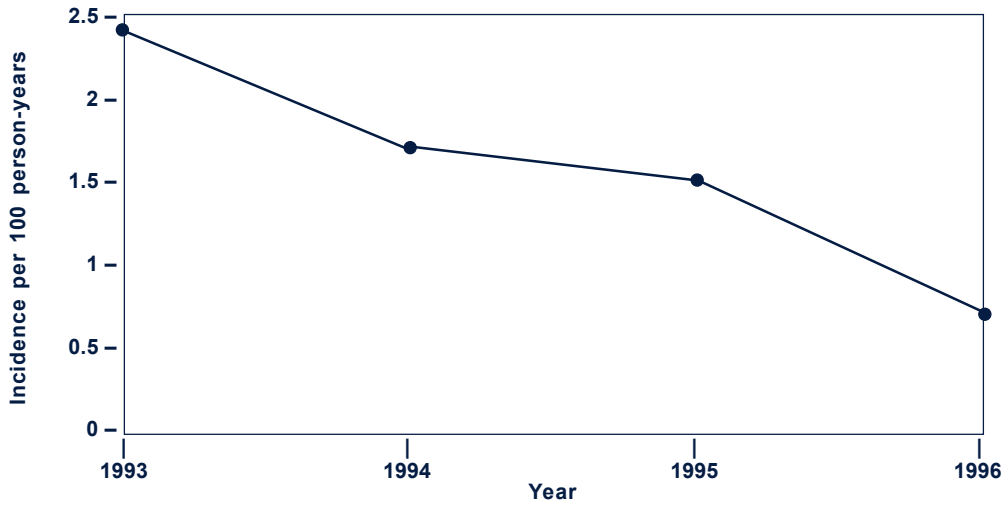
Men with a history of homosexual contact continue to make up the great majority of people diagnosed with AIDS and HIV infection in Australia. Although it is clear that the rate of sexual transmission of HIV between men peaked in the mid 1980s (Figure 5), there is no reliable information on HIV incidence for recent years. However, there is no indication of a recent increase in incidence, either in the surveillance reports of newly acquired HIV infection or estimates of HIV incidence among participants in the Sydney Men and Sexual Health (SMASH) study.

The number of diagnoses of newly acquired HIV infection among homosexually active men has remained stable, around 180 cases per year, since 1993 (Figure 6). Sexual transmission between men accounted for a slightly higher proportion of diagnoses of newly acquired HIV infection (85%) than total HIV diagnoses over the same time period (just under 80%).

Among the men participating in the SMASH study, incidence of HIV infection declined from nearly 2.5% per year in 1993, to 1.5% in 1994 and 1995 and below 1% in 1996 (Figure 11). Some of this decline may be related to a cohort effect, whereby those members of the cohort at highest risk of infection become infected earlier, leaving the remainder of the cohort at lower risk and producing an apparent decline in incidence. Because the date of infection is estimated as midway between the last negative and the first positive test, further new HIV infections may be reported for 1996, as testing of participants continues during 1997.

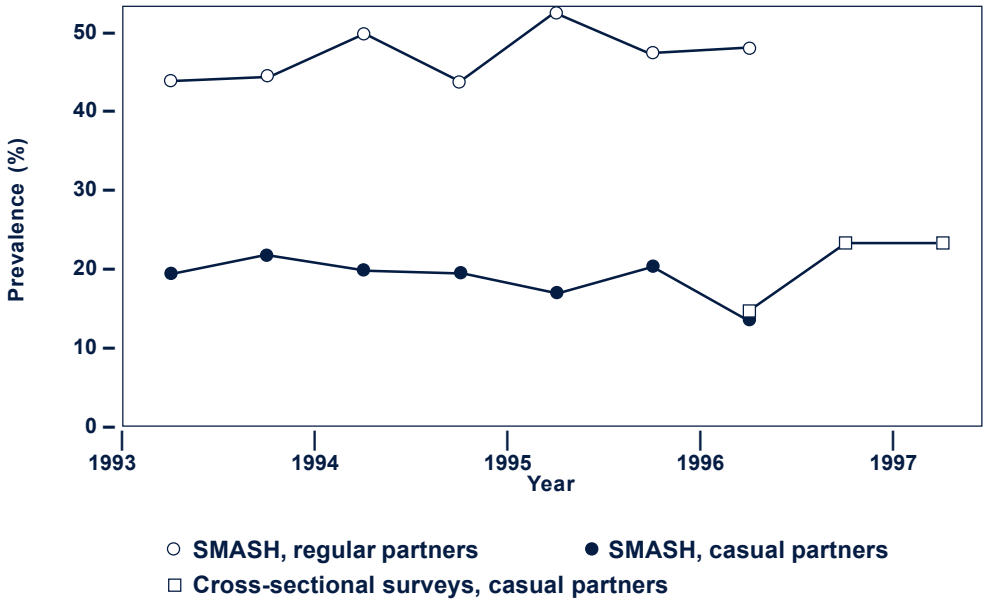
Prevalence of HIV infection among young (< 25 years old) homosexual men seen at selected metropolitan sexual health clinics declined from 2.2% in 1992 to 1.3% in 1996.

Figure 11 HIV incidence in the Sydney Men And Sexual Health (SMASH) Study



Behavioural survey data suggest that there had been little change since 1993 in the proportion of homosexually active men reporting unsafe sexual practices. Within SMASH, the proportion of men reporting unprotected anal intercourse with casual partners has remained approximately stable through the first half of 1996, at around 15-20% (Figure 12).

Figure 12 Prevalence[1] of unprotected anal intercourse among participants in the Sydney Men And Sexual Health (SMASH) study, and in repeated cross-sectional surveys of Sydney gay men

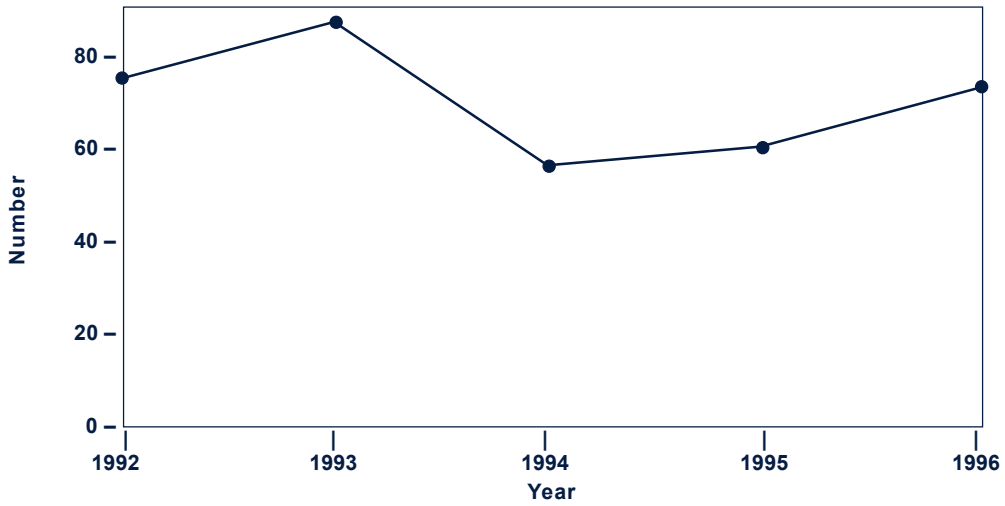


1. Percentage of participants with sexual partners in the indicated category, who reported any anal intercourse without a condom in the previous six months.

There has been, however, some increase in the proportion of respondents reporting unprotected anal sex with casual partners in the Sydney Gay Community Periodic Survey, a 6-monthly cross sectional survey of homosexual men which commenced in February 1996. The proportion increased from 14% of respondents with casual partners in February 1996 to 23% in August 1996 and February 1997 (Figure 12).

Other disease surveillance data also suggest that there has been limited change in sexual risk among homosexually active men in Australia. The number of rectal gonococcal isolates in men in NSW has been approximately stable at between 60 and 80 cases per year for the last 5 years (Figure 13).

Figure 13 Rectal gonococcal isolates among men in New South Wales

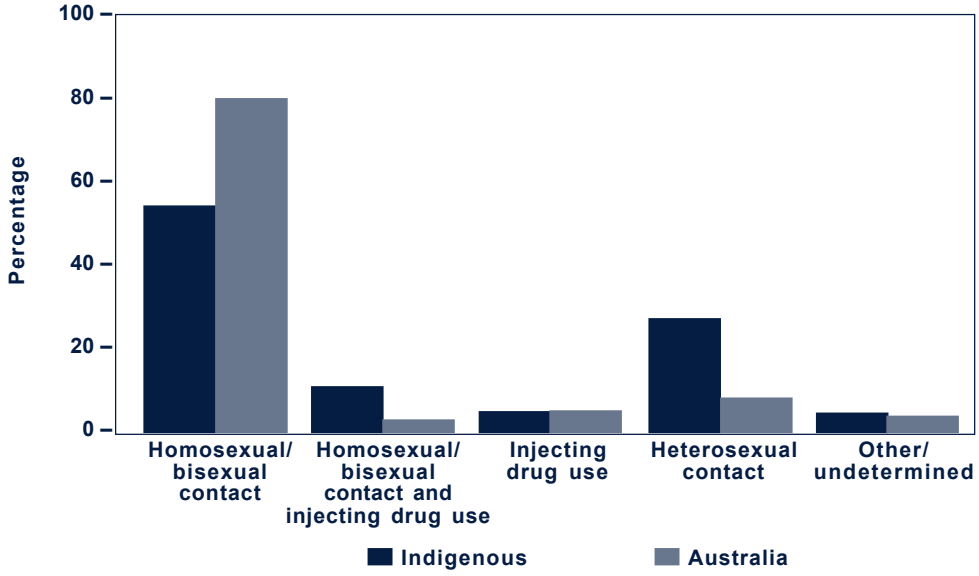


Indigenous Australians

The prevention and treatment of sexually transmissible diseases, including HIV infection, among indigenous Australians was emphasised as a priority of the Third National HIV/AIDS Strategy. The endorsement of the Indigenous Australians' Sexual Health Strategy by the Commonwealth in March 1997 represented a substantial step forward in this area.

The Sexual Health Strategy document presented updated analyses of HIV diagnoses in both indigenous and non-indigenous people. It was of note that, while the overall rates of HIV and AIDS diagnosis *per capita* differed little between indigenous and non-indigenous people, there has been a recent shift to a higher proportion of heterosexually acquired cases of HIV infection among indigenous people. Figure 14, based on data presented in Table 2.2 of the Strategy document, shows the relative proportion of HIV exposure categories in diagnosed cases of HIV infection among indigenous and non-indigenous people. Diagnosed HIV infections among indigenous people also differ from the pattern in non-indigenous people in that a much higher proportion have occurred in women (15% female vs 3% female for the non-indigenous cases).

Figure 14 HIV diagnoses in Indigenous Australians and in Australia as a whole by HIV exposure category



Apart from HIV, the Strategy document also noted the high rates of other sexually transmissible diseases in many Aboriginal and Torres Strait Islander communities, as well as the substantial weaknesses in the accuracy of the national surveillance figures for these diseases.

Injecting drug users

Approximately 8% of HIV diagnoses in Australia have been in people with a history of injecting drug use, of whom roughly half were men who also reported a history of homosexual contact.

HIV prevalence has been very low (less than 0.6%) in both men and women seen at metropolitan sexual health centres in 1992 – 1996 who identified themselves as injecting drug users (Figure 15). HIV prevalence in people attending needle and syringe exchanges has also remained low (less than 3%) except among men who identified themselves as either bisexual (4%) or homosexual (26%) (Figure 16).

In contrast to the low HIV prevalence, HCV prevalence in people attending needle and syringe exchanges was very high, with an overall level of 65% (Figure 17). HCV prevalence was strongly related to duration of injecting in both males and females with levels of over 70% in people who have injected for three years or longer, though HCV prevalence was already high (around 30%) in men and women who had been injecting for less than three years. The strong relationship between HCV prevalence and increasing duration of injecting was also seen in people tested on entry to methadone treatment (Figure 18). HCV prevalence appeared to be unrelated to sexual orientation.

Figure 15 HIV prevalence in people other than homosexually active men seen at selected metropolitan sexual health clinics by sex and HIV exposure category

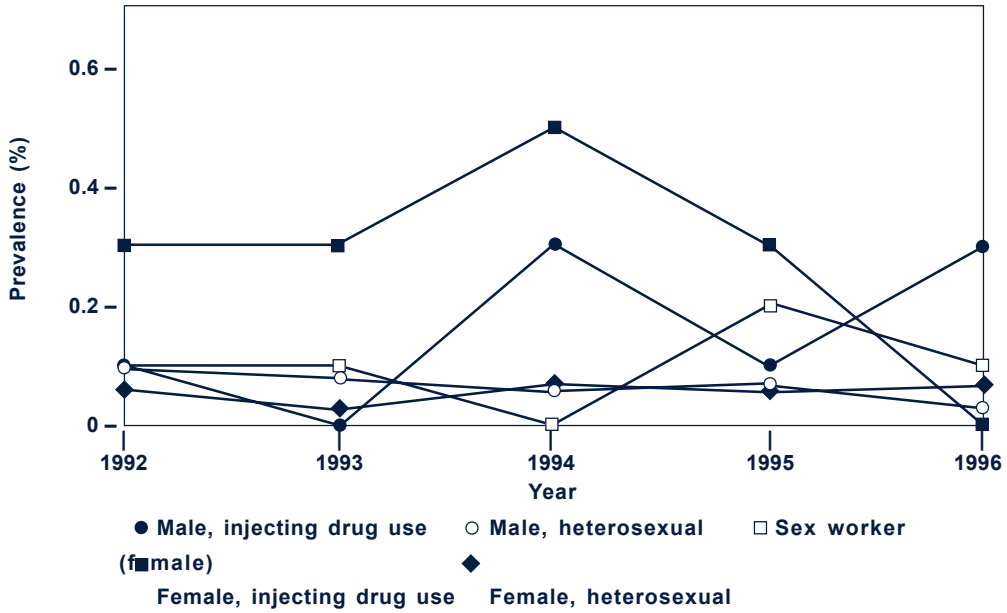


Figure 16 HIV prevalence in people seen at needle and syringe exchanges, 1996, by duration of injecting drugs and sexual orientation

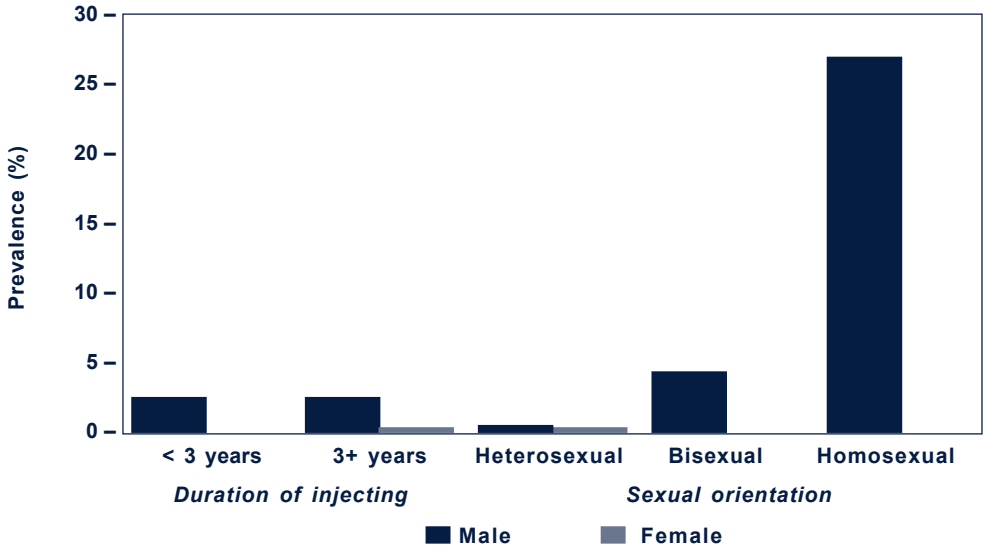


Figure 17 **HCV prevalence in people seen at needle and syringe exchanges, 1996, by duration of injecting drugs and sexual orientation**

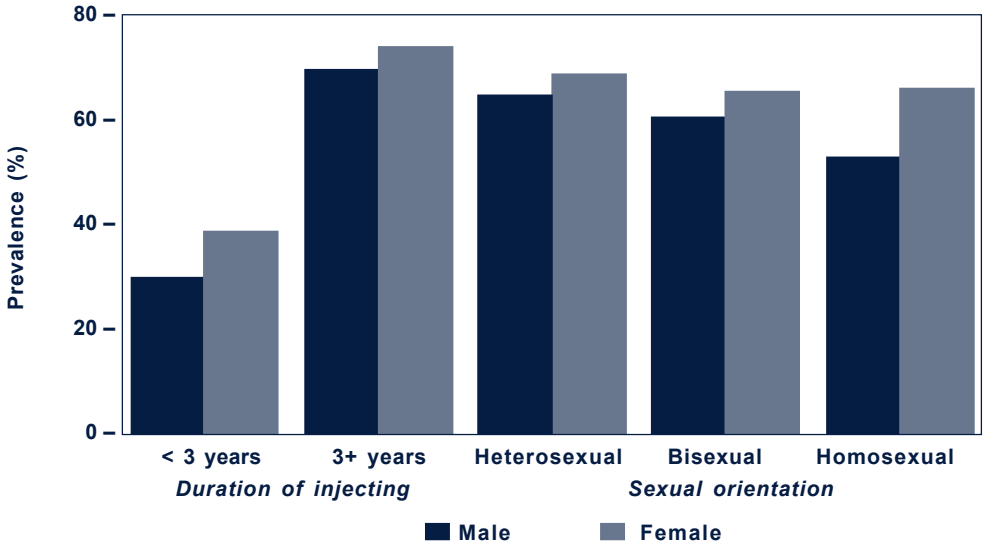
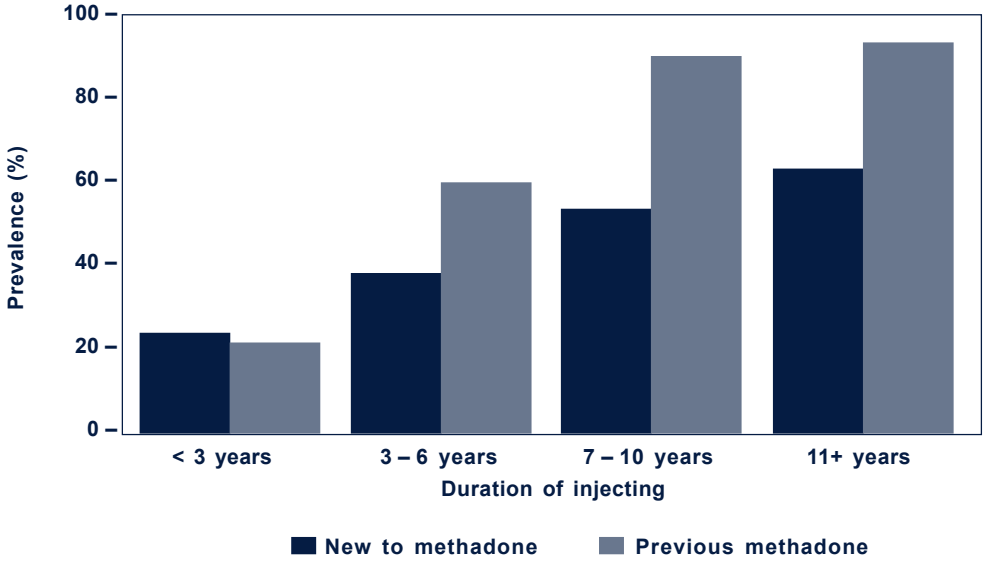
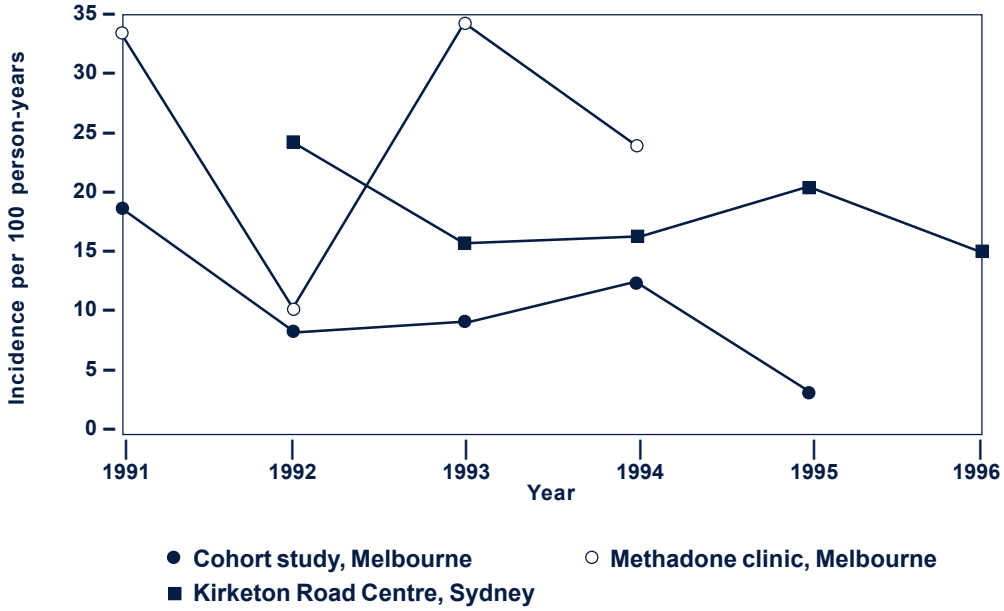


Figure 18 **HCV prevalence in people seen at methadone clinics, 1996, by duration of injecting and history of methadone treatment**



The rate of new hepatitis C infection among people who injecting drugs in Melbourne and Sydney has been above 10 per 100 person years of follow up over the period 1991 to 1996 (Figure 19). It was lower in the Melbourne cohort study than in people attending either the methadone clinic in Melbourne, or the Kirketon Road Centre, Sydney, again possibly reflecting the cohort effect noted above for SMASH participants.

Figure 19 **HCV incidence in injecting drug users attending selected sites in Melbourne and Sydney**

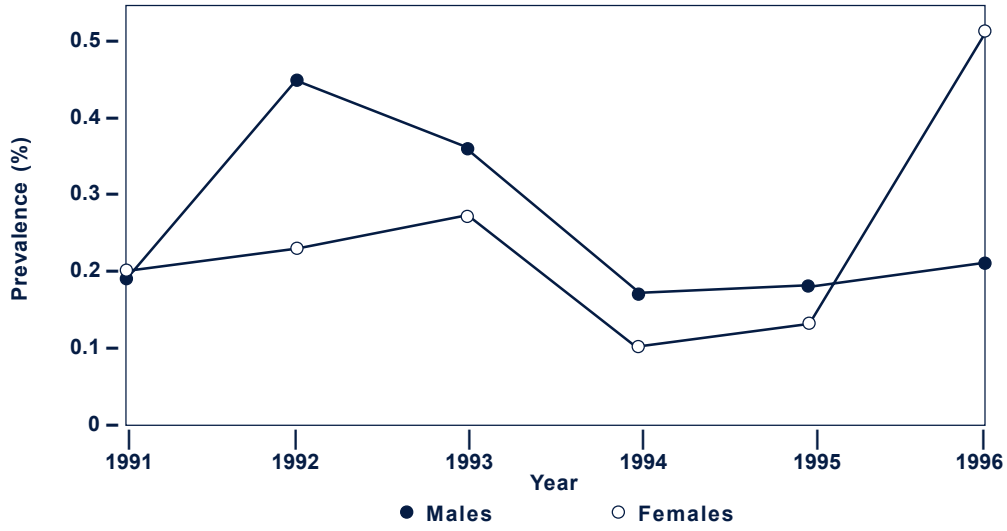


Prisoners

HIV prevalence was low (less than 0.5%) in both men and women received into Australian prisons in 1991 – 1996 (Figure 20), and has remained stable throughout the period.

The apparent increase in HIV prevalence among women received into prisons in 1996 is due to the relatively low rate of HIV antibody testing at reception into NSW prisons and to an incomplete report of the number of women tested at reception into Victorian prisons.

Figure 20 **HIV prevalence in prison entrants**



Sex workers

Since 1992, information provided by metropolitan sexual health clinics has indicated that HIV prevalence has remained low among women identifying as sex workers, at around 0.1%, with no evidence of any trends in HIV prevalence over this time (Figure 15).

Heterosexual transmission

HIV incidence in women having heterosexual contact is estimated by back-projection to have undergone an increase during the late 1980s to a peak of around 80 new infections in 1990 followed by a decline. Similar trends are estimated for men who report heterosexual contact but their validity may be reduced by the possible underreporting of homosexual contact in this group. HIV diagnoses attributed to heterosexual contact also increased in women in the late 1980s, and have plateaued at around 50 diagnoses per year since 1992 (Figure 21). HIV prevalence among pregnant women, estimated by back-projection, increased in the late 1980s, peaked at 9 per 100,000 livebirths in 1990 – 1992, and then declined to 5 per 100,000 between 1993 and 1995 (Figure 22). The number of HIV diagnoses for which source of exposure to HIV was attributed to receipt of blood or tissue declined over time, both among women with diagnosed HIV infection (Figure 21) and in the subgroup of women who had perinatally exposed children (Figure 23). In contrast, the number of HIV diagnoses increased in women from a high prevalence country who had had exposed children (Figure 23).

While HIV prevalence is not directly monitored at the national level among people whose

Figure 21 Diagnoses of HIV infection in women by HIV exposure category

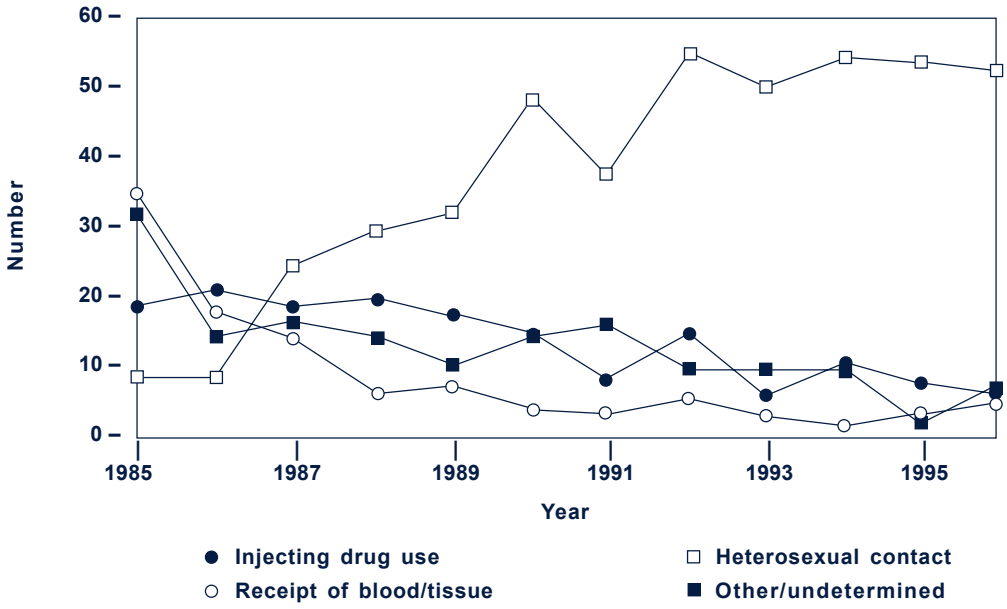
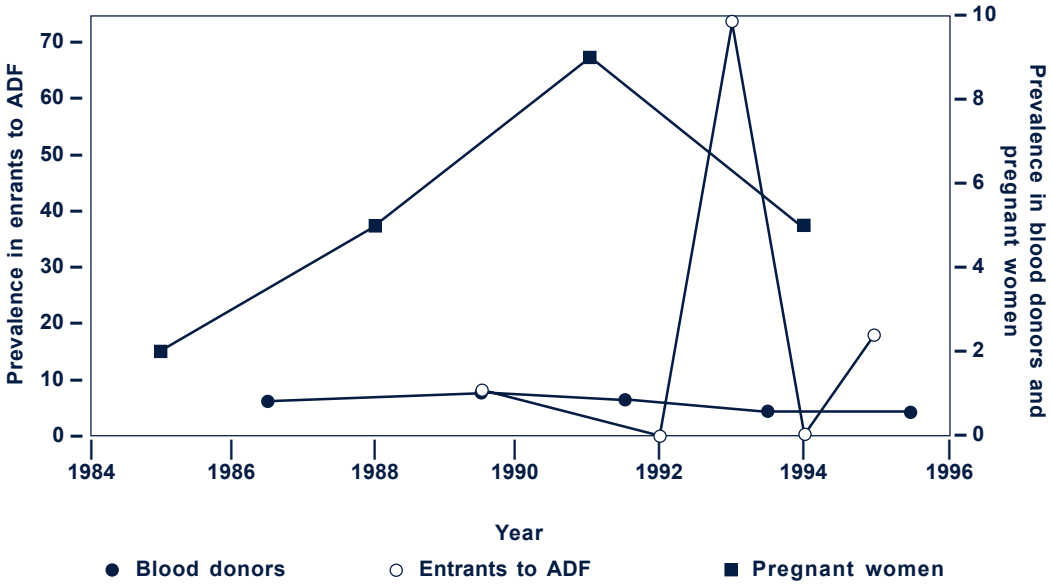
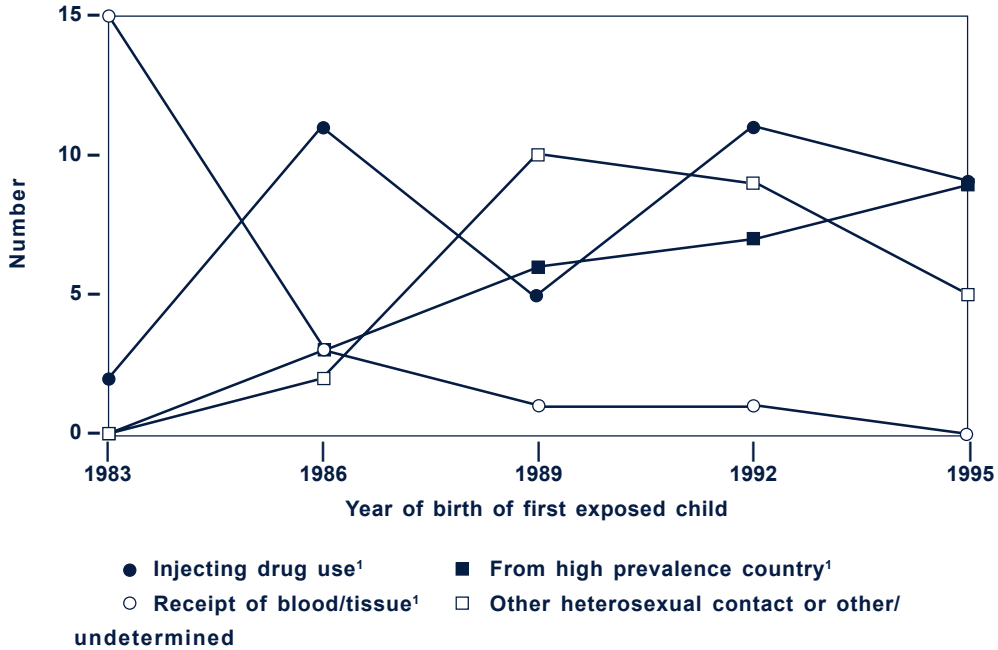


Figure 22 HIV prevalence[1] in blood donors, entrants to the Australian Defence Force and pregnant women who had livebirths



1. HIV prevalence per 100,000 donation in blood donors, per 100,000 entrants to the ADF, and per 100,000 livebirths in pregnant women

Figure 23 Women with HIV infection who had livebirths by HIV exposure category



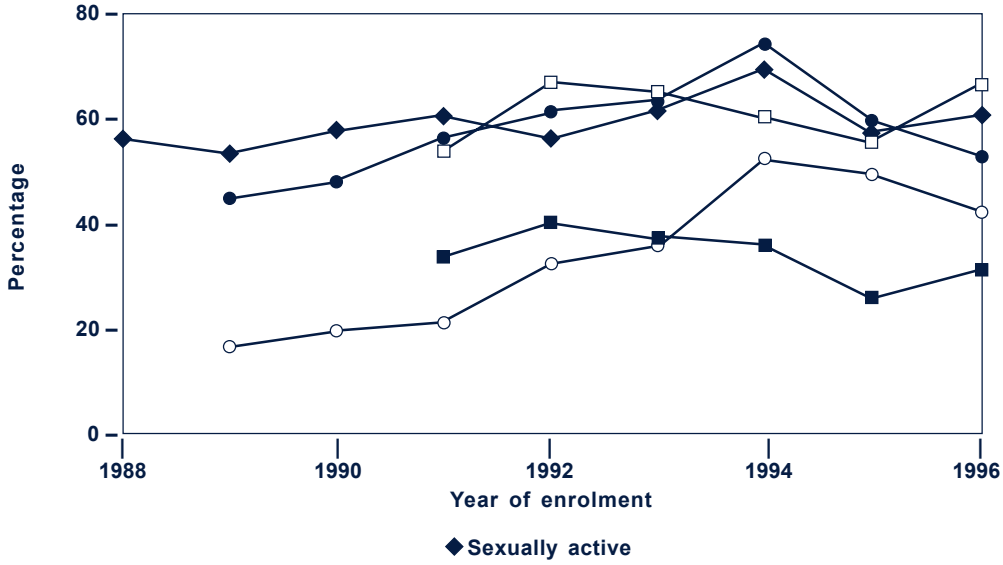
1. Includes women reporting heterosexual contact with men with the specified HIV exposure

only potential exposure to HIV is through heterosexual contact, two subgroups which provide some information on HIV prevalence in this population are blood donors and entrants to the Australian Defence Force (Figure 22). In blood donors, who undergo a screening interview to exclude people at higher risk of HIV infection, HIV prevalence was below 1 per 100,000 donations throughout 1985 to 1996, with some evidence of a decline during this period, possibly reflecting increasingly effective screening interview procedures. Entrants to the Australian Defence Force are informed that they will undergo HIV testing, and be excluded if found positive. Prevalence in entrants has been very low, with four HIV infected applicants identified between 1989 and 1996. The apparently high prevalence of HIV infection in entrants to the Australian Defence Force in 1991 was based on a single HIV positive individual, and an unusually low number of entrants during that year.

Heterosexual Australians who attend sexual health clinics may be considered to be potentially at higher risk of HIV infection than blood donors or Defence Force entrants. HIV prevalence was below 0.2% between 1992 and 1996 in both men and women whose only reported sexual contact was with the opposite sex and who gave no history of injecting drug use (Figure 15).

Although there is little evidence of substantial heterosexual transmission of HIV in Australia, there is also little evidence of changes in sexual practices among young heterosexuals. Annual surveys of first year students enrolling at Macquarie University, Sydney, since 1988, show that the proportion with any previous sexual experience has remained constant at around 60% throughout this time period (Figure 24). Although the proportion of students with easy access to condoms has increased in men, and particularly women, between 1989 and 1996, there was little change in condom use with either steady or casual partners.

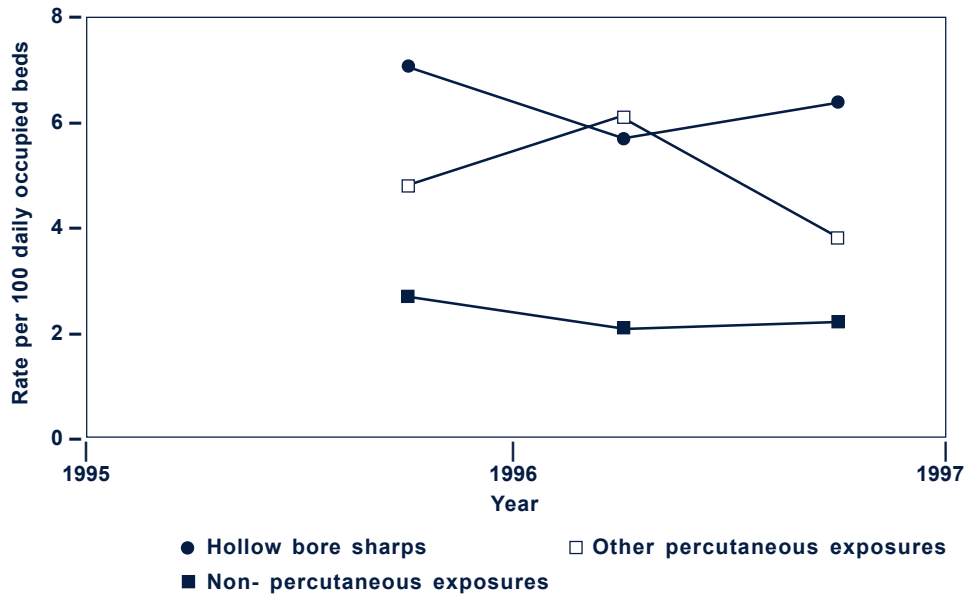
Figure 24 **Sexual activity and condom use in 18 – 19 year old first year university students**



Occupational exposure to blood and body fluids

Reports from a national network of hospitals indicate that the rates of occupational exposure to blood or body fluid in health care workers were stable in 1995 and 1996 (Figure 25), with around 12 to 14 exposures per 100 daily occupied beds in each six month period. One health care worker became infected with HCV following an occupational exposure at a collaborating hospital, and no cases of HIV or HBV infection were reported.

Figure 25 Rates of occupational exposure to blood or body fluids in health care workers

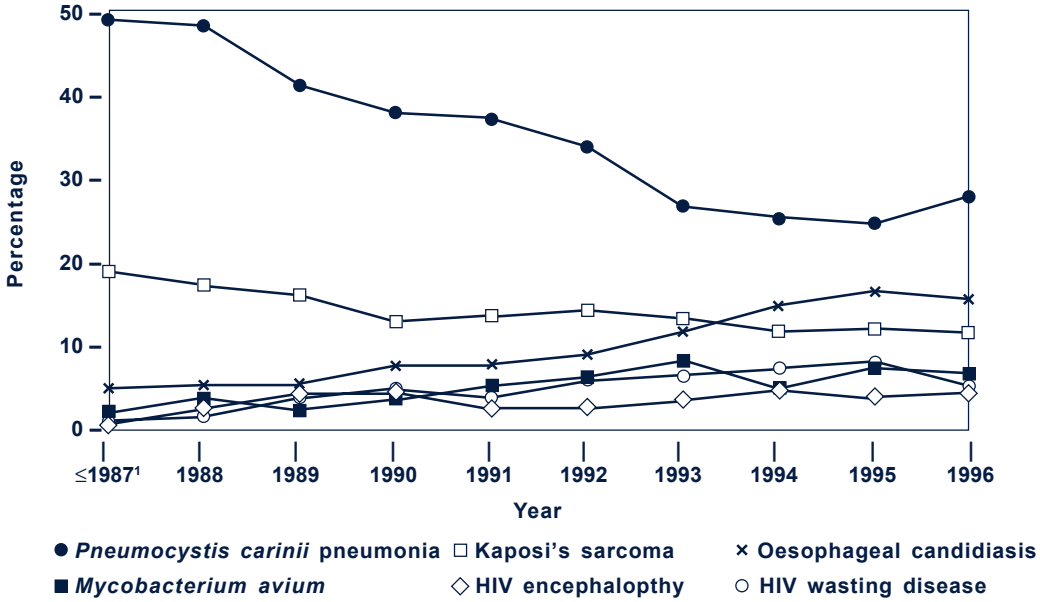


Patterns of illness and mortality in people with HIV infection

With the successes reported for combination antiretroviral treatment in clinical trials, there is great interest in determining whether these benefits have been translated to reductions in illness and mortality at the population level among people with HIV infection. Indicators of the extent of progression of HIV infection include the occurrence of AIDS and specific AIDS illnesses, and survival following AIDS.

There have been considerable changes in the occurrence of specific AIDS illnesses over time. The introduction of prophylaxis against *Pneumocystis carinii* pneumonia (PCP) in the late 1980s was associated with a decrease in the proportion of people with AIDS who developed PCP as their first AIDS defining illness, from approximately 50% to 30% (Figure 26). The occurrence of Kaposi's sarcoma (KS) among people with AIDS also decreased substantially. In contrast, *Mycobacterium avium* complex (MAC) infection and oesophageal candidiasis have increased in frequency.

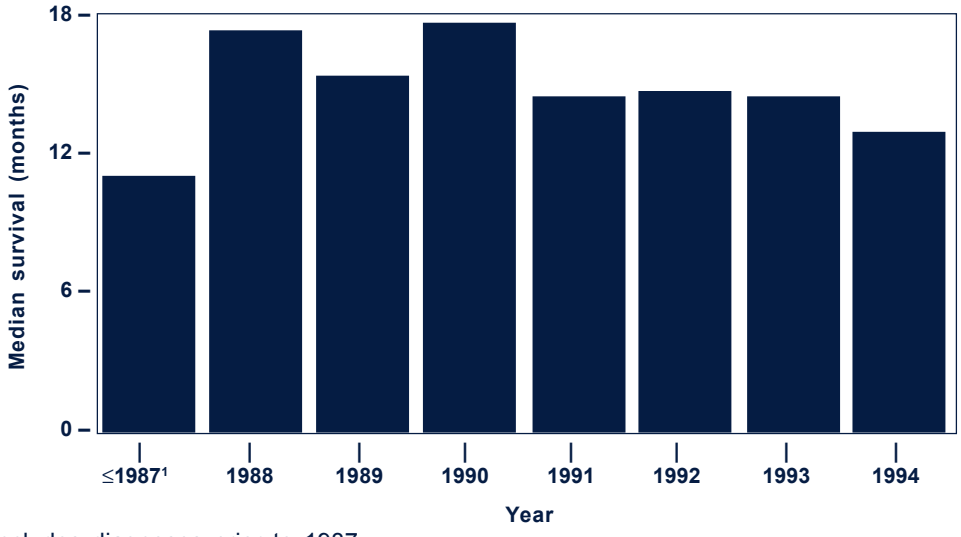
Figure 26 AIDS diagnoses by AIDS defining illness



1. Includes diagnoses prior to 1987.

Median survival following AIDS improved from 11 months in 1987 to 17 months in 1988 but has been stable since (Figure 27). Improvements in survival over this time may have actually been masked by a delay in AIDS diagnosis due to improved antiretroviral therapy and opportunistic infection prophylaxis. It is too early to assess whether the introduction of combination antiretroviral therapy has resulted in longer survival following AIDS.

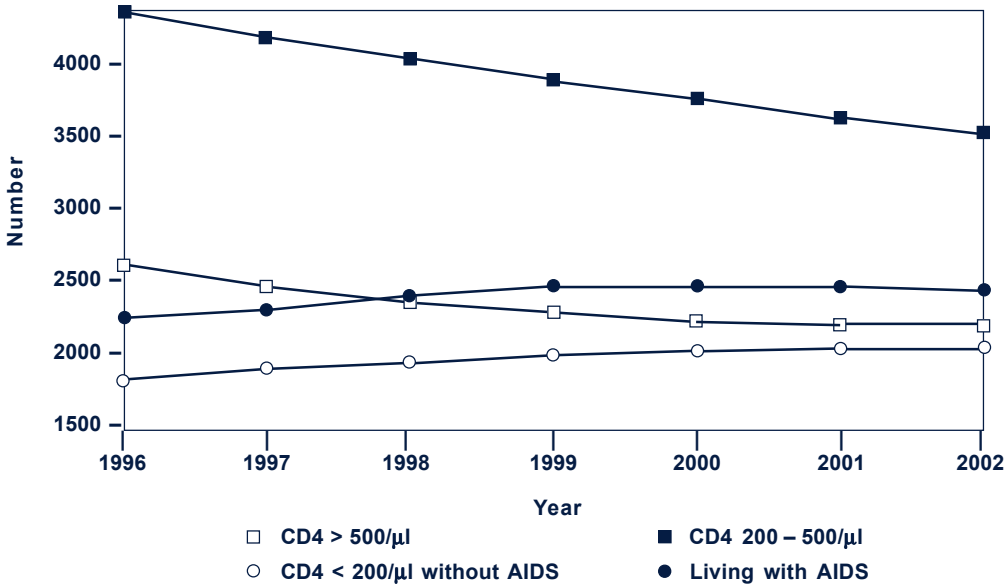
Figure 27 Survival following AIDS



1. Includes diagnoses prior to 1987

Although the number of new AIDS diagnoses appears to have reached a peak, the estimated number of people living with AIDS is projected to continue to increase through 1999 (Figure 28). Furthermore, the estimated number of people living with severe immunodeficiency (CD4+ count < 200 cells/μl), but not AIDS, will continue to increase beyond the year 2000. In contrast, the projected number of people living with less severe immunodeficiency (CD4+ cell count 200-500 cells/μl) and those with relatively preserved immune function (CD4+ count > 500 cells/μl) will decline over the period 1996 – 2002.

Figure 28 **Estimated number of people living with HIV[1] by HIV disease stage, 1996 – 2002**



1. Including undiagnosed cases of HIV infection.

TABLES

1 National surveillance for diagnosed HIV infection, AIDS and perinatal exposure to HIV

1.1 National AIDS Registry

Table 1.1.1 Characteristics of AIDS cases, by year. Number of AIDS diagnoses, median age, percent with late HIV diagnosis and percent of total cases by sex, State/Territory, HIV exposure category and AIDS defining condition

		Year of AIDS diagnosis										
Description		**≤87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**Total**
Total cases		**797**	**536**	**614**	**673**	**801**	**789**	**836**	**933**	**762**	**555**	**7296**
Males (%)		95.6	97.0	97.6	97.2	96.4	95.2	94.9	95.1	95.5	95.1	95.9
Median age (years)	M	36	36	37	37	37	38	37	37	37	38	37
	F	45	31	34	37	36	38	37	31	33	37	34
Late HIV diagnosis (%)	M	–	–	–	–	19.6	20.4	16.8	18.0	15.9	20.5	18.4
	F	–	–	–	–	14.3	41.7	20.5	31.0	21.9	18.5	25.9
State/Territory (%)												
ACT		0.6	1.5	1.5	1.5	1.0	1.0	1.1	1.4	1.1	1.6	1.2
NSW		67.6	59.7	58.1	62.7	55.1	54.5	56.9	57.5	57.2	52.1	58.2
NT		0.1	0.0	0.2	0.5	0.6	0.6	0.6	0.3	0.4	0.2	0.4
QLD		6.9	7.3	8.1	8.5	10.5	11.3	11.0	10.6	13.3	12.4	10.1
SA		2.0	4.1	4.7	3.7	4.7	4.2	5.4	5.1	4.1	4.7	4.3
TAS		0.4	0.2	1.0	0.6	0.4	1.3	0.1	0.5	0.1	0.7	0.5
VIC		17.8	22.6	21.3	18.4	23.0	21.3	21.1	20.2	20.5	22.2	20.7
WA		4.5	4.7	5.1	4.2	4.7	5.8	3.8	4.4	3.4	6.1	4.6
HIV exposure category (%)												
Male homosexual/ bisexual contact		84.6	88.8	86.3	85.6	81.0	79.5	78.0	80.4	78.0	74.8	81.5
Male homosexual/ bisexual contact and injecting drug use		3.1	3.0	3.3	2.4	3.6	4.8	6.7	4.6	4.9	5.4	4.3
Injecting drug use[1]		0.6	2.1	2.3	2.2	3.6	2.0	3.0	2.8	3.4	4.0	2.6
Heterosexual contact		0.9	1.7	1.6	2.8	4.7	6.3	6.1	5.9	6.0	7.2	4.5
Haemophilia/ coagulation disorder		1.6	1.3	2.3	1.8	1.4	1.7	1.2	1.0	1.8	0.9	1.5
Receipt of blood/tissue		7.4	1.3	1.5	2.1	2.0	1.9	1.0	0.9	0.7	0.9	2.0
Mother with/at risk for HIV infection		0.0	0.2	0.2	0.5	0.4	0.5	0.0	0.6	0.5	0.0	0.3
Other/undetermined		1.6	1.7	2.6	2.7	3.3	3.3	4.1	3.8	4.7	6.9	3.4
AIDS defining condition (%)												
Pneumocystis carinii pneumonia (PCP)		40.9	39.7	35.2	29.7	31.3	27.0	22.1	22.0	20.3	23.6	28.7
Kaposi's sarcoma (KS)		17.6	14.9	14.0	10.7	12.0	12.3	11.4	10.0	10.6	10.6	12.3
PCP and other (not KS)		6.9	6.3	4.9	7.3	5.4	6.1	3.8	2.6	3.8	4.0	5.0
Oesophageal candidiasis		4.8	5.2	5.4	7.6	7.6	8.9	11.5	14.7	16.4	15.3	9.9
Mycobacterium avium		2.6	4.5	2.6	4.5	5.2	7.1	8.9	5.7	7.9	7.0	5.7
HIV wasting disease		0.8	1.5	3.8	4.8	3.8	5.8	6.2	7.2	8.1	5.2	4.9
Other conditions		26.5	27.8	34.2	35.5	34.7	32.8	36.1	37.9	32.8	34.2	33.5

1. Excludes males who also reported a history of homosexual/bisexual contact.

Table 1.1.2 Number of AIDS diagnoses adjusted for reporting delay by State/Territory, sex and year

		Year of AIDS diagnosis										
State/Territory	**Sex**	**≤87**	**88**	**89**	**90**	**91**	**92**	**93**	**94[1]**	**95[1]**	**96[1]**	**Total**
ACT	M	5	8	8	10	7	8	9	13	6	10	84
	F	0	0	1	0	1	0	0	1	2	2	7
NSW	M	515	310	351	409	424	407	459	532	456	352	4215
	F	24	9	4	13	16	21	15	19	13	21	155
NT	M	1	0	1	3	5	5	5	3	3	1	27
	F	0	0	0	0	0	0	0	0	0	0	0
QLD	M	51	38	49	55	82	84	83	97	100	81	720
	F	4	1	1	2	1	5	8	3	5	2	32
SA	M	15	21	28	24	36	30	42	44	32	33	305
	F	1	1	1	1	2	3	3	5	1	0	18
TAS	M	2	1	6	4	3	9	1	5	1	5	37
	F	1	0	0	0	0	1	0	0	0	0	2
VIC	M	139	118	128	121	178	165	164	186	158	145	1502
	F	3	3	3	1	5	3	10	12	12	7	59
WA	M	34	24	28	28	37	43	30	37	26	42	329
	F	2	1	3	0	1	3	2	4	1	3	20
Total[2]		**797**	**536**	**614**	**673**	**801**	**789**	**836**	**962**	**818**	**706**	**7532**

1. Adjusted for reporting delay; AIDS cases diagnosed in previous years were assumed to be completely reported.
2. Includes people whose sex was reported as transgender.

Table 1.1.3 Number of AIDS diagnoses adjusted for reporting delay by HIV exposure category, sex and year

Exposure category	Sex	Year of AIDS diagnosis ≤87	88	89	90	91	92	93	94[1]	95[1]	96[1]	Total
Adults/adolescents (13 years and older at diagnosis of AIDS)												
Male homosexual/ bisexual contact		674	476	530	576	649	627	652	773	636	520	6113
Male homosexual/ bisexual contact and injecting drug use		25	16	20	16	29	38	56	44	40	39	323
Injecting drug use[2]	M	3	6	10	8	18	10	17	19	21	21	133
	F	2	5	4	7	11	6	8	8	8	6	65
Heterosexual contact	M	1	4	5	16	32	29	27	31	29	30	204
	F	6	5	5	3	6	21	24	26	20	23	139
Haemophilia/ coagulation disorder	M	12	6	13	10	10	13	9	9	15	6	103
	F	0	0	1	0	0	0	1	0	0	0	2
Receipt of blood/ tissue	M	25	5	6	9	10	8	3	5	3	1	75
	F	26	1	2	5	4	6	5	3	2	5	59
Health care setting	M	0	0	0	0	0	0	1	1	0	0	2
	F	0	0	0	0	0	1	0	1	1	0	3
Other/undetermined	M	13	6	13	15	20	23	28	29	36	46	229
	F	0	2	1	1	3	0	0	1	0	2	10
Sub-total[3]		**787**	**533**	**612**	**668**	**795**	**784**	**836**	**955**	**814**	**706**	**7490**
Children (under 13 years at diagnosis of AIDS)												
Mother with/at risk for HIV infection	M	0	0	1	2	2	2	0	3	1	0	11
	F	1	1	0	1	1	2	0	3	3	0	12
Haemophilia/ coagulation disorder	M	1	1	0	2	1	0	0	0	0	0	5
	F	0	0	0	0	0	0	0	0	0	0	0
Receipt of blood/ tissue	M	8	0	1	0	1	1	0	0	0	0	11
	F	0	1	0	0	1	0	0	1	0	0	3
Sub-total		**10**	**3**	**2**	**5**	**6**	**5**	**0**	**7**	**4**	**0**	**42**
Total[3]		**797**	**536**	**614**	**673**	**801**	**789**	**836**	**962**	**818**	**706**	**7532**

1. Adjusted for reporting delay; AIDS cases diagnosed in previous years were assumed to be completely reported.
2. Excludes males who also reported a history of homosexual/bisexual contact.
3. Includes people whose sex was reported as transgender.

Table 1.1.4 Number of deaths following AIDS adjusted for reporting delay by State/Territory, sex and year of death

		Year of death										
State/Territory	**Sex**	**≤87**	**88**	**89**	**90**	**91**	**92**	**93**	**94[1]**	**95[1]**	**96[1]**	**Total**
ACT	M	3	4	5	7	6	9	2	11	4	1	52
	F	0	0	0	0	1	1	0	0	0	0	2
NSW	M	288	134	232	310	336	294	357	388	349	273	2961
	F	17	3	4	9	8	12	12	17	20	6	108
NT	M	1	0	1	1	1	2	8	3	3	3	23
	F	0	0	0	0	0	0	0	0	0	0	0
QLD	M	32	15	32	37	48	56	76	71	74	57	498
	F	3	0	1	1	2	2	5	5	4	5	28
SA	M	5	12	11	16	19	27	27	31	34	28	210
	F	1	0	0	0	0	1	5	4	2	1	14
TAS	M	1	1	1	2	5	3	5	3	1	4	26
	F	0	0	1	0	0	0	0	1	0	0	2
VIC	M	59	45	94	106	121	153	158	156	143	112	1147
	F	2	0	1	2	1	3	3	7	13	5	37
WA	M	16	9	17	23	34	31	29	30	19	26	234
	F	1	0	2	1	0	1	1	4	1	1	12
Total[2]		**429**	**223**	**403**	**515**	**585**	**597**	**691**	**738**	**670**	**522**	**5373**

1. Adjusted for reporting delay; deaths following AIDS in previous years were assumed to be completely reported.
2. Includes people whose sex was reported as transgender.

Table 1.1.5 Number of deaths following AIDS adjusted for reporting delay by HIV exposure category, sex and year

Exposure category	Sex	Year of death following AIDS									
		≤87	88	89	90	91	92	93	94[1]	95[1]	96[1]
Total											
Adults/adolescents (13 years and older at diagnosis of AIDS)											
Male homosexual/ bisexual contact		350	199	362	450	500	497	567	576	522	409	4432
Male homosexual/ bisexual contact and injecting drug use		12	8	6	15	19	17	36	42	33	28	216
Injecting drug use[2]	M	1	2	2	6	8	9	12	8	17	14	79
	F	1	0	0	6	3	8	9	5	8	5	45
Heterosexual contact	M	0	1	2	1	12	20	22	24	18	26	126
	F	1	0	6	3	3	7	11	22	27	13	93
Haemophilia/ coagulation disorder	M	7	2	8	10	9	5	5	13	8	11	78
	F	0	0	0	0	0	0	0	2	0	0	2
Receipt of blood/ tissue	M	18	5	4	8	8	8	5	4	4	1	65
	F	21	3	3	2	4	2	4	5	4	1	49
Health care setting	M	0	0	0	0	0	0	0	0	1	0	1
	F	0	0	0	0	0	0	0	1	0	0	1
Other/undetermined	M	10	2	8	10	12	18	10	24	22	14	130
	F	0	0	0	1	1	1	1	0	0	0	4
Sub-total[3]		**421**	**222**	**402**	**512**	**582**	**594**	**685**	**733**	**667**	**522**	**5340**
Children (under 13 years at diagnosis of AIDS)											
Mother with/at risk for HIV infection	M	0	0	0	0	0	0	3	2	2	0	7
	F	1	0	0	1	1	1	1	2	0	0	7
Haemophilia/ coagulation disorder	M	0	1	0	2	1	0	1	0	0	0	5
	F	0	0	0	0	0	0	0	0	0	0	0
Receipt of blood/ tissue	M	7	0	1	0	1	1	1	0	0	0	11
	F	0	0	0	0	0	1	0	1	1	0	3
Sub-total		**8**	**1**	**1**	**3**	**3**	**3**	**6**	**5**	**3**	**0**	**33**
Total[3]		**429**	**223**	**403**	**515**	**585**	**597**	**691**	**738**	**670**	**522**	**5373**

1. Adjusted for reporting delay; AIDS cases diagnosed in previous years were assumed to be completely reported.
2. Excludes males who also reported a history of homosexual/bisexual contact.
3. Includes people whose sex was reported as transgender.

Table 1.1.6 Survival following the diagnosis of AIDS by year

Calendar year of diagnosis	Cases	Deaths to 31 Dec 96[1]	Alive at 1 Jan 96[2]	Left Australia[3]	Other[4]	Median (months)	% Survival 1 year	% Survival 2 year
≤87	797	767	1	12	17	10.7	46.3	22.4
88	536	498	4	8	26	17.3	67.2	29.5
89	614	572	5	5	32	16.4	61.1	30.3
90	673	597	7	6	63	17.8	64.6	34.9
91	801	704	21	9	67	16.0	61.3	34.3
92	789	654	33	13	89	16.3	62.3	32.1
93	836	615	60	2	159	16.1	60.1	32.6
94	933	519	95	3	316	14.3	57.1	23.5
95	762	246	188	0	328	13.3	55.3	-
96	555	88	467	0	0	-	-	
Total	**7296**	**5260**	**881**	**58**	**1097**	**15.2**	**59.1**	**29.6**

1. Deaths occurring prior to 1 January 1997.
2. Last medical contact on or after 1 January 1996.
3. Reported as having permanently left Australia with no subsequent report of status.
4. Last medical contact prior to 1 January 1996.

Table 1.1.7 Number of AIDS diagnoses by AIDS-defining condition, sex and year

	Year of AIDS diagnosis										
	≤88		89 – 90		91 – 92		93 – 94		95 – 96		Total[1]
AIDS defining condition	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**M**	**F**	
Pneumocystis carinii pneumonia (PCP)	526	12	410	5	448	14	365	23	273	13	2095
Kaposi's sarcoma (KS)	218	2	156	1	192	1	188	0	139	1	899
KS and PCP only	20	0	14	0	9	0	14	0	5	0	62
KS and other (not PCP)	22	0	26	0	26	0	30	0	14	0	118
PCP and other (not KS)	82	7	77	1	85	5	52	3	49	1	366
Oesophageal candidiasis	60	6	82	2	126	5	223	9	204	6	724
Toxoplasmosis	48	1	50	3	53	4	58	2	34	2	257
Cryptococcosis	33	0	56	2	61	2	72	2	43	2	275
Non-Hodgkin's lymphoma	43	2	51	1	52	4	69	4	61	3	290
Mycobacterium-avium	33	2	37	3	83	3	105	9	82	11	369
Herpes simplex virus	44	4	25	2	35	4	30	3	23	1	171
HIV encephalopathy	18	2	57	1	39	0	71	3	51	3	246
Cytomegalovirus	29	0	43	0	77	0	90	3	50	2	295
HIV wasting disease	11	3	51	4	65	11	113	5	85	6	355
Cryptosporidiosis	15	2	24	1	46	0	50	1	37	1	177
Mycobacterium tuberculosis(TB)	9	1	5	1	11	1	11	2	4	1	46
Pulmonary tuberculosis[2]	0	0	0	0	0	0	5	0	9	0	14
Recurrent pneumonia[2]	0	0	0	0	0	0	17	1	12	0	31
Cervical cancer[2]	0	0	0	0	0	0	0	0	0	0	0
Other single diagnoses	13	4	18	0	22	1	24	4	20	2	108
Other multiple diagnoses	58	2	71	3	93	7	93	6	61	4	398
Total	**1282**	**50**	**1253**	**30**	**1523**	**62**	**1680**	**80**	**1256**	**59**	**7296**

1. Includes 21 people whose sex was reported as transgender.
2. Included as an AIDS defining illness in Australia from January 1993.

1.2 National HIV Database

Table 1.2.1 Characteristics of cases of newly diagnosed HIV infection by year[1]. Number of cases, median age, and percent of total cases by sex, State/Territory and HIV exposure category.

	Year of HIV diagnosis										
Description	**≤87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**Total[2]**
Total cases	**9351**	**1703**	**1599**	**1388**	**1401**	**1163**	**1026**	**954**	**847**	**853**	**20299**
Males (%)[3]	96.7	95.4	94.5	93.5	94.9	92.2	93.0	91.1	91.2	92.2	95.0
Median age (years)											
Males	31	32	32	31	31	33	32	33	34	34	32
Females	28	29	26	29	29	31	29	28	31	28	29
State/Territory (%)											
ACT	0.9	0.7	0.8	1.1	0.6	1.4	0.6	1.5	2.0	0.9	1.0
NSW	72.6	67.8	58.8	55.3	56.7	54.2	51.3	45.2	52.9	46.3	63.5
NT	0.4	0.2	0.3	0.6	0.4	0.5	1.0	0.7	0.1	0.6	0.4
QLD	5.0	7.2	10.2	10.6	11.4	13.4	14.3	18.2	14.0	19.0	8.9
SA	2.2	2.8	4.5	4.7	3.3	2.9	5.5	3.7	3.7	5.0	3.2
TAS	0.1	0.1	1.0	0.6	0.4	0.8	0.4	0.2	0.7	0.4	0.4
VIC	15.3	17.0	20.3	22.1	22.1	22.3	22.2	23.0	19.9	21.9	18.3
WA	3.4	4.2	4.1	5.0	5.1	4.5	4.7	7.5	6.7	5.9	4.3
Exposure category (%)[4]											
Male homosexual/ bisexual contact	83.2	82.9	81.5	78.8	78.7	74.7	77.0	73.9	73.0	76.5	79.7
Male homosexual/ bisexual contact and injecting drug use	2.8	2.1	3.0	3.4	2.7	4.0	3.6	5.6	4.6	3.0	3.2
Injecting drug use[5]	3.6	6.9	6.2	6.4	5.3	5.5	3.8	3.3	4.3	3.0	4.7
Heterosexual contact	2.1	5.3	6.9	9.4	11.0	13.7	14.5	15.0	16.6	16.4	8.1
Haemophilia/ coagulation disorder	5.6	1.2	0.3	0.3	0.5	0.4	0.0	0.1	0.1	0.0	2.2
Receipt of blood/tissue	2.6	1.5	1.5	1.6	1.2	1.3	0.7	1.0	0.4	0.4	1.6
Mother with/at risk for HIV infection	0.1	0.1	0.4	0.1	0.6	0.4	0.4	1.1	0.9	0.7	0.4
Other/undetermined	48.0	23.0	25.8	29.0	26.7	13.8	11.8	6.8	7.7	13.7	32.4

1. Not adjusted for multiple reporting.
2. Total includes 14 cases for which the date of HIV diagnosis was unknown.
3. Proportion of males among people whose sex was reported.
4. The 'Other/undetermined' category was excluded from the calculation of the percentage of cases attributed to each HIV exposure category.
5. Excludes males who also reported a history of homosexual/bisexual contact.

Table 1.2.2 Estimated number of HIV diagnoses adjusted for multiple reporting by State/Territory, sex and year[1]

		Year of HIV diagnosis										
State/Territory	**Sex**	**≤87**	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**Total**
ACT	M	75	10	10	14	7	12	5	12	15	7	166
	F	3	2	1	1	1	4	1	2	2	1	18
NSW	M	4654	812	678	575	518	516	438	348	386	313	9237
	F	159	41	37	41	32	32	35	34	33	30	476
NT	M	28	4	6	8	5	6	10	7	1	6	81
	F	2	0	0	1	1	0	0	0	0	0	4
QLD	M	444	121	150	131	142	133	134	159	111	151	1674
	F	16	2	7	11	13	15	5	9	11	9	98
SA	M	190	46	64	58	40	31	52	32	29	41	583
	F	18	2	5	4	2	4	3	4	1	1	44
TAS	M	22	2	16	8	6	10	4	1	6	3	77
	F	2	0	0	1	0	0	0	1	0	0	4
VIC	M	1271	242	287	256	279	215	190	186	149	178	3251
	F	24	19	16	18	14	23	21	18	11	14	178
WA	M	300	62	60	63	65	44	46	55	44	42	782
	F	12	7	3	4	2	10	3	15	12	8	76
Total	M	6864	1221	1156	1054	995	937	817	733	694	754	15228
	F	236	73	69	81	65	88	68	83	72	63	898
Total		**7116**	**1297**	**1227**	**1138**	**1062**	**1027**	**888**	**817**	**768**	**818**	**16157**

1. Estimated number of HIV diagnoses in each year not reported in previous years. Numbers may not sum to totals because of rounding errors, inclusion of people whose sex was reported as transgender, and diagnoses in more than one State/Territory.

Table 1.2.3 Number of diagnoses of newly acquired HIV infection[1], 1991 – 1996, by State/Territory, HIV exposure category, evidence of newly acquired infection, sex and year

		Year of HIV diagnosis						
Description	**Sex**	**91**	**92**	**93**	**94**	**95**	**96**	**Total**
State/Territory								
ACT	M	2	2	1	1	6	3	15
	F	0	0	0	1	0	0	1
NSW	M	16	92	133	108	118	78	545
	F	3	6	4	7	5	1	26
NT	M	2	0	2	1	0	0	5
	F	0	0	0	0	0	0	0
QLD	M	8	4	6	18	26	16	78
	F	3	2	0	2	2	2	11
SA	M	1	3	21	4	11	6	46
	F	0	1	1	0	0	0	2
TAS	M	1	2	0	1	0	0	4
	F	0	0	0	0	0	0	0
VIC	M	40	33	26	58	35	40	232
	F	2	3	2	5	3	2	17
WA	M	6	2	2	3	6	10	29
	F	0	0	0	1	1	2	4
Exposure category								
Male homosexual/ bisexual contact		67	120	167	163	175	136	828
Male homosexual/ bisexual contact and injecting drug use		1	8	3	14	10	4	40
Injecting drug use[2]	M	1	5	4	4	4	2	20
	F	3	5	2	2	2	2	16
Heterosexual contact	M	3	3	12	9	9	7	43
	F	5	6	5	10	9	5	40
Health care setting	M	0	0	1	1	0	0	2
	F	0	1	0	2	0	0	3
Other/undetermined	M	4	2	4	3	4	4	21
	F	0	0	0	2	0	0	2
Evidence of newly acquired infection								
Negative/indeterminate test only	M	69	94	116	105	92	82	558
	F	4	6	6	7	6	5	34
HIV seroconversion illness only	M	6	29	25	41	59	28	188
	F	2	3	0	6	3	1	15
Negative/indeterminate test and HIV seroconversion illness	M	1	15	50	48	51	43	208
	F	2	3	1	3	2	1	12
Total[3]		**84**	**150**	**200**	**210**	**217**	**161**	**1022**

1. Newly acquired HIV infection was defined as newly diagnosed HIV infection with a negative or indeterminate HIV antibody test result, or a diagnosis of HIV seroconversion illness, within one year of HIV diagnosis.
2. Excludes males who also reported a history of homosexual/bisexual contact.
3. Totals include 2 people whose sex was reported as transgender and 5 people whose sex was not reported. These cases were included in the 'Other/undetermined' HIV exposure category.

Table 1.2.4 Median CD4+ cell count at diagnosis of HIV infection in adults/adolescents (number of HIV diagnoses with CD4+ cell count), 1995 – 1996, by State/Territory, HIV exposure category, newly acquired infection status, sex and year

Description	Sex	Year of HIV diagnosis	
		1995	1996
State/Territory			
ACT	M	540 (6)	360 (3)
	F	350 (2)	590 (1)
NSW	M	405 (158)	400 (159)
	F	455 (10)	332 (14)
NT	M	580 (1)	210 (4)
	F	– (0)	– (0)
QLD	M	340 (91)	340 (118)
	F	350 (6)	300 (7)
SA	M	500 (24)	296 (27)
	F	810 (1)	689 (1)
TAS	M	285 (4)	100 (3)
	F	– (0)	– (0)
VIC	M	449 (120)	370 (150)
	F	295 (7)	323 (10)
WA	M	468 (27)	389 (30)
	F	622 (10)	510 (4)
Exposure category			
Male homosexual/bisexual contact[2]		446 (379)	400 (412)
Injecting drug use[3]	M	570 (4)	220 (4)
	F	489 (2)	410 (2)
Heterosexual contact	M	180 (35)	198 (49)
	F	420 (33)	350 (32)
Other/undetermined	M	300 (13)	310 (29)
	F	370 (1)	320 (3)
Newly acquired HIV infection status[4]			
Diagnoses of newly acquired HIV infection	M	570 (121)	608 (112)
	F	600 (7)	770 (7)
Other HIV diagnoses	M	312 (310)	298 (382)
	F	370 (29)	293 (30)
Total		**400 (470)**	**373 (533)**

1. Total includes people whose sex was reported as transgender.
2. Includes males who also reported a history of injecting drug use.
3. Excludes males who also reported a history of homosexual/bisexual contact.
4. Newly acquired HIV infection was defined as newly diagnosed HIV infection with a negative or indeterminate HIV antibody test result, or a diagnosis of HIV seroconversion illness, within one year of HIV diagnosis.

Table 1.2.5 Number of HIV antibody tests carried out in public health laboratories by State/Territory and year

	Year of HIV antibody testing								
State/Territory	**88**	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96[1]**
ACT	5326	5844	6500	9855	10284	10767	10300	9516	7218
NSW	177231	284620	390475	351617	352391	346652	344903	342641	275936
NT	6049	8584	10626	9322	8992	10002	11283	12205	13211
QLD	62505	84752	111287	128988	141896	147329	137133	162532	141929
SA	22545	39300	57760	68666	78233	82521	77628	70929	60884
TAS	6663	7931	8261	10054	12617	12873	14000	13157	13232
VIC	82330	109193	128402	151794	163443	163497	132100	127868	124067
WA	27755	30679	52438	70862	67257	70733	76544	77497	79136
Total	**390404**	**570903**	**765749**	**801158**	**835113**	**844374**	**803891**	**816345**	**715613**

1. Number of HIV antibody tests reported as having been carried out in 1996 was incomplete for all health jurisdications except WA.

1.3 Back-projection estimation

Table 1.3.1 Estimated number of people living with HIV[1] by HIV disease stage, 1996-2002

Year	Total number of people				
	Living with HIV	CD4> 500 cells/µl	CD4 200 – 500 cells/µl	CD4<200 cells/µl without AIDS	Living with AIDS[2]
1996	11080	2630	4340	1840	2270
1997	10890	2480	4170	1920	2320
1998	10800	2380	4030	1970	2420
1999	10680	2310	3880	2010	2480
2000	10530	2250	3760	2040	2480
2001	10380	2220	3630	2050	2480
2002	10240	2200	3520	2060	2460

1. Estimated numbers based on back-projection analyses, including people with diagnosed and undiagnosed HIV infection and assuming 450 new infections per year since 1996. All estimates adjusted for underreporting of AIDS cases currently estimated to be 5%.
2. In 1996, based on reported AIDS diagnoses and deaths following AIDS adjusted for reporting delay. In other years based on back-projection estimates of AIDS incidence and expected survival distribution.

1.4 Assessment of patient report of exposure to HIV, 1994 – 1996

Table 1.4.1 Number of cases of newly diagnosed HIV infection included in the assessment of patient reported HIV exposure history, 1994 – 1996, number for which the exposure assessment questionnaire was returned and number for which additional information on HIV exposure history was available on the returned questionnaire[1] by State/Territory and sex

State/ Territory	Number included in the assessment			Number with returned questionnaire			Number with additional information on HIV exposure history			
	M	F	Total[2]	M	F	Total[2]	M	F	Total[2]	Percent
ACT	8	5	13	5	5	10	4	5	9	69.2
NSW[3]	315	91	418	139	62	201	119	55	174	41.6
NT	7	0	7	4	0	4	3	0	3	42.9
QLD	65	27	92	41	23	64	35	22	57	62.0
SA	13	5	18	13	5	18	12	5	17	94.4
TAS	2	1	3	1	1	2	0	1	1	33.3
VIC[4]	77	41	119	72	40	113	63	40	104	87.4
WA	44	35	79	24	28	52	21	27	48	60.7
Total[2]	**531**	**205**	**749**	**299**	**164**	**464**	**257**	**155**	**413**	**55.1**

1. Excludes people reported on the returned exposure assessment questionnaire to have been lost to follow up (35), people whose medical condition limited reporting of an HIV exposure history (6) and people who were reported to have died (10).
2. Totals include people whose sex was reported as transgender and people whose sex was not reported.
3. Total for NSW includes 12 people whose sex was not reported.
4. Total for VIC includes 1 person whose sex was reported as transgender.

Table 1.4.2 Number of cases of newly diagnosed HIV infection included in the assessment of patient reported HIV exposure history, 1994 – 1996, number for which the exposure assessment questionnaire was returned and number for which additional information on HIV exposure history was available on the returned questionnaire[1] by HIV exposure category and sex

Exposure category	Number included in the assessment			Number with returned questionnaire			Number with additional information on HIV exposure history			
	M	F	Total[2]	M	F	Total[2]	M	F	Total[2]	Percent
Injecting drug use	67	17	84	47	13	60	34	13	47	56.0
Heterosexual	*34*	*12*	*46*	*29*	*10*	*39*	*24*	*10*	*34*	
Not further specified	*33*	*5*	*38*	*18*	*3*	*21*	*10*	*3*	*13*	
Heterosexual contact	215	168	384	147	139	286	139	131	270	70.3
Partner with/ at risk of HIV infection	*106*	*115*	*222*	*74*	*95*	*169*	*70*	*90*	*160*	
Not further specified	*109*	*53*	*162*	*73*	*44*	*117*	*69*	*41*	*110*	
Receipt of blood/ tissue	11	6	17	9	4	13	9	4	13	76.5
Health care setting	1	3	4	1	3	4	1	3	4	100.0
Other/ undetermined	237	11	260	95	5	101	74	4	79	30.4
Total[2]	**531**	**205**	**749**	**299**	**164**	**464**	**257**	**155**	**413**	**55.1**

1. See footnotes Table 1.4.1.
2. Totals include people whose sex was reported as transgender and people whose sex was not reported.

Table 1.4.3 Number of cases of newly diagnosed HIV infection, 1994 – 1996, with additional information on HIV exposure history[1] and number for which the doctor was generally satisfied with patient reported HIV exposure history documented on the exposure assessment questionnaire, by HIV exposure category and sex

Exposure category	Exposure assessment questionnaire			Number for which the doctor was generally satisfied with the patient's HIV exposure history			
	M	F	Total	M	F	Total	Percent
Male homosexual/ bisexual contact	34	-	34	34	-	34	100.0
Injecting drug use[2]	32	16	48	25	15	40	83.3
Heterosexual	*27*	*13*	*40*	*22*	*12*	*34*	*85.0*
Not further specified	*5*	*3*	*8*	*3*	*3*	*6*	*75.0*
Heterosexual contact	144	133	277	111	131	242	87.4
Sex with injecting drug user	*0*	*14*	*14*	*0*	*14*	*14*	*100.0*
Sex with bisexual man	*-*	*17*	*17*	*-*	*17*	*17*	*100.0*
From high prevalence country	*50*	*46*	*96*	*47*	*45*	*92*	*95.8*
Sex with person from high prevalence country	*33*	*18*	*51*	*28*	*18*	*46*	*90.2*
Sex with person with medically acquired HIV infection	*1*	*1*	*2*	*1*	*1*	*2*	*100.0*
Sex with person with HIV infection, exposure not specified	*8*	*23*	*31*	*8*	*23*	*31*	*100.0*
Not further specified	*52*	*14*	*66*	*27*	*13*	*40*	*60.6*
Receipt of blood/tissue	5	2	7	5	2	7	100.0
Health care setting	2	3	5	2	3	5	100.0
Other/undetermined	40	1	42	8	0	9	21.4
Total	**257**	**155**	**413**	**185**	**151**	**337**	**81.6**

1. See footnotes Table 1.4.1.
2. Excludes males who also reported a history of homosexual/bisexual contact.

1.5 National surveillance for perinatal exposure to HIV, 1982 – 1996

Table 1.5.1 Number of women with children exposed to HIV perinatally, 1982 – 1996, and rate of perinatal HIV exposure, diagnosed HIV infection and AIDS per 100,000 women aged 15 – 49 years

State/ Territory	Women with exposed children	Rate per 100,000 women aged 15 – 49 years		
		Women with exposed children	Women with diagnosed HIV	Women with AIDS
ACT	6	6.72	20.15	7.84
NSW	59	3.68	23.29	6.74
NT	0	–	5.85	–
QLD	14	1.59	10.20	3.06
SA	7	1.86	10.90	3.99
TAS	0	–	0.84	0.84
VIC	17	1.42	12.79	3.51
WA	6	1.28	14.68	3.19
Total	**109**	**2.28**	**15.63**	**4.49**

Table 1.5.2 Number of women with children exposed to HIV perinatally, 1982 – 1996, by time of the woman's HIV diagnosis relative to the first exposed child's birth

Child's year of birth	Interval of woman's HIV diagnosis						
	Before the birth (years)						
	< 1	1-2	>2	Total	At or after the birth	Unknown	Total
1982 – 1984	0	0	0	0	17	0	17
1985 – 1987	5	0	0	5	14	0	19
1988 – 1990	7	3	2	12	10	0	22
1991 – 1993	7	3	5	15	11	2	28
1994 – 1996	5	0	7	12	11	0	23
Total	**24**	**6**	**14**	**44**	**63**	**2**	**109**

Table 1.5.3 Number of women with children exposed to HIV perinatally, 1982 – 1996, and number of perinatally exposed children by the woman's HIV exposure category

Exposure category	Number of women with exposed children	Number of exposed children
Injecting drug use	30	38
Heterosexual contact	58	74
Sex with injecting drug user	*8*	*9*
Sex with bisexual man	*8*	*10*
From high prevalence country	*20*	*24*
Sex with person from high prevalence country	*5*	*7*
Sex with person with medically acquired HIV infection	*3*	*4*
Sex with HIV infected person, exposure not specified	*4*	*5*
Not further specified	*10*	*15*
Receipt of blood/tissue	17	20
Other/undetermined	4	4
Total	**109**	**136**

Table 1.5.4 Estimated prevalence of HIV infection among women delivering a livebirth in Australia, 1984 – 1995[1]

	Year of birth			
	1984 – 86	**1987 – 89**	**1990 – 92**	**1993 – 95**
Number of children diagnosed with AIDS and infected with HIV perinatally	3	6	7	2
Prevalence of HIV / 1000 livebirths	0.02	0.05	0.09	0.05

1. Prevalence estimated by back – projection based on cases of AIDS in children born in Australia, infected with HIV perinatally, and diagnosed with AIDS and reported by 31 December 1995.

2 Surveillance for HIV infection in sentinel populations

2.1 HIV incidence in the Sydney Men and Sexual Health (SMASH) study

Table 2.1.1 HIV incidence in the Sydney Men and Sexual Health (SMASH) study, 1993 – 1996

Year	Number of participants[1]	Number of new HIV infections	Person-years follow up	Incidence per 100 person years
Data obtained from the participant's medical practitioner				
1993	304	5	194.7	2.6
1994	332	5	305.0	1.6
1995	318	5	263.4	1.9
1996	214	1	108.2	0.9
Total	**360**	**16**	**871.3**	**1.8**
Data obtained from the participant's medical practitioner, as reported by the participant				
1993	494	7	288.9	2.4
1994	540	8	476.4	1.7
1995	492	6	402.6	1.5
1996	314	1	152.7	0.7
Total	**611**	**22**	**1320.6**	**1.7**

1. Number of participants with follow-up

2.2 Sentinel HIV surveillance in sexual health clinics, 1992 – 1996

Table 2.2.1 Number of people seen at selected metropolitan sexual health clinics[1] in Australia in 1992 – 1996, number tested for HIV antibody, number (percent) newly diagnosed with HIV infection and number (percent) newly diagnosed with HIV infection following a previous negative test, by sex, clinic and year

Males

		Sexual health clinic						
		Sydney Sexual Health Centre, NSW	Parramatta Sexual Health Clinic, NSW	Clinic 34 Darwin, NT	Brisbane Sexual Health Clinic, QLD	Clinic 275 Adelaide, SA	Melbourne Sexual Health Centre,VIC	Murray Street Clinic, Perth, WA
1992	Seen	4777	1214	–	3209	3787	4623	5142
	Tested	2353	902	–	2433	3005	2532	3676
	Newly diagnosed (%)	22 (0.9)	16 (1.8)	–	1 (0.04)	6 (0.2)	16 (0.6)	8 (0.2)
	Previously negative (%)	13 (1.1)	8 (2.5)	–	0 (0.0)	4 (0.3)	9 (2.1)	–
1993	Seen	4684	1425	–	3104	4319	5081	3872
	Tested	2270	1040	–	2330	3361	3238	2153
	Newly diagnosed (%)	14 (0.6)	17 (1.6)	–	9 (0.4)	13 (0.4)	25 (0.8)	5 (0.2)
	Previously negative (%)	9 (0.7)	7 (1.8)	–	8 (0.8)	9 (0.8)	4 (0.3)	–
1994	Seen	4943	1395	–	–	3797	5253	–
	Tested	3032	843	–	–	3006	3862	–
	Newly diagnosed (%)	18 (0.6)	4 (0.5)	–	–	2 (0.1)	27 (0.7)	–
	Previously negative (%)	8 (0.5)	0 (0.0)	–	–	1 (0.05)	7 (0.6)	–
1995	Seen	5134	–	810	2944	3586	5738	–
	Tested	2797	–	354	964	2853	4373	–
	Newly diagnosed (%)	16 (0.6)	–	1 (0.3)	4 (0.4)	10 (0.4)	20 (0.5)	–
	Previously negative (%)	6 (0.4)	–	–	3 (0.6)	6 (0.4)	4 (0.3)	–
1996	Seen	4878	–	986	2786	3572	5902	–
	Tested	2419	–	393	1191	2832	4245	–
	Newly diagnosed (%)	18 (0.7)	–	2 (0.5)	4 (0.3)	7 (0.2)	22 (0.5)	–
	Previously negative (%)	8 (0.6)	–	–	0 (0.0)	6 (0.4)	4 (0.2)	–

Females

		Sexual health clinic						
		Sydney Sexual Health Centre, NSW	Parramatta Sexual Health Clinic, NSW	Clinic 34 Darwin, NT	Brisbane Sexual Health Clinic, QLD	Clinic 275 Adelaide, SA	Melbourne Sexual Health Centre,VIC	Murray Street Clinic, Perth, WA
1992	Seen	2606	838	–	2019	1999	2596	2783
	Tested	1375	605	–	1462	1593	1470	1993
	Newly diagnosed (%)	2 (0.1)	0 (0.0)	–	0 (0.0)	1 (0.1)	2 (0.1)	3 (0.2)
	Previously negative (%)	0 (0.0)	0 (0.0)	–	0 (0.0)	1 (0.1)	0 (0.0)	–
1993	Seen	2656	1161	–	1918	2652	3221	2373
	Tested	1274	604	–	1409	2047	2192	1221
	Newly diagnosed (%)	1 (0.1)	1 (0.2)	–	1 (0.1)	0 (0.0)	1 (0.05)	0 (0.0)
	Previously negative (%)	0 (0.0)	1 (0.3)	–	1 (0.2)	0 (0.0)	1 (0.1)	–
1994	Seen	2841	1244	–	–	2409	3455	–
	Tested	1701	569	–	–	1920	2737	–
	Newly diagnosed (%)	0 (0.0)	1 (0.2)	–	–	1 (0.05)	4 (0.1)	–
	Previously negative (%)	0 (0.0)	1 (0.3)	–	–	0 (0.0)	0 (0.0)	–
1995	Seen	3082	–	458	1938	2375	4034	–
	Tested	1700	–	257	576	1875	3371	–
	Newly diagnosed (%)	4 (0.2)	–	0 (0.0)	0 (0.0)	0 (0.0)	3 (0.1)	–
	Previously negative (%)	1 (0.1)	–	–	0 (0.0)	0 (0.0)	0 (0.0)	–
1996	Seen	3081	–	672	1789	2357	4039	–
	Tested	1569	–	212	653	1853	3384	–
	Newly diagnosed (%)	3 (0.2)	–	0 (0.0)	1 (0.2)	0 (0.0)	2 (0.1)	–
	Previously negative (%)	1 (0.1)	–	–	0 (0.0)	0 (0.0)	0 (0.0)	–

1. Data from Parramatta Sexual Health Clinic, Parramatta, NSW, not available for 1995 and 1996. Data from the Brisbane Sexual Health Clinic, Brisbane, QLD, not available for 1994. Data from the Murray Street Clinic, Perth, WA, available to 30 September 1993; the Murray Street Clinic closed in June 1994. Clinic 34, Darwin, NT, joined the network in 1995.

Table 2.2.2 Number of people seen at selected metropolitan sexual health clinics[1] in Australia in 1992 – 1996, number tested for HIV antibody, number (percent) newly diagnosed with HIV infection and number (percent) newly diagnosed with HIV infection following a previous negative test, by sex, year and HIV exposure category

Males

		Exposure category					
		Male homosexual/ bisexual contact[2]	Male homosexual/ bisexual contact[2], age < 25 years	Injecting drug use	Heterosexual contact	Other males	Total
1992	Seen	2518	586	887	12755	1450	17610
	Tested	1790	448	687	8135	613	11225
	Newly diagnosed (%)	51 (2.8)	10 (2.2)	1 (0.1)	7 (0.1)	2 (0.3)	61 (0.5)
	Previously negative (%)	28 (2.9)	5 (2.3)	1 (0.3)	5 (0.2)	0 (0.0)	34 (0.8)
1993	Seen	2940	657	1180	13710	783	18613
	Tested	2066	488	918	8887	368	12239
	Newly diagnosed (%)	63 (3.0)	16 (3.3)	0 (0.0)	7 (0.08)	8 (2.2)	78 (0.6)
	Previously negative (%)	33 (2.7)	7 (3.0)	0 (0.0)	4 (0.1)	0 (0.0)	37 (0.8)
1994	Seen	2744	598	873	10573	1198	15388
	Tested	2117	498	705	7213	708	10743
	Newly diagnosed (%)	31 (1.5)	6 (1.2)	2 (0.3)	4 (0.06)	14 (2.0)	51 (0.5)
	Previously negative (%)	16 (1.3)	4 (1.7)	0 (0.0)	0 (0.0)	0 (0.0)	16 (0.3)
1995	Seen	3305	756	1009	12010	1078	17402
	Tested	2260	573	708	7461	558	10987
	Newly diagnosed (%)	41 (1.8)	7 (1.2)	1 (0.1)	5 (0.07)	3 (0.5)	50 (0.5)
	Previously negative (%)	19 (1.4)	3 (1.0)	0 (0.0)	0 (0.0)	0 (0.0)	19 (0.4)
1996	Seen	3350	706	951	11312	1525	17138
	Tested	2191	531	692	7109	695	10687
	Newly diagnosed (%)	40 (1.8)	7 (1.3)	2 (0.3)	2 (0.03)	7 (1.0)	51 (0.5)
	Previously negative (%)	17 (1.1)	2 (0.7)	1 (0.2)	0 (0.0)	0 (0.0)	18 (0.3)

Females

		Exposure category				
		Sex worker[3]	Injecting drug use	Heterosexual contact	Other females	Total
1992	Seen	1123	401	7485	1049	10058
	Tested	960	311	4730	504	6505
	Newly diagnosed (%)	1 (0.1)	1 (0.3)	3 (0.06)	0 (0.0)	5 (0.08)
	Previously negative (%)	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)	1 (0.04)
1993	Seen	1293	522	9116	677	11608
	Tested	1164	383	5602	377	7526
	Newly diagnosed (%)	1 (0.09)	1 (0.3)	2 (0.04)	0 (0.0)	4 (0.05)
	Previously negative (%)	0 (0.0)	1 (0.5)	2 (0.1)	0 (0.0)	3 (0.1)
1994	Seen	1174	448	7422	905	9949
	Tested	1139	364	4834	590	6927
	Newly diagnosed (%)	0 (0.0)	2 (0.5)	4 (0.08)	0 (0.0)	6 (0.09)
	Previously negative (%)	0 (0.0)	0 (0.0)	1 (0.05)	0 (0.0)	1 (0.03)
1995	Seen	1075	484	8861	1009	11429
	Tested	916	344	5704	558	7522
	Newly diagnosed (%)	2 (0.2)	1 (0.3)	4 (0.07)	0 (0.0)	7 (0.09)
	Previously negative (%)	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.03)
1996	Seen	1098	457	8497	1244	11266
	Tested	973	328	5499	659	7459
	Newly diagnosed (%)	1 (0.1)	0 (0.0)	4 (0.07)	1 (0.2)	6 (0.08)
	Previously negative (%)	0 (0.0)	0 (0.0)	1 (0.04)	0 (0.0)	1 (0.03)

1. Sydney Sexual Health Centre, Parramatta Sexual Health Clinic, Brisbane Sexual Health Clinic, Clinic 275 and Melbourne Sexual Health Centre only.
2. Includes males who also reported a history of injecting drug use.
3. Includes females who also reported a history of injecting drug use.

Table 2.2.3 Number of people seen at selected metropolitan sexual health clinics[1] in Australia in 1992 – 1996, number tested for HIV antibody, number (percent) newly diagnosed with HIV infection and number (percent) newly diagnosed with HIV infection following a previous negative test, by sex, year and age group

Males

		Age group (years)							
		13 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60+	Unknown	All age groups
1992	Seen	905	8392	4907	2094	714	354	244	17610
	Tested	652	5434	2935	1344	485	216	159	11225
	Newly diagnosed (%)	0 (0.0)	28 (0.5)	17 (0.6)	8 (0.6)	4 (0.8)	1 (0.5)	3 (1.9)	61 (0.5)
	Previously negative (%)	0 (0.0)	16 (0.8)	7 (0.6)	7 (1.3)	2 (1.0)	0 (0.0)	2 (3.5)	34 (0.8)
1993	Seen	860	8589	5426	2277	747	399	315	18613
	Tested	631	5765	3424	1462	496	236	225	12239
	Newly diagnosed (%)	1 (0.2)	36 (0.6)	19 (0.6)	8 (0.5)	5 (1.0)	3 (1.3)	6 (2.7)	78 (0.6)
	Previously negative (%)	1 (0.9)	15 (0.7)	13 (0.8)	3 (0.5)	0 (0.0)	2 (2.2)	3 (3.9)	37 (0.7)
1994	Seen	576	6865	4716	1964	650	343	274	15388
	Tested	427	5003	3161	1337	437	215	163	10743
	Newly diagnosed (%)	0 (0.0)	17 (0.3)	20 (0.6)	8 (0.6)	6 (1.4)	0 (0.0)	0 (0.0)	51 (0.5)
	Previously negative (%)	0 (0.0)	7 (0.3)	6 (0.4)	2 (0.3)	1 (0.5)	0(0.0)	0 (0.0)	16 (0.3)
1995	Seen	725	7969	5191	2314	796	403	4	17402
	Tested	475	5212	3186	1405	485	221	3	10987
	Newly diagnosed (%)	1 (0.2)	17 (0.3)	19 (0.6)	8 (0.6)	2 (0.4)	3 (1.4)	0 (0.0)	50 (0.5)
	Previously negative (%)	0 (0.0)	7 (0.3)	9 (0.5)	1 (0.1)	1 (0.4)	1 (0.9)	0 (0.0)	19 (0.4)
1996	Seen	665	7750	5261	2282	816	363	1	17138
	Tested	442	5123	3155	1334	441	191	1	10687
	Newly diagnosed (%)	0 (0.0)	19 (0.4)	24 (0.8)	8 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	51 (0.5)
	Previously negative (%)	0 (0.0)	6 (0.2)	11 (0.6)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	18 (0.3)

Females

		Age group (years)							
		13 – 19	20 – 29	30 – 39	40 – 49	50 – 59	60+	Unknown	All age groups
1992	Seen	1344	5304	2177	786	189	73	185	10058
	Tested	943	3410	1384	493	108	33	134	6505
	Newly diagnosed (%)	0 (0.0)	5 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (0.1)
	Previously negative (%)	0 (0.0)	1 (0.08)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.04)
1993	Seen	1518	6035	2460	972	277	139	207	11608
	Tested	1040	3945	1624	620	153	31	113	7526
	Newly diagnosed (%)	0 (0.0)	3 (0.08)	0 (0.0)	0 (0.0)	1 (0.7)	0 (0.0)	0 (0.0)	4 (0.05)
	Previously negative (%)	0 (0.0)	2 (0.12)	0 (0.0)	0 (0.0)	1 (1.8)	0 (0.0)	0 (0.0)	3 (0.10)
1994	Seen	1113	5098	2238	862	266	110	262	9949
	Tested	758	3677	1611	580	139	25	137	6927
	Newly diagnosed (%)	0 (0.0)	5 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (0.09)
	Previously negative (%)	0 (0.0)	0 (0.0)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.03)
1995	Seen	1567	6218	2421	897	253	69	4	11429
	Tested	966	4155	1627	590	153	30	1	7522
	Newly diagnosed (%)	3 (0.3)	2 (0.05)	1 (0.06)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	7 (0.09)
	Previously negative (%)	0 (0.0)	1 (0.05)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.03)
1996	Seen	1532	6251	2306	874	236	62	5	11266
	Tested	958	4215	1515	589	151	31	0	7459
	Newly diagnosed (%)	0 (0.0)	5 (0.1)	1 (0.07)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6 (0.08)
	Previously negative (%)	0 (0.0)	1 (0.05)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.03)

1. Sydney Sexual Health Centre, Parramatta Sexual Health Clinic, Brisbane Sexual Health Clinic, Clinic 275 and Melbourne Sexual Health Centre only.

2.3 National monitoring of HIV infection among entrants into Australian prisons, 1991 – 1996

Table 2.3.1 Rate of reception per 100,000 population into Australian prisons, 1991 - 1996, proportion of receptions tested for HIV antibody and prevalence of HIV infection at reception, by State/ Territory and year

	Corrections jurisdiction								
	ACT[1]	NSW[2]	NT	QLD	SA[3]	TAS	VIC[4]	WA[5]	Total
1991									
Reception rate	113.0	100.1	1136.6	287.7	320.7	251.7	101.6	387.1	192.5
Tested for HIV antibody (%)	1.2	99.9	71.1	100.0	57.1	62.9	98.0	25.1	75.5
HIV prevalence (%)	75.0	0.49	0.0	0.01	0.45	0.0	0.18	0.06	0.21
1992									
Reception rate	82.2	136.4	1077.1	176.5	51.82	260.2	89.8	333.7	193.4
Tested for HIV antibody (%)	–	99.8	64.8	100.0	32.3	61.4	99.9	33.4	69.9
HIV prevalence (%)	–	0.58	0.09	0.21	0.57	0.0	0.45	0.16	0.43
1993									
Reception rate	100.4	135.3	949.2	161.7	406.9	262.6	84.1	363.6	181.9
Tested for HIV antibody (%)	8.7	99.5	82.9	100.0	43.0	55.7	100.0	38.5	74.2
HIV prevalence (%)	0.0	0.36	0.0	0.24	0.23	0.14	0.58	0.09	0.36
1994									
Reception rate	97.4	145.9	1042.7	167.4	349.5	273.4	84.7	357.1	182.4
Tested for HIV antibody (%)	9.9	99.0	80.7	100.0	47.3	34.6	98.7	33.9	74.4
HIV prevalence (%)	3.4	0.24	0.07	0.09	0.12	0.0	0.24	0.0	0.16
1995									
Reception rate	103.9	87.6	974.7	197.2	309.4	234.5	93.5	268.9	157.2
Tested for HIV antibody (%)	7.9	62.2	85.4	100.0	60.1	65.1	88.8	43.6	72.3
HIV prevalence (%)	0.0	0.51	0.0	0.15	0.15	0.0	0.19	0.0	0.19
1996									
Reception rate	67.6	140.8	764.8	233.5	–	186.9	84.1	136.2	137.9
Tested for HIV antibody (%)	6.25	39.9	99.0	100.0	–	67.9	80.6	42.0	68.8
HIV prevalence (%)	0.0	0.60	0.0	0.10	–	0.0	0.36	0.0	0.23

1. Remand centre only. HIV antibody testing is carried out on prisoner request. Data to 30 June 1996.
2. HIV antibody testing policy changed from compulsory to voluntary testing in 1995.
3. Data to 31 December 1995. 1996 data not yet available.
4. Data on the number of women received into Victorian prisons, the number tested for HIV antibody and the number diagnosed with HIV infection not yet available for the 4th quarter of 1996.
5. Data to 30 June 1996.

2.4 National monitoring of HIV infection in blood donors, 1985 – 1996

Table 2.4.1 Number of HIV antibody tests performed by blood transfusion services, donations positive for HIV antibody and prevalence of HIV antibodies[1], by State/Territory and period of donation

	1985[2] – 1988			1989 – 1990			1991 – 1992		
State/ Territory	Tests	Positive	Preval–ence	Tests	Positive	Preval–ence	Tests	Positive	Preval–ence
ACT	55844	0	–	43801	0	–	35430	1	2.82
NSW	1071862	18	1.68	611834	9	1.47	603877	4	0.66
NT	30450	0	–	19164	0	–	19632	0	–
QLD	543425	3	0.55	370415	5	1.35	386781	6	1.55
SA	366471	0	–	194221	0	–	195419	2	1.02
TAS	90500	0	–	51011	0	–	53878	0	–
VIC	974007	7	0.72	537563	2	0.37	532783	3	0.56
WA	266517	1	0.38	159845	4	2.50	160626	1	0.62
Total	**3399076**	**29**	**0.85**	**1987854**	**20**	**1.01**	**1988426**	**17**	**0.85**

	1993 – 1994			1995 – 1996			All years		
State/ Territory	Tests	Positive	Preval–ence	Tests	Positive	Preval–ence	Tests	Positive	Preval–ence
ACT	30865	0	–	20664	0	–	186604	1	0.54
NSW	574285	2	0.35	552678	4	0.72	3414536	37	1.08
NT	16996	1	5.88	19195	0	–	105437	1	0.95
QLD	361984	3	0.83	354553	5	1.41	2017158	22	1.09
SA	192143	1	0.52	166709	0	–	1114963	3	0.27
TAS	49242	0	–	50026	0		294657	0	–
VIC	486451	4	0.82	426905	1	0.23	2957709	17	0.57
WA	153307	0	–	168736	0	–	909031	6	0.66
Total	**1865273**	**11**	**0.59**	**1759466**	**10**	**0.57**	**11000095**	**87**	**0.79**

1. Prevalence per 100,000 tests
2. 1985 from 1 May

Table 2.4.2 Number of blood donors in Australia who had HIV antibodies by HIV exposure category, period of donation and sex, and number of new HIV infections in blood donors with a previous donation negative for HIV antibody by period of donation

HIV exposure category	1985 – 1988		1989 – 1990		1991 – 1992		1993 – 1994		1995 – 1996		All years	
	M	F	M	F	M	F	M	F	M	F	M	F
Male homosexual/ bisexual contact	8[1]	-	4	-	5	-	1	-	0	-	18	-
Injecting drug use	1[2]	0	0	0	0	0	0	0	1	0	2	0
Heterosexual contact	8	7	7	5	0	1	2	1	3	1	20	15
Person from a high prevalence country	0	0	0	0	0	1	0	0	0	0	0	1
Receipt of blood/ tissue	1	1	0	0	0	0	0	0	0	0	1	1
Other	0	0	0	1	0	1	0	1	0	0	0	3
Undetermined	2	1	2	1	9	0	6	0	5	0	24	2
Total	**20**	**9**	**13**	**7**	**14**	**3**	**9**	**2**	**9**	**1**	**65**	**22**
New HIV infection[3]	3	2	8	5	3	0	1	2	1	0	16	9

1. Includes one male who also reported a history of injecting drug use.
2. Includes one male who also reported a history of heterosexual contact.
3. Year of HIV infection was estimated as the midpoint between the date of last HIV negative donation and the date of HIV positive donation.

2.5 National monitoring of HIV infection among entrants to the Australian Defence Force, 1991 – 1996

Table 2.5.1 Prevalence of HIV infection in entrants to the Australian Defence Force

	Apr 88 – Dec 91	Jan 92 – Dec 92	Jan 93 - Dec 93	Jan 94 - Dec 94	Jan 95 – Dec 95	Jan 96 – Dec 96	Total
Number of entrants tested	23569	3686	1353	5002	5583	5431	44624
Number with HIV infection	2	0	1	0	1	0	4
HIV prevalence per 100000 entrants	8	0	74	0	18	0	9

Table 2.5.2 Diagnoses of HIV infection in serving members of the Australian Defence Force

	To 30 Jun 88	Jun 88 – Dec 91	Jan 92 – Dec 92	Jan 93 – Dec 93	Jan 94 – Dec 94	Jan 95 – Dec 95	Jan 96 – Dec 96	Total
ADF strength at 31 Dec	–	68000	66380	59904	57923	–	–	–
Number of HIV tests	7549	51110	16520	18829	20272	16061	14479	144820
Number of members newly diagnosed with HIV infection	13	14	6	8	2	1	2	46
New diagnoses per 1000 strength	–	0.21	0.09	0.13	0.03	–	–	–
New diagnoses per 1000 tests	1.72	0.27	0.36	0.42	0.10	0.06	0.14	0.32

Table 2.5.3 HIV infection in the Australian Defence Force by age and HIV exposure category

	Age group (years)					
Exposure category	**Unavailable**	**15 – 19**	**20 – 29**	**30 – 39**	**40 – 49**	**Total**
Male homosexual/ bisexual contact	0	0	8	1	0	9
Heterosexual contact	0	0	11	7	5	23
Receipt of blood/tissue	0	0	0	1	0	1
Other/undetermined	1	2	7	6	1	17
Total	**1**	**2**	**26**	**15**	**6**	**50**

3 Sentinel surveillance for blood borne viruses in injecting drug users

3.1 HIV and HCV seroprevalence among people attending needle and syringe exchanges, 1995 – 1996

Table 3.1.1 Number of participating needle and syringe exchange programs (NSEP), 1995 – 1996, number of injecting drug users seen at the needle and syringe exchange programs, and number with HIV or HCV antibody by year, State/Territory and sex

1995

State/ Territory	Number of NSEP	Number of injecting drug users seen at NSEP			Number with HIV antibody (%)			Number with HCV antibody (%)		
		M	F	Total[1]	M	F	Total[1]	M	F	Total[1]
ACT	1	49	18	74	2 (6.3)	0 (0.0)	2 (3.7)	18 (56)	14 (67)	33 (61)
NSW	4	663	306	1029	6 (2.4)	3 (2.0)	10 (2.4)	219 (86)	124 (82)	348 (85)
QLD	4	409	144	555	4 (1.8)	1 (1.2)	5 (1.6)	84 (38)	37 (45)	124 (40)
VIC	5	339	126	467	1 (1.3)	0 (0.0)	1 (0.8)	43 (56)	20 (49)	63 (53)
Other	7	141	80	248	2 (3.8)	0 (0.0)	2 (2.3)	36 (68)	13 (42)	50 (58)
Total	**21**	**1601**	**674**	**2373**	**15 (2.3)**	**4 (1.2)**	**20 (2.0)**	**400 (63)**	**208 (64)**	**618 (63)**

1996

State/ Territory	Number of NSEP	Number of injecting drug users seen at NSEP			Number with HIV antibody (%)			Number with HCV antibody (%)		
		M	F	Total[1]	M	F	Total[1]	M	F	Total[1]
ACT	1	79	56	139	1 (1.5)	0 (0.0)	1 (0.8)	53 (79)	37 (67)	91 (74)
NSW	4	689	311	1026	11 (3.4)	0 (0.0)	11 (2.2)	266 (83)	139 (82)	409 (83)
QLD	5	521	187	710	7 (2.0)	1 (0.8)	8 (1.6)	157 (44)	64 (51)	224 (46)
VIC	3	290	129	422	3 (2.3)	0 (0.0)	3 (1.3)	87 (68)	44 (72)	132 (70)
Other	7	257	126	395	1 (1.0)	0 (0.0)	1 (0.6)	56 (56)	37 (66)	96 (60)
Total	**20**	**1836**	**809**	**2692**	**23 (2.4)**	**1 (0.2)**	**24 (1.7)**	**619 (64)**	**321 (69)**	**952 (66)**

1. Total includes people whose sex was reported as transgender and people whose sex was not reported.

Table 3.1.2 Number of injecting drug users tested for HIV or HCV antibody, 1995 – 1996, and number with HIV or HCV antibody by year, history of injecting drug use and sex

1995

History of injecting drug use	Number tested			Percent with HIV antibody			Percent with HCV antibody		
	M	F	Total[1]	M	F	Total[1]	M	F	Total[1]
Less than 3 years	77	53	131	1.3	0.0	0.8	18	28	22
More than 2 years	548	272	830	2.6	1.5	2.3	69	71	70
Not reported	14	2	18	0.0	0.0	0.0	64	50	61
Total	**639**	**327**	**979**	**2.3**	**1.2**	**2.0**	**63**	**64**	**63**

1996

History of injecting drug use	Number tested			Percent with HIV antibody			Percent with HCV antibody		
	M	F	Total[1]	M	F	Total[1]	M	F	Total[1]
Less than 3 years	161	74	237	2.5	0.0	1.7	30	39	34
More than 2 years	775	381	1167	2.5	0.3	1.7	70	74	72
Not reported	36	11	49	0.0	0.0	0.0	72	82	71
Total	**972**	**466**	**1453**	**2.4**	**0.2**	**1.7**	**64**	**69**	**66**

1. Total includes people whose sex was reported as transgender and people whose sex was not reported.

Table 3.1.3 Number of injecting drug users tested for HIV or HCV antibody, 1995 – 1996, and number with HIV or HCV antibody by year, self-report of sexual orientation and sex

1995

	Number tested			Percent with HIV antibody			Percent with HCV antibody		
Sexual orientation	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**
Heterosexual	538	233	775	0.7	0.9	0.9	64	64	64
Bisexual	37	64	104	2.7	1.6	1.9	49	64	59
Homosexual	42	23	69	23.8	4.3	15.9	52	57	54
Not reported	22	7	31	0.0	0.0	0.0	64	86	71
Total	**639**	**327**	**979**	**2.3**	**1.2**	**2.0**	**63**	**64**	**63**

1996

	Number tested			Percent with HIV antibody			Percent with HCV antibody		
Sexual orientation	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**
Heterosexual	803	321	1133	0.5	0.3	0.4	65	69	66
Bisexual	69	97	166	4.3	0.0	1.8	61	66	64
Homosexual	60	32	92	26.7	0.0	17.4	53	66	58
Not reported	40	16	62	0.0	0.0	0.0	68	81	71
Total	**972**	**466**	**1453**	**2.4**	**0.2**	**1.7**	**64**	**69**	**66**

1. Total includes people whose sex was reported as transgender and people whose sex was not reported.

3.2 HIV, HBV and HCV seroprevalence among injecting drug users attending methadone clinics, 1996

Table 3.2.1 Number of injecting drug users enrolled at the participating clinics in 1996, number tested for HIV antibody, HCV antibody, HBs or HBc antibody or HBs antigen and number (percent) diagnosed with HIV antibody, HCV antibody, HBs or HBc antibody and HBs antigen, by history of methadone treatment and sex

History of methadone treatment/ Sex	Number enrolled	HIV antibody		HCV antibody		HBs or HBc antibody		HBsAg	
		Tested	Diagnosed (%)	Tested	Diagnosed (%)	Tested	Past infection or vaccination (%)	Tested	Diagnosed (%)
New to methadone									
Male	114	69	0 (0.0)	70	32 (46)	65	11 (17)	10	0 (0.0)
Female	83	46	0 (0.0)	47	24 (51)	41	5 (12)	6	0 (0.0)
Total	197	115	0 (0.0)	117	56 (48)	106	16 (15)	16	0 (0.0)
Previous methadone									
Male	235	135	5 (3.7)	137	118 (86)	128	61 (48)	51	6 (12)
Female	142	70	0 (0.0)	72	51 (71)	63	26 (41)	15	1 (7)
Total	377	205	5 (2.4)	209	169 (81)	191	87 (46)	66	7 (6)
All clients									
Male	349	204	5 (2.5)	207	150 (71)	193	72 (37)	61	6 (10)
Female	225	116	0 (0.0)	119	75 (63)	104	31 (30)	21	1 (5)
Total	574	320	5 (1.6)	326	225 (69)	297	103 (35)	82	7 (9)

Table 3.2.2 Number of injecting drug users enrolled at the participating clinics in 1996, number tested for HIV antibody, HCV antibody, HBs or HBc antibody, or HBs antigen, and number (percent) diagnosed with HIV antibody, HCV antibody, HBs or HBc antibody or HBs antigen by history of methadone treatment and years of injecting drug use

History of methadone treatment/ Years of injecting drug use	Number enrolled	HIV antibody		HCV antibody		HBs or HBc antibody		HBsAg	
		Tested	Diagnosed (%)	Tested	Diagnosed (%)	Tested	Past infection or vaccination (%)	Tested	Diagnosed (%)
New to methadone									
Less than 3 years	43	15	0 (0.0)	17	4 (24)	14	2 (14)	2	0 (0.0)
3 to 6 years	52	34	0 (0.0)	34	13 (38)	31	6 (19)	6	0 (0.0)
7 to 10 years	29	20	0 (0.0)	19	10 (53)	19	2 (11)	2	0 (0.0)
More than 10 years	66	45	0 (0.0)	46	29 (63)	41	6 (15)	6	0 (0.0)
Not reported	7	1	0 (0.0)	1	0 (0.0)	1	0 (0.0)	0	0 (0.0)
Previous methadone									
Less than 3 years	17	13	0 (0.0)	14	3 (21)	13	3 (23)	9	0 (0.0)
3 to 6 years	59	36	0 (0.0)	34	20 (59)	34	10 (30)	11	2 (18)
7 to 10 years	43	21	0 (0.0)	19	17 (89)	20	9 (45)	9	1 (11)
More than 10 years	243	126	4 (3.2)	136	127 (93)	119	63 (53)	35	4 (11)
Not reported	15	9	1 (11.1)	6	2 (33)	5	2 (20)	2	0 (0.0)
All clients									
Less than 3 years	60	28	0 (0.0)	31	7 (23)	27	5 (19)	11	0 (0.0)
3 to 6 years	111	70	0 (0.0)	68	33 (49)	65	16 (25)	17	2 (12)
7 to 10 years	72	41	0 (0.0)	38	27 (71)	39	11 (28)	11	1 (9)
More than 10 years	309	171	4 (2.3)	182	156 (86)	160	69 (43)	41	4 (10)
Not reported	22	10	1 (10)	7	2 (29)	6	2 (33)	2	0 (0.0)

3.3 HCV incidence in injecting drug users attending selected sites in Melbourne and Sydney

Table 3.3.1 Incidence of HCV infection among injecting drug users attending selected sites in Melbourne and Sydney, 1991 – 1996, by site and year

Study site	Year	Person years at risk	Number newly diagnosed with HCV infection	Incidence per 100 person years[1]
Cohort study, Melbourne	1991	27.1	5	18.8
	1992	35.4	3	8.6
	1993	38.0	5	9.3
	1994	51.9	6	12.5
	1995	22.2	0	3.4
Methadone clinic, Melbourne	1991	6.0	1	33.3
	1992	19.3	6	10.3
	1993	26.4	2	34.0
	1994	24.5	3	24.0
Kirketon Road Centre, Sydney	1992	12.3	3	24.3
	1993	57.0	9	15.8
	1994	79.3	13	16.4
	1995	73.2	15	20.5
	1996	32.9	5	15.2

1. Date of infection estimated as the midpoint between the date of the last negative and first positive antibody test.

4 National monitoring of occupational exposure to blood and body fluids

Table 4.1 Number of cases of occupational exposure to blood or body fluids in health care workers reported by the participating sites, and number of cases of occupational exposure per 100 daily occupied beds by six month reporting interval and type of exposure

	Jul – Dec 1995 (13 sites)		Jan – Jun 1996 (32 sites)		Jul – Dec 1996 (26 sites)	
Type of exposure	Number of exposures	Exposures per 100 daily occupied beds	Number of exposures	Exposures per 100 daily occupied beds	Number of exposures	Exposures per 100 daily occupied beds
Percutaneous exposure	434	12.0	974	9.6	656	10.3
Hollow bore sharps	*258*	*7.1*	*572*	*5.7*	*407*	*6.4*
Non-hollow bore, non-glass sharps	*150*	*4.1*	*363*	*3.6*	*220*	*3.4*
Glass sharp objects	*8*	*0.2*	*15*	*0.1*	*14*	*0.2*
Unknown sharp objects	*18*	*0.5*	*24*	*2.4*	*15*	*0.2*
Non-percutaneous exposure	98	2.7	214	2.1	143	2.2

Table 4.2 **Number of cases of occupational exposure to blood or body fluids in health care workers reported by the participating sites for which the source was tested for specific blood borne viruses, 1995 – 1996, and number with diagnosed infection, by six month reporting interval, viral test and type of exposure**

	Jul – Dec 1995		Jan – Jun 1996		Jul – Dec 1996	
Viral test/ Type of exposure	**Number (%) tested**	**Number (%) with infection**	**Number (%) tested**	**Number (%) with infection**	**Number (%) tested**	**Number (%) with infection**
HIV antibody						
Hollow bore needles	91 (35)	3 (3.3)	296 (52)	5 (1.7)	229 (56)	5 (2.1)
Other percutaneous	66 (38)	3 (4.5)	190 (47)	9 (4.7)	114 (46)	0 (0.0)
Non percutaneous	44 (45)	5 (11.4)	106 (50)	6 (5.7)	47 (33)	0 (0.0)
HCV antibody						
Hollow bore needles	89 (35)	5 (5.6)	290 (51)	9 (3.1)	232 (57)	14 (6.0)
Other percutaneous	60 (34)	4 (6.7)	185 (46)	7 (3.8)	117 (47)	6 (5.1)
Non percutaneous	44 (45)	14 (32)	102 (48)	12 (11.8)	51 (36)	7 (13.7)
HBs antigen						
Hollow bore needles	93 (36)	1 (1.1)	302 (53)	5 (1.7)	232 (57)	5 (2.2)
Other percutaneous	62 (35)	2 (3.2)	186 (46)	8 (4.3)	119 (48)	1 (0.8)
Non percutaneous	44 (45)	4 (9.1)	106 (52)	7 (6.6)	47 (33)	2 (4.3)

Table 4.3 **Number of health care workers (HCWs) occupationally exposed to blood or body fluids with at least three months post-exposure follow up, 1995-1996, number (percent) tested for specific blood borne viruses and number with occupationally acquired infection by six month reporting interval, type of exposure and infection status of the source**

	Jul – Dec 1995 (n = 386)			Jan – Jun 1996 (n = 910)			Jul – Dec 1996 (n = 690)		
Type of exposure/ Source serostatus	**Exposed HCWs (% with HBsAb at exposure)**	**Tested (%) at follow up**	**Diagnosed infection**	**Exposed HCWs (% with HBsAb at exposure)**	**Tested (%) at follow up**	**Diagnosed infection**	**Exposed HCWs (% with HBsAb at exposure)**	**Tested (%) at follow up**	**Diagnosed infection**
Hollow bore needle									
HIV infection	2	1 (50)	0	4	0 (0)	0	3	0 (0)	0
Unknown HIV status	121	31 (26)	0	201	59 (24)	0	152	34 (22)	0
HCV antibody	5	2 (40)	0	8	0 (0)	0	10	1 (10)	0
Unknown HCV status	120	19 (16)	0	208	44 (21)	1	145	17 (12)	0
HBsAg infection	2 (100)	0 (0)	0	3 (67)	0 (0)	0	4 (25)	1 (25)	0
Unknown HBsAg status	118 (60)	7 (6)	0	193 (53)	11 (6)	0	148 (55)	7 (5)	0
Other percutaneous									
HIV infection	2	1 (50)	0	7	2 (29)	0	0	-	-
Unknown HIV status	83	21 (35)	0	160	41 (26)	0	117	38 (33)	0
HCV antibody	3	1 (33)	0	5	1 (20)	0	5	1 (20)	0
Unknown HCV status	85	14 (17)	0	164	32 (20)	0	110	16 (15)	0
HBsAg infection	2 (100)	0 (0)	0	7 (86)	0 (0)	0	0	-	-
Unknown HBsAg status	85 (57)	1 (1)	0	163 (53)	22 (14)	0	113 (63)	8 (7)	0
Non percutaneous									
HIV infection	2	0 (0)	0	4	2 (50)	0	0	-	-
Unknown HIV status	39	13 (33)	0	89	22 (25)	0	90	22 (24)	0
HCV antibody	10	6 (60)	0	10	3 (30)	0	6	2 (33)	0
Unknown HCV status	38	8 (21)	0	90	12 (13)	0	86	5 (6)	0
HBsAg infection	3 (100)	0 (0)	0	4 (50)	0 (0)	0	2 (100)	0 (0)	0
Unknown HBsAg status	40 (65)	0 (0)	0	89 (54)	3 (3)	0	90 (73)	1 (1)	0

5 National monitoring of diagnoses of sexually transmissible diseases and blood borne viruses

5.1 Notification of specific sexually transmissible diseases and blood borne viruses to the National Notifiable Diseases Surveillance System

Table 5.1.1 Number of diagnoses of newly acquired hepatitis B infection by State/Territory and year

	Year of diagnosis[1]			
State/Territory	**1993**	**1994**	**1995**	**1996**
ACT	–	–	13	4
NSW	103	82	66	41
NT	–	26	15	5
QLD	–	49	64	34
SA	36	34	33	9
TAS	2	2	7	9
VIC	99	96	92	81
WA	–	39	32	11
Total	**240**	**328**	**322**	**194**

1. Dashes (–) indicate that data were not available.

Table 5.1.2 Number of diagnoses of newly acquired hepatitis B infection by age group, year and sex

Age group	**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 4	1	0	1	0	1	1	2	0	2	0	0	0
5 – 14	2	1	3	3	7	10	3	3	6	3	3	6
15 – 19	19	12	31	16	36	52	17	18	35	11	18	29
20 – 29	67	33	101	83	41	126	89	61	150	48	25	73
30 – 39	34	19	56	44	29	73	45	21	66	40	8	48
40 – 49	15	7	24	23	6	29	29	8	37	12	5	17
50 – 59	8	2	11	15	5	20	9	1	10	7	3	10
60+	7	6	13	11	0	11	11	3	14	5	6	11
Not known	0	0	0	5	1	6	1	1	2	0	0	0
Total[1]	**153**	**80**	**240**	**200**	**126**	**328**	**206**	**116**	**322**	**126**	**68**	**194**

1. Totals include people whose sex was not reported.

Table 5.1.3 Number of diagnoses of hepatitis C infection by State/Territory and year

	Year of diagnosis[1]					
State/Territory	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
ACT	59	110	285	428	330	270
NSW	657	4041	–	–	–	–
NT	10	91	212	301	309	210
QLD	1690	3196	3049	3177	2920	2884
SA	–	1	–	–	–	–
TAS	33	112	161	53	268	299
VIC	1667	1262	2659	3523	4506	4430
WA	–	–	1176	1416	1268	967
Total	**4116**	**8813**	**7542**	**8898**	**9601**	**9060**

1. Dashes (–) indicate that data was not available.

Table 5.1.4 Number of diagnoses of hepatitis C infection by age group, year and sex

Age group	**1991**			**1992**			**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 4	24	11	35	32	18	51	50	34	88	40	32	73	46	51	107	44	40	86
5 – 14	51	20	73	67	31	101	17	5	22	17	13	30	18	10	28	28	9	37
15 – 19	35	44	79	65	82	154	74	79	157	86	102	193	130	139	271	176	160	337
20 – 29	715	515	1250	1464	1136	2692	1293	920	2264	1431	1153	2613	1567	1090	2675	1450	1029	2486
30 – 39	1077	600	1696	2632	1421	4198	2282	1298	3640	2637	1460	4157	2663	1482	4172	2346	1366	3722
40 – 49	235	72	315	636	239	919	630	232	875	858	346	1221	1028	485	1520	1134	493	1638
50 – 59	69	41	113	135	102	243	91	68	162	107	71	183	170	105	278	164	124	289
60+	119	89	209	214	162	386	141	104	249	160	157	323	217	171	391	187	171	359
Not known	187	106	346	37	20	69	45	21	85	60	39	105	97	48	159	59	33	106
Total[1]	**2512**	**1498**	**4116**	**5282**	**3211**	**8813**	**4623**	**2761**	**7542**	**5396**	**3373**	**8898**	**5936**	**3581**	**9601**	**5588**	**3425**	**9060**

1. Totals include people whose sex were not reported.

Table 5.1.5 Number of diagnoses of newly acquired hepatitis C infection by State/Territory and year

	Year of diagnosis[1]			
State/Territory	**1993**	**1994**	**1995**	**1996**
ACT	–	6	7	10
NSW	26	32	41	22
NT	–	–	5	3
QLD	–	–	–	–
SA	4	4	15	–
TAS	–	–	1	5
VIC	–	–	–	–
WA	–	–	–	–
Total	**30**	**42**	**69**	**40**

1. Totals include people whose sex were not reported.

Table 5.1.6 Number of diagnoses of gonorrhoea by State/Territory and year

	Year of diagnosis					
State/Territory	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
ACT	10	9	15	8	10	18
NSW	395	480	371	367	420	541
NT	730	583	683	736	547	797
QLD	500	620	603	708	749	1028
SA	67	165	142	156	251	17
TAS	14	9	5	8	3	2
VIC	162	228	199	154	243	365
WA	652	814	793	843	1036	1055
Total	**2530**	**2908**	**2811**	**2980**	**3259**	**3823**

Table 5.1.7 Number of diagnoses of gonorrhoea by age group, year and sex

Age group	**1991**			**1992**			**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 4	30	24	57	13	14	28	22	17	43	11	14	25	20	18	38	11	23	34
5 – 14	61	40	115	29	31	62	9	30	40	13	28	52	14	38	52	27	58	85
15 – 19	233	173	410	279	178	462	309	207	520	297	255	554	377	302	685	400	383	783
20 – 29	797	326	1133	974	398	1384	929	337	1272	994	393	1394	1023	470	1497	1069	613	1686
30 – 39	369	112	487	501	102	610	478	118	598	407	157	567	547	106	654	626	188	814
40 – 49	139	16	155	174	31	207	168	31	200	179	31	210	160	33	194	227	54	282
50 – 59	49	7	56	53	8	61	61	4	66	63	6	69	56	11	68	72	16	88
60+	12	3	15	24	6	30	12	3	16	25	4	29	22	4	26	25	2	27
Not known	60	19	102	35	20	64	45	11	56	41	39	80	24	16	45	16	7	24
Total[1]	**1750**	**720**	**2530**	**2082**	**788**	**2908**	**2033**	**758**	**2811**	**2030**	**927**	**2980**	**2243**	**998**	**3259**	**2473**	**1344**	**3823**

1. Totals include people whose sex was not reported.

Table 5.1.8 Number of diagnoses of syphilis by State/Territory and year

	Year of diagnosis					
State/Territory	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
ACT	5	11	3	16	11	14
NSW	588	891	782	1057	923	740
NT	457	659	639	451	349	290
QLD	518	687	636	549	367	302
SA	197	92	57	43	32	1
TAS	8	–	8	2	2	13
VIC	28	39	29	143	19	13
WA	252	316	151	104	126	87
Total	**2053**	**2695**	**2305**	**2365**	**1829**	**1460**

Table 5.1.9 Number of diagnoses of syphilis by age group, year and sex

Age group	**1991**			**1992**			**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 4	12	21	41	13	14	28	15	21	39	18	9	30	11	5	16	13	3	16
5 – 14	71	71	169	50	52	106	14	33	48	11	25	36	6	22	29	6	7	13
15 – 19	170	245	417	209	306	520	172	229	403	116	215	339	113	182	302	71	129	200
20 – 29	369	356	735	453	499	962	409	440	869	318	379	711	252	331	593	215	268	484
30 – 39	190	135	331	284	201	492	224	193	429	262	225	502	187	181	369	156	148	306
40 – 49	84	39	129	177	73	251	151	55	216	233	70	314	140	59	203	136	54	192
50 – 59	41	29	70	100	25	130	77	30	113	126	32	166	97	31	130	71	24	96
60+	65	54	122	106	42	149	94	58	154	143	77	225	114	49	167	97	43	141
Not known	23	12	39	32	23	57	20	12	34	19	20	42	13	6	20	5	3	12
Total[1]	**1025**	**962**	**2053**	**1424**	**1235**	**2695**	**1176**	**1071**	**2305**	**1246**	**1052**	**2365**	**933**	**866**	**1829**	**770**	**679**	**1460**

1. Totals include people whose sex was not reported.

Table 5.1.10 Number of diagnoses of chlamydia by State/Territory[1] and year

	Year of diagnosis					
State/Territory	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
ACT	55	40	56	93	81	113
NT	482	621	656	734	519	661
QLD	2560	2795	2593	2444	2413	3266
SA	–	901	747	717	757	69
TAS	380	355	227	300	277	307
VIC	814	1216	1396	1318	1317	1610
WA	–	–	812	838	1026	1363
Total	**4291**	**5928**	**6487**	**6444**	**6390**	**7389**

1. Chlamydia is not notifiable in New South Wales.

Table 5.1.11 Number of diagnoses of chlamydia by age group, year and sex

Age group	**1991**			**1992**			**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 4	28	37	66	24	30	60	46	38	87	28	44	78	30	37	67	33	38	71
5 – 14	10	28	38	11	28	39	3	44	48	5	43	48	8	46	55	12	58	71
15 – 19	155	918	1084	205	1175	1394	255	1262	1534	213	1249	1479	248	1221	1479	296	1372	1674
20 – 29	671	1533	2224	958	2258	3280	1178	2401	3612	1067	2523	3631	1149	2499	3672	1429	2792	4234
30 – 39	191	307	508	296	403	724	342	446	798	341	402	751	361	410	776	487	496	986
40 – 49	69	51	122	108	102	224	132	112	244	109	117	229	106	91	199	145	98	244
50 – 59	28	16	45	30	14	49	43	21	64	37	20	57	27	17	44	36	15	51
60+	11	5	17	7	9	20	16	13	29	15	14	29	18	9	27	24	7	31
Not known	40	99	187	35	93	138	21	46	71	46	84	142	26	40	71	12	15	27
Total[1]	**1203**	**2994**	**4291**	**1674**	**4112**	**5928**	**2036**	**4383**	**6487**	**1861**	**4496**	**6444**	**1973**	**4370**	**6390**	**2474**	**4891**	**7389**

1. Totals include people whose sex was not reported.

Table 5.1.12 Number of diagnoses of donovanosis by State/Territory[1] and year

	Year of diagnosis					
State/Territory	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
NT	18	38	34	71	43	21
QLD	14	15	17	28	17	5
WA	38	24	17	20	24	19
Total	**70**	**77**	**68**	**119**	**84**	**45**

1. Donovanosis is notifiable only in the Northern Territory, Queensland and Western Australia.

Table 5.1.13 Number of diagnoses of donovanosis by age group, year and sex

Age group	**1991**			**1992**			**1993**			**1994**			**1995**			**1996**		
(years)	**M**	**F**	**Total[1]**	**M**	**F**	**Total[1]**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**	**M**	**F**	**Total**
0 – 14	2	2	5	2	1	3	0	1	1	0	5	5	3	1	4	0	1	1
15 – 19	1	11	12	5	17	23	5	9	14	6	14	20	5	20	26	0	6	6
20 – 29	14	14	28	16	14	30	12	16	28	20	25	45	10	20	30	5	7	12
30 – 39	5	4	9	4	6	10	8	7	15	7	23	30	8	8	16	5	5	10
40 – 49	3	3	6	1	1	2	2	0	2	4	6	10	0	2	2	3	8	11
50+	3	1	4	2	3	5	0	5	5	2	3	5	5	1	6	3	2	5
Not known	3	2	6	1	3	4	2	1	3	3	1	4	0	0	0	0	0	0
Total[1]	**31**	**37**	**70**	**31**	**45**	**77**	**29**	**39**	**68**	**42**	**77**	**119**	**31**	**52**	**84**	**16**	**29**	**45**

1. Totals include people whose sex was not reported.

5.2 Gonococcal isolates

Table 5.2.1 Number of gonococcal isolates in 1996 reported to the Australian Gonococcal Surveillance Programme by State/Territory, sex and site

	State/Territory						
Sex and site	**NSW**	**NT**	**QLD**	**SA**	**VIC**	**WA**	**Total**
Males							
Urethra	530	112	279	51	300	364	1636
Rectal	73	1	10	15	56	6	161
Pharynx	36	0	6	3	22	0	67
Other/not specified	6	137	3	2	4	14	166
Total	**645**	**250**	**298**	**71**	**382**	**384**	**2030**
Females							
Cervix	82	144	194	15	32	189	656
Other/not specified	4	41	11	0	1	5	62
Total	**86**	**185**	**205**	**15**	**33**	**194**	**718**
Antibiotic sensitivity (%)							
PPNG	8.3	2.3	3.3	2.3	9.9	4.8	5.8
RR	18.2	15.2	3.2	15.2	22.7	0.5	9.8
LS	55.3	76.7	78.2	76.7	52.1	88.5	72.1
FS	18.2	5.8	15.3	5.8	15.3	6.2	12.3
TOTAL	**731**	**435**	**503**	**86**	**415**	**578**	**2748**

PPNG Penicillinase-producing *Neisseria gonorrhoea* RR relatively resistant
LS less sensitive FS fully sensitive

Table 5.2.2 Number of gonococcal isolates in NSW reported to the Australian Gonococcal Surveillance Programme by year, sex and site

	Year of diagnosis				
Sex and site	**1992**	**1993**	**1994**	**1995**	**1996**
Males					
Urethra	490	409	336	442	530
Rectal	75	87	56	60	73
Pharynx	32	48	30	38	36
Other/not specified	4	14	6	3	6
Total	**601**	**558**	**428**	**543**	**645**
Females					
Cervix	95	53	61	55	82
Rectal	0	0	1	0	0
Pharynx	7	5	4	5	2
Other/not specified	1	0	6	1	2
Total	**103**	**58**	**72**	**61**	**86**
Total[1]	**704**	**618**	**500**	**604**	**731**

1. Total includes isolates from people whose sex was not reported.

6 Monitoring behaviour

6.1 Monitoring sexual behaviour in homosexually active men

Table 6.1.1 Prevalence of anal intercourse in the previous 6 month interval among participants in the Sydney Men and Sexual Health Study by six month interval, partner type and condom use (%)

	1993		1994		1995		1996
	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun
Sample size	**520**	**335**	**536**	**274**	**464**	**297**	**467**
Anal intercourse with regular partners							
No regular partner	46.0	43.9	38.4	39.4	41.4	36.3	38.4
No anal intercourse	10.8	9.3	10.8	9.5	10.3	14.1	13.9
Always with condom	19.8	22.1	20.3	24.8	17.5	21.2	18.4
Any without condom[1]	23.5	24.8	30.4	26.3	30.6	30.0	29.3
Never use condom	*14.2*	*13.4*	*18.1*	*16.8*	*19.6*	*19.5*	*18.8*
Anal intercourse with casual partners							
No casual partners	17.1	21.2	24.1	24.8	22.3	25.3	22.5
No anal intercourse	24.2	19.4	21.6	16.4	21.6	21.9	25.9
Always with condom	42.7	42.4	39.4	44.2	43.1	38.0	41.1
Any without condom[2]	16.0	17.0	14.9	14.6	13.1	15.2	10.5
Mostly or always without condom	*1.3*	*2.1*	*2.1*	*1.5*	*1.7*	*3.4*	*1.5*

1. Includes those who never used condoms.
2. Includes those who mostly or always did not use condoms.

Table 6.1.2 Prevalence of anal intercourse in the previous 6 month interval in repeated cross-sectional surveys of Sydney gay men by six month interval, partner type and condom use (%)

	Month/year of survey		
	1996		1997
	Feb	Aug	Feb
Sample size	**1611**	**627**	**1609**
Anal intercourse with casual partners			
No casual partners	18.4	14.4	31.1
No anal intercourse	25.6	18.7	16.7
Always with condom	44.1	47.2	36.3
Any without condom	11.7	19.8	15.9

6.2 Monitoring sexual behaviour in university students

Table 6.2.1 Sexual practice among 18 – 19 year old[1] first year university students by year of enrolment

	Year of enrolment								
	1988	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**
Total	**551**	**670**	**843**	**418**	**573**	**553**	**235**	**297**	**377**
Male	172	209	280	121	158	166	63	57	97
Female	379	461	563	297	415	387	172	240	280
Number of partners, ever (%)									
0	–	–	45.5	42.7	45.6	41.0	38.4	49.8	44.9
1	–	–	20.0	22.3	23.9	26.3	26.2	27.1	24.9
2 – 4	–	–	24.7	24.9	22.6	25.7	23.6	16.5	21.4
>4	–	–	9.9	10.1	7.9	7.0	11.8	6.5	8.8
Ready access to condoms (%)[2]									
Male	–	44.7	47.9	56.2	61.1	62.6	73.8	59.3	52.6
Female	–	16.6	19.7	21.3	32.4	35.8	52.4	49.4	42.2
Condom use (%) with steady partner in last month									
never	–	–	–	14.1	11.4	13.0	12.3	13.7	12.8
most times	–	–	–	3.8	4.6	6.2	6.2	5.2	4.7
sometimes	–	–	–	5.3	6.0	4.2	6.2	4.5	4.4
everytime	–	–	–	11.7	14.7	13.9	13.7	8.2	10.0
no partner	–	–	–	65.1	63.4	62.7	61.7	68.4	68.1
Condom use (%) with casual partner in last 6 months									
never	–	–	–	4.1	2.4	2.9	3.5	3.1	1.9
most times	–	–	–	2.9	1.2	1.6	1.8	1.7	2.8
sometimes	–	–	–	0.7	0.5	1.8	2.2	1.0	1.1
everytime	–	–	–	8.9	8.4	11.3	11.4	7.5	11.3
no partner	–	–	–	83.5	87.4	82.3	81.1	86.6	82.9
Sexual practice, ever (%)									
Vaginal sex	47.4	44.5	50.0	50.4	47.1	53.2	56.8	43.4	50.4
regular partner	–	–	46.7	48.2	44.3	50.1	53.7	39.5	47.4
casual partner	–	–	24.9	24.8	18.3	22.2	28.2	16.3	23.4
Anal sex	4.0	2.3	5.5	7.7	5.1	6.4	3.3	4.5	3.0
regular partner	–	–	4.6	6.8	4.7	5.7	2.7	4.0	2.6
casual partner	–	–	1.6	3.5	1.3	4.0	0.5	1.1	0.3
Any form of sex (oral, vaginal, anal)	55.8	53.3	57.7	60.4	56.0	61.5	69.4	57.6	60.6

1. Including 17 year old students turning 18 that year.
2. Answering “yes” to the question: ’Do you currently keep condoms readily accessible, for example, in a purse, wallet, glovebox or a bedside table?’

6.3 Monitoring sexual and injecting behaviour in injecting drug users

Table 6.3.1 Number of injecting drug users surveyed at participating needle and syringe exchange programs (NSEP), 1995 – 1996, and percent reporting use of a needle and syringe after someone else in the last month by year, history of injecting drug use, last drug injected and sex

	1995						1996					
	Number surveyed at NSEP			Percent using after someone else			Number surveyed at NSEP			Percent using after someone else		
	M	F	Total[1]	M	F	Total	M	F	Total[1]	M	F	Total
History of injecting drug use												
Less than 3 years	77	53	131	21	26	24	161	74	237	17	26	20
More than 2 years	548	272	830	27	35	30	775	381	1167	27	28	27
Not reported	14	2	18	29	50	33	36	11	49	36	27	33
Last drug injected												
Heroin/opiates	424	219	649	28	34	30	635	343	987	26	25	26
Stimulants	140	80	224	23	29	26	213	84	300	23	21	22
Combination	57	25	85	33	44	35	90	35	126	38	46	40
Other/not reported	18	3	21	6	0	5	34	4	40	6	50	10
Total	**639**	**327**	**979**	**27**	**33**	**29**	**972**	**466**	**1453**	**26**	**28**	**26**

1. Total includes people whose sex was not reported.

Table 6.3.2 Number of injecting drug users surveyed at participating needle and syringe exchange programs (NSEP), 1995 – 1996, who reported sexual intercourse in the last month, and percent reporting use of condoms at last intercourse by year, history of injecting drug use, last drug injected and sex

	1995						1996					
	Number reporting sexual intercourse			Percent using condom at last intercourse			Number reporting sexual intercourse			Percent using condom at last intercourse		
	M	F	Total[1]	M	F	Total	M	F	Total[1]	M	F	Total
History of injecting drug use												
Less than 3 years	55	37	93	44	35	41	110	63	174	45	25	38
More than 2 years	397	210	613	31	29	30	549	292	847	31	31	27
Not reported	10	2	13	30	50	39	23	8	32	39	38	38
Last drug injected												
Heroin/opiates	290	168	460	28	27	28	436	261	703	29	31	30
Stimulants	111	60	175	44	35	41	156	73	229	43	26	38
Combination	47	19	68	23	32	27	62	27	90	32	33	33
Other/not reported	14	2	16	43	50	44	28	2	31	43	0	42
Total	**462**	**249**	**719**	**32**	**30**	**32**	**682**	**363**	**1053**	**33**	**30**	**32**

1. Total includes people whose sex was not reported.

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7 AIDS incidence and HIV prevalence in selected countries

Table 7.1 AIDS incidence and HIV prevalence in selected countries

Country	AIDS incidence		HIV prevalence			
	1996	Rate[1]	1994	Rate[1]	1996	Rate[1]
Asia Pacific						
Australia	706	3.9	11000	60	11000	60
Cambodia	305	2.9	54000	511	96300	912
China	52	0.0	17600	1	50000	4
India	1210[2]	0.1	1750000	187	–	
Japan	293	0.2	2960	2	5000	4
Malaysia	249	1.3	32700	166	55000	279
New Zealand	60	1.8	1200	35	1200	35
Papua New Guinea	69	1.6	2040	47	4500	105
Philippines	59	0.1	8000	11	17500	24
Republic of Korea	22	0.0	1480	3	2500	5
Thailand	10303[3]	17.9	700000	1161	–	
Vietnam	307	0.4	12290	17	35000	47
Europe						
France	3043	5.2	90000	155	–	
Germany	795	1.0	43000	53	–	
Italy	4151	7.1	90000	154	–	
Spain	4156	10.5	120000	305	–	
United Kingdom	943	1.6	25000	43	–	
North America						
Canada	2314[2]	8.1	30000	106	–	
United States	69151	26.2	700000	265	–	

1. Rates are per 100,000 total estimated population at mid–1994
2. 1995
3. 1994

METHODOLOGICAL NOTES

1 National surveillance for diagnosed HIV infection, AIDS and perinatal exposure to HIV

1.1 National AIDS Registry

National surveillance for AIDS diagnoses

AIDS is a notifiable condition in all Australian States and Territories. AIDS cases are notified by the diagnosing doctor through State/Territory health authorities to the National Centre in HIV Epidemiology and Clinical Research. Information sought at AIDS notification includes State/Territory of diagnosis, name code (based on the first two letters of the family name and given name), sex, date of birth, date of AIDS diagnosis, AIDS defining illness, CD4+ count at AIDS diagnosis, date of first HIV diagnosis, and source of exposure to HIV. Late HIV diagnosis is defined as HIV infection newly diagnosed within three months of AIDS diagnosis (Kaldor and French 1993). Further information on the AIDS surveillance system in Australia is available in Kaldor *et al* (1993).

Prior to 1993, the AIDS surveillance definitions in Australia were those adopted by the US Centers for Disease Control and Prevention (Centers for Disease Control 1987). From 1993, three additional conditions, recurrent pneumonia, pulmonary tuberculosis and cervical cancer, were included as AIDS defining illnesses in Australia (Australian National Council on AIDS 1994).

Adjusting AIDS incidence for reporting delay

Reporting delay, the interval between the date of AIDS diagnosis and the date of entry of the AIDS notification onto the National AIDS Registry, was calculated for AIDS cases diagnosed from 1 January 1993 to 31 December 1996 and notified by 31 March 1997. It was assumed that AIDS cases were completely reported in three years. The numbers of AIDS diagnoses in each calendar quarter since the second quarter of 1994 were adjusted for reporting delays using the methods of Kalbfleisch and Lawless (1989, 1991).

The reporting delay distributions were substantially different for New South Wales, Queensland and Victoria. The number of AIDS diagnoses in these three States were adjusted using their respective delay distributions. Numbers in other States/Territories were adjusted by using the national delay distribution for AIDS cases. There were no significant differences in reporting delay by HIV exposure category and gender.

Survival following AIDS

Survival following AIDS was calculated as the interval from the date of AIDS diagnosis to the date of death if the person had died; otherwise to the date of last medical contact or 31 December 1996, whichever came first. Cases without any follow-up information after AIDS diagnosis were excluded from the analysis. Survival rates at 1 and 2 years following AIDS diagnosis, and median survival, were estimated by the Kaplan-Meier method.

1.2 National HIV Database

National surveillance for newly diagnosed HIV infection

Newly diagnosed HIV infection is notifiable separately from AIDS in all States and Territories. Cases of diagnosed HIV infection are notified through State/Territory health authorities to the National Centre in HIV Epidemiology and Clinical Research on the first occasion of diagnosis in Australia. Information sought at notification of HIV infection includes State/Territory of diagnosis, sex, date of birth, date of HIV diagnosis, CD4+ cell count at diagnosis, source of exposure to HIV and evidence of newly acquired HIV infection. Newly acquired HIV infection is defined as newly diagnosed HIV infection with evidence of a negative or indeterminate HIV antibody test result, or a diagnosis of HIV seroconversion illness, within one year of HIV diagnosis. The surveillance systems for newly diagnosed HIV infection and newly acquired HIV infection are described in McDonald *et al* (1994a) and McDonald *et al* (1994b).

Monitoring of counts of HIV antibody tests is carried out by the National Serological Reference Centre, Australia (Dax and Vandenbelt 1993).

Adjusting the number of HIV diagnoses for multiple reports

The number of diagnoses of HIV infection reported to the National HIV Database was adjusted for multiple reporting, based on the reported dates of birth of each case. By assuming that all dates of birth are equally likely, and that all diagnoses of HIV infection are reported with the correct date of birth, it is possible to estimate the number of distinct HIV diagnoses. Further details of the methods used are described in Law *et al* (1996a).

The total number of distinct HIV diagnoses was estimated for each State/Territory and year of diagnosis. Because adult/adolescent women and people whose sex was reported as transgender are a relatively small proportion of all HIV diagnoses, and also because diagnoses in women are thought to be almost completely accurate following a comprehensive retrospective survey, their numbers of HIV diagnoses were simply enumerated, assuming that there was no multiple reporting. The number of men diagnosed with HIV infection adjusted for multiple reporting was then estimated for each State/Territory by subtracting the respective numbers of women and transgender from the corresponding State/Territory total.

1.3 Back-projection estimation

Estimates of past HIV incidence and predictions of future AIDS incidence were obtained using back-projection methods. The method uses observed AIDS incidence data (adjusted for reporting delay), and knowledge of the rate at which HIV infected people progress to AIDS, to reconstruct the likely pattern of past HIV incidence. It is then also possible to estimate future AIDS incidence. The form of back-projection used was that suggested by Becker *et al* (1991), as modified by Marschner and Watson (1992).

Progression to AIDS was modelled using a Weibull-with-levelling distribution (Rosenberg *et al* 1992), corresponding in its basic form to a median time to AIDS of just under 10 years and a progression rate of 11.2% at four years (Alcabes *et al* 1993). The extended definition of AIDS, adopted in Australia in January 1988, was assumed to result in a 10% increase in the rate of progression to AIDS (Rosenberg *et al* 1992). The effect of antiretroviral treatments in modifying the rate of progression to AIDS was modelled in the following manner:

1. In Australia, people diagnosed with HIV infection became eligible for treatment once their CD4+ cell count declined below 200/μl from mid-1987 or below 500/μl from mid-1990.

2. It was assumed that 50% of HIV infected people with CD4+ cell counts between 200 and 500/μl were diagnosed with HIV infection, 70% of those with a CD4+ cell count less than 200/μl and who were AIDS free were diagnosed, and that 20% of people with HIV infection were first diagnosed at the time of AIDS diagnosis.

3. The time from HIV infection to a CD4+ cell count of 500/μl and to a CD4+ cell count of 200/μl followed similar Weibull-with-levelling distributions to that used to model the time from HIV infection to AIDS. The median time from HIV infection to a CD4+ cell count of 500/μl was assumed to be 4 years with 95% below 500/μl by 10 years. The median time to a CD4+ cell count of 200/μl was assumed to be 8 years, with around 15% below 200/μl at 4 years.

4. Up to 90% of those people who were diagnosed with HIV infection and eligible for treatment were accepting treatment until the preliminary publication of the results of the Concorde trial (1994) in late 1993, after which the proportion of eligible people accepting treatment was assumed to decline to 50% (McNulty *et al* 1995). With the availability of more potent combination treatments, the proportion of eligible people accepting treatment appears to have increased once more, and was assumed to be 80% (Prestage 1997, personal communication).

5. The general availability of the various improvements in antiretroviral treatments, and assumed effectiveness of these treatments in reducing the rate of progression to AIDS are summarised in the Table below.

Table **Availability and assumed effectiveness of antiretroviral treatments in Australia**

Treatment delaying	Available from	Assumed effectiveness in the rate of progression to AIDS
AZT	mid-1987	20% reduction
AZT+ddI/ddC	mid-1993	35% reduction
Combinations including :		
3TC	January 1995	50% reduction
Protease inhibitors	mid-1996	65% reduction

Back-projection analyses were based on quarterly AIDS counts for Australia as a whole, New South Wales, Victoria, Queensland and in males who reported a history of homosexual or bisexual contact with or without a report of injecting drug use. In other subgroups, with smaller numbers of AIDS cases, analyses were based on annual AIDS counts.

In all analyses, HIV incidence was assumed constant from 1994 onwards at a level determined on the basis of the number of HIV diagnoses and diagnoses of newly acquired HIV infection reported to the National HIV Database. In further back-projections that did not specify a fixed level of HIV incidence from 1994 onwards there was no evidence of a large increase in HIV incidence in recent years for any subgroup.

All back-projection analyses are presented unadjusted for under-reporting of AIDS cases (that is AIDS cases which are never reported) unless specifically noted otherwise. Reporting of AIDS cases is thought to be relatively complete in Australia, with completeness estimated to be around 95%.

Estimates of the number of people living with HIV infection

Estimates of the number of people living with HIV infection by disease stage (a CD4+ cell count more than 500/μl , 200-500/μl , less than 200/μl and AIDS free, living with AIDS) were made based on the estimated pattern of past HIV incidence. The rates of progression to CD4+ cell counts fewer than 500 and 200/μl were modelled based on the distributions described in point 3 of Section 1.3 above. Survival following AIDS was modelled using a Weibull distribution corresponding to a median survival of 16 months, and survival rates of 30% and 13% at 2 and 3 years respectively. Survival following AIDS was been reasonably consistent in Australia between 1988 and 1994. The advent of more potent combination antiretroviral treatments since 1995 was assumed to have reduced the death rate by 50%.

1.4 Assessment of patient report of exposure to HIV

The basis for HIV exposure category classification was documented in cases of newly diagnosed HIV infection in adults/adolescents, for cases other than those in men with a history of homosexual or bisexual contact. The medical practitioner involved in the person's HIV diagnosis was asked to complete a questionnaire which sought specific information on the person's reported history of receipt of blood, injecting drug use and heterosexual contact, both in Australia and overseas. The medical practitioner was also asked to indicate whether he/she was generally satisfied with the person's reported HIV exposure history. Further details are available in McDonald *et al* (1994c), McDonald (1995) and Raman *et al* (1996).

1.5 National surveillance for perinatal exposure to HIV

Cases of perinatal exposure to HIV are reported to the National Centre in HIV Epidemiology and Clinical Research through an informal network of clinicians treating women with diagnosed HIV infection and their exposed children, by paediatricians, through the Australian Paediatric Surveillance Unit, and through notifications of diagnosed HIV infection in women and children. Further details are given in McDonald *et al* (1997).

Estimated HIV prevalence among pregnant women

Prevalence of HIV infection among pregnant women delivering a livebirth in Australia was estimated from the number of AIDS diagnoses in children born in Australia who were infected with HIV perinatally, using a modified form of back-projection. Further details are given in Law *et al* (1996b).

2 Surveillance for HIV infection in sentinel populations

2.1 HIV incidence in the Sydney Men and Sexual Health (SMASH) study

SMASH is an ongoing cohort study of over 1,000 homosexually active men in Sydney. Men were recruited through gay community events, personal contacts, gay venues, gay organisations, gay and non-gay press, and through doctors and clinics. Each individual has one or two interviews each year.

Data concerning the HIV test results of participants in SMASH were as reported by the participants at their interviews. Efforts were also made to contact each participant's general practitioner to obtain further information on HIV test results. Estimates of HIV incidence were calculated in two ways. HIV incidence was first calculated based on general practitioner reported HIV test results for those participants who had such data. HIV incidence was also calculated by combining data reported by general practitioners and by the participants. Where there was any discrepancy between the data reported from these two sources, analyses were based on the data as reported by the general practitioner.

2.2 Sentinel HIV surveillance in sexual health clinics

A network of metropolitan sexual health clinics provided tabulations, at the end of each quarter and annually, of the number of people seen, the number tested for HIV antibody and the number newly diagnosed with HIV infection, broken down by sex, age group, HIV exposure category and HIV antibody testing history. Potential exposure to HIV was categorised according to the person's reported sexual behaviour in the 12 months prior to being seen at the clinic and any history of injecting drug use. HIV antibody testing history was subdivided into two categories: any history of HIV antibody testing prior to being seen at the clinic in the specified interval and HIV antibody testing in the 12 months prior to being seen. Further information is available in NCHECR (1996).

2.3 National monitoring of HIV infection in entrants into Australian prisons

Since 1991, State/Territory Departments of Corrections have forwarded to the National Centre in HIV Epidemiology and Clinical Research tabulations of the number of people received into prisons in the jurisdiction in each quarter, the number tested for HIV antibody at reception and the number newly diagnosed with HIV infection, broken down by sex and prisoner status (sentenced prisoner or on remand). Further information is available in NCHECR (1996).

2.4 National monitoring of HIV infection in blood donors

All blood donations in Australia have been screened for HIV-1 antibodies since May 1985, and for HIV-2 antibodies since April 1992. Prior to donation all donors are required to sign a declaration that they do not have a history of any specified factors associated with a higher risk of HIV infection and other blood-borne infections. In all States and Territories more detailed information is routinely sought on donors found to have HIV-1 or HIV-2 antibodies, and reports are routinely forwarded to the NCHECR. Further details of the national data collection on HIV infection in blood donors are given in NCHECR (1996), and Kaldor *et al* (1991).

2.5 National monitoring of HIV infection in the Australian Defence Force

The Australian Defence Force policy for the detection and prevention of HIV infection is detailed in Defence Instruction 16-6 (Australian Defence Force 1989). Since April 1988, the policy has required compulsory testing for HIV antibody of all entrants into the Defence Force once application requirements had been fulfilled. All potential entrants to the Defence Force are advised that they will be tested for HIV antibodies after entry, are warned of the consequences of providing an inaccurate history and are given the option of withdrawing their application should they not wish to proceed. Further details of the Defence Force policy are given by Flynn (1993).

3 Sentinel surveillance for blood borne viruses in injecting drug users

3.1 HIV and HCV seroprevalence among people attending needle and syringe exchange programs

All clients attending needle and syringe exchange program (NSEP) sites during one week in March 1995 (20 fixed sites and one mobile site), and June 1996 (19 fixed sites and one mobile site), were asked to complete a brief, self-administered questionnaire and to provide a finger prick blood spot sample for HIV and HCV antibody testing. NSEP sites were selected on the basis of large numbers of clients and representativeness across States and Territories. Further information is available in MacDonald *et al* (1997).

3.2 HIV, HBV and HCV seroprevalence among injecting drug users attending methadone clinics

A network of methadone clinics collates routinely collected information on HIV, HBV and HCV antibody testing and the prevalence of these three viruses. Data for 1996 was available from 4 clinics representing New South Wales, Queensland, South Australia and Western Australia. Further information is available in MacDonald and Wodak (1996c).

3.3 HCV incidence in injecting drug users attending selected sites in Melbourne and Sydney

Cohort studies to determine incidence of HCV infection among injecting drug users have been established in a peer recruited cohort in Melbourne (Crofts and Aitken 1997), among clients attending a methadone clinic in Melbourne (Crofts *et al* 1997) and among clients being tested for HCV antibody at the Kirketon Road Centre, a primary health centre in Kings Cross which specifically targets injecting drug users.

4 National monitoring of occupational exposure to blood and body fluids

A network of hospitals provides information on the characteristics of occupational exposure to blood or body fluids (MacDonald 1996a, MacDonald 1996b). Reported cases of occupational exposure to blood or body fluids were exposures classified as possible or definite parenteral and massive exposures according to the Australian National Council on AIDS classification (Australian National Council on AIDS 1996).

5 National monitoring of diagnoses of sexually transmissible diseases and blood borne viruses

5.1 Notifications of specific sexually transmissible diseases and blood borne viruses to the National Notifiable Diseases Surveillance System

Specific sexually transmissible diseases are notified by State/Territory Departments of Health to the National Notifiable Diseases Surveillance System (NNDSS) maintained by the Commonwealth Department of Health and Family Services. Gonorrhoea and syphilis are notifiable conditions in all health jurisdictions, while chlamydia is notifiable in all health jurisdictions except New South Wales. Donovanosis is a notifiable condition only in Queensland, the Northern Territory and Western Australia. Diagnoses of hepatitis B and hepatitis C infection are also notified to the NNDSS. Diagnoses of sexually transmissible disease are notified by the diagnosing laboratory, the medical practitioner, or a combination of both (see Table below).

In South Australia, Victoria and the Northern Territory, surveillance for syphilis involves linkage of clinical and laboratory data. In these jurisdictions, cases of early syphilis only, defined as primary, secondary or early latent infection, are notifiable. Notifications from other health jurisdictions include cases of positive syphilis serology, which may not reflect active disease.

Table **Source of notification of specific sexually transmissible diseases to the National Notifiable Diseases Surveillance System by State/Territory**

	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
Gonorrhoea[1]	doctor	laboratory doctor	doctor	laboratory doctor	doctor	doctor	doctor	laboratory doctor
Syphilis	doctor	doctor	doctor	laboratory doctor	doctor	doctor	doctor	laboratory doctor
Chlamydia[2]	doctor		laboratory	laboratory	laboratory	doctor	laboratory	doctor
Donovanosis[3]				doctor	doctor			doctor
HIV	laboratory	laboratory	laboratory doctor	laboratory doctor	laboratory doctor	laboratory	laboratory doctor	laboratory doctor
AIDS	doctor	doctor	doctor	doctor	doctor	doctor	doctor	doctor

1. Notifications from NT, QLD, SA and VIC include gonococcal neonatal ophthalmia.
2. Chlamydia is not notifiable in NSW.
3. Donovanosis is not notifiable in ACT, NSW, SA, TAS and VIC.

Population rates of diagnosis of specific sexually transmissible disease were calculated for each State or Territory using population estimates for 1992, provided by the Australian Bureau of Statistics (1993).

5.2 Gonococcal isolates

The Australian Gonococcal Surveillance Programme (AGSP) is a collaborative project

involving gonococcal reference laboratories in each State and Territory and is coordinated by the NSW Gonococcal Reference Laboratory at the Prince of Wales Hospital, Sydney. The primary objective of the programme is to monitor the antibiotic susceptibility of isolates of *Neisseria gonorrhoea*, to assist in the effective treatment of gonorrhoea. Additional data on sex and site of isolation of gonococcal strains are also collected (AGSP 1997).

6 Monitoring behaviour

6.1 Monitoring sexual behaviour in homosexually active men

The behavioural data reported by homosexually active men in Sydney enrolled in the SMASH cohort study are based on each individual's first annual interview. As there has been some loss to follow up, and continuing recruitment, respondents in each year are not exactly the same men.

The Sydney gay community periodic survey commenced in 1996 to provide data on sexual behaviour in a broader cross section of Sydney gay men than the SMASH study. In February 1996 and 1997, gay and homosexually active men were recruited at the Sydney Gay and Lesbian Mardi Gras fair day or at one of 6 gay community venues or medical clinics during the subsequent week. In August/September 1996, the sample was available only for the venues. The questionnaire is self-completed and takes approximately 5 minutes to answer. It covers basic demographics, sexual practices with men and women, and HIV testing and results.

6.2 Monitoring sexual behaviour in university students

In 1988, the National Centre in HIV Social Research at Macquarie University commenced a study of patterns of condom use, understandings of safe sex and knowledge of HIV transmission among 18 to 19 year old university students. From 1988 to 1995, first year students in a large introductory class at Macquarie University completed a questionnaire regarding sexual practice and understanding of safe sex. Questionnaire design and preliminary results have been described elsewhere (Rodden *et al* 1996).

6.3 Monitoring sexual and injecting behaviour in injecting drug users

Information on sexual behaviour, history of injecting drug use and drugs injected was obtained by client completion of a questionnaire administered at 21 needle exchanges in 1995 and 20 needle exchanges in 1996. Further information is available in MacDonald *et al* (1997).

7 AIDS incidence and HIV prevalence in selected countries

The data on AIDS incidence and HIV prevalence were obtained from the following sources:

Asia Pacific: Data for all countries except India and Thailand: WHO Western Pacific Region, 1996; Dr G Poumerol, WHO Regional Office, Manila; personal communication 1997. Data for India and Thailand: WHO Global programme on AIDS, 1995.

Europe: European Centre for the Epidemiological Monitoring of AIDS, 1996; WHO Global programme on AIDS, 1995.

North America: Health Canada, 1997; Centers for Disease Control and Prevention, 1996; WHO Global programme on AIDS, 1995.

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