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AIDS – New Zealand

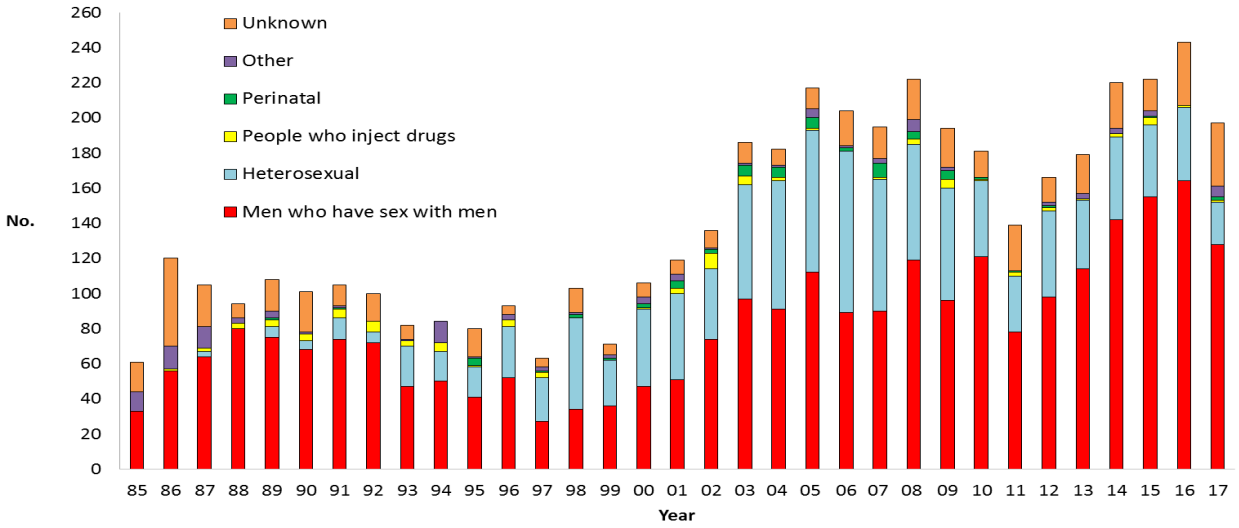

Figure 1: Number of people diagnosed with HIV in New Zealand through Western Blot antibody test and since 2002 through viral load (VL) testing, by year of diagnosis and means of infection. It is important to appreciate that infection may have occurred a number of years prior to diagnosis

HIV diagnoses in 2017

In 2017, 197 people (171 men, 22 women, 4 transgender) were first known to be infected with HIV in New Zealand, 56 through Western Blot antibody testing and 141 through viral load testing. Of these 197, 38 had been previously diagnosed overseas.

Of the 197, 128 were men who have sex with men (MSM) (including two men infected through either sex with another man or injecting drug use), 24 people (12 men, 12 women) were infected through heterosexual contact, one person was infected by injecting drug use, two children were infected perinatally overseas, and six people were infected by other means. For the remaining 36 people (28 men, eight women) the means of infection was unknown or information is still to be received.

The total number of diagnoses in 2017 (n=197) was lower than in 2016 (n=243) (Figure 1). This reduction in numbers was in both MSM (128 in 2017 compared to 164 in 2016) and heterosexual men and women (24 in 2017 compared to 42 in 2016). It is important to note that the number diagnosed each year will not be the same as the number infected, as people may be infected a number of years before being diagnosed.

A lower proportion of people found to be infected were reported through Western Blot testing than in previous years, due to more laboratories confirming HIV infection by serological testing as recommended by US CDC.[1]

HIV diagnoses among gay, bisexual and other men who have sex with men (MSM)

In 2017, of the 128 MSM found to be infected, 101 were first diagnosed in New Zealand and 27 had previously been diagnosed overseas. The number diagnosed in New Zealand (n=101) is lower in comparison to the previous three years (141 in 2016; 120 in 2015; 122 in 2014) and on a par with that reported in 2013 (n=102). The annual numbers of MSM diagnosed in New Zealand by place of infection since 1996 are shown in Figure 2. This shows the number of MSM diagnosed and infected in New Zealand in 2017 (n=71) is less than the 100 reported in 2016.

The initial CD4 lymphocyte count gives an indication of the stage of HIV infection at diagnosis. In about 50% of infected people the CD4 count drops to 500 cells per cubic mm or below in the 14 months following infection. Here we have limited the reporting of the initial CD4 count to those 71 MSM diagnosed and infected in New Zealand, since NZ efforts to prevent infection can have an impact only on this

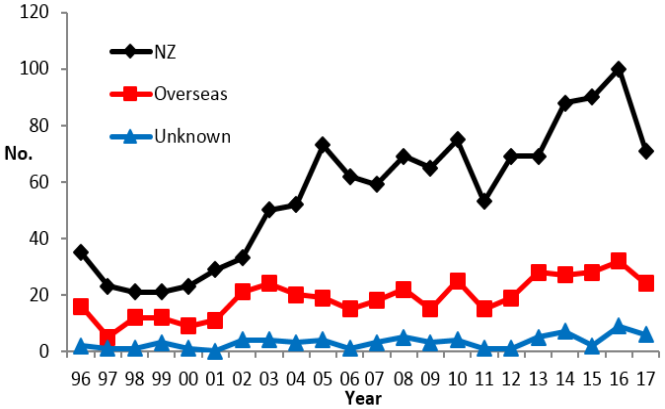

Figure 2: Place of infection of MSM first diagnosed in New Zealand by antibody test annually since 1996 and including those reported by viral load testing since 2002

[1]Centers for Disease Control and Prevention and Association of Public Health Laboratories. Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations. Available at http://stacks.cdc.gov/view/cdc/23447. Published June 27, 2014

group. Among the 66 men for whom an initial CD4 count was available, 35 (53%) had a CD4 count ≥500, indicating that they were diagnosed within about 14 months of infection. Of the remainder, 12 (18%) had a CD4 count at diagnosis of between 350-499, and 19 (29%) <350, indicating longer periods between infection and diagnosis.

Over the period 2014-2017, on average 40 (48%) MSM annually had an initial CD4 count ≥500, higher than the annual average of 24 (40%) for the period 2010-2013, and 17 (38%) for the period 2006-2009, suggesting a trend towards earlier diagnosis.

Of all 128 MSM found to be infected in 2017 (which includes those previously diagnosed overseas and the two men thought to be infected through either sex with another man or injecting drug use):

- 69 (54%) were Europeans, 28 (22%) Asian, 7 (5.5%) Māori, 7 (5.5%) Pacific, 2 (1%) African, 11 (9%) of other ethnicities, and for 4 (3%) men the ethnicity was unknown.
- 55 (43%) were living in Auckland, 28 (22%) in Wellington, 15 (12%) in other parts of the North Island, 11 (9%) in the South Island, and 7 (5.5%) men were living in New Zealand but the region was not specified. For 9 (7%) men their normal place of residence was overseas, and for 3 men (2%) their place of residence was unknown. Fewer MSM were diagnosed in the Auckland region and more in the Wellington region in 2017 compared to previous years.
- The age range at diagnosis was 17-74 years; 33 (26%) were aged <30 years, 36 (28%) aged 30-39 years, 31 (24%) aged 40-49 years, and 28 (22%) aged 50 or more. Infection, however, may have occurred at a younger age than when it was diagnosed.

HIV diagnoses among people heterosexually infected

In 2017, 24 people were found to be infected with HIV who had been heterosexually infected. Of these 24, 17 were first diagnosed in New Zealand, which is the lowest number reported in any one year since 1996.

The annual numbers of heterosexually infected people first diagnosed in New Zealand by place of infection are shown in Figure 3. The number remained relatively stable from 2010 to 2016 (annual average of 36) with slightly more being infected overseas compared to New Zealand. In 2017, the number infected in New Zealand (n=4) and overseas (n=12) both declined. Overall numbers are very much smaller than the number of MSM diagnosed.

In 2017, of all 24 people heterosexually infected (which includes those previously diagnosed overseas):

- 12 (50%) were men and 12 (50%) women.
- 6 (25%) were European, 10 (42%) Asian, 2 (8%) Māori, 2 (8%) African, and 4 (17%) of another ethnicity.
- The age range at diagnosis was 20-69 years; 3 (12.5%) were aged <30 years, 6 (25%) aged 30-39 years, 6 (25%) aged 40-49 years, and 9 (37.5%) aged 50 years or more. Infection may have occurred at a younger age than when it was diagnosed.

An initial CD4 count after diagnosis was available only for four people diagnosed and heterosexually infected in New Zealand in 2017, all of whom had a CD4 count of <350. The proportion with a CD4 count <350, which is considered a late diagnosis, over the years 2014-2017 was 57% compared to 30% of MSM with a late diagnosis in the same time period.

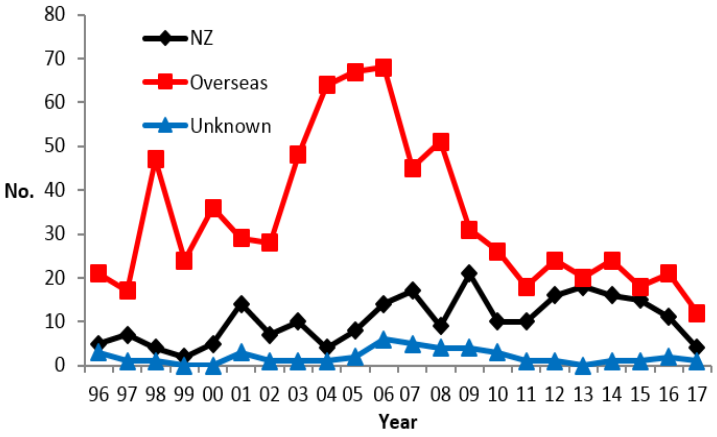

Figure 3: Place of infection of people first diagnosed in New Zealand with heterosexually-acquired HIV by antibody test annually since 1996 and including those reported by viral load testing since 2002

People who inject drugs (PWID)

The number of people diagnosed with HIV in whom injecting drug use was reported as the only likely means of infection has remained low. Only one person diagnosed in 2017 was reported as being infected in this way.

Children infected through mother-to-child transmission

In 2017, two children were diagnosed with HIV infection through mother-to-child transmission, both had been infected overseas several years earlier. Since 2007, there have been no children with perinatally-acquired HIV born in New Zealand. However, as diagnosis might be delayed for many years, there may be children living with undiagnosed infection born since then or even earlier.

Between 1998 and 2017, there were 169 births in New Zealand to women known to be HIV infected prior to the time of delivery. None of these children have been infected with HIV. However, for children born more recently in 2017 it is too soon to be sure about this as acquired HIV cannot be definitively ruled out until a child is over one year old.

In 2017, there were no women diagnosed with HIV through antenatal testing.

The number of people living with HIV in New Zealand

The number of individuals living with diagnosed HIV in New Zealand will be less than the total ever found to be infected because of deaths from AIDS and non-AIDS related causes and the unknown number who have gone overseas.

Data from PHARMAC, New Zealand's pharmaceutical management agency, shows that there were 2470 adults (2077 men, 393 women) and 21 children receiving subsidised antiretroviral therapy (ART) at the end of June 2017. This is 192 more adults (179 men and 13 women) and five more children compared with a year earlier.

AIDS Notifications – 2017

Overall 12 people, 11 men and one woman, were notified with AIDS in 2017. Of these 12, seven (58.3%) were MSM, two men (16.7%) were infected by either sex with another man or injecting drug use, one (8.3%) was infected hetero-sexually, one child had been infected perinatally (8.3%), and for one person (8.3%) the means of transmission was not reported.

Seven (58.3%) were of European ethnicity, one (8.3%) Māori, three (25.0%) Asian, and one (8.3%) Pacific. Five people had their AIDS diagnosis within three months of being diagnosed with HIV and would probably not have had the opportunity for antiretroviral treatment to control progression of their HIV infection.

Figure 4 shows the annual number of notifications of AIDS by year of diagnosis and the number of deaths of people who had been notified with AIDS.

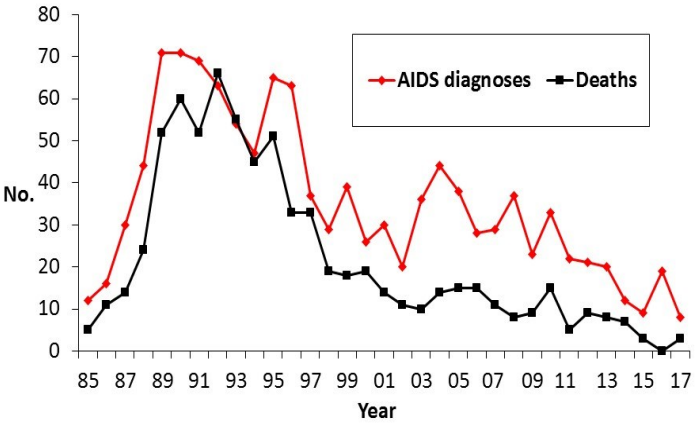

Figure 4: Annual number of diagnoses of AIDS and deaths among people notified with AIDS (The number of notifications and deaths for 2017 are expected to rise due to delayed reports)

SUMMARY OF HIV DIAGNOSES IN NEW ZEALAND

Gay, bisexual and other men who have sex with men (MSM)

Gay, bisexual and other men who have sex with men continue to be the most affected by HIV infection in New Zealand, accounting for 89% of all locally acquired HIV diagnoses in 2017.

Following three years of increasing numbers of diagnoses among MSM in New Zealand, the number diagnosed in 2017 declined to numbers similar to those reported in the late 2010's. This decline was seen particularly in MSM reported to have been infected in New Zealand, whereas the number reported to have been infected overseas has remained relatively stable.

CD4 count information in 2017 suggests that the greatest proportion of MSM infected in New Zealand are relatively recent infections. There continues to be, however, about a third of men who are diagnosed late.

While this seeming reversal of the upward trend in MSM diagnoses is encouraging, it is too early to say whether this decline will be maintained. Changes within the last two years such as removal of the threshold for receipt of subsidised anti-retroviral therapy, availability of pre-exposure prophylaxis for individuals at high risk for HIV, and ongoing campaigns emphasising the use of condoms and the importance of regular HIV testing are likely to reduce the number of people being infected in New Zealand.

Heterosexual men and women

The number diagnosed with heterosexually acquired HIV peaked in the mid-2000's, declined around 2009 and has remained relatively stable at low numbers since then but declined even further in 2017 to numbers similar to those reported in the late 1990's. The decline has been in both those reported to be infected in New Zealand and overseas.

Compared to MSM, a higher proportion of those heterosexually infected have a low CD4 count at the time of diagnosis, which is an indication of prolonged undiagnosed infection. So, while the decline in diagnoses in those heterosexually infected is encouraging, it is important to encourage early testing of HIV among at risk heterosexual men and women and to consider HIV as a possibility in people with compatible clinical features to ensure that people are diagnosed early and have the best opportunity for antiretroviral treatment to control progression of their disease.

People who inject drugs (PWID)

The on-going small number of HIV diagnosis among people who inject drugs can be attributed to the well-functioning Needle Exchange Programme in New Zealand. HIV prevention needs to continue to be maintained in this high-risk population of injecting drug users.

Children

Two children were diagnosed with HIV in New Zealand in 2017, both of whom were infected overseas, thereby indicating the importance of HIV testing in children from high prevalence countries. There have been no children diagnosed with perinatally acquired HIV born in New Zealand since 2007.

Table 1. Exposure category by time of diagnosis for those found to be infected with HIV by antibody test and first viral load test.

		HIV Infection*							
		1985-2003		2004-2016		2017		Total	
Sex	**Exposure category**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Male	Homosexual contact	1163	56.1	1437	56.1	126	64.0	2726	56.4
	Homosexual & IDU	26	1.3	29	1.1	2	1.0	57	1.2
	Heterosexual contact	212	10.2	387	15.1	12	6.1	611	12.6
	Injecting drug use	53	2.6	22	0.9	1	0.5	76	1.6
	Blood product recipient	34	1.6	0	0.0	0	0.0	34	0.7
	Transfusion recipient§	9	0.4	5	0.2	0	0.0	14	0.3
	Perinatal	13	0.6	26	1.0	0	0.0	39	0.8
	Other	4	0.2	8	0.3	2	1.0	14	0.3
	Unknown	237	11.5	214	8.4	28	14.2	479	9.9
Female	Heterosexual contact	234	11.3	357	13.9	12	6.1	603	12.5
	Injecting drug use	11	0.6	3	0.1	0	0.0	14	0.3
	Transfusion recipient§	8	0.4	2	0.0	0	0.0	10	0.2
	Perinatal	11	0.5	9	0.4	2	1.0	22	0.5
	Other	7	0.3	12	0.5	0	0.0	19	0.4
	Unknown	24	1.2	47	1.8	8	4.1	79	1.6
Transgender	Total	8	0.4	6	0.2	4	2.0	18	0.4
NS	Transfusion recipient	5	0.2	0	0.0	0	0.0	5	0.1
	Unknown	13	0.6	0	0.0	0	0.0	13	0.2
TOTAL		**2072**	**100.0**	**2564**	**100.0**	**197**	**100.0**	**4833**	**100.0**

* Includes people who have developed AIDS. HIV numbers are recorded by time of diagnosis for those reported through antibody testing and by time of first viral load for those reported through viral load testing. The latter include many who have initially been diagnosed overseas and not had an antibody test here. The date of initial diagnosis may have preceded the viral load date by months or years.
NS = Not stated § All people in this category, diagnosed since 1996, infection was acquired overseas

Table 2. Ethnicity‡ by time of diagnosis in New Zealand for those found to be infected with HIV by antibody test and first viral load test.

		HIV Infection*							
		1996-2003		2004-2016		2017		Total	
Sex	**Ethnicity**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
Male	European	514	50.0	1195	46.6	77	39.1	1786	47.2
	Māori †	60	5.8	179	6.9	8	4.1	247	6.5
	Pacific Islander	19	1.9	71	2.8	7	3.6	97	2.6
	African	96	9.3	169	6.6	4	2.0	269	7.1
	Asian	91	8.8	286	11.2	34	17.3	411	10.9
	Other	19	1.9	128	5.0	15	7.6	162	4.3
	Unknown	20	2.0	100	3.9	26	13.2	146	3.9
Female	European	53	5.2	86	3.4	3	1.5	142	3.8
	Māori †	7	0.7	23	0.9	2	1.0	32	0.8
	Pacific Islander	13	1.3	24	0.9	0	0.0	37	0.9
	African	88	8.6	185	7.2	2	1.0	275	7.3
	Asian	44	4.3	77	3.0	10	5.1	131	3.4
	Other	1	0.1	18	0.7	0	0.0	19	0.5
	Unknown	1	0.	17	0.7	5	2.5	23	0.6
Transgender	Total	1	0.1	6	0.2	4	2.0	11	0.2
TOTAL		**1027**	**100.0**	**2564**	**100.0**	**197**	**100.0**	**3788**	**100.0**

‡ Information on ethnicity of people diagnosed with HIV only collected since 1996
* Includes people who have developed AIDS. HIV numbers are recorded by time of diagnosis for those reported through antibody testing and by time of first viral load for those reported through viral load testing. The latter include many who have initially been diagnosed overseas and not had an antibody test here. The date of initial diagnosis may have preceded the viral load date by months or years.
† Includes people who belong to Maori and another ethnic group

For further information about the surveillance of HIV/AIDS in New Zealand, contact:
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