

AIDS - New Zealand

AIDS AND HIV INFECTION IN NEW ZEALAND TO END OF JUNE 1999

In the second quarter of 1999, there were 3 notifications of AIDS (2 male and one female), and 16 people (13 male and 3 female) were found to be infected with HIV. To the end of June 1999, in total 681 people (647 male and 34 female) have been notified with AIDS, and 1371 people (1199 male, 153 female, and 19 sex not stated) have been found to be infected with HIV.

Effects of highly active antiretroviral therapy (HAART) on the HIV/AIDS epidemic

The number of people notified with AIDS in the second quarter of 1999 was the lowest quarterly figure since 1986. An important factor in achieving this is likely to be the use of treatments that have controlled the progression of immunosuppression in infected people.

The effect that 'highly-active antiretroviral therapy' (HAART), the general name for these treatments, has had on the epidemic has recently been reviewed (Weidle PJ, Holmberg SD, DeCock KM. Changes in HIV and AIDS epidemiology from new generation antiretroviral therapy. *AIDS* 1999, 13 (suppl A):S61-S68). The key conclusions are summarised here.

Brief history of antiretroviral therapy

In 1987, zidovudine, a nucleotide reverse transcriptase inhibitor, was shown to improve morbidity and mortality in people with AIDS. Although in 1990 it was recommended for HIV infected people with less marked immunosuppression than was characterised by AIDS, long term benefits of early treatment with zidovudine on its own were difficult to demonstrate. By early 1995 there was evidence that when different types of this class of drug (e.g. DDI and ddC) were used in combination they were more effective than when used alone.

Also during 1995, saquinavir, the first protease inhibitor was approved for use in the United States, and the following year shown to be effective. Soon afterwards, nevirapine, the first non-nucleoside reverse transcriptase inhibitor was introduced.

The increase in the number and type of antiretroviral drugs, and recognition of the benefits of combining them, has led to the development of a variety of effective treatment regimes. Currently, the standard of care for people with HIV is a combination of drugs, which usually includes a protease inhibitor or non-nucleotide reverse transcriptase inhibitor plus one or two nucleotide reverse transcriptase inhibitors. Because of cost the widespread use of such treatment is limited to developed countries.

When antiretroviral treatment is successful there is generally an increase in CD4 count and a decrease in plasma viral load.

Effect on AIDS incidence

The use of HAART has prevented the progression of immunosuppression in many individuals over the last few years. This has resulted in a reduction in the incidence of AIDS, and deaths from AIDS, in many developed countries including New Zealand (Table 1). Although treatment-induced improvements have reduced the incidence of

opportunistic infections and Kaposi's sarcoma, currently they appear to have had less effect on the incidence of malignant lymphomas.

The duration of benefit of treatment with HAART depends on several factors. The most important is the development of resistance to the drugs, which appears more likely when there is incomplete adherence to the complex treatment regime. Adherence is a particular problem because of the large number of tablets that need to be taken everyday, and also as particular care has to be taken over the timing of some of these. An unexpected toxic effect of the protease inhibitors is that they upset metabolism of fats and glucose. This can result in changes in the distribution of body fat, and also possibly in a long-term increase in cardiovascular risks.

Effect on HIV prevalence

The reduction in deaths among HIV-infected people as a result of HAART has been a factor in the increase in the number of people living with diagnosed HIV in New Zealand (AIDS – New Zealand. Issue 40, February 1999) and other developed countries.

Effect on HIV transmission

In spite of there being no direct proof that infectiousness is reduced in people on HAART this is plausible. It is known that people are more likely to transmit HIV when they have high viral loads and low CD4 counts, both of which commonly improve with HAART therapy.

What is clear is the effectiveness of antiretroviral treatment in reducing the risk of perinatal transmission. A major factor in achieving this is its ability to reduce the mother's viral load.

Effect on HIV incidence

Even if current treatments are found to reduce infectiveness in an individual, there are several reasons why they might not

necessarily reduce the incidence of HIV within a population. Firstly there needs to be widespread testing of people at risk and use of treatments among those infected. An important factor here is that people are particularly infectious soon after HIV infection is acquired which may be before the infection is diagnosed. Secondly, with treatment infected people will live longer, and remain at risk of transmitting HIV longer. In addition, the transmission of strains of HIV resistant to multiple antiretroviral agents is now well documented.

There have been worries expressed in Europe and the US that the relative effectiveness of treatments for HIV may have resulted in less concern about acquiring the infection among men who have sex with men. This belief could express itself as less safe sex.

Clearly for the use of HAART to have an impact on the spread of HIV in a population it is vital that safer sexual practices are maintained. If they are not, better HIV therapy for individuals could paradoxically increase spread within the population.

Effect on surveillance

The decreased incidence of AIDS among people with HIV means that AIDS monitoring is less useful than ever in understanding the epidemic of HIV. Therefore relatively more emphasis needs to be given to surveillance of HIV infection. This needs to incorporate both information on the pattern of diagnosed HIV infection and patterns of testing, and also prevalence studies in particular groups. In addition there needs to be monitoring of behaviours known to spread the virus.

The annual incidence of AIDS in New Zealand to the end of June 1998

The annual numbers of people diagnosed with AIDS in New Zealand are shown in Table 1.

It is important to remember that it is likely that the number of people diagnosed in 1998,

and possibly earlier, will increase due to delayed notifications.

The largest annual numbers of people diagnosed with AIDS were in 1989 and 1990. Since then the annual number has declined. In spite of delayed notifications it is probable that the drop in diagnoses in 1997 and 1998 is due to the introduction of new treatments that delay the progression HIV as discussed earlier in this issue.

Table 1 Annual number of people diagnosed with AIDS

Year of diagnosis	Male†	Female	Total
1983	5	0	5
1984	4	0	4
1985	12	0	12
1986	15	1	16
1987	30	0	30
1988	44	0	44
1989	67	4	71
1990	70	1	71
1991	66	3	69
1992	56	6	62
1993	50	3	53
1994	45	2	47
1995	58	2	60
1996	54	5	59
1997	30	1	31
1998	22	4	26*
1999 (to end of 2 nd quarter)	7	2	9
Unknown	12	0	12
Total	647	34	681

* The numbers diagnosed in 1998, and possibly earlier, may increase due to delayed notification.

† Includes those notified as transsexual

NOTIFICATIONS OF AIDS IN NEW ZEALAND IN THE SECOND QUARTER OF 1999

Three people were notified with AIDS in the second quarter of 1999. Of these, 2 were male and one was female.

Both of the males were reported to have had sex with other men. The one female notified was reported to have been heterosexually infected. Although a New Zealander, she was

reported to have had sexual contact with a person who had previously lived in a part of the world where heterosexual transmission was common.

PEOPLE FOUND TO BE INFECTED WITH HIV IN NEW ZEALAND IN THE SECOND QUARTER OF 1999

In the second quarter of 1999, 16 people were found to be infected with HIV in New Zealand. Of these, 13 were male, and 3 were female.

Of the 13 males, information has been obtained on 12. Of these 12, 8 were reported to have had sex with men, 3 to have been heterosexually infected overseas and one, a three year old child, to have been perinatally infected. Of the 3 men reported heterosexually infected, all were reported to have been infected in parts of the world where there is a high prevalence of HIV among the heterosexual population. The one child reported to have been perinatally infected was born in such an area.

All the 3 females found to be infected were reported to have been heterosexually infected in high prevalence areas. One of these women was also reported to have had multiple injections overseas in 1997. In accord with our prioritizing procedure, she has been categorised as having been infected through heterosexual contact.

EXPOSURE CATEGORIES AND ETHNICITY OF PEOPLE NOTIFIED WITH AIDS AND FOUND TO BE INFECTED WITH HIV

Information on the categories of risk, sex and ethnicity, of the 681 people notified as having AIDS and the 1371 people diagnosed with HIV in New Zealand to the end of June 1999 is shown in Tables 2 and 3 (overleaf).

Table 2 Exposure category by time for notification of people with AIDS, and by time of diagnosis for those found to be infected with HIV. A small number of transsexuals are included with the males.

Exposure category	Sex	AIDS				HIV Infection*			
		12 months to 30.6.99		Total to 30.6.99		12 months to 30.6.99		Total to 30.6.99	
		No.	%	No.	%	No.	%	No.	%
Homosexual contact	Male	14	56.0	546	80.2	31	34.8	736	53.7
Homosexual contact & IDU	Male	0	0	10	1.5	0	0	13	1.0
Heterosexual contact	Male	3	12.0	34	5.0	28	31.5	96	7.0
	Female	3	12.0	24	3.5	18	20.2	109	8.0
Injecting drug use (IDU)	Male	2	8.0	12	1.8	0	0	31	2.3
	Female	0	0	5	0.7	0	0	8	0.6
Blood product recipient	Male	0	0	15	2.2	0	0	29	2.1
Transfusion recipient	Male	0	0	1	0.1	1†	1.1	4	0.3
	Female	0	0	1	0.1	0	0	5	0.4
	NS	0	0	0	0	0	0	5	0.4
Perinatal	Male	0	0	1	0.1	1	1.1	6	0.4
	Female	1	4.0	2	0.3	1	1.1	4	0.3
Awaiting information/ undetermined	Male	2	8.0	28	4.1	9	10.1	282	20.6
	Female	0	0	2	0.3	0	0	23	1.7
	NS	0	0	0	0	0	0	14	1.0
Other	Male	0	0	0	0	0	0	2	0.1
	Female	0	0	0	0	0	0	4	0.3
TOTAL		25	100.0	681	100.0	89	100.0	1371	100.0

NS = Not stated

*Includes people who have developed AIDS

†Acquired overseas

Table 3 Ethnicity by time of notification for people with AIDS, and by time of diagnosis for those found to be infected with HIV. Information on ethnicity of people found to be infected with HIV is only available since 1996. A small number of transsexuals are included with the males.

Ethnicity	Sex	AIDS				HIV Infection*			
		12 months to 30.6.99		Total to 30.6.99		12 months to 30.6.99		1.1.96 to 30.6.99	
		No.	%	No.	%	No.	%	No.	%
European/Pakeha	Male	13	52.0	523	76.8	31	34.8	126	42.7
	Female	1	4.0	21	3.0	2	2.1	13	4.4
Maori †	Male	2	8.0	73	10.7	1	1.1	17	5.8
	Female	0	0	1	0.1	0	0	2	0.7
Pacific Island	Male	1	4.0	15	2.2	1	1.1	3	1.0
	Female	0	0	3	0.4	0	0	3	1.0
Other	Male	5	20.0	29	4.3	32	36.0	72	24.4
	Female	3	12.0	9	1.3	16	18.0	45	15.3
Awaiting information/ undetermined	Male	0	0	7	1.0	6	6.7	13	4.4
	Female	0	0	0	0	0	0	1	0.3
TOTAL		25	100.0	681	100.0	89	100.0	295	100.0

NS = Not stated

* Includes people who have developed AIDS

† Includes people who belong to Maori and another ethnic group

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