

Epidemiology of HIV and AIDS in the Pacific

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Abstract

An analysis of HIV and AIDS data reported to the WHO Western Pacific Regional Office, showed that the 21 Pacific countries contribute a small proportion to these global problems. As off 19 June 1995 a cumulative total of 234 AIDS and 645 HIV cases have been notified. Most of the HIV were reported from Fiji (28), French Polynesia (144), Guam (70), New Caledonia (123), and Papua New Guinea (247).

Countries reported cases to occur mostly among men except for Papua New Guinea and the Marshall Islands. Transmission modes included heterosexual, homosexual, bisexual, blood transfusion, mother-infant, and injecting drug use. The data suggests increasing heterosexual and decreasing homosexual transmission.

There is a need to improve blood screening, STD services, and the national health information system to appropriately detect, prevent and manage HIV infection in the Pacific. An improved system will help direct and monitor prevention programmes and contribute to curbing HIV transmission.

Introduction

Much of the focus on AIDS and HIV analysis throughout the world has been on Africa, America and the emerging situation in Asia. Because of the size of the HIV and AIDS problems in these countries, minimal attention is often paid to other less affected areas in the world, such as the Pacific. This paper provides an analysis of information from each of the 21 Pacific countries, supplied to the Western Pacific

Regional Office (WPRO) of the World Health Organization (WHO), in an attempt to elaborate on the current HIV/AIDS situation in these countries and to consider any trends that may be occurring.

Geographically, these countries are spread through the vast Pacific Ocean. Three major ethnic groups, Micronesians, Melanesians and Polynesians, are represented in this area. The approximate 1994 populations of these countries ranges from 1740 in Tokelau to Papua New Guinea with an estimated population of 4.08 million. The total estimated 1994 population of the 21 Pacific countries is 6.6 million.

Throughout, references to numbers of HIV infections includes both AIDS cases as well as asymptomatic HIV infections, unless stated otherwise. The definition recommended by WHO for AIDS cases has been the 1987 revised case definition by WHO/Centres for Disease Control and Prevention (CDC), which will apply to most of the notified AIDS cases where countries have chosen to use this definition.

From late 1994, however, the recommended AIDS case definition was further amended by WHO and this may apply to some of the recently notified AIDS cases.

It is important to recognise that there are two key factors that are significant in the ongoing transmission of HIV which will not be included in this paper. The first of these is that the transmission of HIV is significantly increased for any individual, or his/her partner, if one or both has another STD. This is particularly so if genital lesions are present and the individual and his/her partner do not adopt a safer sex approach. Secondly, there are some social and ethnic influences in this region which will not only impact significantly on the effectiveness of education about safer sexual practices, but also on the acceptability of ascertaining necessary information for public health surveillance purposes. This affects the ability of public health staff to determine trends and focus interventions more effectively. In some cases, this has also reduced the level of detailed data available on HIV infections and AIDS cases which has in turn impacted on this analysis.

“ Because of the size of the HIV and AIDS problems in Asia, Africa and USA, minimal attention is often paid to other less affected areas in the world, such as the Pacific. ”

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Table 1. HIV/AIDS trends by year of diagnosis, Pacific countries

Country	Year	Before									1995	Latest reporting date
		1988 or unknown	1988	1989	1990	1991	1992	1993	1994	as at 19 June	Total	
American Samoa	AIDS	0	0	0	0	0	0	0	0	0	0	30 MAR 95
	HIV	0	0	0	0	0	0	0	0	0	0	
Cook Islands	AIDS	0	0	0	0	0	0	0	0	0	0	31 DEC 94
	HIV	0	0	0	0	0	0	0	0	0	0	
Federated States of Micronesia	AIDS	0	0	1	1	0	0	0	0	0	2	15 APR 95
	HIV	0	0	1	1	0	0	0	0	0	2	
Fiji	AIDS	(1)	0	1	2	1	1	1	2	0	7	20 MAR 95
	HIV	4	0	1	2	4	3	5	5	4	28	
French Polynesia	AIDS	7	4	5	9	5	3	9	3	0	45	31 DEC 94
	HIV	39	18	17	22	19	8	12	9	0	144	
Guam	AIDS	4	1	1	3	3	2	5	11	0	30	31 DEC 94
	HIV	7	6	1	13	13	10	11	9	0	70	
Kiribati	AIDS	0	0	0	0	0	0	0	0	0	0	12 APR 95
	HIV	0	0	0	0	2	0	0	0	0	2	
Marshall Islands	AIDS	2	0	0	0	0	0	0	0	0	2	12 APR 95
	HIV	6	0	0	0	0	0	1	1	0	8	
Nauru	AIDS	0	0	0	0	0	0	0	0	0	0	24 MAR 95
	HIV	0	0	0	0	0	0	0	0	0	0	
New Caledonia	AIDS	6	6	2	2	3	9	6	7	2	43	8 JUN 95
	HIV	17	11	13	9	16	11	18	21	7	123	
Niue	AIDS	0	0	0	0	0	0	0	0	0	0	26 APR 95
	HIV	0	0	0	0	0	0	0	0	0	0	
Northern Mariana Islands	AIDS	2	1	0	0	1	0	0	2	0	6	12 APR 95
	HIV	3	1	1	1	2	0	1	1	0	10	
Palau	AIDS	0	0	0	0	0	0	1	0	0	1	31 MAR 95
	HIV	0	0	0	0	0	0	1	0	0	1	
Papua New Guinea	AIDS	19	9	5	13	13	8	8	16	0	91	31 DEC 94
	HIV	15	12	15	32	35	29	40	69	0	247	
Samoa	AIDS	0	0	0	1	0	0	0	0	0	1	8 MAY 95
	HIV	(1)	0	0	1	0	0	0	0	1	1	
Solomon Islands	AIDS	0	0	0	0	0	0	0	0	0	0	25 APR 95
	HIV	0	0	0	0	0	0	0	0	1	1	
Tokelau	AIDS	0	0	0	0	0	0	0	0	0	0	19 MAY 95
	HIV	0	0	0	0	0	0	0	0	0	0	
Tonga	AIDS	0	0	2	0	0	1	1	1	0	5	2 NOV 94
	HIV	(1)	0	2	0	0	2	1	2	0	6	
Tuvalu	AIDS	0	0	0	0	0	0	0	0	0	0	31 DEC 94
	HIV	0	0	0	0	0	0	0	0	0	0	
Vanuatu	AIDS	0	0	0	0	0	0	0	0	0	0	10 APR 95
	HIV	0	0	0	0	0	0	0	0	0	0	
Wallis and Futuna	AIDS	0	0	0	0	0	0	0	1	0	1	15 MAR 95
	HIV	0	0	0	0	0	1	0	1	0	2	
Totals	AIDS	39	21	17	31	26	24	31	43	2	234	19 JAN 95
	HIV	89	48	51	81	91	64	90	118	13	645	

* Data from reports received at WPRO as at 19 June 1995. HIV totals include AIDS cases.

* Numbers in parenthesis indicate the extent to which the sum of annual totals reported exceeds the cumulative total reported.

Table 2. Cumulative HIV diagnoses and AIDS cases by Pacific country, gender and rate per 100 000 population

Country	AIDS						HIV (3)				
	Males	Females	Unknown	Total (1)	Cum. Incid. Rate (2)	AIDS deaths	Males	Females	Unknown	Total (1)	Cum. Incid. Rate (2)
American Samoa	0	0	0	0	0.00	0	0	0	0	0	0
Cook Islands	0	0	0	0	0.00	0	0	0	0	0	0.00
Federated States of Micronesia	2	0	0	2	1.75	1	2	0	0	2	1.75
Fiji	4	3	0	7	0.90	7	22	6	0	28	3.61
French Polynesia	25	5	15	45	20.78	33	105	38	1	144	66.50
Guam	28	2	0	30	21.16	22	60	10	0	70	49.38
Kiribati	0	0	0	0	0.00	0	0	0	2	2	2.55
Marshall Islands	1	1	0	2	3.78	2	2	2	4	8	15.14
Nauru	0	0	0	0	0.00	0	0	0	0	0	0.00
New Caledonia	37	6	0	43	23.15	25	98	25	0	123	66.22
Northern Mariana Islands	0	0	6	6	10.44	5	9	0	1	10	17.39
Niue	0	0	0	0	0.00	0	0	0	0	0	0.00
Palau	1	0	0	1	5.83	1	1	0	0	1	5.83
Papua New Guinea	47	44	0	91	2.23	46	129	117	1	247	6.05
Samoa	1	0	0	1	0.62	1	1	0	0	1	0.62
Solomon Islands	0	0	0	0	0.00	0	1	0	0	1	0.28
Tokelau	0	0	0	0	0.00	0	0	0	0	0	0.00
Tonga	5	0	0	5	5.07	5	5	1	0	6	6.09
Tuvalu	0	0	0	0	0.00	0	0	0	0	0	0.00
Vanuatu	0	0	0	0	0.00	0	0	0	0	0	0.00
Wallis and Futuna	1	0	0	1	7.14	0	2	0	0	2	14.30
Totals	152	61	21	234	3.47	148	437	199	9	645	9.56

Data from reports received at WPRO as at 19 June 1995.

(1) Totals include unknown gender.

(2) Rate per 100 000 population [population is a 1994 estimate based on: WHO/WPR/HIN/Rev/Jun. 1994]

(3) HIV totals include AIDS cases.

Table 3. HIV transmission categories in Pacific countries, as at 19 June 1995

Country	Hetero sexual		Homo-/ bisexual		IDU (1)		Transfusion (2)		Mother to infant		Other / unknown		HIV total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
American Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook Islands	0	0	0	0	0	0	0	0	0	0	0	0	0
Federated States of Micronesia	0	0	1	50.0	0	0	0	0	0	0	1	50.0	2
Fiji	17	60.7	6	21.4	0	0	1	3.6	1	3.6	3	10.7	28
French Polynesia	44	30.6	54	37.5	15	10.4	13	9.0	7	4.9	11	7.6	144
Guam	15	21.4	35	50.0	2	2.9	5	7.1	0	0	13	18.6	70
Kiribati	0	0	0	0	0	0	0	0	0	0	2	100.0	2
Marshall Islands	4	50.0	0	0	0	0	0	0	0	0	4	50.0	8
Nauru	0	0	0	0	0	0	0	0	0	0	0	0	0
New Caledonia	22	17.9	45	36.6	15	12.2	2	1.6	1	0.8	38	30.9	123
Niue	0	0	0	0	0	0	0	0	0	0	0	0	0
Northern Marianas	0	0	6	60.0	0	0	0	0	0	0	4	40.0	10
Palau	0	0	1	100.0	0	0	0	0	0	0	0	0	1
Papua New Guinea	42	17.0	5	2.0	0	0	1	0.4	12	4.9	187	75.7	247
Samoa	0	0	1	100.0	0	0	0	0	0	0	0	0	1
Solomon Islands	1	100.0	0	0	0	0	0	0	0	0	0	0	1
Tokelau	0	0	0	0	0	0	0	0	0	0	0	0	0
Tonga	2	33.3	3	50.0	0	0	0	0	0	0	1	16.7	6
Tuvalu	0	0	0	0	0	0	0	0	0	0	0	0	0
Vanuatu	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallis and Futuna	1	50.0	1	50.0	0	0	0	0	0	0	0	0	2
Totals	148	23.0	158	24.5	32	5.0	22	3.4	21	3.2	264	40.9	645

(1) IDU: injecting drug user

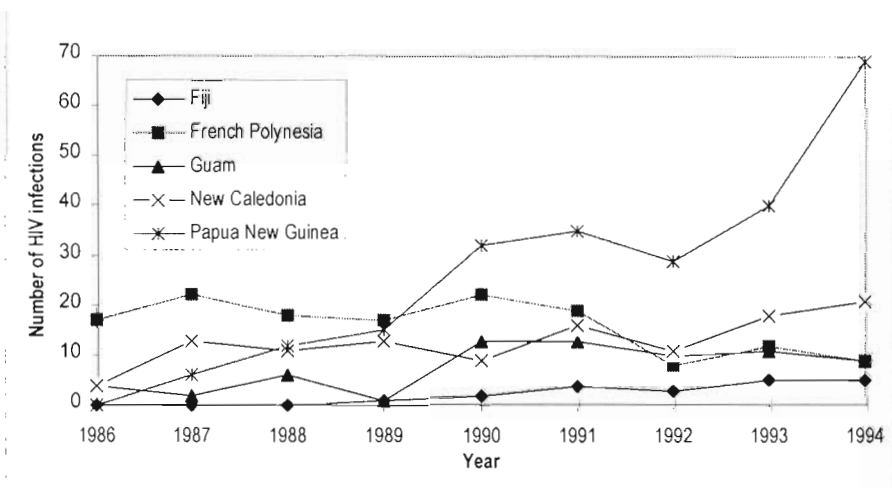
(2) Includes haemophiliacs and organ recipients

Reported HIV infections and AIDS cases

As at 19 June 1995, a cumulative total of 234 AIDS cases and 645 HIV infections (including AIDS cases) have been notified by the 21 Pacific countries. One hundred and forty eight of the AIDS cases have died.

Table 1 shows the numbers of HIV infections and AIDS cases reported to WPRO. American Samoa, Cook Islands, Nauru, Niue, Tokelau, Tuvalu and Vanuatu have not yet reported any HIV infections; Kiribati and the Solomon Islands have reported HIV but no AIDS cases. The Northern Mariana Islands, Marshall Islands, Federated States of Micronesia, Palau, Samoa, Tonga, and Wallis and Futuna have each reported a cumulative total of ten or fewer HIV infections, including some AIDS cases. Larger numbers of HIV infections have been reported from Fiji (28), French Polynesia (144), Guam (70), New Caledonia (123) and Papua New Guinea (247).

Figure 1. Number of annually reported HIV infections in selected Pacific countries, 1986 to 1994



Of the five countries with larger reported numbers of HIV infections, only Papua New Guinea is exhibiting a definite upward trend in the annually reported number of HIV infections, although a slight annual increase could be occurring in New Caledonia (refer Figure 1). With these two exceptions, overall there has been little change in the reported numbers of HIV infections for most of the Pacific island countries in the last 5 to 10 years, although detecting trends is difficult because of the small numbers. These may vary considerably from year to year.

Table 2 shows the cumulative incidence rates for both HIV and AIDS. This permits a comparison between countries by taking into account the size of the population at risk. The cumulative incidence rates demonstrate that, although there are larger numbers of HIV in Fiji and Papua New Guinea,

these countries have cumulative incidence rates of HIV similar to Kiribati, Palau and Tonga. Care must be taken, however, as the numbers are very small and a change of even one HIV infection will significantly alter the cumulative incidence rate. Using the HIV rates as a basis for comparison, it is apparent that the greatest HIV problem within these 21 countries is in French Polynesia, New Caledonia and Guam.

Gender analysis: Most HIV infections and AIDS cases have been reported to occur in men in all Pacific countries that have reported HIV/AIDS (refer Table 2). For HIV, the ratio of men to women ranges from approximately 2.5:1 to 6:1 (M:F) particularly in those countries with larger numbers. The significant exceptions to this are Papua New Guinea where the number of males is not much greater than the number of females for both HIV (M 129 : F 117) and AIDS (M 47 : F 44), and the Marshall Islands with equal male-female numbers of HIV infections and AIDS cases.

AIDS deaths: Table 2 also includes the number of notified AIDS deaths. In Papua New Guinea the AIDS case fatality is approximately 50% of the reported AIDS cases. For many countries at least three quarters of those reported to have AIDS have died. In total, over 60% of the notified AIDS cases in the 21 countries have died.

Relationship of AIDS cases to HIV infections: In the five countries with the largest numbers of reported HIV infections, that is Fiji, French Polynesia, Guam, New Caledonia and Papua New Guinea, the proportion of reported HIV infections that are also reported as AIDS cases is under 45% or even less, suggesting that some HIV is being detected at an early stage. This is important because, if effective interventions are undertaken with these

HIV positive individuals, there should be less HIV transmission. In addition, where antiviral treatment is available, different treatment options may be considered by HIV-infected individuals at a stage that may extend the period that these individuals remain symptom-free from AIDS or other complications.

Modes of transmission: In the Pacific countries, small numbers make interpretation with respect to modes of transmission difficult. It is apparent, however, that in the five countries with largest numbers of reported HIV infections both heterosexual and homosexual/bisexual HIV transmission has been reported (refer Table 3). In addition HIV transmission from injecting drug use has been reported in French Polynesia, Guam and New Caledonia; blood transfusion/blood products transmission in Fiji, French Polynesia,

Table 4. AIDS transmission categories in Pacific countries, as at 19 June 1995

Country	Hetero sexual		Homo-/ bisexual		IDU (1)		Transfusion (2)		Mother to infant		Other / unknown		HIV total
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.
American Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0
Cook Islands	0	0	0	0	0	0	0	0	0	0	0	0	0
Fed. States of Micronesia	0	0	1	50.0	0	0	0	0	0	0	1	50.0	2
Fiji	2	28.6	3	42.9	0	0	1	14.3	1	14.3	0	0	7
French Polynesia	7	15.6	14	31.1	1	2.2	4	8.9	1	2.2	18	40.0	45
Guam	2	6.7	19	63.3	1	3.3	4	13.3	0	0	4	13.3	30
Kiribati	0	0	0	0	0	0	0	0	0	0	0	0	0
Marshall Islands	2	100.0	0	0	0	0	0	0	0	0	0	0	2
Nauru	0	0	0	0	0	0	0	0	0	0	0	0	0
New Caledonia	5	11.6	18	41.9	3	7.0	1	2.3	1	2.3	15	34.9	43
Niue	0	0	0	0	0	0	0	0	0	0	0	0	0
North Mariana Isl.	0	0	2	33.3	0	0	0	0	0	0	4	66.7	6
Palau	0	0	1	100.0	0	0	0	0	0	0	0	0	1
Papua New Guinea	31	34.1	3	3.3	0	0	0	0	8	8.8	49	53.8	91
Samoa	0	0	1	100.0	0	0	0	0	0	0	0	0	1
Solomon Islands	0	0	0	0	0	0	0	0	0	0	0	0	0
Tokelau	0	0	0	0	0	0	0	0	0	0	0	0	0
Tonga	1	20.0	3	60.0	0	0	0	0	0	0	1	20.0	5
Tuvalu	0	0	0	0	0	0	0	0	0	0	0	0	0
Vanuatu	0	0	0	0	0	0	0	0	0	0	0	0	0
Wallis and Futuna	0	0	1	100.0	0	0	0	0	0	0	0	0	1
Totals	50	21.4	66	28.2	5	2.1	10	4.3	11	4.7	92	39.3	234

(1) IDU: injecting drug user

(2) Includes haemophiliacs and organ recipients

Table 5. Comparison of transmission categories, in selected Pacific countries.

Country	Heterosexual *		Homosexual / bisexual *	
	HIV excluding AIDS (% of total in each country)	AIDS (% of total in each country)	HIV excluding AIDS (% of total in each country)	AIDS (% of total in each country)
Fiji	71.4%	60.7%	14.3%	21.4%
French Polynesia	37.4%	30.6%	40.4%	37.5%
Guam	32.5%	21.4%	40.0%	50.0%
New Caledonia	21.2%	17.9%	33.7%	36.6%

Based on reports received as at 19 June 1995.
* Percentages of these two transmission categories will not necessarily add to 100% because this table does not include those HIV infections or AIDS cases that relate to other transmission categories (refer Tables 3 and 4).

Guam, New Caledonia and Papua New Guinea; and mother-infant transmission in Fiji, French Polynesia, New Caledonia and Papua New Guinea. Papua New Guinea has significant numbers of 'unknown' HIV transmission. The modes of transmission for reported AIDS cases are in Table 4.

Table 5 shows a possible emerging trend in modes of transmission. This table permits a crude comparison between percentage of total AIDS cases and percentage of total HIV infections in each of the listed countries, for both heterosexual and homosexual/bisexual transmission modes. On the basis that those who have AIDS are likely to have had HIV longer, this data suggests that, for Fiji, Guam and New Caledonia, the heterosexual mode of transmission is increasing, and homosexual/bisexual transmission reducing. It is not realistic to examine this trend in countries that have smaller numbers, nor in Papua New Guinea where there are significant numbers of 'unknown' transmission. Ideally, this trend needs to be examined on a year by year basis and by using data that links AIDS cases with their specific HIV notifications, but limitations on the data supplied to WPRO and the small numbers make this impossible for the Pacific.

HIV seroprevalence: A number of Pacific countries have provided regular seroprevalence reports to WPRO. Few of these reports, however, provide regular annual seroprevalence information, and HIV testing is often only available in one or two provinces or cities. It is difficult, therefore, to directly analyse and compare much of this seroprevalence data between countries. Despite these problems, there are two groups that many countries screen which may assist with understanding HIV seroprevalence in the wider community: blood donors and antenatal clinic attendees. More limited data is available on STD clinic clients.

1. Blood donors: A WPRO survey of HIV blood screening in 1991 determined that blood was fully screened in the Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Northern Mariana Islands, Marshall Islands, Federated States of Micronesia, New Caledonia, Palau, Samoa and Tuvalu. Some screening was performed in American Samoa (34%), Papua New Guinea (97%) and Vanuatu (80%). Information for this survey was not available from Nauru, Niue, Solomon Islands, Tokelau, Tonga and Wallis and Futuna. Since then, WPRO is aware of improvements that have been made in the blood screening for HIV in Papua New Guinea which now screens 99.56% of donations. No formal re-survey has been undertaken across the Pacific at this time.

Table 6. HIV screening of blood donations in Papua New Guinea

Year	Number of blood donations screened for HIV	Number of donations HIV positive	Rate (per 100 000 donations)
1988	13200	0	0
1989	26214	0	0
1990	20784	1	4.81
1991	24004	1	4.17
1992	23184	1	4.31
1993	22601	1	4.42
1994	25576	6	23.46
Total	136372	10	7.33

Of the Pacific island countries with larger HIV numbers, some HIV blood screening results are available. Unfortunately, few of these have been provided on a year-by-year basis so it is not possible to determine whether the trend in notified HIV infections reflects any similar trend in blood donations. The exception to this is blood donation HIV screening information from Papua New Guinea (refer Table 6) which does demonstrate an increase in recent years in the number of HIV positive blood donations and

this seems to reflect, to some degree, the increase in the annual number of HIV infections notified to WHO.

In addition, HIV positive blood donations have also been detected in Fiji, French Polynesia, Kiribati, New Caledonia and the Solomon Islands. Comparing across these countries, the rates of HIV positive blood donations do not, however, seem to bear any direct relationship to the cumulative incidence rates in Table 2.

2. Antenatal clinic attendees: Many countries have reported screening antenatal women. Only two, however, have reported positive HIV tests in antenatal clinic attendees: French Polynesia and Papua New Guinea. There is insufficient information to consider any trends over time. It is also recognised that in some countries, not all women have access to these clinics and so antenatal clinic testing for HIV, may not be very representative of women in the child-bearing age group. This would need to be assessed on a country by country basis.
3. STD clinic attendees: STD clinic attendees are not very representative of the general population, often because these clinics are not readily accessible and many people initially self treat or choose to get their STD treated by their family physician or general practitioner. Only Fiji, Marshall Islands and Papua New Guinea have reported positive HIV infections in clients of STD clinics.

“ There may be a trend, in some Pacific countries, towards an increasing proportion of HIV being transmitted by heterosexual activity ... ”

Discussion and conclusions

In world terms, the AIDS cases reported from the south Pacific countries contribute only a very small proportion of the global total of 1 169 811 notified AIDS cases as at 30 June 1995, and an even smaller proportion of the estimated 18.5 million adults and 1.5 million children infected with HIV. The cumulative incidence rates are also still well below the highest country in the Western Pacific Region, Australia, which has a cumulative HIV incidence rate of approximately 104 per 100 000 population (cases reported to 31 December 1994).

All analyses of the HIV and AIDS current situation and trends in these 21 countries are hampered by the small numbers involved. Small changes in these numbers will result in significant changes to trends and cumulative incidence rates, and so any conclusions must be made with caution. This is particularly so with HIV, because the asymptomatic HIV infections that are detected and reported represent only a proportion of the true number of HIV infections in any society throughout the world.

If the HIV infections and AIDS cases currently reported are reasonably reflective of the underlying situation in each country, then overall there is only a very small problem with HIV/AIDS in most of the Pacific countries at the present time. The exceptions are French Polynesia, Guam and New Caledonia with cumulative incidence rates of 66.50, 49.38 and 66.22 HIV infections per 100 000 population respectively. Generally, there has been little change to the annually reported number of HIV infections over the last five years for almost all of the Pacific countries except for Papua New Guinea, which has demonstrated a definite increase in annually notified HIV infections, and to a much lesser degree New Caledonia. There may be a trend, in some Pacific countries, towards an increasing proportion of HIV being transmitted by heterosexual activity and a reduction in homosexual/bisexual transmission. The majority of reported AIDS cases and HIV infections have been in men.

For those countries with very small populations, even small numbers of HIV infections are likely to result in a significant demand for treatment and supportive health services in the later stages of AIDS, and an even greater potential demand on the resources of these countries if expensive medicines, such as antiviral drugs, are to be offered to those infected with HIV. The current situation, therefore, requires ongoing careful monitoring because small increases in the HIV transmission will be very significant compared to the size of the underlying population which will have to provide treatment, care and support for these individuals at some time in the future.

Even though the HIV/AIDS problem appears minor for most of the Pacific countries, efforts to reduce the potential spread of HIV must be maintained and targeting of interventions further refined. Since there is not yet any HIV vaccine available nor any specific effective cure for HIV infection, it is only through these efforts that individuals at risk will gain the knowledge and support that will result in them changing behaviours and acting to reduce their own personal risk of being infected by HIV, or transmitting HIV to others.

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