Goal 6 — Combat HIV/AIDS, malaria and other diseases, including NCDs

Global context

In 2003, some 38 million people were living with HIV/AIDS, and an estimated 4.8 million acquired the human immunodeficiency virus (HIV); that year, the HIV/AIDS epidemic killed more than 2.9 million people worldwide. HIV/AIDS is now the leading cause of death and lost years of productive life for adults aged 15–59 years worldwide. About one million people die each year from malaria and at least 1.6 million from tuberculosis. Noncommunicable diseases (NCDs) now account for some 60% of global deaths and almost half (47%) of the global burden of disease. MDG 6 calls on the global community to halt and reverse the spread of HIV/AIDS, malaria and other major diseases by 2015.

Pacific context

The prevalence of infectious diseases varies across the Pacific region, but HIV/AIDS, TB and malaria all impose significant health burdens in some countries at present. A number of other epidemic-prone infectious diseases are present in the region, and some have the potential to cause significant social and economic impacts.[1]

In addition to infectious diseases, most PICs also face an increasing disease burden from NCDs such as diabetes, ischaemic heart disease and cardiovascular disease. The incidences of certain NCD risk factors (such as obesity and tobacco use) are among the highest in the world. Treatment costs for NCDs account for a substantial portion of health care budgets: 11% in Fiji, 27% in Samoa and 18% in Tonga.[2] This "double burden" of infectious and noncommunicable disease impacts on the health of individuals and populations and has the potential to significantly affect broader social and economic development as well, making it critical that these diseases are effectively addressed across the region.

[1] Epidemic-prone infectious diseases that are present in the region include those linked to poor environmental health (e.g. cholera and typhoid); vector-borne infections (e.g. malaria and dengue); respiratory infections (e.g. TB, influenza and SARS); vaccine-preventable diseases (e.g. measles, rubella and hepatitis B).

[2] Khaleghian 2003.

Table 6.1 Goal 6 — Combat HIV/AIDS, malaria and other diseases, including NCDs

	Indicators	Year	Cook Is	Fiji	FSM	Kiribati	Marshall Is	Nauru	Niue	Palau	PNG	Samoa	Solomon Is	Tokelau	Tonga	Tuvalu	Vanuatu
Target 7	18. HIV prevalence among 15-24 year old pregnant women	1990		0								0					
		2000		< 0.1 (2001)													
	19. Condom use rate of the contraceptive prevalence rate	1990		9.8 (1988)													
		2000		14.6									2.4 (2001)				
	Contraceptive prevalence rate among married women aged 15-49	1990	45.8 (1991)	31 (1991)			30.6 (1995)		35.9 (1991)			30.5 (1995)				39	15 (1991)
		2000	43.8	44			34 (2001)			17.2		42.6 (1996)	6.8 (2001)		32.8 (1999)	31.6 (2002)	28 (1999)
Target 8	21.Prevalence and death rates associated with malaria per 100,000 population	Incidence 1992									2,132		44,853				8,471
		Incidence 2002									1,430		16,170				6,930
		Death 1992									12.96		10.82				16.46
		Death 2002									12.51		13.62				2.00
	22. Proportion of population in malaria risk areas using effective malaria prevention and treatment measures	1990											53 (1999)				
		2000											42 (2002)				13 (2002)
	23. Prevalence and death rates associated with tuberculosis per 100,000 population	Notification 2000	6	17	79	250	56	33	100 (1999)	178 (1999)	236	27 (1990)	74	67	23.2	180 (1998)	76
		Notification 2002	6	18 (2000)	118	217	98	38	100	55	95	22 (2000)	55		28	130	49
		Death 1994	5.3	1.3	4	13					4	19.05 (1998)	6.3		2	22.2	3
		Death 2002	5.7	0.4 (2000)	12.7	5.7	10	2.2	2	10	56	1.1	14.8	6.3	3	30	16.3
	24. Proportion of tuberculosis cases detected and successfully treated under DOTS	Detected 2002	100	100	100	100	100	100	100	100	100	100	100		100		69
		Success 2002	100	85 (2001)	100	86	86	100		100	67	77	89		92		88

Underlined figures report data that do not precisely correspond to the indicator as defined by the UN. See notes below (for additional details as well as definitions and sources see Goal 6 Technical and Source Notes at end of chapter). Indicator 19: Samoa data is for contraceptive prevalence rate among 15-24 year-olds. Indicator 21: the indicator calls for prevalence of malaria; data reported here are incidence of new cases per 100,000, derived from the number of confirmed cases. Indicator 22: figures are estimates. Indicator 23: Data reported are for notification of confirmed cases, not prevalence or incidence.

Target 7: Halt and begin to reverse the spread of HIV/AIDS by 2015

MDGI 18. HIV prevalence among 15-24 year old pregnant women

In generalised epidemics[3] the infection rate for pregnant women has been found to serve as an effective proxy for the overall rate for the adult population. This indicator is consequently used as a measure of the spread of the epidemic. At present, PNG is the only PIC currently considered to have a generalised epidemic. In low-level and concentrated epidemics (as are found in other PICs), HIV prevalence is monitored among groups with high-risk behaviour (because prevalence among pregnant women is low). In the Pacific context high-risk populations include sex workers, their clients, those who engage in "survival sex"[4], men who have sex with men, and young people deprived of parental care. In some PICs there are also concerns about transmission via contaminated blood supplies.

Assessment

Data on this indicator are not currently available for most PICs, but programmes are being established that will collect this information (see discussion below). At present data are available on the total number of officially reported HIV cases (including AIDS). Table 6.2 shows the number of reported cases in PICs, as of 31 December 2003. Updated figures are available for two PICs and demonstrate a continuing increase in the number of cases: the figure for PNG increased by 12% (to 8,202 cases as of September 2003); the figure for FSM increased by 43% (to 20 cases as of September 2004).[5]

Many cases are believed to go unreported.[6] Consequently, actual HIV prevalence is believed to be much higher than the number of reported cases. For example, a World Bank/AusAID/WHO study has estimated there were between 25,000 and 75,000 people infected with HIV in PNG in 2000, or 25 to 75 times as many as are officially reported for that year.[7] A number of AIDS cases in the region have been initially identified clinically, with the diagnosis confirmed following administration of an HIV test. This may indicate that a significant number of undiagnosed persons in the region may be living with HIV/AIDS.

To gain a clearer picture of the HIV and AIDS situation in areas with low prevalence rates, WHO recommends using a simple formula of multiplying the total number of reported cases of HIV and AIDS by ten. By such an estimate (using mid-2004 population estimates[8]), prevalence in the Pacific may vary as follows: PNG 1.3%, Tuvalu 0.9%, Kiribati 0.45%, Palau 0.2% and Fiji 0.17%.

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[3] HIV epidemics are defined as follows:

a) Generalised epidemics: HIV prevalence over 1% in the general population.

b) Concentrated epidemics among specific groups: HIV prevalence is over 5% in any sub-population exhibiting high-risk behaviour.

c) Low level or emerging epidemics: HIV prevalence below 1%.

[4] Those who exchange sex in return for favours, clothing, abusive substances, meals, etc.

[5] Note that improvements in surveillance and expanded IEC awareness campaigns and advocacy activities (which encourage people to come forward for testing and treatment) may result in increases in the number of reported cases that are not necessarily reflective of an increase in prevalence.

[6] Many factors influence reporting levels, including availability of testing facilities and awareness of risk among vulnerable populations. Prevalence figures based on reported cases will always underestimate true prevalence.

[7] MDG TWG 2004.

[8] See SPC 2004.

Table 6.2 Known HIV/AIDS cases and deaths in the Pacific

	As of:	HIV incl. AIDS	AIDS cases (AIDS deaths)	Male HIV/AIDS	Female HIV/AIDS	Unknown sex HIV/AIDS
American Samoa	Dec 2003	2	1 (0)	1	1	0
Cook Is	Dec 2003	1	0 (0)	1	0	0
Fiji	Dec 2003	142	25 (15)	88	54	0
FSM	Dec 2003	14	7 (3)	n/a	n/a	n/a
French Polynesia	Nov 2003	229	77 [a] (56 [a])			
Guam	Dec 2003	176	86 (45)	151	24	1
Kiribati	Dec 2003	42	19 (19)	28	14	0
Marshall Is	Jun 2002	9	2 [a] (2 [a])	3	2	4
Nauru	Dec 2003	1	0 (0)	1	0	0
New Caledonia	Dec 2003	263	99 (58)	193	68	2
Niue	Dec 2003	0	0 (0)	0	0	0
Northern Mariana Is	Oct 2002	25	11 (7)			
Palau	Dec 2003	4	2 (2)	2	2	0
PNG	Aug 2002	7,320	1,336[a] (n/a)			
Pitcairn	Dec 2003	0	0 (0)	0	0	0
Samoa	Dec 2003	12	8 (8)	8	4	0
Solomon Is	Feb 2004	2	1 (1)	1	1	0
Tokelau	Dec 2003	0	0 (0)	0	0	0
Tonga	Dec 2003	13	11 (11)	9	4	0
Tuvalu	Dec 2003	9	2 (2)	8	1	0
Vanuatu	Dec 2003	2	2 (0)	0	2	0
Wallis and Futuna	Oct 2000	2	1 (n/a)			
TOTAL reported	**Dec 2003**	**8,268**	**1,672 (n/a)**	**-**	**-**	**-**
TOTAL (without PNG)	**Dec 2003**	**948**	**336 (226)**	**-**	**-**	**-**

Source: Secretariat of the Pacific Community Notes: [a] as of 21 December 2001; n/a = not available

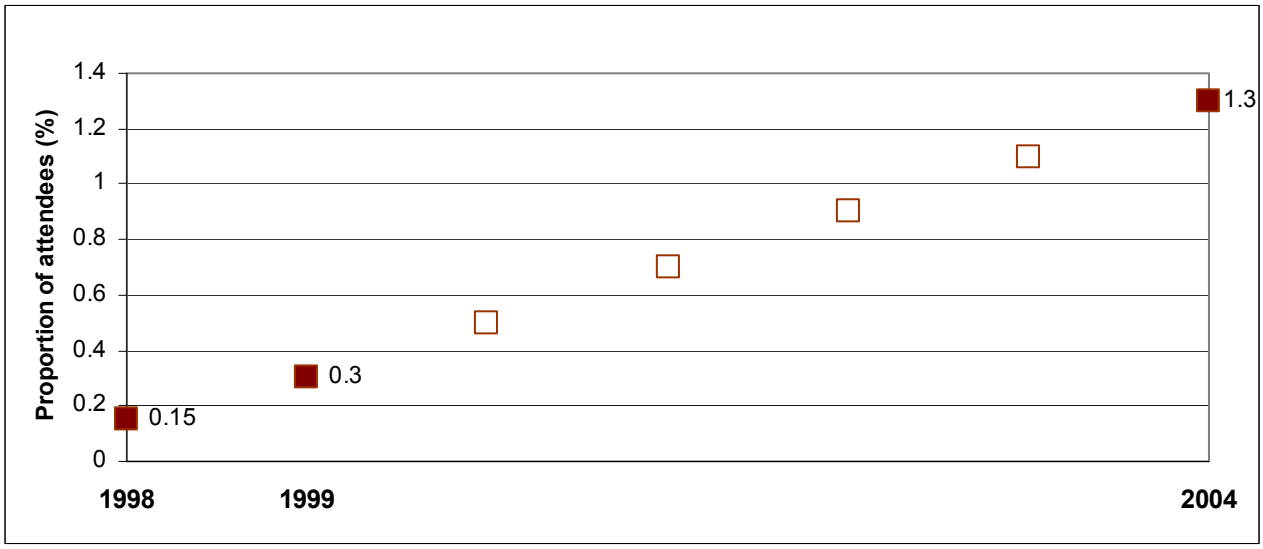

Figure 6.1 HIV+ attendees at antenatal clinics in Port Moresby

Some data are available for the prevalence rate among pregnant women in antenatal clinics in PNG, and these give an indication of the rapid expansion of the epidemic in that country. The proportion of attendees at antenatal clinics in Port Moresby found to be HIV positive has risen steadily: 0.15% (1998), 0.3% (1999), and 1.3% (2004); prevalence among women 15-24 measured in 2003 was 1.07%. Antenatal prevalence was also measured at Goroka Hospital (Eastern Highlands Province) in 2003, where the prevalence rate for all women was 1.5%, and women aged 15-24 years 0.7%.[9] There have been 17 reported cases of HIV in pregnant women in Fiji, and 11 reported cases of HIV in infants. Since mid-2001, AIDS has been the leading cause of mortality among young adults in Port Moresby General Hospital. AIDS patients now occupy 60% of the medical wards, and 20% of in-patients with TB are HIV positive.[10]

The relatively low numbers of reported cases should not be assumed to be representative of the actual situation with respect to HIV/AIDS infection. Because HIV prevalence is not routinely monitored at present among high risk groups, and is not routinely tested at antenatal clinics, the actual extent of HIV infection in the region is not known.

MDGI 19. Condom use rate of the contraceptive prevalence rate

Condom use is measured because condoms are the only contraceptive method effective in preventing HIV transmission. Because the condom use rate is only measured among women in marital or consensual unions, this indicator has been supplemented by an indicator on condom use in high-risk situations (indicator 19a) and an indicator on HIV/AIDS knowledge (indicator 19b). Indicator 19c (contraceptive prevalence rate) is also useful in tracking progress in other health, gender and poverty goals.

No data for the Pacific region are currently available, but programs are underway that will collect this information. See discussion below.

MDGI 19a. Condom use at last high-risk sex

Consistent and correct use of condoms in non-regular sexual partnerships substantially reduces the risk of sexual HIV transmission. Increasing condom use among youth in the Pacific is especially important, as young people in the Pacific have high rates of STIs in combination with relatively high numbers of non-regular sexual partnerships. This places them at high risk for HIV infection. Consistent condom use with non-regular sexual partners is important even in countries where HIV prevalence is low, because it can prevent the spread of HIV in circumstances where non-regular relationships are common.

No data for the Pacific region are currently available.

MDGI 19b. Percentage of population aged 15–24 with comprehensive correct knowledge of HIV/AIDS

This indicator is intended to reflect the success of national information, education and communication programmes and other efforts in promoting knowledge of valid HIV prevention methods and reducing misconceptions about the disease. Because there are insufficient surveys to calculate the indicator as defined, the United Nations Children's Fund, in collaboration with the Joint UN Programme on HIV/AIDS and the World Health Organization, has produced two proxy indicators that represent two components of the actual indicator:

> **MDGI 19b-1. Percentage of women and men ages 15–24 who know that a person can protect oneself from HIV infection by consistent condom use**. The indicator is calculated as the number of respondents ages 15–24 who, in response to prompting, correctly identify consistent and correct

[9] This suggests that the current concentration of known cases in Port Moresby may be an artefact of the concentration of testing and higher level health facilities there, and that the epidemic may be widely spread geographically (PNG CCM 2003).

[10] PNG CCM 2003.

use of condoms as a means of protection against HIV infection. Expressed as a percentage of the total number of respondents ages 15–24.

MDGI 19b-2. Percentage of women and men ages 15–24 who know a healthy-looking person can transmit HIV. The indicator is calculated as the number of respondents ages 15–24 who, in response to prompting, correctly note that a person who looks healthy m ay transmit HIV, as a percentage of the total number of respondents ages 15–24.

No data for the Pacific region are currently available for MDGI 19b-1 or b-2.

MDGI 19c. Contraceptive prevalence rate

The indicator is useful in tracking progress towards health, gender and poverty goals. It also serves as a proxy measure of access to reproductive health services that are essential for meeting many of the MDGs, especially the child and maternity mortality and HIV/AIDS goals.

Table 6.3 Contraceptive prevalence rate among married women aged 15-49

	1990	2000
Cook Is	46	44
Fiji	31	44
Marshall Is	31	34
Niue	36	
Palau		17
Samoa		30
Solomon Is		7
Tonga		33
Tuvalu	39	32
Vanuatu	15	28

Source: See Goal 6 Technical and Source Notes.

Assessment

Contraceptive prevalence rates (CPRs) are available for most PICs. Figures show contraceptive prevalence to be between 25% and 35% in five PICs, and above 40% in two (Cook Islands and Fiji). Reported rates are lowest for Palau and Solomon Islands. Time series data are available for only five PICs, and show significant increases in contraceptive prevalence in Fiji (a 40% increase) and Vanuatu (an increase of more than 80%).

Analysis of probable CPR, based on trends in fertility rates, suggests that CPR may be significantly higher than reported here, with CPR possibly surpassing 55%[11] in Fiji, Palau, Niue and Tuvalu.[12]

MDGI 20. Number of children orphaned by HIV/AIDS

No Pacific region data for MDGI 20 are currently available.

Challenges and prospects for halting and reversing the spread of HIV/AIDS

Although the incidence of HIV/AIDS in most countries in the region (except PNG) currently remains at a low level in global terms, the current level of HIV infection is of significant concern, and there is a real risk that the incidence could substantially and rapidly increase in the future. Pacific Island leaders have expressed serious concern over the continued rate of HIV/AIDS transmission in PICs.[13]

Providing prevalence data in the Pacific is problematic due to incomplete surveillance information,[14] but the proportionately high number of reported AIDS cases relative to HIV infections — almost equal among the 50% of cases that were so differentiated in PNG in 2001 — suggests that the number of reported cases substantially under-represents the actual number of people already infected.[15] There have

[11] The International Conference on Population and Development Plan of Action has a goal of achieving a minimum of 55% CPR in all countries by 2010.

[12] Kenyon and Power 2003.

[13] PIFS 2003.

[14] There are a number of challenges in acquiring accurate information, including: limited testing and surveillance facilities, variable reporting standards, incomplete reporting by some private practitioners (including both doctors and testing facilities), the sensitivity of the information in some small communities and difficulties in ensuring patient confidentiality, and a lack of notification between countries despite high levels of mobility among PIC populations.

[15] PNG CCM 2003.

been recent sharp increases in reported HIV infections in several countries (e.g. Fiji, Tuvalu, Kiribati) and there are a number of risk factors for rapid future increases, including high rates of STIs and teen pregnancies (which together suggest a high prevalence of risky behaviours), and high rates of mobility. High STI rates are an additional concern because a number of STIs themselves make HIV transmission easier. If HIV becomes more prevalent the same risky behaviours that now result in high rates of STIs would serve to rapidly spread HIV among Pacific Island populations.

There is strong political commitment from PICs and most donor countries to prevent an HIV/AIDS epidemic in the region. Pacific Island leaders have noted that as a development issue, HIV/AIDS "could have a devastating impact on the economies, societies and security of the region".[16] Most PICs have HIV/STI strategies in places that have been endorsed by their governments, and have in place National Coordination Mechanisms to ensure an effective response is mounted to the threat of HIV/AIDS. In 2002, Pacific Island leaders called for additional measures at both national and regional levels to fight the threat,[17] including development of a new regional strategy on HIV/AIDS. The strategy was endorsed by Forum leaders at their 2004 meeting, and a detailed implementation plan will be developed by the end of 2004. The regional strategy is designed to support national efforts to prevent and control HIV/AIDS, and to strengthen work at the regional level through improved coordination, collaboration, and partnership between regional organisations and national programmes. Successful implementation of the strategy — and success in slowing and halting the epidemic — will require significant progress in a number of different areas, including sexual education, access to condoms, control of STI levels, establishment of sentinel monitoring sites, and establishment of care and support systems for people living with HIV/AIDS.

Significant financial support (USD 6.3 million) for the fight against HIV/AIDS is provided through the Pacific Island Regional Multi-Country Coordinated Project (PIRMCCP), funded through the Global Fund to Fight AIDS, Tuberculosis and Malaria. The PIRMCCP will strengthen HIV/AIDS treatment and care, prevention and surveillance in 11 countries, from 2003-2008. The goal of the PIRMCCP is "the prevention of an HIV epidemic in Pacific Island countries through improved STI services and targeted interventions". The project includes specific targets, and progress in meeting these targets may be indicative of progress toward meeting the broader goal of halting the epidemic in the region. HIV, STI and behavioural surveys are currently under way in a number of project countries, and will provide baseline data for subsequent measurement of the impact of project interventions. PNG has made a

PIRMCCP targets:

- Reduce HIV prevalence to below 2% among identified vulnerable groups (e.g. sex workers and seafarers) in Fiji, Kiribati, Samoa, Solomon Islands and Tonga.
- Reduce STI prevalence among women presenting to antenatal clinics to below 10% in Vanuatu and Samoa (prevalence rates in 2000 were 20% in Vanuatu and 30% in Samoa).

PNG Global Fund Project targets:

- Reduce adult (15-49 years) HIV prevalence from 1.5% to 1% (2004-2009).
- Reduce percentage of youth (15-24 years) who are HIV positive from 0.6% to 0.3% (2004-2009).
- Reduce percentage of HIV-infected infants born to HIV-infected mothers from 40% to 20% (2004-2009).
- Increase the number of young people aged 15-24 years educated in HIV prevention, from a baseline of 30% in 2003 to 80% in 2008.

[16] PIFS 2003.

[17] PIFS 2002.

separate submission to the Global Fund,[18] requesting USD 30 million for fighting HIV/ AIDS. In addition, efforts to increase access to and ensure the quality of condoms are being pursued through a plan of action to increase the availability of reproductive health commodities.[19]

Assessment of the relevance of MDGIs 18-20 and availability of data

The target (halting and, by 2015, having begun to reverse the spread of HIV/AIDS) is very relevant for PICs, although more specific and ambitious targets have been developed by ongoing HIV-related projects in the region. Comprehensive data for indicators 18-20 are not available, and it is unlikely that that they could be targeted effectively by national statistical surveys due to the sensitivity of the information. The best potential for quantifying these indicators probably rests with national health systems, working in conjunction with National Statistics Offices. Data for some of these indicators are being collected by the ongoing projects discussed above.

Recommendations relating to HIV/AIDS

- Through collaborative effort involving National Statistics Offices and Ministries of Health, select HIV-related indicators (such as access to affordable drugs) that are relevant at country and regional level and for which data will be available. To ensure data comparability across the region, coordinate this effort through existing regional HIV-related programmes and projects.
- Implement Action Plans and Strategies on HIV/AIDS (at both regional and national levels).

Target 8: Halt and begin to reverse the incidence of malaria and other major diseases by 2015

MDGI 21. Prevalence and death rates associated with malaria (reported per 100,000 population)

Table 6.4 Incidence of malaria per 100,000 population and number of deaths resulting from malaria

	Incidence[a]		Deaths[b]	
	1992	2002	1992	2002
PNG	2,132	1,430	500	647
Solomon Is	44,853	16,170	40	61
Vanuatu	8,471	6,930	26	4

Source: WHO 2004b
Underlined figures report data that do not precisely correspond to the indicator as defined by the UN. See text and Technical and Source Notes for details.
[a] Incidence is derived from the number of confirmed cases
[b] Deaths include only confirmed malaria deaths, and may not include deaths occurring in remote areas.

Assessment

Prevalence figures are not available; information reported here is incidence of new cases per 100,000, derived from the number of confirmed cases. Death rates in Table 6.1 are based on the number of confirmed malaria deaths shown in Table 6.4. Data are provided only for PICs where malaria is endemic (PNG, Solomon Islands and Vanuatu).

These data should be interpreted with caution. The number of confirmed cases almost certainly does not accurately reflect the actual number of cases in each country. In the case of PNG, the urban/institutional bias of the data means "malaria figures are very serious underestimates".[20] PNG's draft MDG Technical

[18] The project is "Scaling up HIV/AIDS Prevention, Care and Treatment through an Intensified Multi-sectoral Community Based Programme in Papua New Guinea". As of 6 September 2004 the project had been approved by the Global Fund Board but assessment of the project's Principle Recipient was ongoing.

[19] Matlin 2003.

[20] MDG TWG 2004.

Working Group report states that at present, malaria poses by far the highest disease burden in PNG, and that malaria deaths are undoubtedly much higher than recorded, particularly in remote rural areas with little or no access to health facilities.

WHO estimates the number of probable malaria cases in PNG in 2002 to be 1,303,108, some 16 times the number of confirmed cases of 79,822.[21] PNG's incidence rate for 2002, derived from the number of probable cases, would be 23,900 per 100,000, suggesting that approximately 25% of the population would have contracted malaria in 2002. In PNG malaria is the third leading cause of hospital admissions and deaths. Malaria is endemic in all coastal, lowland and island areas with year-round transmission, and epidemic in the highlands, which results in malaria outbreaks with high mortality, due to low immunity and delayed treatment.[22]

Incidence rates in Solomon Islands have decreased dramatically since 1992, but nevertheless suggest that over 16% of the population became infected in 2002. Other data indicate that the incidence of malaria throughout the Solomon's has increased over the past three years as a result of the civil unrest and its impact on the delivery of vector borne disease control measures. In Vanuatu the incidence rate doubled from 2001 to 2002 (from 33.57 to 69.3), but this probably reflects improvements in malaria surveillance rather than an actual doubling of incidence.

MDGI 22: Proportion of population in malaria risk areas that use effective malaria prevention and treatment measures

Table 6.5 Percentage of the total population sleeping under treated bednets

	1999	2002
Solomon Is	53	42
Vanuatu		13

Source: WHO 2004b
Underlined figures report data that do not precisely correspond to the indicator as defined by the UN. See text and Technical and Source Notes for details.

In addition to the WHO data reported in Table 6.5, data from Vanuatu (1999 census) indicates 83% of the population used bed nets (though not necessarily treated nets) in 1999, an increase from 45% in 1989. Data are not available for any countries regarding the population under five years of age sleeping under bed nets, or of malaria treatment rates among children.

Challenges and prospects for halting and reversing the spread of malaria

Although governments are committed to addressing the disease, efforts to control malaria in the three PICs where it is endemic have been hampered generally by a lack of resources, compounded in Solomon Islands by ethnic tension and violence. All three countries have applied for and received assistance from the Global Fund, Solomon Islands and Vanuatu through the PIRMCCP, and PNG via a separate Community-based Malaria Prevention and Control project. These projects have set targets more ambitious than those established under MDG 6, and monitoring of progress in meeting these project targets will help to evaluate progress with respect to the MDGs.

Global Fund project targets:

	Reduce morbidity by:	Reduce mortality by :	Over the years:
PNG	50%	50%	2001-2010
Solomon Is	50%	50%	2003-2008
Vanuatu	50%	80%	2003-2008

[21] WHO 2004b.

[22] PNG CCM 2003.

Assessment of the relevance of MDGI 21 and 22 and availability of data

The target (having halted and begun to reverse the spread of malaria by 2015) is highly relevant to the three PICs where malaria is endemic, although projects active in the three countries have adopted more ambitious targets, as outlined above. Because of the absence of comprehensive, reliable data on either incidence or prevalence of malaria, additional indicators should be adopted that will allow a more accurate assessment of progress in combating malaria. A number of indicators have been developed to monitor outcomes of the PIRMCCP and PNG Global Fund projects, and could possibly be used to measure progress, both in diagnosing and treating malaria cases and in implementing measures to control malaria transmission.

Recommendation relating to malaria

- National Statistics Offices and Ministries of Health should collaborate in selecting relevant malaria-related indicators, and ensure that data will be available. This effort should be coordinated through existing regional programmes to ensure data comparability.

MDGI 23. Prevalence and death rates associated with tuberculosis (reported per 100,000 population)

Table 6.6 Case notification and death rates associated with tuberculosis

	Notification rate		Death rate
	2000	2002	2002
Cook Is	6	6	5.7
FSM	79	118	12.7
Fiji	17	18	0.4
Kiribati	250	217	5.7
Marshall Is	56	98	10.0
Nauru	33	38	2.2
Niue	100	100	2.0
Palau	178	55	10.0
PNG	236	95	56.0
Samoa	27	22	1.1
Solomon Is	74	55	14.8
Tokelau	67		6.3
Tonga	23	28	3.0
Tuvalu	180	130	30.0
Vanuatu	76	49	16.3

Underlined figures report data that do not precisely correspond to the indicator as defined by the UN. See text and Technical and Source Notes for details.

Assessment

Data on tuberculosis prevalence are not available for the Pacific region. Information provided here is on the notification rate for TB cases, which is an indicator of (but substantially under-represents) the incidence rate. A tuberculosis case is defined as a patient in whom tuberculosis has been bacteriologically confirmed or diagnosed by a clinician. The notification rate is the number of cases that have been detected and reported through the national surveillance system, per 100,000 population.

Data show particularly high case notification rates in Kiribati, PNG, Palau and Tuvalu. The latter needs to be considered in light of the country's small population (under 10,000 in 2002).[23] Note that pre-2000 TB data are not consistently reliable, and are thus not presented here. As a result, trends in case notification rates cannot be derived.

Although PNG's notification rate in 2002 was lower than a number of other PICs, it had by far the greatest number of notified cases of any PIC (5324), followed by Solomon Islands (256) and Kiribati (189). These data highlight the potentially misleading nature of rates per 100,000 population. For example, case notification rates for Niue and Tuvalu are higher than that for PNG, despite their extremely small number of total cases (2 and 13 for Niue and Tuvalu, respectively). As outlined under MDGI 24, the probable number of undiagnosed cases is also much larger in PNG.

[23] SPC 2004.

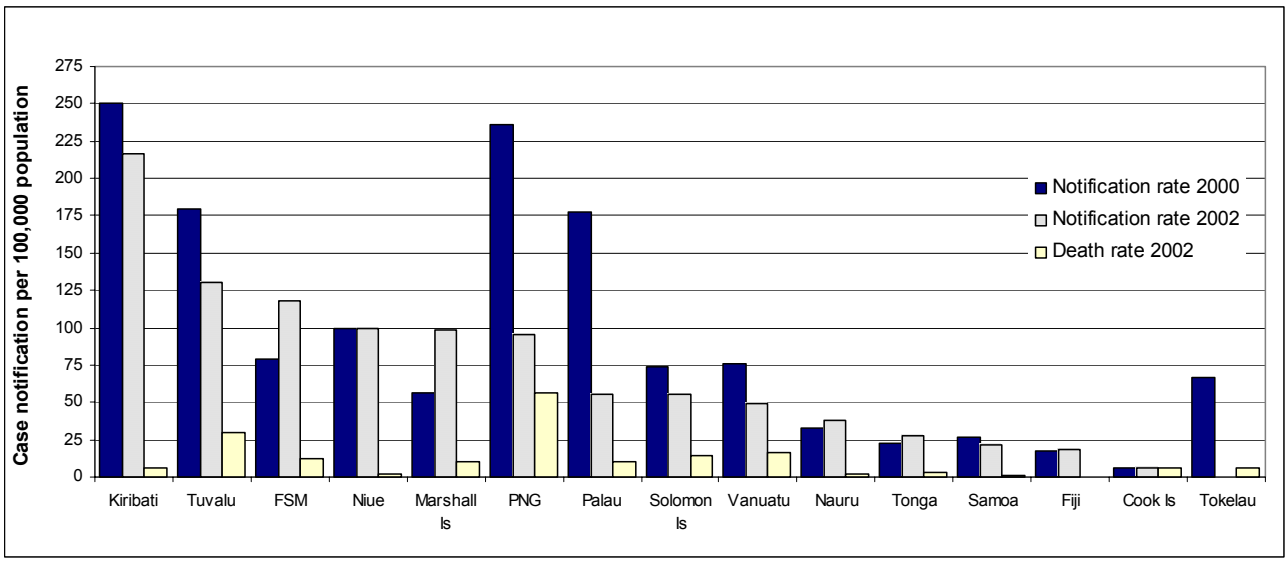

Figure 6.2 Notification and death rates associated with TB

MDGI 24. Proportion of tuberculosis cases detected and successfully treated under directly observed treatment short course (DOTS)

Table 6.7 Proportion of tuberculosis cases detected and successfully treated under DOTS

	Proportion of cases detected under DOTS %	DOTS case detection rate %	DOTS success Rate %	DOTS cure rate %	Number of notified cases	Number of estimated cases
	2002	2002	2002	2002	2002	2002
Cook Is	100	18	100	100	1	6
Fiji	100	59	85[a]	85	150	253
FSM	100	129	100	100	127	98
Kiribati	100	241	86	79	189	78
Marshall Is	100	108	86	36	51	47
Nauru	100	128	100	100	5	4
Niue	100	333			2	1
Palau			100	100	11	18
PNG	100	37	67	45	5,324	14,202
Samoa	100	56	77	41	30	54
Solomon Is	100	61	89	66	256	420
Tokelau						0
Tonga	100	93	92	67	29	31
Tuvalu		407			13	3
Vanuatu	69	37	88	65	101	187

Source: WHO 2004a. [a] reported as 100% in Fiji MDG Report 2004.

Because tuberculosis is an airborne contagious disease, primary control involves finding and then treating infectious cases, thereby limiting the risk of additional infections.

Assessment

Directly observed treatment short course (DOTS)[24] coverage in the Pacific in 2002 approached 100% in all PICs (with the exception of Vanuatu and Tuvalu),[25] as shown by the proportion of cases detected under DOTS in Table 6.5.[26] DOTS case detection rates are therefore equivalent to overall case detection rates in all countries except Vanuatu. Estimates of the total number of cases in a country are needed for calculation of case detection rates, and these estimates are prepared by WHO. In very small countries estimates of total case numbers are frequently not accurate, however, leading to the number of notified cases exceeding the number of estimated cases, and reported detection rates far in excess of 100% (for example, the DOTS detection rate for Niue in 2002 was 333%). DOTS treatment success rates are 85% or above in all except PNG and Samoa, but cure rates are much lower, with three PICs below 50%, and seven below the global target for success rates of 85%.

The figures for the number of estimated and notified cases indicate that the largest probable reservoir of undiagnosed cases is in PNG, followed by Solomon Islands, Fiji, Vanuatu and Samoa. Case detection rates, treatment success rates, and cure rates provide some indication of the present effectiveness of TB programmes in these PICs, and of the relative challenge they will likely face in both detecting and treating TB cases.

Co-infection of TB and AIDS is a significant concern, particularly in PNG. TB and HIV each have the potential to accelerate or worsen the other disease. TB may accelerate the progression of HIV infection, while those infected with HIV/AIDS have a greater risk of developing multi-drug resistant TB, which is extremely difficult and costly to treat. In Port Moresby General Hospital, 20% of patients with TB are HIV positive.[27]

Challenges and prospects for halting and reversing the spread of TB

The overall goal of the tuberculosis component of the Global Fund PIRMCCP project is to reduce the TB burden within project countries by one-third (from 848 to 565) between 2000 and 2007, measured as the prevalence of new smear-positive pulmonary TB cases. This will be achieved through full implementation of DOTS in all countries.

Targets endorsed by the region at the First STOP TB Regional Meeting[28] are to achieve, by the year 2005, 100% DOTS coverage in all PICTs, a cure rate of 85% and a case detection rate of 70%. A review of progress at the Second STOP TB Regional Meeting held in March 2004 found that the majority of PICTs have achieved 100% DOTS population coverage, over one third have reached the 85% cure rate mark, and 10 have passed the 70% case detection target.

Assessment of the relevance of MDGIs 23 and 24

The target is relevant to the Pacific region, although a more ambitious target (to reduce TB burden by one- third between 2000 and 2007) has been adopted by the PIRMCCP project that serves 10 PICs. Accurate data on actual TB prevalence and TB deaths are not available, but statistics are reported on TB notification, cure and success under DOTS, and efforts are underway to improve the quality of these data. Although the DOTS strategy has been widely implemented across the Pacific, access to DOTS is

[24] The recommended approach to primary control is the DOTS strategy. DOTS is a proven system based on accurate diagnosis and consistent treatment using anti-tuberculosis drugs.

[25] Tuvalu began sputum smear examination, which is an important component of DOTS, in February 2004.

[26] A DOTS coverage rate of 100% does not necessarily indicate that 100% of the population is adequately served with respect to TB diagnosis and treatment, but rather that all TB cases are being notified and treated under DOTS.

[27] PNG CCM 2003.

[28] Held in Noumea in 2000.

not universal in all PICs, due to incomplete health care coverage. Consequently, an important additional indicator to monitor is access to DOTS (measured as the "population accessible to DOTS").

Recommendations relating to TB

- Adopt an additional TB indicator measuring the proportion of the population with access to health centres that use the DOTS strategy.
- Increase efforts to limit the spread of drug resistant TB.

Noncommunicable diseases

Due to the very significant NCD disease burden in the Pacific it is recommended that PICs develop NCD targets and indicators under Target 8 of this goal, even though NCDs are not monitored globally. The relevance of monitoring specific NCDs and NCD risk factors will vary among PICs; brief outlines of regional estimates for prevalence of diabetes and overweight, obesity and smoking are provided to illustrate their significance.

Diabetes

Estimates of adult diabetes prevalence indicate Nauru has the highest rate worldwide, with Tonga ranked fifth; estimates of impaired glucose tolerance place Nauru first and Kiribati fourth worldwide.[29] A study of diabetes prevalence undertaken in Tonga[30] found that diabetes prevalence had approximately doubled between 1973 and 2000 (from 7.5% to about 15%). Most diabetes cases (over 80%) were previously undiagnosed.[31] Projections to 2025 by the International Diabetes Federation suggest that the prevalence of diabetes will continue to increase in all PICs over the next 20 years.[32]

Overweight, obesity and smoking

Obesity is an important NCD risk factor, and is closely linked to the development of diabetes. More than 50% of adults in a majority of PICs are estimated to be overweight or obese;[33] rates in several countries may be the highest in the world (over 75%). Smoking prevalence is also very high, with rates as high as 50% reported.[34] Smoking and obesity are both risk factors in the development of heart and circulatory diseases, which are the first or second leading causes of death in the majority of PICs.[35] Malignant tumours are currently also a significant cause of both morbidity and mortality in many PICs.

Challenges and prospects for halting and reversing the spread of NCDs

There are increasing indications of the effectiveness of preventative approaches to NCDs. For example, research indicates that lifestyle interventions can significantly reduce the incidence of Type 2 diabetes in high risk populations over the short term (4-6 years). In the Pacific region, Tonga has reduced its rate of diabetes-related leg amputations by 50% in six years, and their approach may serve as a best practice example for other PICs.[36]

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[29] IDF 2003.

[30] Colagiuri et al 2002.

[31] Typically some 50% of people with type 2 diabetes are undiagnosed. The higher percentage in Tonga "probably reflects the lack of available routine medical services, the general lack of community awareness of diabetes, and the prevailing attitude of seeking medical advice only for advanced problems" (Colagiuri et al 2002).

[32] IDF 2003.

[33] Coyne 2000.

[34] WHO 2003a.

[35] PIFS 2003c.

[36] PIFS 2003c.

There is a strong awareness of and commitment to addressing NCDs within the region. The Tonga Commitment to Promote Healthy Lifestyles and Supportive Environments (endorsed by the region's Ministers of Health in 2003) consists of a set of short-term actions in support of the long-term goal of reducing the burden of avoidable NCDs.[37] Actions include:

- development of national NCD plans based on a STEPwise framework developed by PICs in collaboration with WHO;
- establishment of intersectoral mechanisms for involving and informing stakeholders regarding NCD efforts;
- re-allocation of resources for NCD control according to the STEPwise framework; and
- adoption of a regional approach to specific elements of NCD response, including research, lab testing, surveillance and evaluation.

The Tonga Commitment includes a series of progress indicators; PICs have agreed to report on progress in implementing the Tonga Commitment at the regional meeting of Ministers of Health in 2005.

Indicators measuring prevalence of diabetes, prevalence of impaired glucose tolerance,[38] prevalence of overweight and obesity and other NCDs and NCD risk factors would be relevant for many PICs, but data are generally not available at present. For example, a summary of the situation with respect to diabetes and obesity found that "current data are out-of-date, not standardised, and thus not comparable, and of variable quality. The current data on obesity and diabetes do not provide a good baseline for evaluating interventions".[39]

Recommendation relating to NCDs

- Develop NCD targets and indicators that are compatible with national NCD plans. Coordination on a regional basis (through regional and international organisations in cooperation with Ministries of Health) should be undertaken to assure regional data comparability.

[37] WHO 2003a.

[38] Persons with impaired glucose tolerance (IGT) have higher than normal blood glucose levels, and are at high risk of developing diabetes. IGT is also a risk factor for cardiovascular disease. See IDF 2003.

[39] PIFS 2003c.

Goal 6 Technical and Source Notes

MDGI 18: *HIV prevalence among 15–24 year-old pregnant women* is monitored via the percentage of pregnant women ages 15–24 whose blood samples test positive for HIV.

Sources: Fiji data: Fiji Draft MDG Report 2004; Samoa data: Samoa Draft MDG Report 2004.

MDGI 19: *The condom use rate expressed as a proportion of the contraceptive prevalence rate* is the number of women ages 15–49 in marital or consensual unions who are practising contraception by using condoms as a proportion of all of women of the same age group in consensual unions who are practising, or whose sexual partners are practising, any form of contraception.

Sources: Fiji data: Fiji Draft MDG Report 2004; Solomon Islands data: Solomon Islands Ministry of Health.

> **MDGI 19a:** *Condom use at last high-risk sex* is the percentage of young people ages 15–24 reporting the use of a condom during sexual intercourse with a non-regular sexual partner in the last 12 months.
>
> **MDGI 19b**: *Percentage of population ages 15–24 with comprehensive correct knowledge of HIV/AIDS* is the share of women and men ages 15–24 who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission and who know that a healthy-looking person can transmit HIV.

MDGI 19c: *The contraceptive prevalence rate* is the percentage of women who are practising, or whose sexual partners are practising, any form of contraception. It is usually reported for women aged 15–49 years in marital or consensual unions.

Sources: Contraceptive prevalence rates are from PIC Ministries of Health. Exceptions — Fiji data: Fiji Draft MDG Report 2004. Samoa data: Samoa Draft MDG Report 2004 (reports contraceptive prevalence rate among 15-24 year-olds).

MDGI 20: *The number of children orphaned by HIV/AIDS* is the estimated number of children who have lost their mother, father or both parents to AIDS before age 15. In practice, the impact of the AIDS epidemic on orphans is measured through the ratio of orphans to non-orphans who are in school, through the ratio of school attendance of orphans to school attendance of non-orphans aged 10–14. The indicator is not a direct measure of the number of children orphaned by HIV/AIDS, despite the wording, as this indicator does not directly distinguish the cause of orphanhood. But it is believed that high proportions of deaths of adults with school-age children in areas of HIV epidemics are likely to be HIV/AIDS related.

MDGI 21: *Prevalence of malaria* is the number of cases of malaria per 100,000 people, while *death rates* are the number of deaths per 100,000 population. Data reported here is the incidence of confirmed cases. Death rates are derived from confirmed malaria deaths.

Sources: All data from WHO 2004b. Calculation notes: PNG malaria death rate for 1992 calculated with the 1993 population (500 deaths in 1992); malaria death rate 2002 calculated with the 2000 population (647 deaths in 2002). Solomon Islands malaria death rate for 1992 calculated with the 1993 population (40 deaths in 1992); malaria death rate for 2002 calculated with the 2000 population (61 deaths in 2002). Vanuatu malaria death rate for 1992 calculated with the 1993 population (26 deaths in 1992); malaria death rate for 2002 calculated with the 2000 population (4 deaths in 2002).

MDGI 22: *Malaria prevention* is measured as the percentage of children ages 0–59 months sleeping under insecticide-treated bednets. *Malaria treatment among children* is measured as the proportion of children ages 0–59 months who were ill with the fever in the two weeks before the survey and who

received appropriate antimalarial drugs. All data in this report are for percent of total population rather than population under five years of age.

Sources: Solomon Islands 1999 data: Solomon Islands Department of Statistics estimates from the 1999 census; 2002 data: WHO malaria project estimates. Vanuatu 2002 data: WHO malaria project estimates.

MDGI 23: *TB prevalence* is the number of cases of TB per 100,000 people. *Death rates associated with TB* are deaths caused by TB per 100,000 people. Data reported are for notification of confirmed cases, not prevalence or incidence.

Sources: TB statistics are from WHO (2004a) except for Kiribati, Samoa and Tonga (data from SPC); the 2002 death rate for Tuvalu is from SPC.

MDGI 24: *The tuberculosis detection rate under DOTS* is the percentage of estimated new infectious TB cases detected under the DOTS case detection and treatment strategy. It is calculated by dividing the number of DOTS-detected cases by the estimated number of cases. *The success rate* is the percentage of new, registered smear-positive (infectious) cases that were cured[40] or in which a full course of DOTS was completed. It is calculated by adding cured cases and cases in which a DOTS course was completed, and dividing by the total number of cases. A TB case is defined as a patient in whom TB has been bateriologically confirmed or diagnosed by a clinician.

Sources: All data from WHO 2004b.

[40] Cured patients are defined as those who are sputum smear-negative (in the last month of treatment and on at least one other occasion) in addition to those patients who completed treatment, but who do not meet criteria to be classified as either cured or failed (see WHO 2004a).