Bhutan

COUNTRY PROFILE

Overivew of malaria control activities and programme progress

The NMCP in Bhutan is one of the oldest health programmes as it was started in 1964 with the full support of the Government of India. WHO has continued to provide the required technical support and helped the government to strengthen programme management including training and establishing an entomology unit. Vector control methods have undergone substantial change since 1995. For all practical purposes, comparative analyses of malaria data are done using 1994 as the base year because the programme changed its control strategy from indoor residual spraying with DDT to synthetic pyrethroids, a strategy that was meant to last for 5 years. The indoor residual spraying was then discontinued in 1997 when the ITN programme was launched per the recommendation of WHO and the RBM initiative.

Reported malaria cases and deaths decreased between 1995 and 2003 as a result of increased efforts in identifying focal areas and a change in strategy to use synthetic pyrethroids in place of DDT from 1995 to 1998. The indoor residual spraying was replaced by ITNs in 1998 and as a result there was some increase in case reporting in 1999. However, by 2003 the number of cases decreased as a result of increased ITN coverage. Despite these efforts, the case fatality rate appears to be increasing as a result of the failure of a small number of non-immune persons to report to health facilities for early treatment because of difficult terrain, especially during the malaria season.

No malaria outbreaks have been recorded in the past 5 years. Over 7123 ITNs were distributed in 2003, targeting service personnel and resettled people. An application to the GFATM has been submitted to increase coverage of ITNs in selected areas. One constraint experienced by the NMCP is a general difficulty in establishing institutional linkages for enabling malaria-specific operational research activities.

National malaria policy and strategy environment

National malaria strategy overview for 2003

	Strategy
Treatment and Diagnosis Guidelines	Yes
Published/updated in	2000
Monitoring antimalarial drug resistance	Yes
Number of sites currently active	2
Home management of malaria	NA
Vector control using insecticides	Yes
Monitoring insecticide resistance	
Number of sites currently active	
Insecticide-treated mosquito nets (ITNs)	Yes
Intermittent preventive treatment (IPT)	NA
Epidemic preparedness	Yes

Current antimalarial drug policy

	Current policy
Uncomplicated malaria	
P. falciparum (unconfirmed)	
P. falciparum (lab confirmed)	ATM-LUM*
P. vivax	CQ
Treatment failure	Q(7d)
Severe malaria	ATM inj (3d) or Q(7d)
Pregnancy	
Prevention	CQ
Treatment	Q(1st tri);ASU(2-3 tri)

EPIDEMIOLOGICAL DATA

Following WHO recommendations, malaria case reporting is carried out in most countries. The data presented below reflect aggregated malaria cases at the national level and are presented by gender, age and subnational level as submitted to WHO. Malaria reporting from national surveillance systems varies in quality and reporting completeness and may have limited value in understanding the actual malaria burden, but may be useful for understanding trends in the relative burden of malaria in the public health sector.

Reported malaria cases (annual)

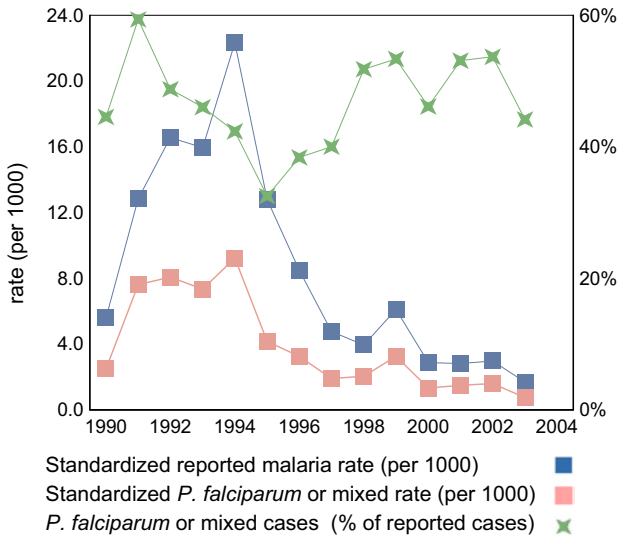
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
9 497	22 126	28 900	28 116	39 852	23 188	15 696	9 029	7 693	12 237

2000	2001	2002	2003	
5 935	5 982	6 511	3 806	Date of last report: 5 October 2004

Reported malaria by type and quality

For most recent year: 2003

Reported malaria cases	3 806
Reported malaria deaths	15
Probable or clinically diagnosed	
Malaria cases	237
Severe (inpatient or hospitalized) cases	
Malaria deaths	
Slides taken	61 246
Rapid diagnostic tests (RDTs) taken	
Laboratory confirmed	
Malaria cases	3 806
P. falciparum or mixed	1 681
P. vivax	2 126
Severe (inpatient or hospitalized) cases	1 621
Malaria deaths	15
Investigations	
Imported cases	
Estimated reporting completeness (%)	



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	5 935	5 982	6 511	3 806	100
Gender	Male	3 662	3 654	3 985	2 310	61
	Female	2 273	2 328	2 557	1 496	39
Age	<1 year	73	42	33	25	1
	1-4 years	486	360	466	214	6
	5-14 years	1 508	1 566	1 775	947	25
	15+ years	3 868	4 013	4 237	2 620	69

Reported malaria cases by selected subnational area

5 areas	2000	2001	2002	2003	%
Sarpang	2 597	2 982	3 179	1 362	36
Samtse	454	824	1 110	1 078	28
S/jongkhar	1 998	1 516	1 527	686	18
Chukha	262	186	307	470	12
Zhemgang	288	118	77	37	1

COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

Information related to the coverage of RBM key interventions is presented here. This includes coverage of antimalarial treatment, possession and use of insecticide-treated nets (ITNs), and use of intermittent preventive treatment (IPT) among pregnant women (PW) where national policy indicates.

Insecticide-treated nets

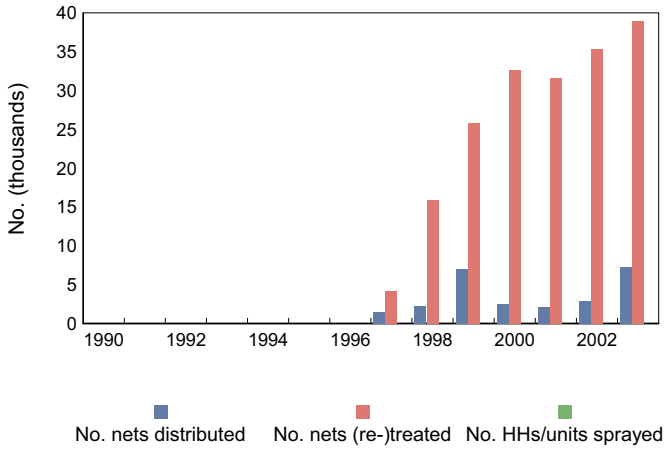
ITNs are one of the key interventions promoted by RBM. Coverage of ITNs is best assessed through household (HH) surveys which ask questions on possession and use of nets, as well as insecticide treatment status, among the target populations of children under 5 years of age (U5) and pregnant women. Data below represent available household survey results in which household possession and use of nets and ITNs have been assessed.

No survey-based estimates of mosquito net or ITN coverage are currently available.

SERVICE DELIVERY AND MALARIA-RELATED COMMODITIES

General malaria-related services delivered

Services delivered for malaria control include numbers of nets and insecticides delivered or sold, numbers of nets (re-)treated with insecticide and numbers of households (HHs)/units sprayed during IRS campaigns. These services and service-related commodities mostly reflect core malaria control activities of national malaria control programmes. The information reflects annual, country-reported data.



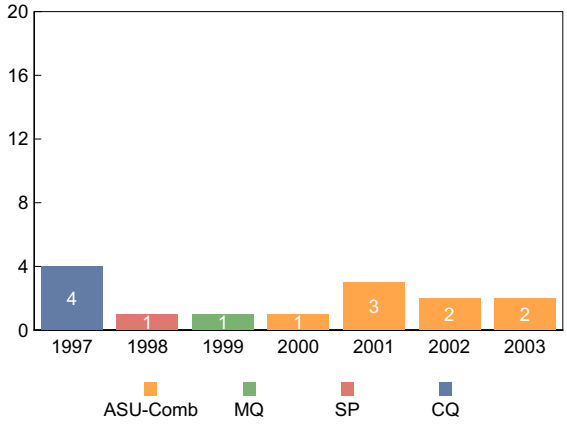
	No. nets (re-) treated	No. nets sold or distributed
1997	4 126	1 466
1998	15 918	2 253
1999	25 832	7 064
2000	32 632	2 546
2001	31 568	2 161
2002	35 374	2 883
2003	38 906	7 213

MONITORING ANTIMALARIAL DRUG EFFICACY

Monitoring antimalarial drug efficacy is important for understanding the impact of antimalarial treatment being delivered and the need for drug policy change, essential for ensuring prompt access to effective treatment. Median, range and quartiles are based on percentage clinical failure for uncomplicated *P. falciparum* malaria for countries in Africa south of the Sahara, and percentage total failure for all other areas. Included are studies that used WHO protocol among selected drugs.

Study years	Number of studies	Median	Range		Percentile	
			Low	High	25th	75th
CQ						
1997	4	78.1	64.7	80.7	70.8	80.0
SP						
1998	1	34.8				
MQ						
1999	1	9.7				
ASU-Comb						
2000-2003	8	4.9	1.1	12.0	2.2	8.7

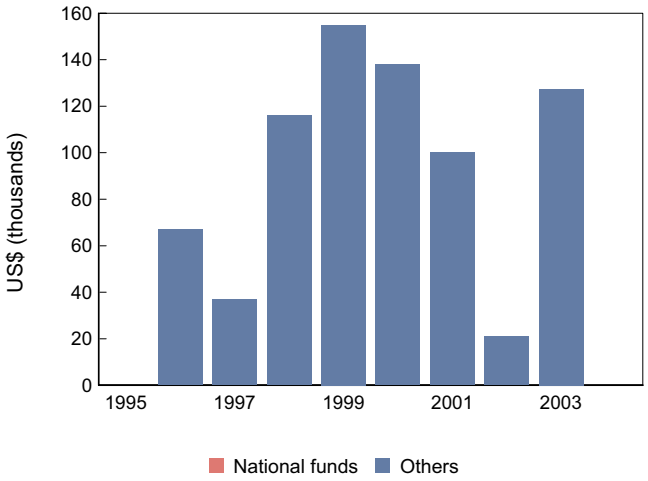
Number of drug efficacy studies available by year and drug type



FINANCING FOR MALARIA

Annual funding for malaria control

This information represents country-reported national and other resources budgeted or spent for national malaria control programme efforts. If information was reported in a different currency than US$, the annual average of the official exchange rate from the World Development Index was used for conversion. Currency is presented in US$ (thousands).



	National funds	Others
1995	-	
1996		67
1997		37
1998		116
1999		155
2000		138
2001		100
2002		21
2003		128
2004	-	

Malaria funds from the Global Fund to Fight HIV, Tuberculosis, and Malaria

Information on additional resources provided to countries through GFATM from 2-year committed funds for malaria from successful proposals through the first four rounds is presented. The details on approved proposals, grant agreements and disbursements to date are provided. Figures are presented in US$. These data are maintained and updated by GFATM.

Approved proposals			Grant agreements and disbursements (as of 13 January 2005)						
Source	Round	Total year 1-2 budgets	Principal recipient	Signed	Signature date	Grant amount	No. of disbursements	Total disbursed	% disbursed
CCM	4	1 000 957	**MoF**	Yes	07-Jan-05	1 000 957	-		

General notes and remarks

See explanatory notes at the beginning of the section.
* policy adopted, not presently being deployed, implementation process ongoing