Overivew of malaria control activities and programme progress

Areas of India that are highly endemic for malaria include the north-eastern region and tribal forested and hilly areas of several states including Maharashtra, and selected non-tribal districts. Nearly one quarter of all reported cases are from Orissa State, and 80% of reported cases originate from 20% of the population. During 1995–1996, malaria outbreaks and deaths caused by malaria were reported from tribal parts of Maharashtra State. Nationwide, the reported incidence of laboratory-confirmed cases has declined from 3.0 million in 1996 to 2.1 million in 2001 to 1.78 million in 2003 during a time when there were no changes in laboratory diagnostic or reporting procedures. Around 47% of cases are caused by P. falciparum, with some fluctuation but no consistent trend over time. About 1000 deaths are reported annually, but these figures do not include cases treated in private and not-for-profit health facilities. CQ-resistant P. falciparum and insecticide-resistant malaria vectors are prevalent in some areas.

The NMCP operates under the National Vector-Borne Disease Control Programme in 5-year strategic plans (current plan 2002–2007) and coordinates strategic decisions with the National Technical Advisory Committee on Malaria and with state health authorities. The National Health Policy of 2002 reinforced the commitment to malaria control and set as goals the reduction of malaria mortality by 50% by 2010 and the efficient control of malaria morbidity. Malaria control in India relies heavily on active case detection: every year nearly 100 million blood smears are taken from fever cases identified in the home, and patients are treated promptly if a diagnosis of malaria is confirmed. Access to prompt diagnosis and treatment and education is further provided through village health workers, drug distribution depots and fever treatment depots. In selected areas, there is targeted vector control through IRS, larviciding and ITNs.

Malaria is currently under control in vast areas of India, covering almost 80% of the population despite increasing population density and aggregation, rapid and unplanned urbanization and increased migration. However, developmental activities, expansion of agriculture and deforestation have the potential for increasing anopheline mosquito breeding sites. A survey in Orissa State in 2003 demonstrated coverage with the drug distribution depots and fever treatment depots of 98.7% of villages. About half of fever cases sought treatment at the drug distribution depots and fever treatment depots, about 36 % from a health worker or primary health centre, and only about 13% from other sources such as private medical practitioners. This represents a considerable increase in the proportion of people with fever seeking treatment from government sources compared with observations in the National Sample Survey in 1995–1996. Following the 1995–1996 malaria outbreak, Maharashtra State introduced intensified active surveillance, prompt radical treatment, selective IRS with pyrethroids and larviciding in high-risk areas. ITNs were distributed in areas of medium transmission.

Under the MoH's Enhanced Malaria Control Project, which aims to control malaria in eight states including Gujarat, Andra Pradesh and Maharashtra, malaria morbidity dropped in the project's districts by 46% compared to 1997. Before 2004, approximately 1.8 million ITNs had been distributed and an additional 3.8 million ITS are being procured. Over the same period, the population covered by IRS decreased by more than 50%.

The Ministry of Finance allocates funds to the Ministry of Health and Family Welfare for the various national health programmes, including malaria, a portion of which is released to state governments. Over US$ 49 million was allocated to malaria control from the MoH in 2003. In addition, many states allocate significant budgets for malaria control activities from state resources. The World Bank has supported the MoH's Enhanced Malaria Control Project since 1997, disbursing approximately US$ 140 million to date; however, the project is expected to close in October 2005. Starting in 2005, the GFATM will provide an additional US$ 30 million for malaria control activities for 2 years in states that are not covered by the Enhanced Malaria Control Project, which are primarily in the north-eastern part of the country. In addition, the Government of India has recently requested funding from the World Bank for a Vector Borne Disease Control Project that is proposed to begin mid-2006 and is expected to significantly expand the number of states covered.

National malaria policy and strategy environment

National malaria strategy overview for 2003

	Strategy
Treatment and Diagnosis Guidelines	Yes
Published/updated in	2001
Monitoring antimalarial drug resistance	Yes
Number of sites currently active	13
Home management of malaria	NA
Vector control using insecticides	Yes
Monitoring insecticide resistance	Yes
Number of sites currently active	72
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)	CQ ASU(3d)+SP (5 provinces)
P. falciparum (lab confirmed)	CQ+PQ ASU(3d)+SP (5 provinces)
P. vivax	CQ+PQ
Treatment failure	SP
Severe malaria	Q(7d)
Pregnancy	
Prevention	CQ
Treatment	CQ

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)

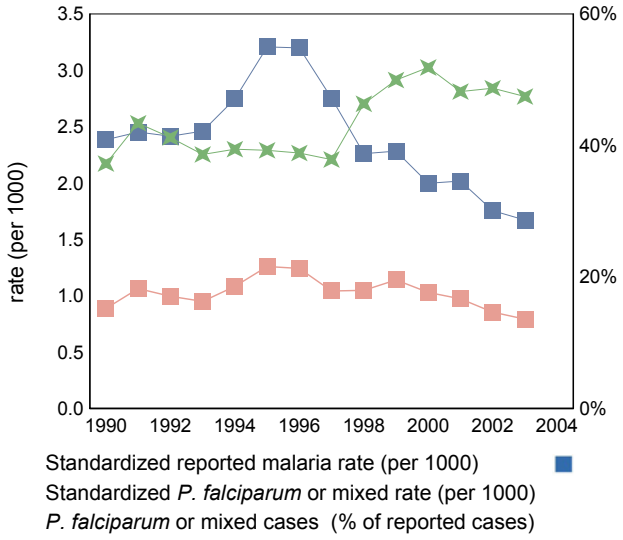
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
2 018 783	2 117 460	2 125 826	2 207 431	2 511 453	2 988 231	3 035 588	2 660 057	2 222 748	2 284 713

2000	2001	2002	2003	
2 031 790	2 085 484	1 842 019	1 781 336	Date of last report: 4 October 2004

Reported malaria by type and quality

For most recent year: 2003

Reported malaria cases	1 781 336
Reported malaria deaths	990
Probable or clinically diagnosed	
Malaria cases	
Severe (inpatient or hospitalized) cases	
Malaria deaths	
Slides taken	97 874 977
Rapid diagnostic tests (RDTs) taken	280 000
Laboratory confirmed	
Malaria cases	1 781 336
P. falciparum or mixed	845 173
P. vivax	936 163
Severe (inpatient or hospitalized) cases	
Malaria deaths	990
Investigations	
Imported cases	
Estimated reporting completeness (%)	



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	2 031 790	2 085 484	1 842 019	1 781 336	100
Gender	Male	1 125 591		1 081 849		59
	Female	825 174		760 170		41
Age	1-4 years	130 896				6
	<5 years			150 605		8
	5-14 years			462 062		25
	10-14 years	468 379				23
	15+ years			1 229 352		67
	15-19 years	1 351 490				67

Reported malaria cases by selected subnational area

15 of 35 areas	2000	2001	2002	2003	%
Orissa		454 541	468 046	417 276	23
Chhattisgarh		290 666	245 365	194 419	11
West Bengal		345 053	181 272	175 739	10
Rajasthan		129 233	68 627	142 738	8
Gujarat		81 347	80 983	130 744	7
Jharkhand		130 784	126 539	112 740	6
Karantaka		197 625	132 584	100 220	6
Madhya Pradesh		183 118	108 818	99 708	6
Uttar Pradesh		94 524	90 188	81 853	5
Assam		95 142	89 601	76 570	4
Maharashtra		56 043	45 568	62 947	4
Tamil Nadu		31 551	27 337	43 604	2
Andhra Pradesh		57 735	38 053	35 995	2
Arunachal Pradesh		56 030	46 431	34 810	2
Meghalaya		20 630	17 918	18 366	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

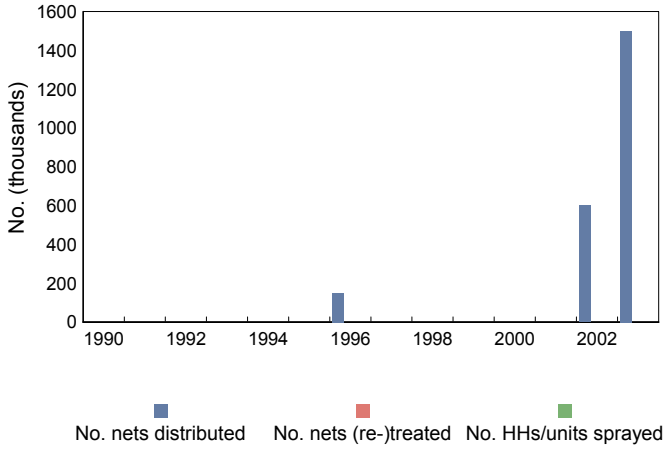
ITNs are one of the key interventions promoted by RBM. Coverage of ITNs is best assessed through household (HH) surveys which ask questions on possession and use of nets, as well as insecticide treatment status, among the target populations of children under 5 years of age (U5) and pregnant women. Data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



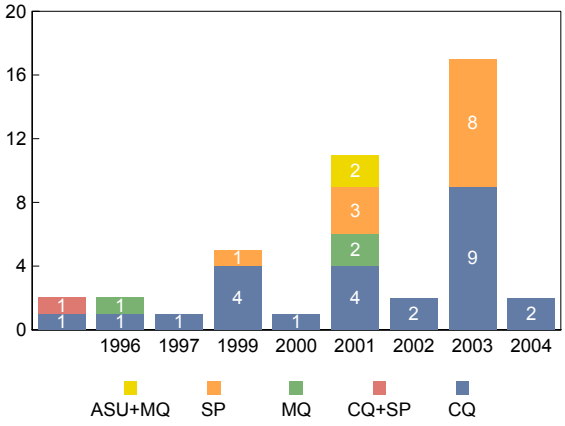
	No. nets sold or distributed
1996	150 000
2002	600 000
2003	1 500 000

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						
1996-2004	25	34.0	0.0	95.9	23.6	65.4
SP						
1999-2003	12	17.9	0.0	68.2	3.0	45.4
MQ						
1996-2001	3	4.5	0.0	7.8	0.0	7.8
CQ+SP						
	1	6.5				
ASU+MQ						
2001	2	6.4	1.9	10.9	1.9	10.9

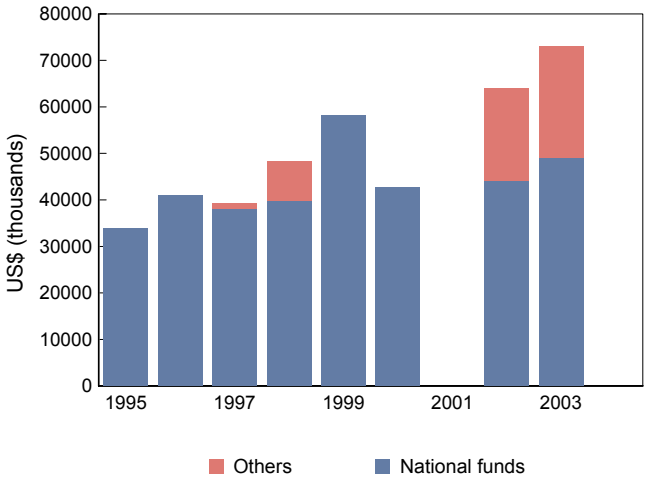
Number of drug efficacy studies available by year and drug type



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	33 922	-
1996	40 922	-
1997	38 107	1 140
1998	39 749	8 483
1999	58 065	-
2000	42 690	-
2001	-	
2002	44 160	19 820
2003	49 100	23 910
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	30 167 781		No			-		

General notes and remarks

See explanatory notes at the beginning of the section.
Reported malaria for 2003 and all subnational reported malaria data are provisional. Preventive treatment during pregnancy is only recommended in high risk areas. The number of nets distributed for 2003 and 2002 reflect fiscal years April - March 2003-2004 and 2002-2003, respectively.