

Overview of malaria control activities and programme progress

Malaria is a major concern for people living in Cambodia's hilly forested environments and forest fringes. The number of reported malaria cases has decreased gradually between 1993 and 2003. However, in 2003 the reported number of treated cases, severe cases and deaths as well as the case fatality rate started to increase again. However, this apparent increase is in part attributed to improving access to public health facilities in remote areas because of improved infrastructure, improved referral systems and more regular and reliable reporting.

Of particular concern is the high level of multidrug resistance present in affected areas. Strains of *P. falciparum* are resistant to most antimalarial drugs, and the quality and usage pattern of antimalarial drugs are suboptimal. Recent studies show that counterfeit and substandard drugs are frequent in Cambodia, especially Q and ASU. Furthermore, a survey of antimalarial drug use in 2002 showed problems of delayed treatment-seeking behaviour, widespread use of many antimalarial drugs for the same malaria episode and non-adherence to malaria treatment.

The main focus of the NMCP is to strengthen clinical management of malaria cases, provide surveillance and health education and promote the use of ITNs. Good-quality drugs and improvement in treatment access and patient compliance also are essential to combat the emergence and spread of resistant strains of *P. falciparum*. The NMCP attempts to increase access to early diagnosis and treatment through the adoption of a three-pronged approach: (i) standardized malaria diagnosis and treatment based on rapid diagnostic tests or microscopy and prepackaged ASU+MQ combination treatment in the public health system; (ii) provision of rapid diagnostic tests and ACT in remote hyperendemic communities through local village malaria workers; and (iii) social marketing of rapid diagnostic tests and ACT through the private sector. ITNs are the mainstay of malaria prevention in Cambodia. Currently, the programme is shifting implementation responsibilities to the provincial level. The NMCP targets people living within 200 m of forest areas where malaria generally occurs.

In 2003, the ITN coverage was estimated to be 49% in areas at risk of malaria, although efforts are under way to conduct more reliable survey-based estimates. Over the past several years, the NMCP has built strong partnerships with USAID, the World Bank, the United Kingdom Department for International Development, the GFATM and WHO. The GFATM partners are planning to introduce LLINs through free distribution in remote rural areas and social marketing in towns. In addition, socially marketed hammock nets and tablets for insecticide impregnation are sold at strategic points through the private sector targeted at mobile populations of forest workers. Community awareness will be strengthened through community-based and school-based health activities with support from the GFATM.

Delays in financial support to control efforts in 2003 might have contributed to the increase in malaria reports that year. Two grants from the GFATM that began in December 2003 will provide over US\$ 10 million in additional funding, of which US\$ 2.3 million had been disbursed as of July 2004.

National malaria policy and strategy environment

National malaria strategy overview for 2003

	Strategy
Treatment and Diagnosis Guidelines	Yes
Published/updated in	
Monitoring antimalarial drug resistance	Yes
Number of sites currently active	8
Home management of malaria	NA
Vector control using insecticides	Yes
Monitoring insecticide resistance	Yes
Number of sites currently active	
Insecticide-treated mosquito nets (ITNs)	Yes
Intermittent preventive treatment (IPT)	NA
Epidemic preparedness	

Current antimalarial drug policy

	Current policy
Uncomplicated malaria	
<i>P. falciparum</i> & non - <i>P. falciparum</i> (unconfirmed)	ASU(3d)+MQ
<i>P. falciparum</i> (lab confirmed)	ASU(3d)+MQ
Non - <i>P. falciparum</i>	CQ
Treatment failure	Q(7d)+T(7d)
Severe malaria	ATM(IM)+MQ
Pregnancy	
Prevention	
Treatment	Q(7d)or ASU+MQ

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
123 796	102 930	93 595	98 956	74 190	76 923	74 883	85 661	58 874	64 679
2000	2001	2002	2003	Date of last report: 31 August 2004					
62 439	53 601	46 902	71 258						

Reported malaria by type and quality

For most recent year

Reported malaria cases	71 258
Reported malaria deaths	492

Probable or clinically diagnosed

Malaria cases	
Severe (inpatient or hospitalized) cases	4 936
Malaria deaths	
Slides taken	106 302
Rapid diagnostic tests (RDTs) taken	54 024

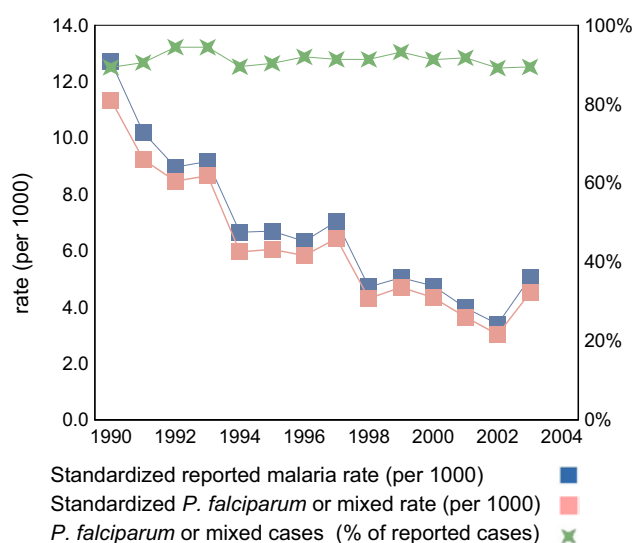
Laboratory confirmed

Malaria cases	71 258
<i>P. falciparum</i> or mixed	63 739
<i>P. vivax</i>	
Severe (inpatient or hospitalized) cases	
Malaria deaths	492

Investigations

Imported cases

Estimated reporting completeness (%)



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	62 439	53 601	46 902	71 258	100
Gender	Male				38 310	54
	Female				16 679	23
Age	<5 years				4 650	7
	5-14 years				12 019	17
	15-49 years				49 075	69
	>49 years				5 514	8

Reported malaria cases by selected subnational area

15 of 24 areas	2000	2001	2002	2003	%
Baat Dambang	3 860	4 253	5 221	10 227	14
Kampong Speue	4 892	4 353	3 321	7 898	11
Pousaat	4 455	5 152	4 748	7 032	10
Preah Vihear	4 807	4 664	5 270	6 865	10
Siem Reab	6 355	4 790	3 701	6 256	9
Kampot	4 010	2 603	2 624	4 640	7
Oddar Mean Chey	1 488	2 014	2 391	4 029	6
Pailin	3 642	3 678	2 432	3 762	5
Kampong Thum	2 440	1 774	1 930	3 435	5
Kampong Chaam	3 774	4 537	3 119	2 956	4
Stueng Traeng	4 835	3 306	2 179	2 935	4
Rotana Kiri	2 739	2 078	3 011	2 793	4
Kracheh	4 133	3 304	2 311	2 340	3
Mondol Kiri	2 779	1 925	1 320	1 807	3
Kampong Chhnang	1 828	1 452	690	1 181	2

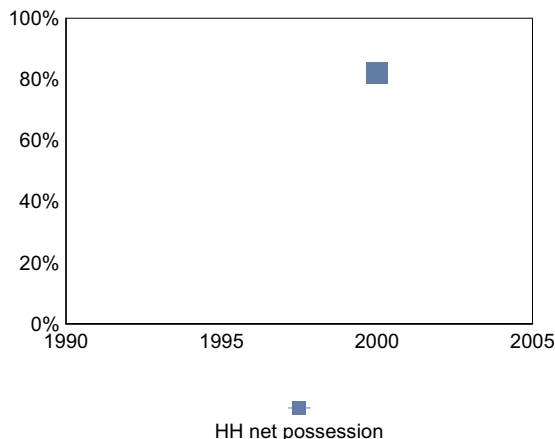
COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

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.

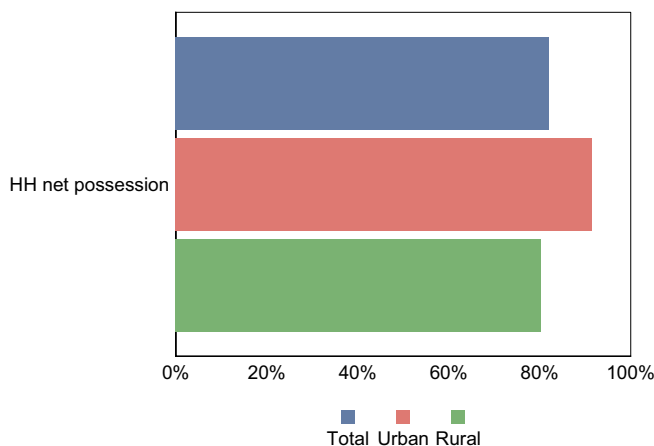
Insecticide-treated nets

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.

Trend in mosquito net coverage estimates from national surveys



Estimates of ITN coverage from most recent national survey



Available national surveys

DHS 2000

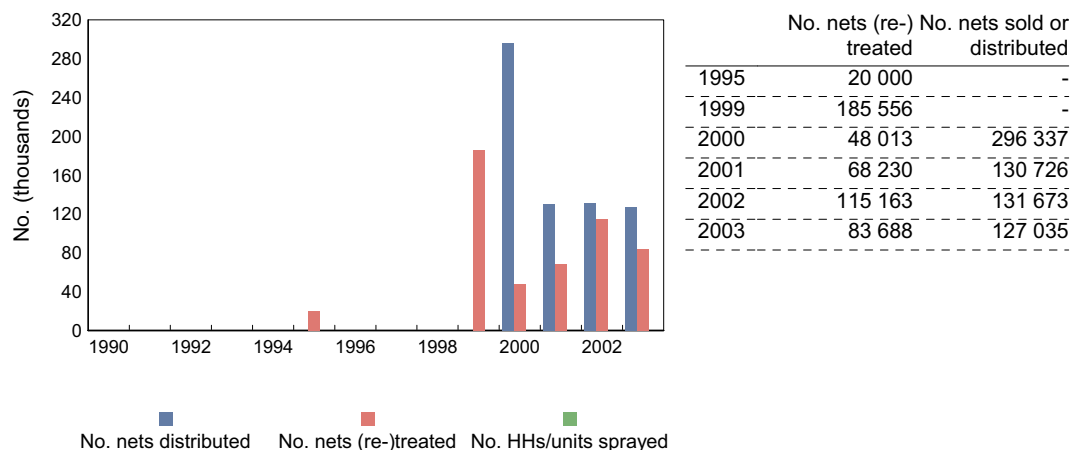
Sample size (HHs or U5s): 12 236
 Field work: Feb-Jun 2000
 Scale: national

Supporting Organization: Macro DHS

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.

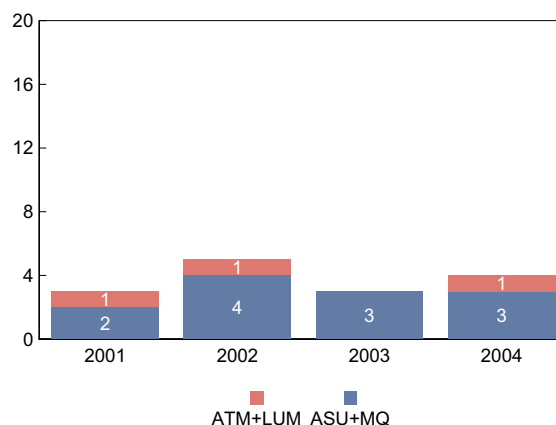


MONITORING ANTIMALARIAL DRUG EFFICACY

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
ATM+LUM						
2001-2004	3	26.9	13.5	30.0	13.5	30.0
ASU+MQ						
2001-2004	12	3.7	0.0	18.8	1.1	8.1

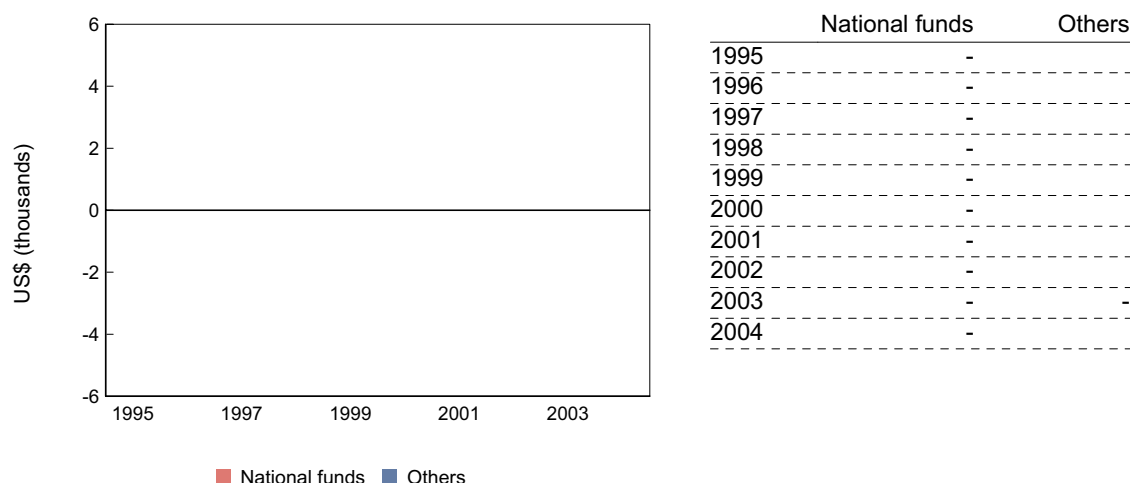
Number of drug efficacy studies available by year and drug type



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).



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	2	5 013 262	MoH	Yes	14-Oct-03	5 013 262	4	2 779 989	55.5%
CCM	4	5 221 242		No			-		

General notes and remarks

See explanatory notes at the beginning of the section.

Reported malaria by gender for 2003 is only provided for patients over age 14 years of age.