

Overview of malaria control activities and programme progress

In Lao People's Democratic Republic, malaria remains one of the main public health problems with the highest cause of morbidity and mortality, with about 70% of the population at risk. The NMCP is based on RBM strategies including: (i) vector control with the use of ITNs; (ii) availability of subsidized insecticide tablets for mosquito net (re-)treatment; (iii) early diagnosis and prompt and effective treatment of malaria cases by involvement of village health workers and private service deliverers. Until the end of 2002, grant aid from the European Union, World Bank, Asian Development Bank and Japanese were supporting control efforts; since May 2003, the GFATM (first round) has been the principal donor.

It is expected that, by 2007, the entire population at risk (3.6 million) will be protected by ITNs, malaria morbidity and deaths will be reduced by 80% compared to 2001, and 9060 villages will have trained village health workers in early diagnosis and effective treatment measures. Because of an increased resistance to CQ and SP, the NMCP plans to introduce an ACT as first-line treatment in three pilot provinces and then expand it nationwide.

By the end of 2003, 60% of the population at risk (2.2 million) was protected by ITNs compared to 30% (1.2 million) in 2001. A study on malaria vector distribution and resistance to insecticide found *A. dirus*, *A. minimus* and *A. maculatus* as the main vectors and *A. jeyporiensis* and *A. nivipes* as secondary ones. Bio-assay tests showed the absence of resistance to pyrethroid insecticides. An antimalarial drug resistance study was completed in Savannakhet Province showing 100% efficacy for ASU+MQ, 97% for ATM+LUM and 93% for CQ+SP. Antimalarial drugs were collected in three sentinel sites for quality control and identified the presence of counterfeit ASU (50%), followed by CQ (20%). An antimalarial treatment seeking behaviour survey will be conducted in three provinces before and after introduction of ACT to monitor behaviours among users and prescribers. The national treatment guidelines will be revised with ACT as first-line treatment for falciparum uncomplicated malaria combined with the use of rapid diagnosis tests. Village health workers will be trained and will provide free diagnosis and malaria treatment to poor and vulnerable populations.

The GFATM has recommended funding in its fourth round, which includes the use of LLINs combined with conventional ITNs and a private sector project of ACT involving pharmaceutical factories.

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	6
Home management of malaria	NA
Vector control using insecticides	Yes
Monitoring insecticide resistance	Yes
Number of sites currently active	10
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> (unconfirmed)	CQ+SP
<i>P. falciparum</i> (lab confirmed)	CQ+SP or ATM-LUM
<i>P. vivax</i>	CQ
Treatment failure	Q(7d)+D/T(7d)
Severe malaria	Q(7d)+D/T(7d)
Pregnancy	
Prevention	NA
Treatment	Q (Pf) and CQ (Pv)

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
22 044	41 048	39 904	41 556	53 707	52 021	51 544	54 133	41 039	28 096
2000	2001	2002	2003	Date of last report: 18 November 2004					
40 023	26 932	21 384	18 894						

Reported malaria by type and quality

For most recent year

Reported malaria cases	18 894
Reported malaria deaths	187

Probable or clinically diagnosed

Malaria cases	
Severe (inpatient or hospitalized) cases	
Malaria deaths	
Slides taken	256 534
Rapid diagnostic tests (RDTs) taken	

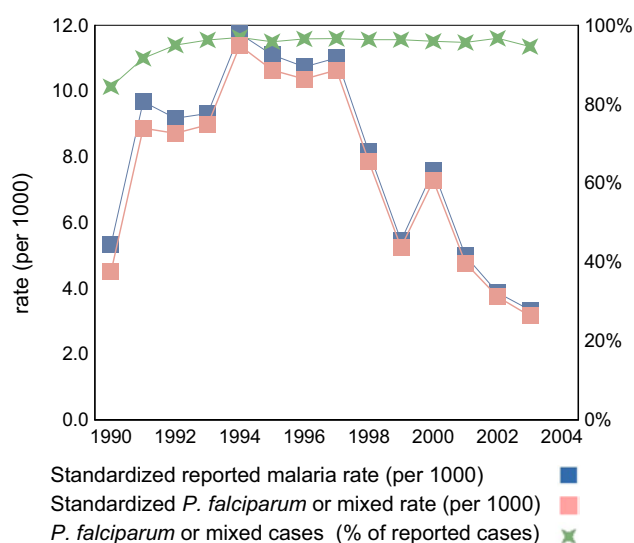
Laboratory confirmed

Malaria cases	18 894
<i>P. falciparum</i> or mixed	17 878
<i>P. vivax</i>	1 016
Severe (inpatient or hospitalized) cases	
Malaria deaths	187

Investigations

Imported cases

Estimated reporting completeness (%)



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
Age	Total	40 023	26 932	21 384	18 894	100
	PW	913	249	1 113	626	3
	<1 year	1 328	886	796	655	3
	1-4 years	7 324	4 803	3 818	3 216	17
	5-14 years	12 056	7 851	6 018	5 421	29
	15+ years	18 402	13 143	9 639	8 976	48

Reported malaria cases by selected subnational area

15 of 18 areas	2000	2001	2002	2003	%
Savannakhet	14 119	9 941	6 070	7 111	38
Saravane	5 577	2 629	3 805	3 434	18
Champasack	4 341	3 666	3 305	2 596	14
Attapeu	2 236	1 993	3 293	1 615	9
Sekong	3 958	494	930	1 252	7
Khammuane	3 517	2 700	1 451	943	5
Luang Prabang	588	842	561	759	4
Oudomxay	759	397	518	527	3
Xayabury	1 331	1 532	846	303	2
Huaphanh	716	425	166	89	<1
Luang Namtha	1 051	950	112	82	<1
Vientiane Mun.	243	185	15	57	<1
Bokeo	447	178	108	43	<1
Xiengkhuang	79	67	17	29	<1
Phongsaly	226	237	64	25	<1

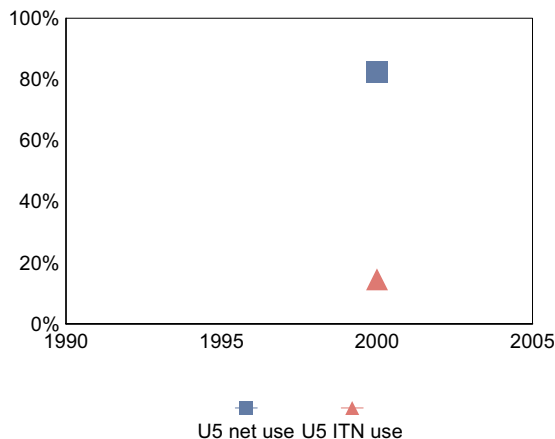
COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

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.

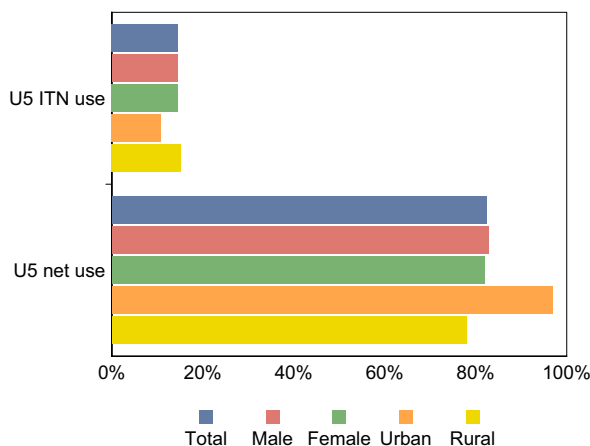
Insecticide-treated nets

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.

Trend in mosquito net coverage estimates from national surveys



Estimates of ITN coverage from most recent national survey



Available national surveys

National Health Survey 2002

Sample size (HHs or U5s): 5 113
 Field work: Mar-Apr 2000
 Scale: national

Supporting Organization: UNICEF (MICS)/EU

Available sub-national surveys

PSI 2001

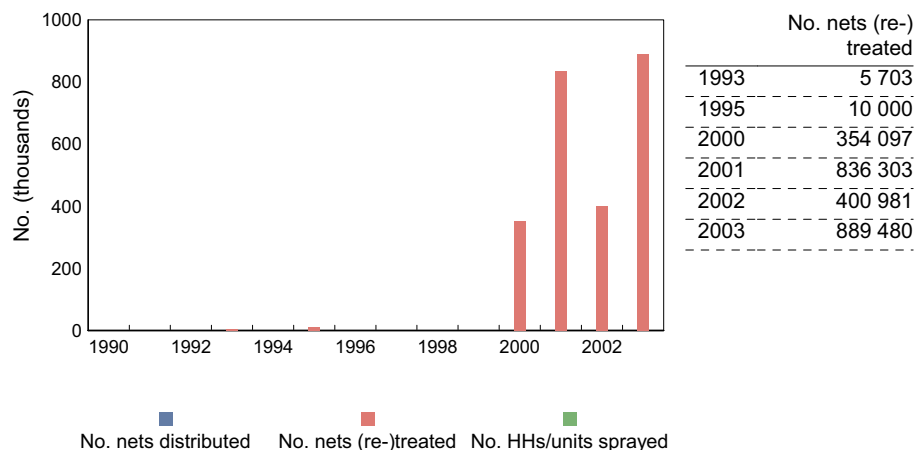
Sample size (HHs or U5s): 393
 Field work:
 Scale: 2 provinces: Champassak, Saravane provinces

Supporting Organization: Population Services International

SERVICE DELIVERY AND MALARIA-RELATED COMMODITIES

General malaria-related services delivered

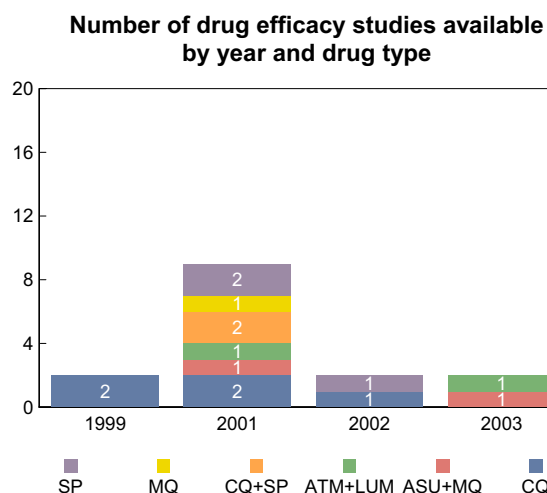
Services delivered for malaria control include numbers of nets and insecticides delivered or sold, numbers of nets (re-)treated with insecticide and numbers of households (HHs)/units sprayed during IRS campaigns. These services and service-related commodities mostly reflect core malaria control activities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

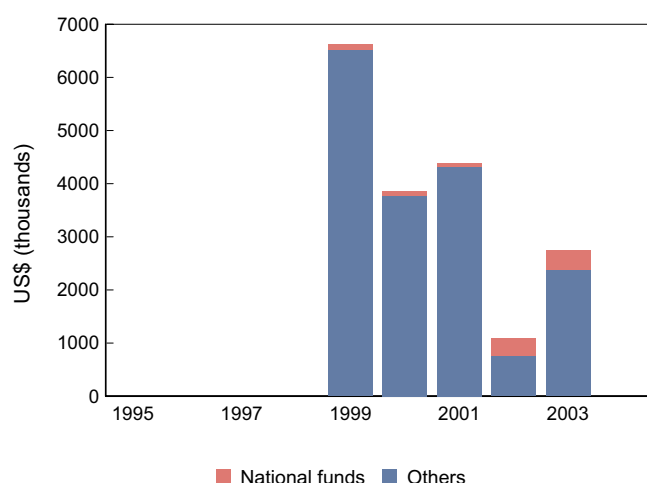
Study years	Number of studies	Median	Range		Percentile	
			Low	High	25th	75th
CQ						
1998-2002	5	44.8	31.3	52.8	36.7	49.5
SP						
2001-2002	3	18.0	17.9	18.7	17.9	18.7
MQ						
2001	1	0.0				
CQ+SP						
2001	2	12.3	7.8	16.7	7.8	16.7
ATM+LUM						
2001-2003	2	4.7	3.1	6.3	3.1	6.3
ASU+MQ						
2001-2003	2	0.0	0.0	0.0	0.0	0.0



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	-	-
1997	-	-
1998	-	-
1999	101	6 523
2000	78	3 768
2001	72	4 309
2002	334	769
2003	369	2 387
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	1	3 155 152	MoH	Yes	05-Feb-03	3 155 152	4	2 467 770	78.2%
CCM	4	3 292 689		No			-		

General notes and remarks

See explanatory notes at the beginning of the section.