Pakistan

COUNTRY PROFILE

Overivew of malaria control activities and programme progress

Malaria continues to be a major public health problem in Pakistan. Extensive agricultural practices, a vast irrigation network and monsoon rains contribute to the malariogenic potential in many areas. Both *P. falciparum* and *P. vivax* are widely prevalent. The primary vector species are *A. culicifacies* and *A. stephensi*. In most parts of the country, the transmission occurs post-monsoon, between July and November. The quality of malaria control varies greatly across the largely decentralized regions of the country, with notable challenges in implementing control efforts in Balochistan and North-West Frontier Province. Resistance of *P. falciparum* to CQ and of vectors to insecticides is common.

Since its adoption of the RBM control strategy in 1999, Pakistan has prioritized malaria control with increased federal spending, the development of a 5-year strategic action plan for the malaria control programme (2002–2006) and increased attention at the provincial level. A phased implementation of RBM activities began in 19 districts in 2002–2003 and is now extended to 28 districts. Notable achievements include the development of district implementation plans and the development and distribution of national treatment guidelines in 2002. Steps are also being taken to establish a malaria early detection system.

Challenges that the control programme continues to face include: (i) adherence to and awareness of available guidelines; (ii) weak technical leadership at both federal and provincial levels; and (iii) and staffing contraints. Despite an overall increase in the number of malaria control staff, a number of key posts remain vacant and the National Institute of Malaria Research and Training urgently requires strengthening. Provincial-level control programmes still struggle with phasing out old “eradication” strategies such as active case detection, while access to rapid diagnosis and prompt treatment in health facilities remains inadequate. Monitoring and evaluation must be improved, especially in districts where RBM activities have been initiated. This includes establishing a system for quality assurance of laboratory diagnosis and strengthening the existing surveillance system in collaboration with the HIS. ASU+SP is being adopted for antimalarial treatment policy in 26 high-risk districts, with the support of the GFATM.

The national government contributes the majority of funding for malaria control efforts, although reporting on financing is inconsistent. The GFATM committed almost US$ 6 million for malaria control in 2003–2004, of which over US$ 650 000 had been disbursed by December 2003.

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	4
Home management of malaria	Yes
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	Yes

Current antimalarial drug policy

	Current policy
Uncomplicated malaria	
P. falciparum (unconfirmed)	CQ
P. falciparum (lab confirmed)	CQ+PQ(3d)
P. vivax	CQ+PQ(5d)
Treatment failure	SP
Severe malaria	Q
Pregnancy	
Prevention	
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
79 689	66 586	99 015	92 634	108 586	111 836	98 035	77 480	73 516	91 774

2000	2001	2002	2003
82 526	104 003	101 761	125 152

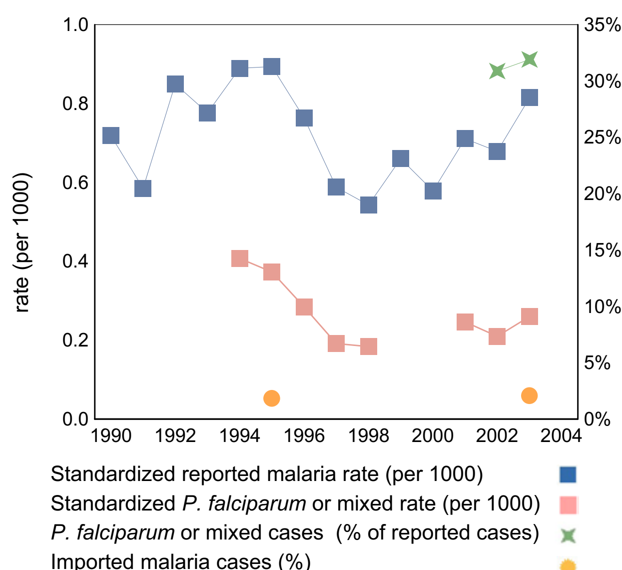
Date of last report: 15 December 2004

Reported malaria by type and quality

For most recent year 2003

Reported malaria cases	125 152
Reported malaria deaths	29

Probable or clinically diagnosed	
Malaria cases	3 985 915
Severe (inpatient or hospitalized) cases	
Malaria deaths	29
Slides taken	4 145 290
Rapid diagnostic tests (RDTs) taken	
Laboratory confirmed	
Malaria cases	125 152
P. falciparum or mixed	39 944
P. vivax	85 240
Severe (inpatient or hospitalized) cases	
Malaria deaths	14
Investigations	
Imported cases	2 592
Estimated reporting completeness (%)	



Standardized reported malaria rate (per 1000)
Standardized *P. falciparum* or mixed rate (per 1000)
P. falciparum or mixed cases (% of reported cases)
Imported malaria cases (%)

Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	82 526	104 003	101 761	125 152	100

Reported malaria cases by selected subnational area

5 areas	2000	2001	2002	2003	%
Sind			22 458	37 612	30
Baluchistan			33 994	36 794	29
NWFP			20 774	26 791	21
Fata			14 681	13 996	11
Punjab			9 854	9 959	8

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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

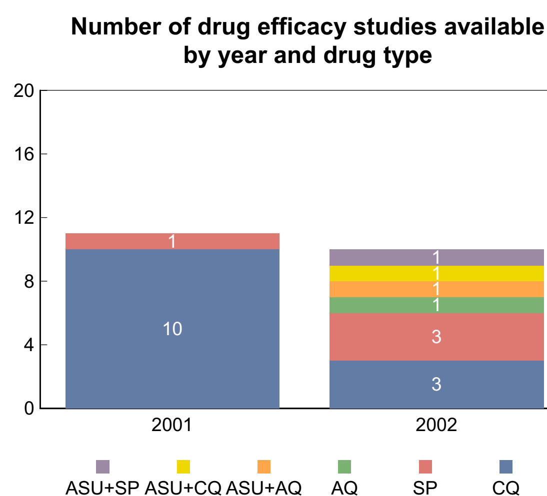
Services delivered for malaria control include numbers of nets and insecticides delivered or sold, numbers of nets (re-)treated with insecticide and numbers of households (HHs)/units sprayed during IRS campaigns. These services and service-related commodities mostly reflect core malaria control activities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

No data is currently available.

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.

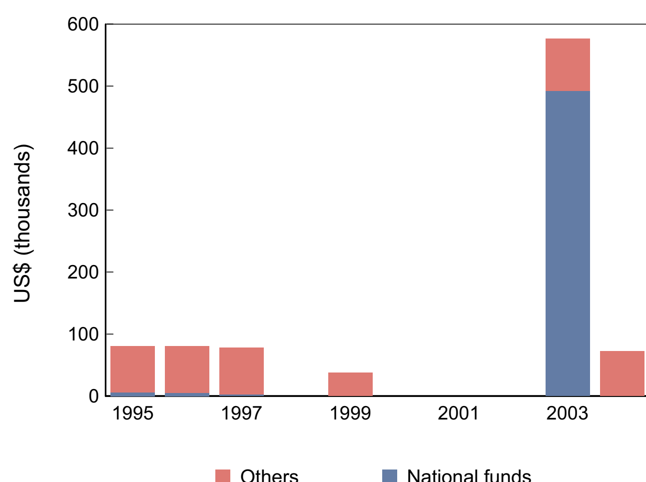
Study years	Number of studies	Median	Range		Percentile	
			Low	High	25th	75th
CQ						
2001-2002	13	28.9	18.2	79.0	25.9	66.6
SP						
2001-2002	4	13.0	8.7	18.7	9.8	16.9
AQ						
2002	1	83.3				
ASU+AQ						
2002	1	18.0				
ASU+CQ						
2002	1	28.8				
ASU+SP						
2002	1	0.0				



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	6	75
1996	5	75
1997	3	75
1998	-	
1999	-	38
2000	-	
2001	-	
2002	-	
2003	492	84
2004	-	72

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	4 407 000	**MoH**	Yes	06-Aug-03	4 407 000	2	1 464 162	33.2%
CCM	3	1 548 636	**MoH**	Yes	12-Oct-04	1 548 636	1	454 800	29.4%

General notes and remarks

See explanatory notes at the beginning of the section.
ASU+SP is being adopted as first line treatment in 23 high-risk districts with support from the GFATM.
Malaria cases clinically diagnosed are reported as patients with fever only.
The increase in malaria incidence in 2003 as compared with 2002 was mainly because of the high incidence in a few of the districts in Balochistan and Sindh provinces in Pakistan, where heavy floods after prolong draught resulted in intense transmission. The NMCP in collaboration with provincial malaria control programmes succeeded in controlling the outbreaks through advanced prediction and implementation of control measures.
NWFP = Northwest Frontier Province