Kenya

COUNTRY PROFILE

Overivew of malaria control activities and programme progress

Malaria is a major public health problem in Kenya, with malaria burden and transmission patterns varying across the country. Four malaria epidemiological zones have been identified: (i) perennial high transmission near Lake Victoria and the south coast; (ii) high transmission with seasonal fluctuations adjacent to the areas with perennial transmission; (iii) stable transmission with seasonal peaks in most of the semi-arid and western highland regions; and (iv) low transmission risk in the arid and mountain regions.

A national malaria strategy was launched in 2001 and the malaria control programme was upgraded to a full division with its own budget line. The national malaria control strategy adopted a bottom-up approach for mobilizing districts; 50 out of 70 malaria-endemic districts have developed business plans with malaria components that reflect four strategic approaches: (i) access to prompt and effective treatment; (ii) management and prevention of malaria during pregnancy; (iii) use of ITNs and other vector control methods; and (iv) epidemic preparedness and response in 16 epidemic-prone districts. Monitoring and evaluation and information, education and communication materials are used to support implementation across these strategic approaches. The district plans were consolidated into a single national business plan from 2003 to 2007, which identified the following key interventions: (i) Integrated Management of Childhood Illness to implement case management at health facilities and through home management of fever; (ii) focused antenatal care for IPT delivery; (iii) targeted ITN distribution to pregnant women and children under 5 years of age; and (iv) IRS for selective vector control in the 16 epidemic-prone districts.

Districts are at different stages of implementation of the national malaria control strategy, depending on local capacity and degree of organization and coordination in planning and implementation. Six sentinel districts received priority support for scaling up most interventions, so as to provide the necessary feedback for monitoring and evaluation of RBM control impact. Drug efficacy testing for first-line and second-line drugs is conducted in eight sentinel sites, two for each of the four epidemiological zones. Advocacy campaigns and information, education and communication messages are disseminated through electronic and print media, performances and sporting activities.

Funding for malaria control efforts is improving with increased contributions from various RBM partners and two grants from the GFATM totalling over US$ 91 million, of which close to US$ 1 million was disbursed in 2003.

National malaria policy and strategy environment

National malaria strategy overview for 2003

	Strategy
Treatment and Diagnosis Guidelines	
Published/updated in	
Monitoring antimalarial drug resistance	Yes
Number of sites currently active	6
Home management of malaria	Yes
Vector control using insecticides	Yes
Monitoring insecticide resistance	No
Number of sites currently active	0
Insecticide-treated mosquito nets (ITNs)	Yes
Intermittent preventive treatment (IPT)	Yes
Epidemic preparedness	Yes

Current antimalarial drug policy

	Current policy
Uncomplicated malaria	
P. falciparum (unconfirmed)	ATM-LUM*
P. falciparum (lab confirmed)	ATM-LUM*
P. vivax	
Treatment failure	Q(7d)
Severe malaria	Q(7d)
Pregnancy	
Prevention	SP (IPT)
Treatment	Q(7d)

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
				6 103 447	4 343 190	3 777 022		80 718	122 792

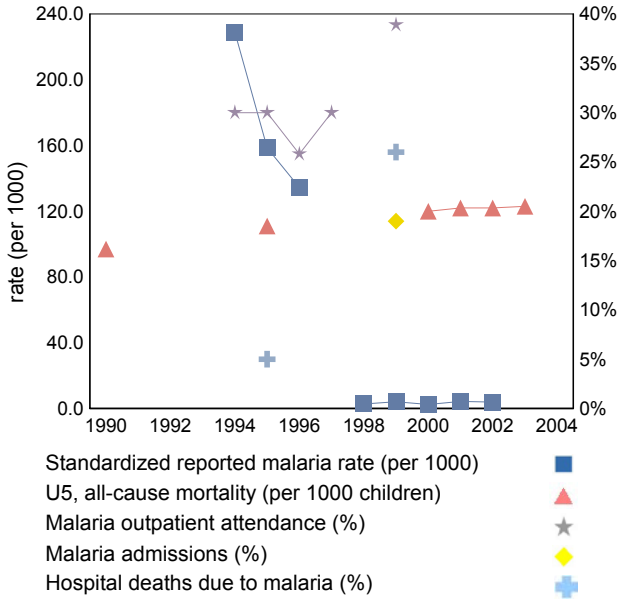
2000	2001	2002	2003
74 194	132 590	124 197	

Date of last report: 1 November 2004

Reported malaria by type and quality

For most recent year: 2002

Reported malaria cases	124 197
Reported malaria deaths	135
Probable or clinically diagnosed	
Malaria cases	124 197
Severe (inpatient or hospitalized) cases	9 584
Malaria deaths	135
Slides taken	6 211
Rapid diagnostic tests (RDTs) taken	6 280
Laboratory confirmed	
Malaria cases	
P. falciparum or mixed	
P. vivax	
Severe (inpatient or hospitalized) cases	
Malaria deaths	
Investigations	
Imported cases	
Estimated reporting completeness (%)	40



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	74 194	132 590	124 197		100
	PW	1 364	5 061	3 620		3
Age	<5 years	29 541	50 839	38 426		31
	5> years	51 990	76 690	82 151		66

Reported malaria cases by selected subnational area

9 areas	2000	2001	2002	2003	%
Kitale district hospital	22 108	20 166	32 911		26
Kericho district hosp.	9 679	11 011	19 054		15
Kapsara HC	5 847	4 184	5 859		5
Chempkemel HC	5 106	4 951	5 761		5
Kipsitet dispensary	2 446	2 868	3 369		3
Londiani sub-dist. hosp.	1 534	1 072	3 014		2
Chepchoina dispensary	2 458	2 440	1 939		2
Kiminini cottage hosp.	1 075	1 226	1 150		1
Kipchimchim mis. hosp.	448	445	515		<1

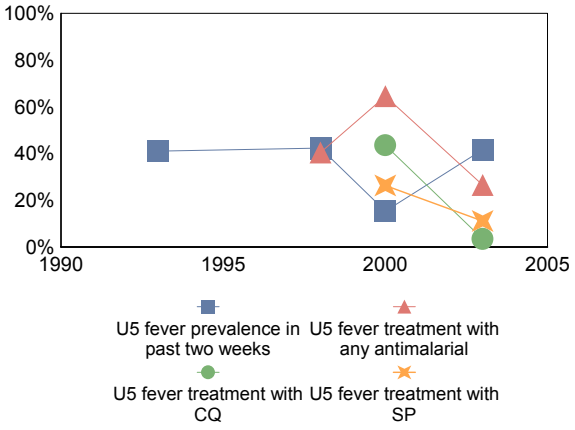
COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

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.

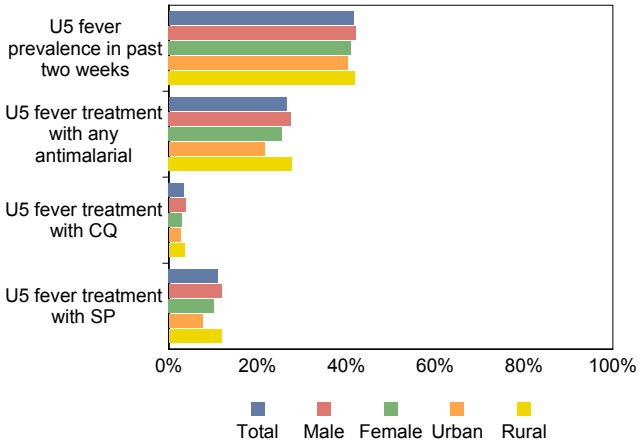
Fever prevalence and treatment with antimalarials

Prompt access to effective treatment is one of the key interventions promoted by RBM. Information presented below is from household surveys on fever prevalence and reported treatment of fever with antimalarials among children under 5 years of age (U5) within the previous 2 weeks.

Trend in fever prevalence and antimalarial coverage estimates from national surveys



Estimate of fever prevalence and treatment with antimalarials from most recent national survey



Available national surveys

DHS 2003
Sample size (U5s): 5 560
Field work: Feb-May 2003
Scale: national
Supporting organization: Macro DHS

MICS 2000
Sample size (U5s): 8 144
Field work: Sep-Oct 2000
Scale: national
Supporting organization: UNICEF

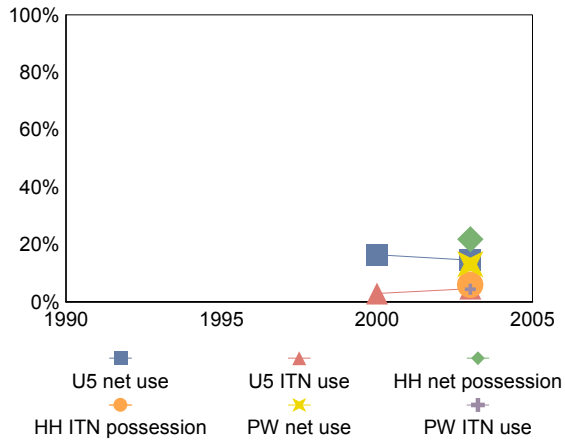
DHS 1998
Sample size (U5s): 3 205
Field work: Feb-Jul 1998
Scale: national
Supporting organization: Macro DHS

DHS 1993
Sample size (U5s): 5 650
Field work: Feb-Aug 1993
Scale: national
Supporting organization: Macro DHS

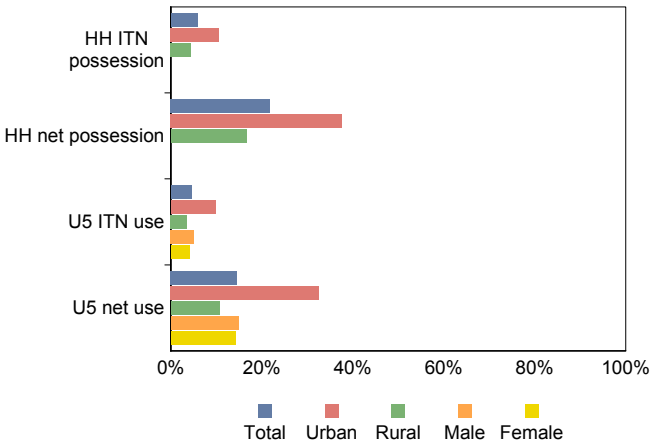
Insecticide-treated nets

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 2003
Sample size (HHs or U5s): 8 561 Supporting Organization: Macro DHS
Field work: Feb-May 2003
Scale: national

MICS 2000
Sample size (HHs or U5s): 7 116 Supporting Organization: UNICEF
Field work: Sep-Oct 2000
Scale: national

Available sub-national surveys

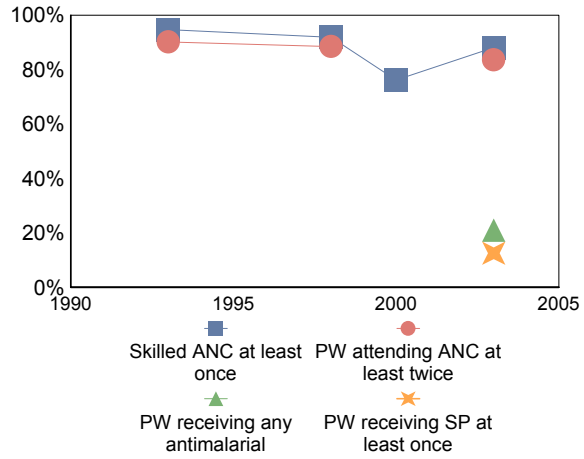
RBM 2001
Sample size (HHs or U5s): Supporting Organization: WHO/AFRO
Field work: Dec 2001-Mar 2002
Scale: 4 districts: Kisii/Gucha, Makueni, Kwale, Bondo

PSI 2000
Sample size (HHs or U5s): 2 724 Supporting Organization: Population Services International
Field work: Dec 2000-Jan 2001
Scale: 6 regions: all regions, except Northeast

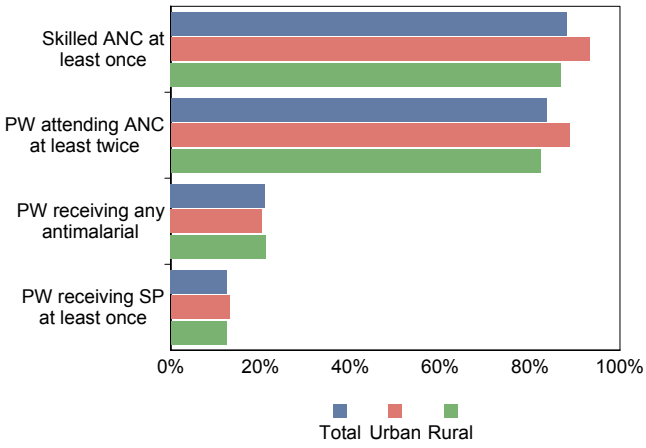
Intermittent preventive treatment during pregnancy

RBM promotes IPT with SP in countries with areas of stable malaria transmission as one of its key prevention strategies for pregnant women (PW). However, few surveys have assessed the coverage of IPT among pregnant women. Data below represent available household survey results in which indicators related to monitoring IPT have been assessed. The level of skilled antenatal attendance and the percentage of women attending antenatal clinics (ANC) at least twice are presented as a background for which improvements in IPT can be achieved.

Antenatal clinic attendance and use of antimalarials for prevention from national surveys



Antenatal clinic attendance and use of antimalarials for prevention from most recent national surveys



Available national surveys

DHS 2003
Sample size (PW): 4 052
Field work: Feb-May 2003
Scale: national
Supporting organization: Macro DHS

MICS 2000
Sample size (PW): 1 828
Field work: Sep-Oct 2000
Scale: national
Supporting organization: UNICEF

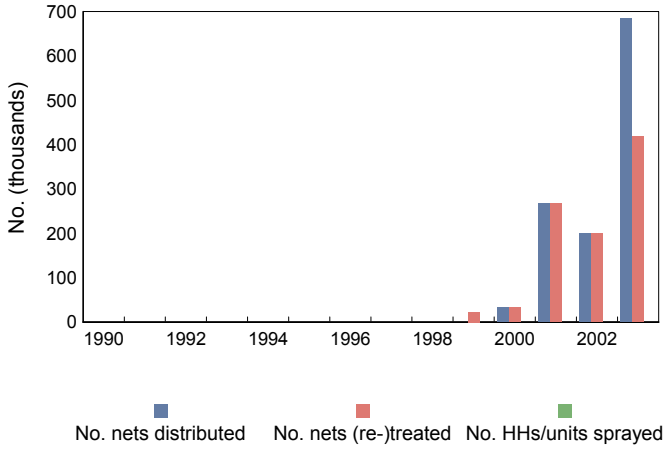
DHS 1998
Sample size (PW): 3 464
Field work: Feb-Jul 1998
Scale: national
Supporting organization: Macro DHS

DHS 1993
Sample size (PW): 3 645
Field work: Feb-Aug 1993
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.



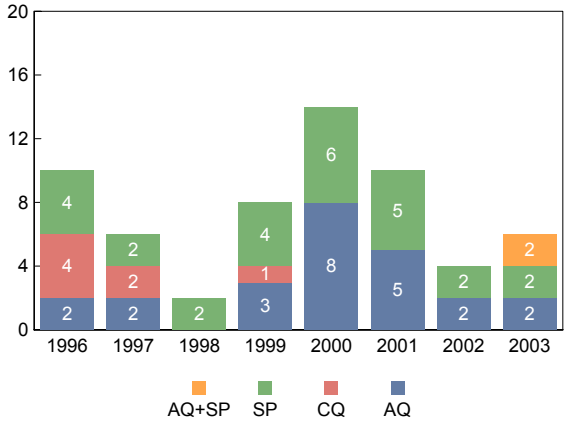
	No. nets (re-) treated	No. nets sold or distributed
1999	23 000	-
2000	32 300	32 300
2001	267 200	267 200
2002	200 000	200 000
2003	418 500	684 850

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						
1996-1999	7	65.8	15.2	84.8	31.7	80.4
SP						
1996-2003	27	8.4	0.0	51.6	3.4	17.9
AQ						
1996-2003	24	2.4	0.0	23.1	0.0	8.3
AQ+SP						
2003	2	2.0	1.6	2.4	1.6	2.4

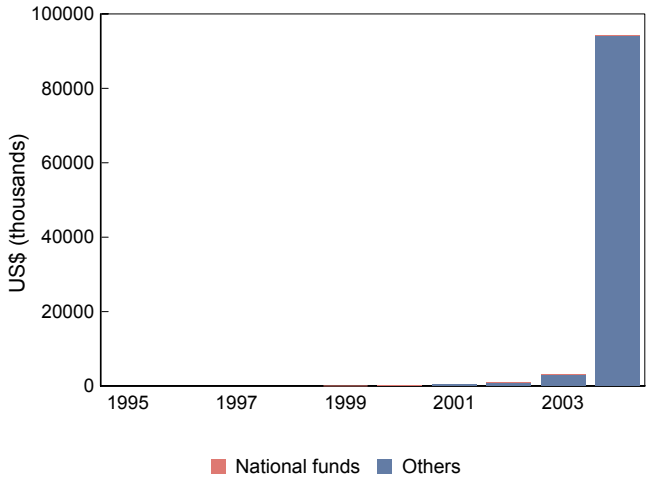
Number of drug efficacy studies available by year and drug type



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	-	
1997	-	
1998	-	
1999	39	-
2000	83	-
2001	-	418
2002	128	917
2003	82	3 130
2004	192	94 175

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	10 526 880	**MoF**	Yes	23-Jun-03	10 526 880	2	4 640 447	44.1%
CCM	4	81 972 711		No			-		

General notes and remarks

See explanatory notes at the beginning of the section.
Malaria reporting for slides and RDTs taken, probable inpatient cases, probable malaria deaths and parasitological confirmations refer to information received from Kitale district hospital. Subnational area data for Kitale and Kericho district hospitals reflect outpatient attendance and inpatient admissions, whereas all other areas are outpatient attendance only.
* policy adopted, not presently being deployed, implementation process ongoing