Uganda

COUNTRY PROFILE

Overivew of malaria control activities and programme progress

Malaria is the leading cause of morbidity and mortality in Uganda and is responsible for up to 40% of outpatient visits, 25% of hospital admissions and 14% of hospital deaths. The burden of malaria is greatest among children under 5 years of age and pregnant women.

A national RBM strategic plan (2001/2002–2004/2005) guides malaria control activities in Uganda. The main strategies are: (i) prompt and effective treatment, including home management; (ii) vector control, including ITNs and IRS; (iii) IPT during pregnancy; and (iv) and epidemic preparedness.

In the past 5 years, positive developments have included: (i) increasing the capacity of the NMCP; (ii) developing an ITN policy and strategy; (iii) enhancing monitoring of antimalarial drug efficacy; (iv) updating the antimalarial drug policy in 2002 and 2004; and (v) in April 2002, developing and implementing a strategy of home management of fever using pre-packaged CQ and SP. Remaining challenges for increasing ITN coverage include how to distribute appropriately to vulnerable groups and how to raise awareness of the importance of ITNs for these target populations. Challenges to implementing the new IPT policy include: (i) increasing the use of antenatal clinics by vulnerable women; (ii) reducing drug stock-outs; and (iii) countering erroneous beliefs about the harmful effects of SP through increased education among populations of pregnant women at risk of malaria.

Malaria funding from the NMCP is merged with funding for other health services at district and subdistrict levels, which share human resources, infrastructure and supplies. At national level, the NMCP has a very small budget for operating expenses compared with what is allocated for malaria control at district level. National NGOs cover their own operating costs and support districts in-cash or in-kind directly or through the NMCP. In 2000, funds for malaria control included US$ 385 000 from the government and US$ 376 000 from other sources. Uganda also received over US$ 9 million of committed funds of US$ 89 million from the GFATM.

National malaria policy and strategy environment

National malaria strategy overview for 2003

	Strategy
Treatment and Diagnosis Guidelines	Yes
Published/updated in	2004
Monitoring antimalarial drug resistance	Yes
Number of sites currently active	9
Home management of malaria	Yes
Vector control using insecticides	Yes
Monitoring insecticide resistance	Yes
Number of sites currently active	7
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
		2 446 659	1 470 662	2 191 277	1 431 068		2 317 840	2 845 811	3 070 800

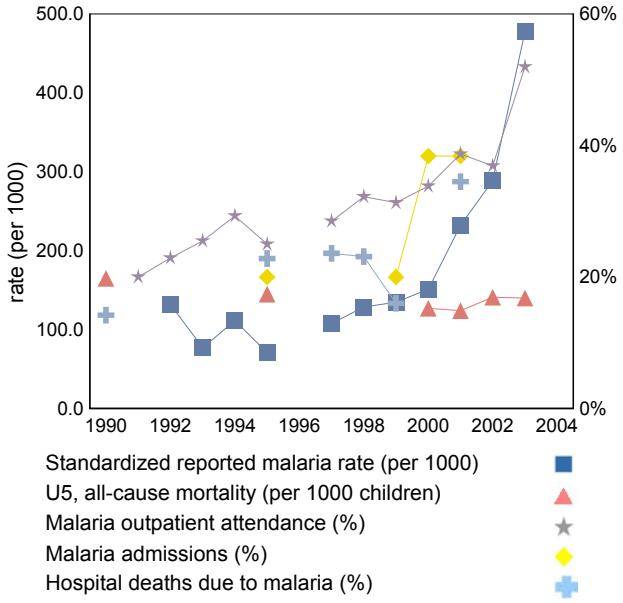
2000	2001	2002	2003
3 552 859	5 622 934	7 216 411	12 343 411

Date of last report: 30 November 2004

Reported malaria by type and quality

For most recent year: 2003

Reported malaria cases	12 343 411
Reported malaria deaths	8 450
Probable or clinically diagnosed	
Malaria cases	12 343 411
Severe (inpatient or hospitalized) cases	
Malaria deaths	8 450
Slides taken	
Rapid diagnostic tests (RDTs) taken	
Laboratory confirmed	
Malaria cases	
P. falciparum or mixed	
P. vivax	
Severe (inpatient or hospitalized) cases	
Malaria deaths	
Investigations	
Imported cases	
Estimated reporting completeness (%)	97



Reported malaria cases by age and gender

Group	Subgroup	2000	2001	2002	2003	%
	Total	3 552 859	5 622 934	7 216 411	12 343 411	100
Age	<5 years	1 628 314	2 234 275	2 791 753	3 748 520	30
	5> years	1 924 545	3 388 659	4 424 658	8 594 891	70

Reported malaria cases by selected subnational area

15 of 15 areas	2000	2001	2002	2003	%
Mbarara	173 793	323 909	197 985	487 926	4
Bushenyi	122 055	220 432	359 201	378 173	3
Tororo		149 155	149 155	324 548	3
Wakiso		151 895	151 895	323 958	3
Arua	150 834	146 617	274 784	322 632	3
Masaka	116 548	222 381	273 305	320 897	3
Mbale	160 596	166 413	320 678	304 132	2
Kasese				287 132	2
Rakai	62 435	263 162	263 162	280 733	2
Kabale	99 346	251 635	251 635	256 256	2
Jinja	102 327	118 971	226 028	249 254	2
Pallisa	116 193	168 417	210 914	238 547	2
Ntungamo	75 549	192 010	221 981	234 692	2
Kumi	117 669	141 562	141 562	195 299	2
Kampala	39 927	32 360	32 360	159 089	1

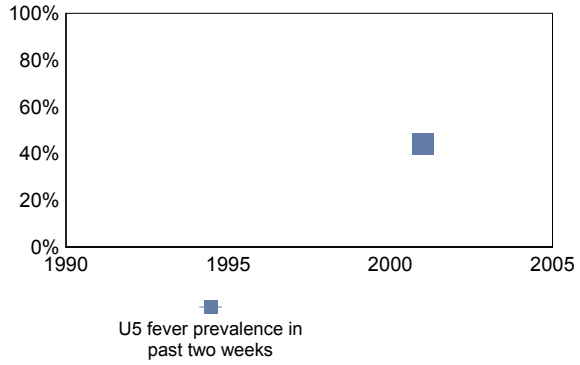
COVERAGE OF ROLL BACK MALARIA INTERVENTIONS

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.

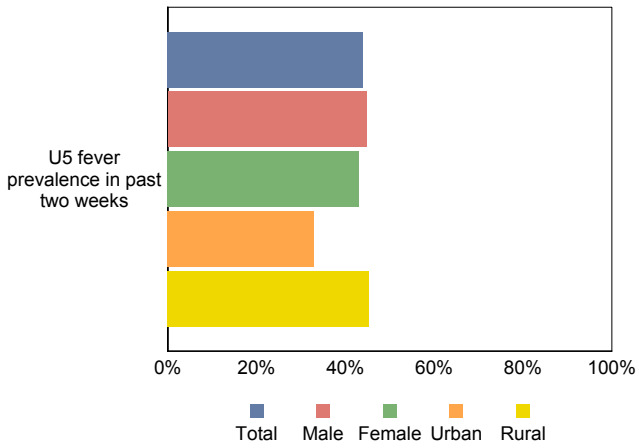
Fever prevalence and treatment with antimalarials

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 2000-01
Sample size (U5s): 6 811 — Supporting organization: Macro DHS
Field work: Sep 2000-Mar 2001
Scale: national

Available sub-national surveys

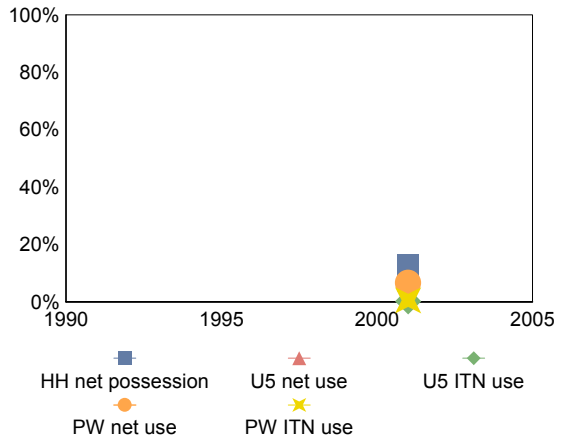
Fapohunda BM, 2003
Sample size (U5s): 6 069 — Supporting organization: BASICS, WHO, MoH
Field work: Jun 2003
Scale: 6 districts: Kumi, Kamuli, Kiboga, Lira, Ntungamo, Kanungu

MoH 2001 (RBM Baseline survey)
Sample size (U5s): 1 280 — Supporting organization: WHO/AFRO, MoH
Field work: Jul-Aug 2001
Scale: 4 districts: Mubebde, Kabale, Tororo, Apac

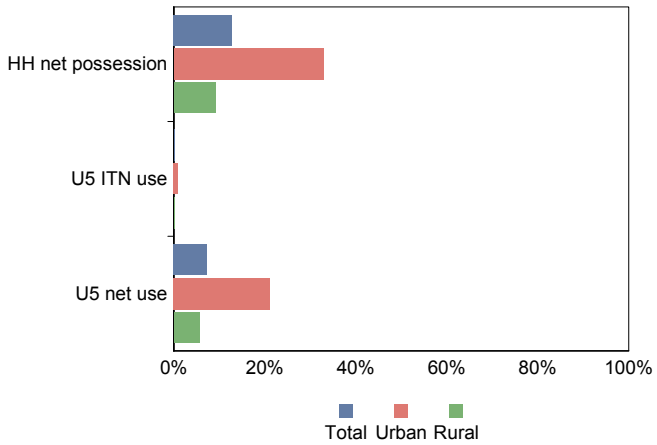
Insecticide-treated nets

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 2000-01
Sample size (HHs or U5s): 7 885 Supporting Organization: Macro DHS
Field work: Sep 2000-Mar 2001
Scale: national

Available sub-national surveys

CMS 2003a
Sample size (HHs or U5s): 268 Supporting Organization: BASICS, WHO, MoH
Field work: Jun 2003
Scale: 2 districts: Mbarara, Mbale

CMS 2003b
Sample size (HHs or U5s): 1 712 Supporting Organization: BASICS, WHO, MoH
Field work: Jun 2003
Scale: 4 districts: Mukono, Jinja, Mbarara, Arua

Fapohunda BM, 2003
Sample size (HHs or U5s): 6 069 Supporting Organization: BASICS, WHO, MoH
Field work: Jun 2003
Scale: 6 districts: Kumi, Kamuli, Kiboga, Lira, Ntungamo, Kanungu

Gertrude N. 2004
Sample size (HHs or U5s): 96 Supporting Organization: Institute of Public Health
Field work:
Scale: 1 district: Jinja municipality, East health sub district

Spencer et al. 2004
Sample size (HHs or U5s): 835 Supporting Organization: MoH, MSF
Field work: Jul 2002
Scale: 1 district: Bundibugyo (22 camps for internally displaced people)

GTZ 2001
Sample size (HHs or U5s): 1 150 Supporting Organization: BASICS, WHO, MoH
Field work: Jul 2001
Scale: 3 districts: Kabarole, Kamwenge, Kyenjojo

MoH 2001 (RBM Baseline survey)
Sample size (HHs or U5s): 1 280 Supporting Organization: WHO/AFRO, MoH
Field work: Jul-Aug 2001
Scale: 4 districts: Mubebde, Kabale, Tororo, Apac

NetMark 2000
Sample size (HHs or U5s): 1 361 Supporting Organization: NetMark
Field work: Nov 2000
Scale: 5 areas: Kampala, Masaka, Soroti, Hoima, Mbarara

PSI 2000
Sample size (HHs or U5s): 700 Supporting Organization: Population Services International
Field work:
Scale: 4 provinces: Mukono, Jinja, Mbarara, Arua

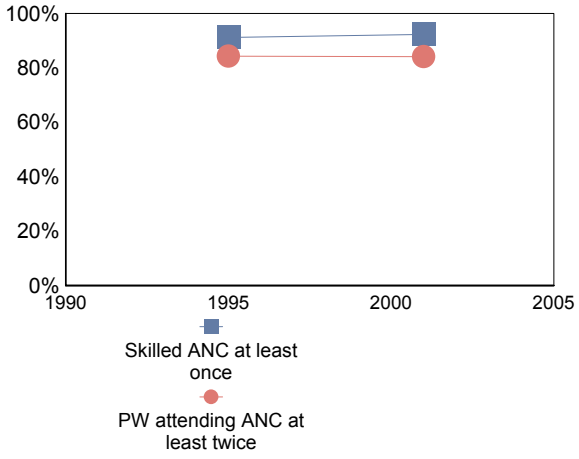
CMS 2000
Sample size (HHs or U5s): 700 Supporting Organization: BASICS, WHO, MoH
Field work: Dec 1999-Jan 2000
Scale: district

Nuwaha F., 1999
Sample size (HHs or U5s): 643 Supporting Organization: Mbarara University
Field work: Jul 1999
Scale: 1 district: Mbarara municipality

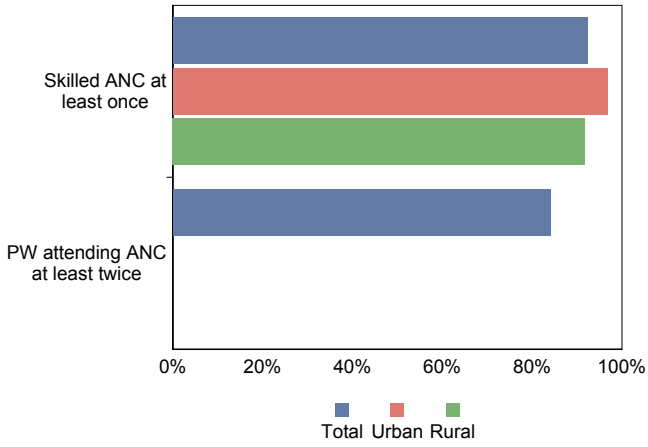
Intermittent preventive treatment during pregnancy

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 2000-01
Sample size (PW): 3 848 Supporting organization: Macro DHS
Field work: Sep 2000-Mar 2001
Scale: national

DHS 1995
Sample size (PW): 4 659 Supporting organization: Macro DHS
Field work: Mar-Aug 1995
Scale: national

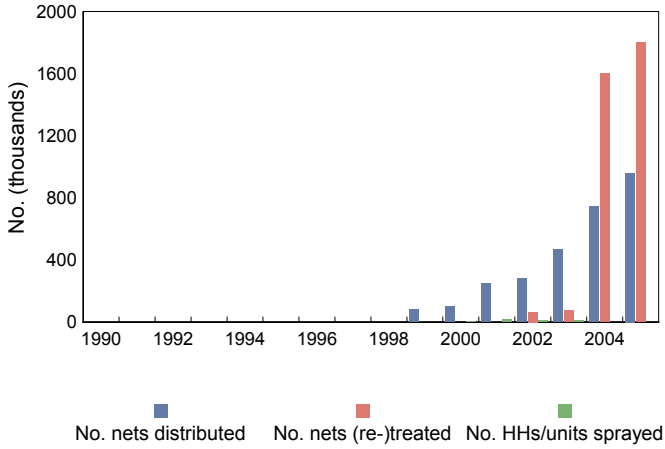
Available sub-national surveys

MoH 2002
Sample size (PW): 146 Supporting organization: MoH
Field work: Mar-Aug 2001
Scale: 17 districts: Mbarara, Ntungamo, Kabale, Hoima, Kabarole, Kampala, Luwero, Kiboga, Mukono, Mbale, Jinja, Soroti, Kumi, Apac, Lira, Nebbi, Arua

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. HHs/units sprayed	No. nets (re-) treated	No. nets sold or distributed	No. retreatme kits distribute
1999	-	-	80 000	35 00
2000	6 105	-	100 000	58 00
2001	17 642	-	250 000	130 00
2002	12 533	65 315	280 295	130 41
2003	9 619	74 079	467 081	158 99
2004	-	1 600 000	745 000	
2005	-	1 800 000	960 000	

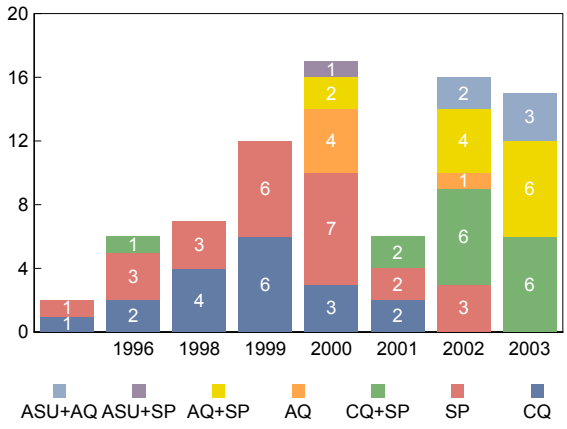
Figures for 2004 and 2005 are projected estimates.

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 Low	Range High	Percentile 25th	Percentile 75th
CQ						
1996-2001	18	29.3	7.5	81.2	16.4	58.7
SP						
1996-2002	25	11.4	0.0	25.0	5.0	16.8
AQ						
1999-2002	5	8.8	0.0	14.5	1.6	12.3
CQ+SP						
1996-2003	15	12.0	0.0	37.0	7.0	19.0
AQ+SP						
1999-2003	12	1.6	0.0	13.0	0.5	3.5
ASU+AQ						
2002-2003	5	1.0	0.0	4.0	0.5	3.7
ASU+SP						
2000	1	0.5				

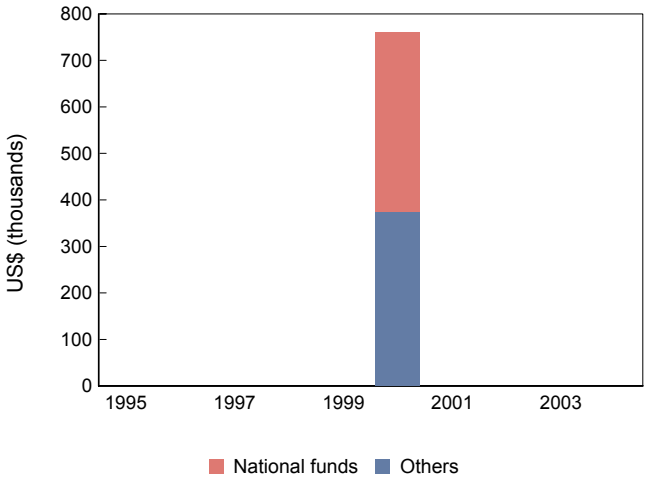
Number of drug efficacy studies available by year and drug type



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	-	
2000	385	376
2001	-	
2002	-	
2003	-	
2004	-	

Malaria funding from the national malaria control programme is included in funding for other health services at the district level. Human resources, infrastructure and supplies are funded together with other health services at district and subdistrict level. The funds for the districts are sent directly from the Ministry of Finance. At national level the malaria control programme receives funding for running expenses, but this is very small compared to what is spent on malaria control at district level. National nongovernmental organizations have their own running costs and they support districts in cash or in kind directly or through the Malaria Control Programme.

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	23 211 300	**MoF**	Yes	27-Feb-04	23 211 300	3	9 749 358	42.0%
CCM	4	66 432 148		No			-		

General notes and remarks

See explanatory notes at the beginning of the section.
Information on reported malaria cases comes from the Uganda Health Management Information System (HMIS). Uganda is also implementing the WHO-promoted Integrated Disease Surveillance and Response System (IDSR), but the national programme felt the information received from IDSR was less complete than HMIS. For example in 2003, IDSR reported 7 147 152 malaria cases while the HMIS reported 12 343 411 malaria cases.
Information on hospitalized or inpatient malaria cases and malaria deaths from the HMIS are not reliable. The information included in the profile for inpatient malaria cases and deaths is from the IDSR, despite known problems with completeness of reporting and compatibility with HMIS records.
* policy adopted, not presently being deployed, implementation process ongoing