

CÔTE D'IVOIRE

Côte d'Ivoire had an estimated 8.0 million cases in 2006. Transmission occurs all year round throughout the country but is more seasonal in the north. None of the 1.25 million cases reported in 2006 was confirmed as malaria. There was no evidence of a systematic decrease in the number of malaria cases between 2001 and 2006. The number of malaria deaths increased, perhaps due to improved reporting. IRS is not carried out in Côte d'Ivoire. The national malaria control programme distributed only 1.6 million ITNs between 2006 and 2008. The 2006 multiple indicator cluster survey showed that only 27% of households owned a mosquito net, and just 6% had an ITN. Despite the adoption of ACT as treatment policy in 2003, the programme delivered only 476 000 ACT treatment courses in 2007, which represents 37% of the reported malaria cases in need of treatment. The multiple indicator cluster survey showed that only 3% of febrile children were given ACT. Funding for malaria control increased from less than US\$ 2 million in 2002 to over US\$ 27 million in 2008 funded by the Global Fund, government and UN agencies.

I. EPIDEMIOLOGICAL PROFILE

Population, endemicity and malaria burden

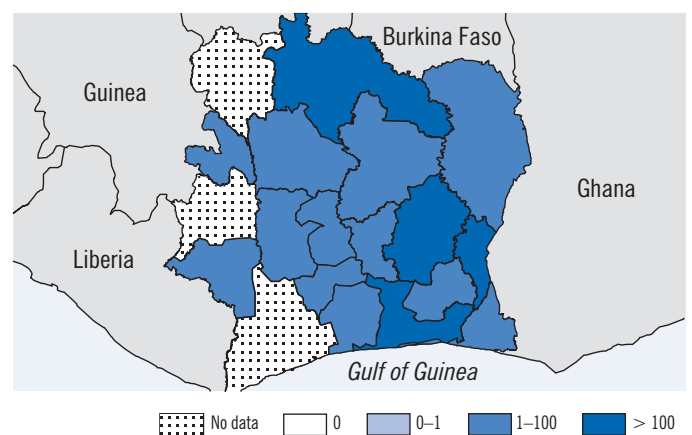
Population (in thousands)	2008	%
All age groups	20 591	
< 5 years	3 139	15
≥ 5 years	17 452	85

Population by malaria endemicity (in thousands)	2008	%
High transmission ≥ 1/1000	20 591	100
Low transmission (0–1/1000)	0	0
Malaria-free (0 cases)	0	0
Rural population	10 537	51

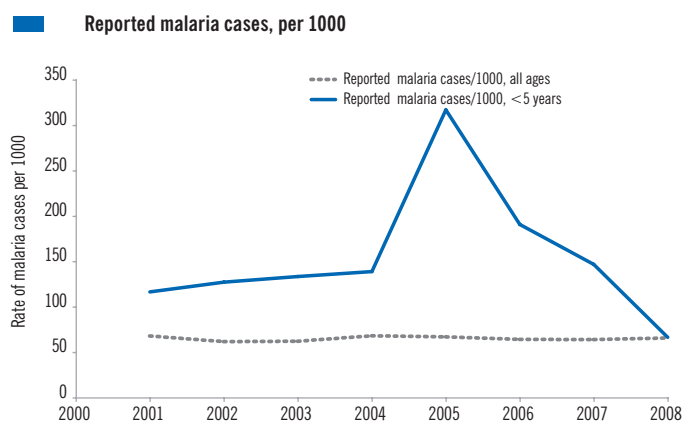
Vector and parasite profiles

Major <i>Anopheles</i> species	<i>gambiae</i> , <i>arabiensis</i> , <i>funestus</i> , <i>brochieri</i> , <i>coustani</i> , <i>Hancocki</i> , <i>hargreavesi</i> , <i>melas</i> , <i>moucheti</i> , <i>moucheti</i> , <i>nili</i> , <i>paludis</i> , <i>pharoensis</i>
<i>Plasmodium</i> species	<i>falciparum</i> , <i>vivax</i>

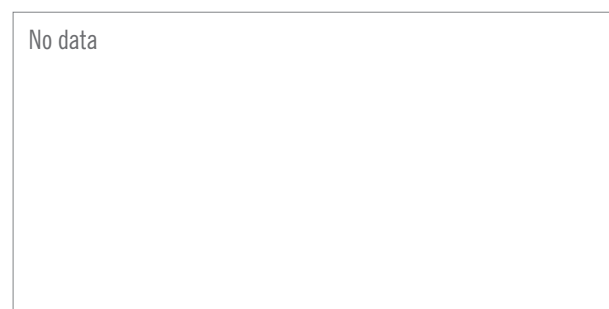
Stratification of burden (reported cases, per 1000)



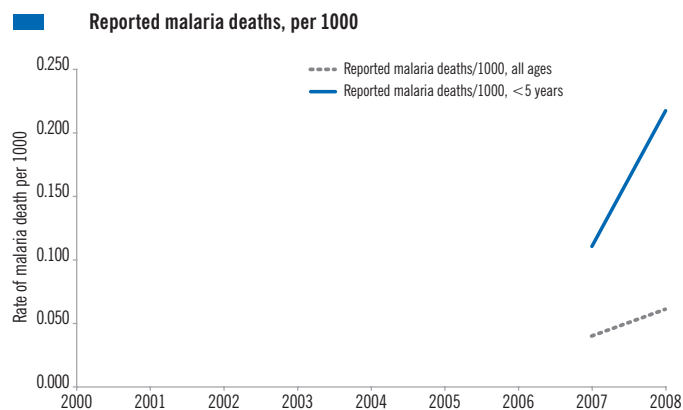
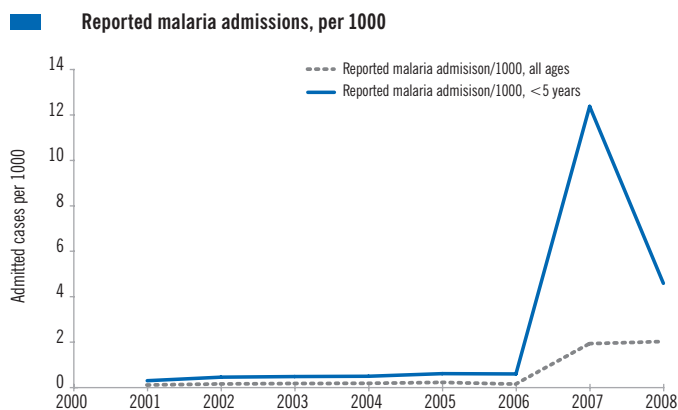
Trends in malaria morbidity and mortality



Rate of examination, case confirmation, malaria test positivity, % of confirmed cases that are *P. falciparum*



Year	Reported malaria cases, all ages	Reported malaria cases, < 5 years	All-cause outpatient consultations, all ages	All-cause outpatient consultations, < 5 years	Examined	Positive	<i>P. falciparum</i>	Reporting completeness of outpatient health facilities (%)	Reporting completeness of districts (%)
2000									
2001	1 193 288	321 361	1 969 077	397 679				80	61
2002	1 109 751	359 073	2 318 879	519 240				82	63
2003	1 136 810	384 982	2 368 584	450 098				86	54
2004	1 275 138	409 063	2 349 636	452 086				82	56
2005	1 280 914	952 056	2 664 516					84	58
2006	1 253 408	582 242	3 632 014					58	65
2007	1 277 670	454 725	2 449 332	563 363					
2008	1 343 654	208 459	3 001 009	394 090					



Year	Reported malaria admissions, all ages	Reported malaria admissions, < 5 years	All-cause admissions, all ages	All-cause admissions, < 5 years	Reported malaria deaths, all ages	Reported malaria deaths, < 5 years	All-cause deaths, all ages	All-cause deaths, < 5 years	Reporting completeness of inpatient health facilities (%)	Reporting completeness of districts (%)
2000										
2001	1 513	808	153 998				113 292	113 217		
2002	2 407	1 268	181 133				161 824	160 818		
2003	2 862	1 365	148 358				151 955	150 132		
2004	3 085	1 430	96 621				160 855	160 627		
2005	3 934	1 799	110 261				169 913	167 901		
2006	2 527	1 806	134 241				204 394	201 380		
2007	38 307	38 307	97 350		797	342	6 540	1 414		
2008	41 189	14 368	123 341	17 801	1 249	682	5 550	1 775		

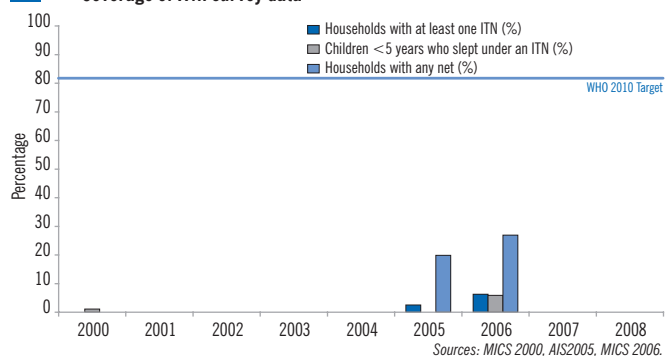
II. INTERVENTION POLICIES AND STRATEGIES

Intervention	WHO-RECOMMENDED POLICIES / STRATEGIES		OPTIONAL POLICIES / STRATEGIES			
	Yes or No	Year adopted	Yes or No	Year adopted		
Insecticide-treated nets (ITN)	Distribution of ITN/LLINs – Free	Yes	2006	Distribution – Antenatal care	Yes	2006
	Targeting all age groups	Yes	2005	Distribution – EPI routine and campaign	Yes	2006
				Targeting children < 5 years and pregnant women	Yes	2005
				ITN distribution is subsidized	No	–
Indoor residual spraying (IRS)	IRS is a primary vector control intervention	No	–	Insecticide-resistance management implemented	Yes	1998
	DDT is used for IRS (public health) only	No	–	Where IRS is conducted, other options are also implemented, e.g. ITN	No	–
				IRS is used for prevention and control of epidemics	No	–
Intermittent preventive treatment (IPT)	IPT used to prevent malaria during pregnancy	Yes	2005			
Case management	Oral artemisinin monotherapies banned (prohibited from registration or removed from the system)	Yes	2005	Parasitological confirmation for patients ≥ 5 years only	Yes	2005
	Parasitological confirmation for patients of all ages	No	–	Malaria diagnosis is free of charge in the public sector	No	–
	ACT is free of charge for < 5 years old in the public sector	No	–	ACT is free of charge for patients ≥ 5 years in the public sector	No	–
	Diagnosis of malaria of inpatients is based on parasitological confirmation	Yes	1997	ACT is delivered at community level through community agents (beyond the health facilities)	No	–
	Pre-referral treatment with quinine or artemether IM or artesunate suppositories	No	–	Uncomplicated malaria cases are admitted	No	–
	Oversight regulation of case management in the private sectors	No	–			
	RDTs used at community level	No	–			

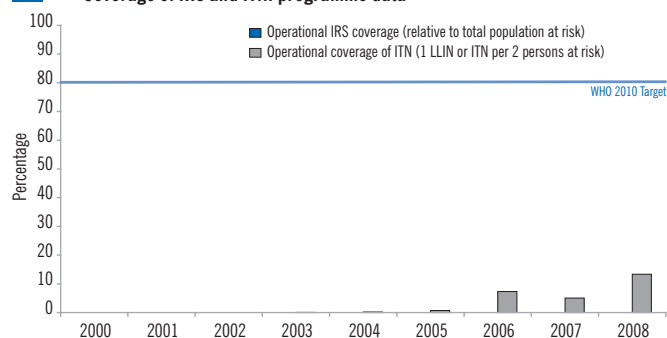
Antimalarial policy	Type of medicine	Year adopted	Results of therapeutic efficacy tests						
			Study year	No. of studies	Median	Minimum	Maximum	Percentiles: 25%	75%
First-line treatment of <i>P. falciparum</i> (unconfirmed)	AS+AQ	2003	2008–2009	2	0	0	0	0	0
First-line treatment of <i>P. falciparum</i> (confirmed)	AS+AQ	2003							
Treatment failure of <i>P. falciparum</i>	AL	2003	2005–2009	4	2.0999	0	7.4	0.8	5
Treatment of severe malaria	QN(7d)	2003							
Treatment of <i>P. vivax</i>	–	–							

III. IMPLEMENTING MALARIA CONTROL

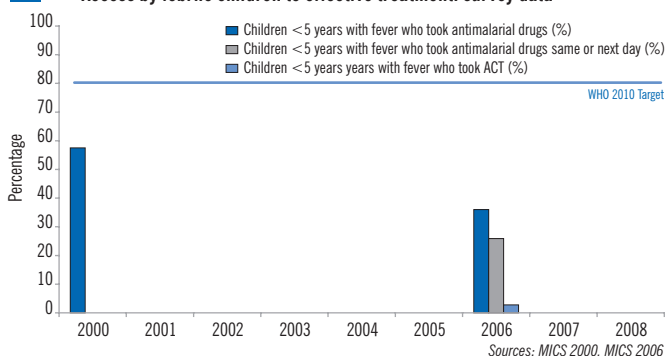
Coverage of ITN: survey data



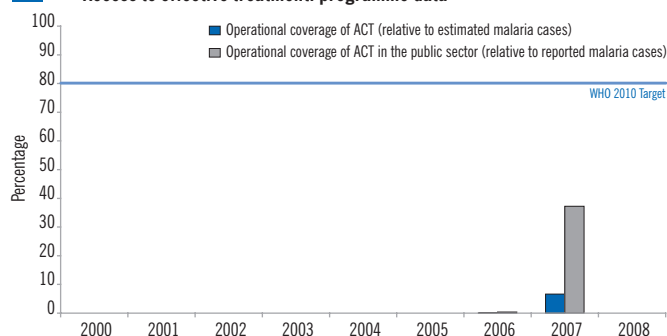
Coverage of IRS and ITN: programme data



Access by febrile children to effective treatment: survey data



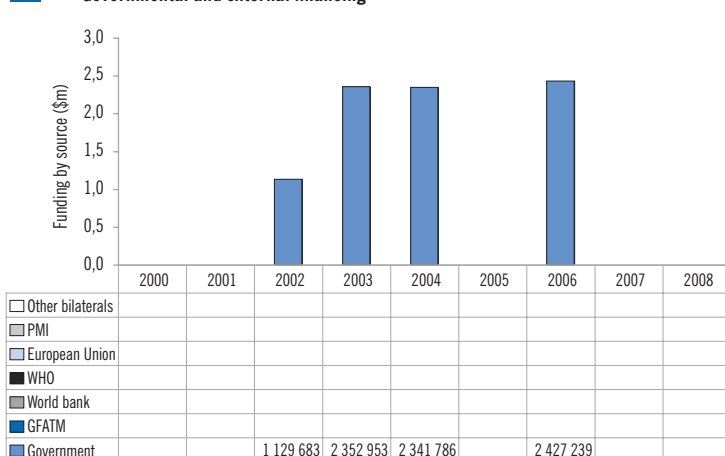
Access to effective treatment: programme data



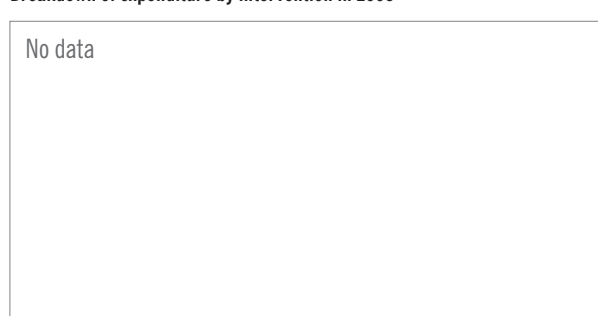
Year	Pregnant women who slept under any net (%)	Pregnant women who slept under an ITN (%)	Children < 5 years with fever (%)	Febrile children < 5 years who sought treatment in HF (%)	Number of households protected by IRS	Number of people protected by IRS	Number of ITNs and/or LLINs	Number of 1st-line treatment courses received	Number of ACT treatment courses received
2000									
2001									
2002									
2003							5 000		
2004							12 000		
2005							53 696	971 683	
2006							371 816	1 102 879	4 875
2007							169 832	721 314	476 203
2008							1 034 486		

IV. FINANCING MALARIA CONTROL

Governmental and external financing



Breakdown of expenditure by intervention in 2008



V. SOURCE OF INFORMATION

PROGRAMME DATA

Reported cases	Surveillance data
Operational coverage of ITNs, IRS and access to medicines	Programme report
Financial data	Programme report

SURVEY AND OTHER DATA

Insecticide-treated nets (ITN)	MICS 2000, AIS 2005, MICS 2006
Treatment	MICS 2000, MICS 2006
Use of health services	MICS 2006