

# CAMEROON

Cameroon had an estimated 5.6 million malaria cases in 2006. Transmission occurs all year round but is more intense in the south. The number of reported malaria cases jumped from 635 000 in 2006 to nearly 1 650 749 cases in 2008, none of which were confirmed. Similarly, the numbers of malaria inpatient cases and deaths increased six- and fourfold, respectively, perhaps due to improving reporting. The national malaria control programme delivered about 800 000 LLINs in 2008, inadequate to cover the 19.5 million people at risk. The programme delivered 2.56 million ACT treatment courses in 2007 and 1.81 million in 2008, adequate to treat the reported malaria cases in the public sector. In the 2006 multiple indicator cluster survey, 20% of households owned an ITN, only 13% of children slept under an ITN and only 2% of children with fever received an ACT. Funding for malaria control increased from less than US\$ 2 million in 2002 to over US\$ 26 million in 2008, provided mostly by the Government and the Global Fund.

## I. EPIDEMIOLOGICAL PROFILE

### Population, endemicity and malaria burden

Population (in thousands)	2008	%
All age groups	19 088	
< 5 years	3 016	16
≥ 5 years	16 072	84

Population by malaria endemicity (in thousands)	2008	%
High transmission ≥ 1/1000	13 537	71
Low transmission (0–1/1000)	5 552	29
Malaria-free (0 cases)	0	0
Rural population	8 248	43

#### Vector and parasite profiles

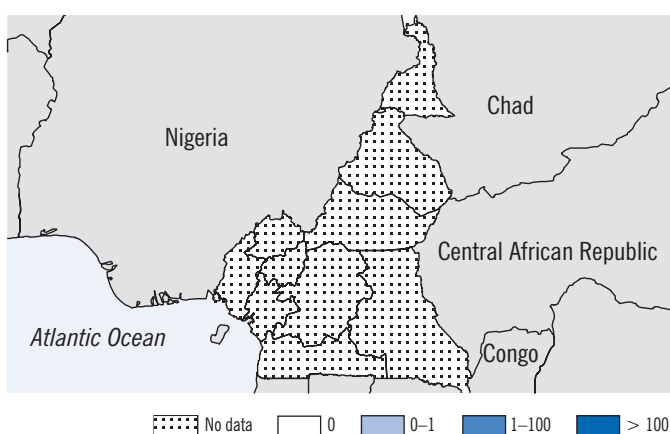
Major *Anopheles* species

*gambiae*, *arabiensis*, *funestus*,  
*brochieri*, *coustani*, *flavicosta*,  
*hancocki*, *hargreavesi*, *melas*,  
*moucheti*, *nili*, *paludis*, *pharoensis*

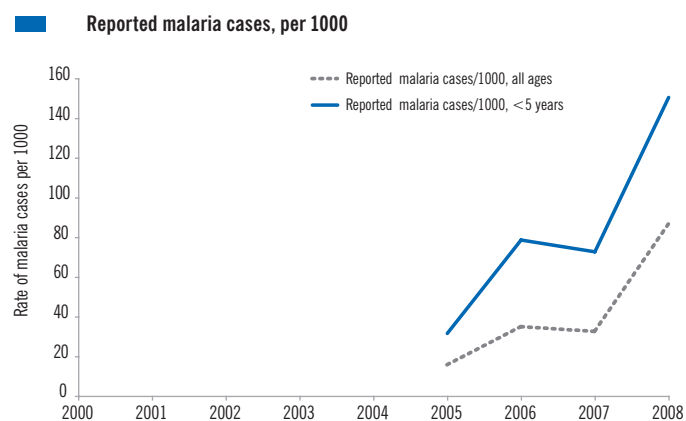
*Plasmodium* species

*falciparum*, *vivax*

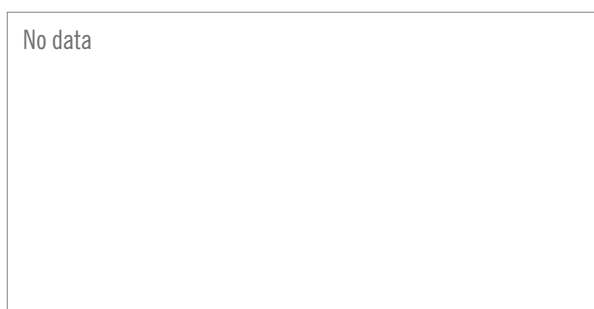
Stratification of burden (reported cases, per 1000)



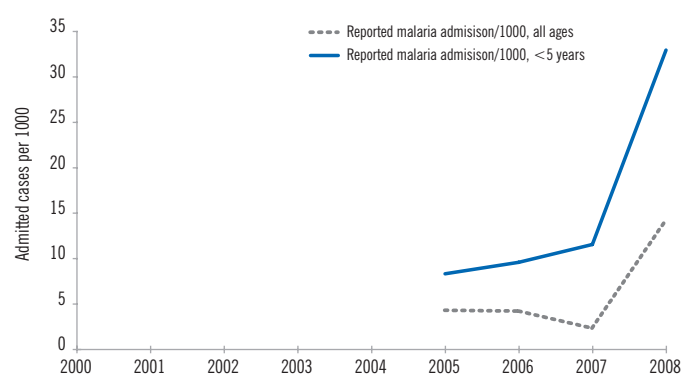
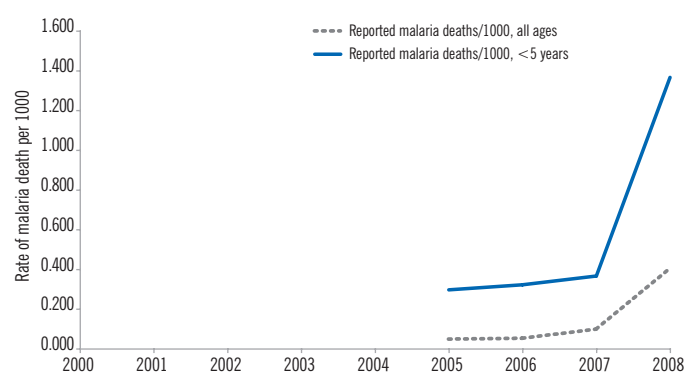
### Trends in malaria morbidity and mortality



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									
2002									
2003									
2004									
2005	277 413	89 041	697 665	197 771					
2006	634 507	227 284	1 748 905	462 140					
2007	604 153	214 697	1 668 116	464 190		313 083			
2008	1 650 749	453 811	4 064 854	1 149 790					

**Reported malaria admissions, per 1000**

**Reported malaria deaths, per 1000**


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										
2002										
2003										
2004										
2005	75 738	23 418	138 617	37 928	836	836	254 308	1 203		
2006	75 904	27 636	204 498	66 873	930	930	261 175			
2007	42 548	34 056	239 650	43 091	1 811	1 082	6 093	2 726		
2008	270 038	99 286	565 754	176 984	7 673	4 119	18 034	7 928		

## II. INTERVENTION POLICIES AND STRATEGIES

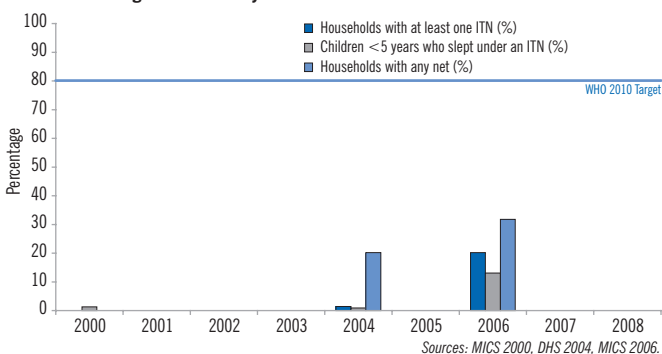
Intervention	WHO-RECOMMENDED POLICIES / STRATEGIES	Yes or No	Year adopted	OPTIONAL POLICIES / STRATEGIES	
				Yes or No	Year adopted
Insecticide-treated nets (ITN)	Distribution of ITN/LLINs – Free	Yes	2003	Distribution – Antenatal care	Yes 2003
	Targeting all age groups	No	–	Distribution – EPI routine and campaign	Yes 2007
				Targeting children < 5 years and pregnant women	Yes 2003
				ITN distribution is subsidized	Yes 2005
Indoor residual spraying (IRS)	IRS is a primary vector control intervention	No	–	Insecticide-resistance management implemented	Yes 2005
	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	2004		
Case management	Oral artemisinin monotherapies banned (prohibited from registration or removed from the system)	Yes	2007	Parasitological confirmation for patients ≥ 5 years only	No –
	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	–	ACT is delivered at community level through community agents (beyond the health facilities)	Yes 2008
	Pre-referral treatment with quinine or artemether IM or artesunate suppositories	Yes	–	Uncomplicated malaria cases are admitted	No –
	Oversight regulation of case management in the private sectors	Yes	–		
	RDTs used at community level	No	–		

### Results of therapeutic efficacy tests

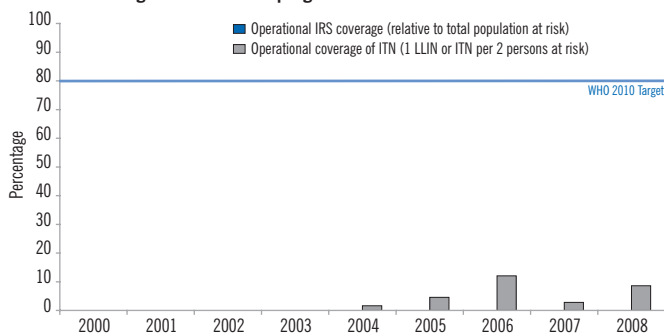
Antimalarial policy	Type of medicine	Year adopted	Study year	No. of studies	Median	Minimum	Maximum	Percentiles: 25% 75%	
First-line treatment of <i>P. falciparum</i> (unconfirmed)	AS+AQ	2004							
First-line treatment of <i>P. falciparum</i> (confirmed)	AS+AQ	2004							
Treatment failure of <i>P. falciparum</i>	QN(7d)	2004							
Treatment of severe malaria	QN(7d)	2004							
Treatment of <i>P. vivax</i>	–	–							

### III. IMPLEMENTING MALARIA CONTROL

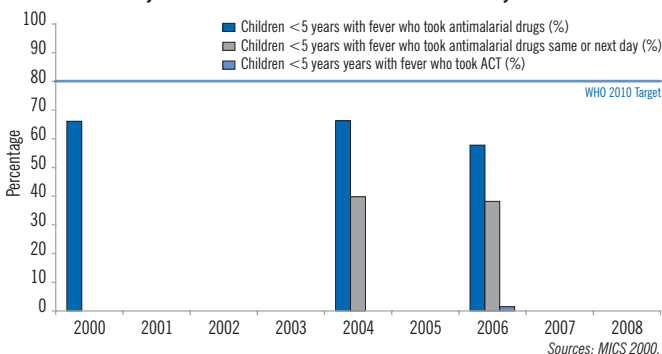
**Coverage of ITN: survey data**



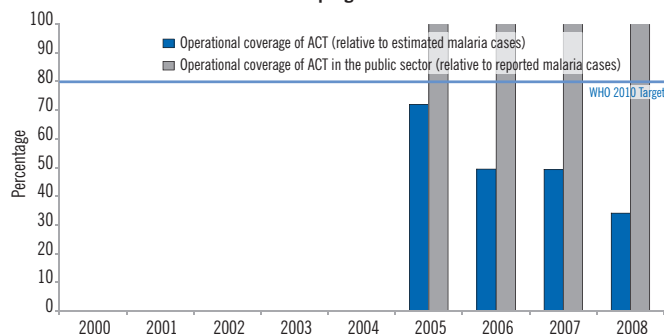
**Coverage of IRS and ITN: programme data**



**Access by febrile children to effective treatment: survey data**



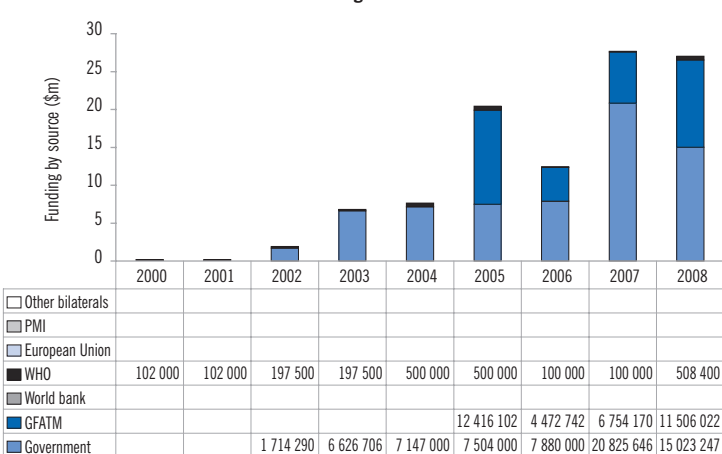
**Access to effective treatment: programme data**



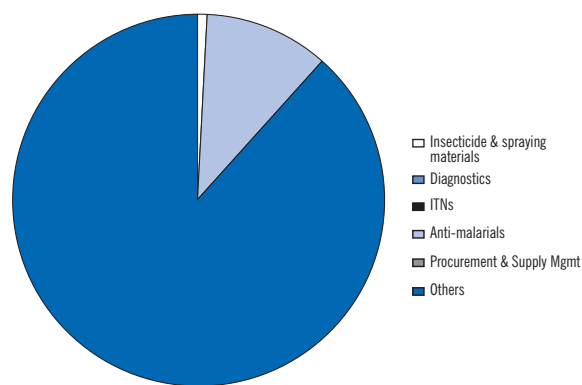
Year	Pregnant women who slept under any net (%)	Pregnant women who slept under an ITN (%)	Children < 5 years with fever (%)	Febrile children < 5 years who sought treatment in HF (%)	Number of households protected by IRS	Number of people protected by IRS	Number of ITNs and/or LLINs	Number of 1st-line treatment courses received	Number of ACT treatment courses received
2000			-	-					
2001									
2002									
2003									
2004	12	1	-	-			140 443		
2005							404 755	3 583 332	3 583 332
2006			-	-			1 097 510	2 518 305	2 518 305
2007							244 425	2 566 785	2 566 785
2008							802 105	1 814 725	1 814 725

### 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, DHS 2004, MICS 2006
Treatment	MICS 2000, DHS 2004, MICS 2006
Use of health services	DHS 2004