

# ZAMBIA

Malaria transmission is seasonal, occurring mainly from November to May. Most cases are due to *P. falciparum*, but little confirmation was done in the past. Surveillance data for 2008 showed decreases from the average for 2001–2003 (before interventions) of 55% in the number of inpatient malaria cases and 79% in the number of deaths in children under 5. The decreases for persons of all ages were 52% for inpatient malaria cases, 59% for inpatient deaths and 19% for outpatient cases. The decrease should be interpreted cautiously, however, because data for the third and fourth quarters of 2008 may be incomplete, as the country changed to a new health information system in mid-2008. An analysis by the Ministry of Health and WHO of data for the first and second quarters of each year showed significant decreases in the numbers of inpatient malaria cases and deaths at all ages of 55% and 60%, respectively, in 2008 from the averages for the first and second quarters of 2000–2002. Thus, the apparent impact is likely to be associated with the recent scale-up of interventions. The national malaria control programme delivered nearly 4.8 million LLINs during 2006–2008 (of which 2.1 million were delivered during the 2007 mass campaign), adequate to cover 80% of the population at risk. IRS has recently been expanded, covering 1 149 599 households and protecting 5.7 million (48%) people at risk in 2008. In the 2008 malaria indicator survey, 62% of households owned an ITN and 41% children under 5 slept under one, but only 13% of febrile children received ACT treatment. Funding for malaria has increased significantly, from less than US\$ 5 million in 2002 to over US\$ 17 million in 2008. The Government's expenditure on malaria is increasing, but major funding also comes from the Global Fund, the United States President's Malaria Initiative, the World Bank, United Nations agencies and nongovernmental organizations.

## I. EPIDEMIOLOGICAL PROFILE

### Population, endemicity and malaria burden

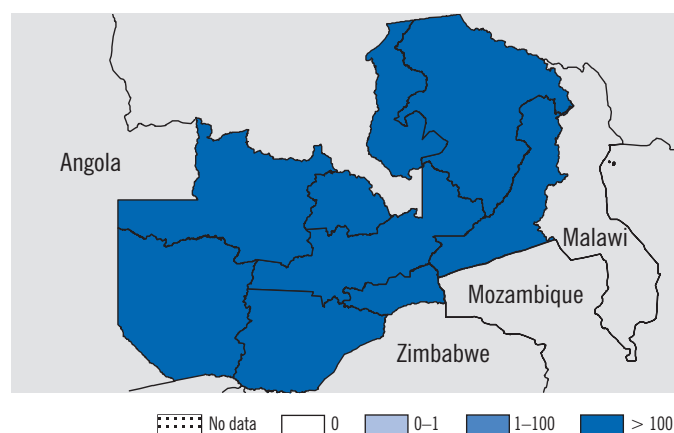
Population (in thousands)	2008	%
All age groups	12 620	
< 5 years	2 282	18
≥ 5 years	10 338	82

Population by malaria endemicity (in thousands)	2008	%
High transmission ≥ 1/1000	12 620	100
Low transmission (0–1/1000)	0	0
Malaria-free (0 cases)	0	0
Rural population	8 159	65

#### Vector and parasite profiles

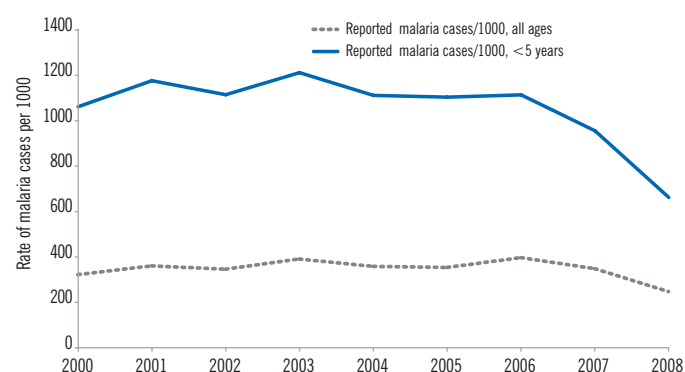
Major <i>Anopheles</i> species	<i>gambiae</i> , <i>arabiensis</i> , <i>funestus</i> , <i>nili</i> , <i>pharoensis</i> , <i>quadriannulatus</i>
<i>Plasmodium</i> species	<i>falciparum</i> , <i>vivax</i>

Stratification of burden (reported cases, per 1000)

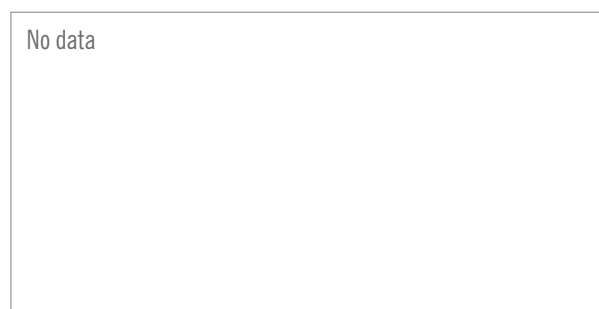


### Trends in malaria morbidity and mortality

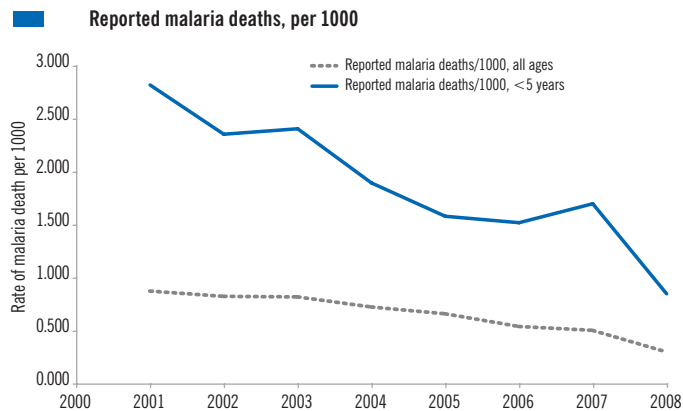
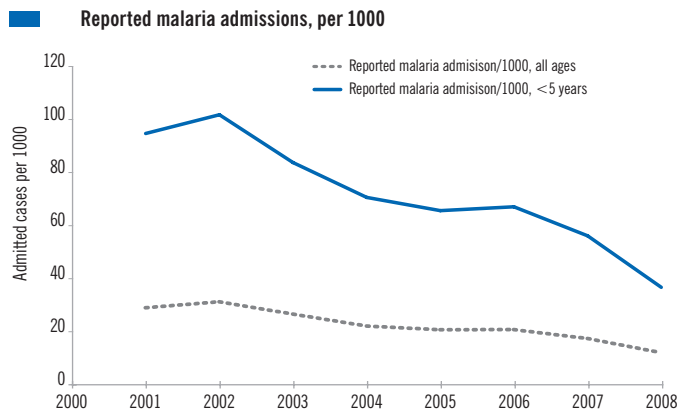
#### Reported malaria cases, per 1000



#### 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	3 337 796	2 016 333	9 230 639	4 856 786					
2001	3 838 402	2 295 738	10 133 545	5 334 699					
2002	3 760 335	2 230 107	10 347 966	5 299 233					
2003	4 346 172	2 480 157	11 970 827	5 972 557					
2004	4 078 234	2 324 580	11 252 589	5 534 795					
2005	4 121 356	2 360 307	11 567 755	5 680 460					
2006	4 731 338	2 434 135	13 283 617	5 872 543					
2007	4 248 295	2 133 915	13 277 766	5 559 399					
2008	3 080 301	1 508 448	11 565 345	4 675 281					



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	308 662	184 917	757 255	379 811	9 369	5 513	35 358	16 680		
2002	340 834	203 625	893 262	424 748	9 021	4 718	39 482	16 377		
2003	296 602	171 408	766 078	348 864	9 178	4 935	39 117	15 459		
2004	251 434	147 663	685 130	289 082	8 289	3 972	38 466	13 569		
2005	240 952	140 329	722 712	300 804	7 737	3 388	38 740	12 796		
2006	247 120	146 524	718 149	307 443	6 484	3 330	35 541	12 469		
2007	212 049	125 188	666 705	280 266	6 183	3 801	34 275	13 842		
2008	149 964	83 530	691 228	361 268	3 781	1 941	27 954	10 280		

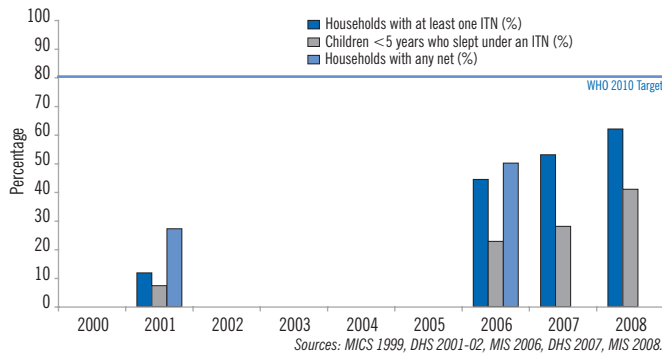
## II. INTERVENTION POLICIES AND STRATEGIES

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	2005	Distribution – Antenatal care	Yes	2001
	Targeting all age groups	Yes	1998	Distribution – EPI routine and campaign	Yes	2003
				Targeting children < 5 years and pregnant women	Yes	2000
				ITN distribution is subsidized	Yes	2001
Indoor residual spraying (IRS)	IRS is a primary vector control intervention	Yes	2000	Insecticide-resistance management implemented	Yes	2000
	DDT is used for IRS (public health) only	Yes	2001	Where IRS is conducted, other options are also implemented, e.g. ITN	Yes	2001
				IRS is used for prevention and control of epidemics	Yes	2001
Intermittent preventive treatment (IPT)	IPT used to prevent malaria during pregnancy	Yes	2001			
Case management	Oral artemisinin monotherapies banned (prohibited from registration or removed from the system)	Yes	2003	Parasitological confirmation for patients ≥ 5 years only	Yes	2001
	Parasitological confirmation for patients of all ages	Yes	2001	Malaria diagnosis is free of charge in the public sector	Yes	2000
	ACT is free of charge for < 5 years old in the public sector	Yes	2003	ACT is free of charge for patients ≥ 5 years in the public sector	Yes	2003
	Diagnosis of malaria of inpatients is based on parasitological confirmation	Yes	2003	ACT is delivered at community level through community agents (beyond the health facilities)	Yes	2007
	Pre-referral treatment with quinine or artemether IM or artesunate suppositories	Yes	1998	Uncomplicated malaria cases are admitted	Yes	2000
	Oversight regulation of case management in the private sectors	No	–			
	RDTs used at community level	Yes	2007			

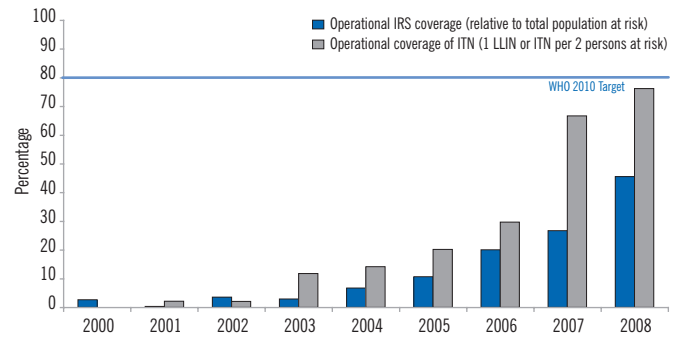
Antimalarial policy	Type of medicine	Year adopted	Results of therapeutic efficacy tests						
			Study year	No. of studies	Median	Minimum	Maximum	Percentiles: 25%	75%
First-line treatment of <i>P. falciparum</i> (unconfirmed)	AL	2002	2004–2005	10	0	0	0	0	0
First-line treatment of <i>P. falciparum</i> (confirmed)	AL	2002							
Treatment failure of <i>P. falciparum</i>	QN(7d)	2002							
Treatment of severe malaria	QN(7d)	2002							
Treatment of <i>P. vivax</i>	–	–							

### III. IMPLEMENTING MALARIA CONTROL

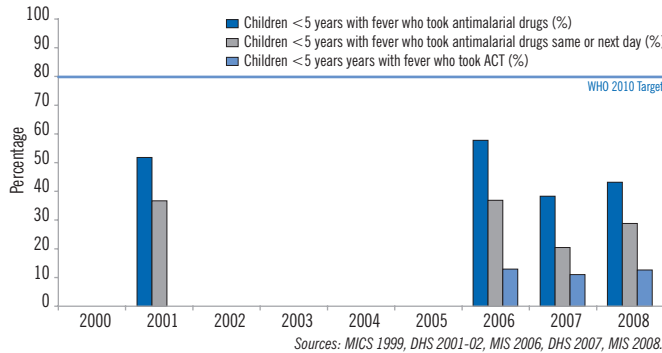
**Coverage of ITN: survey data**



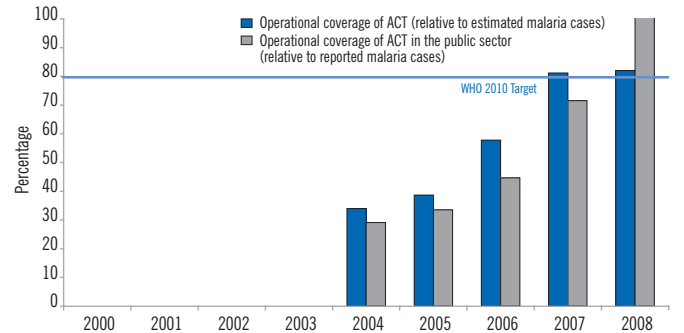
**Coverage of IRS and ITN: programme data**



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



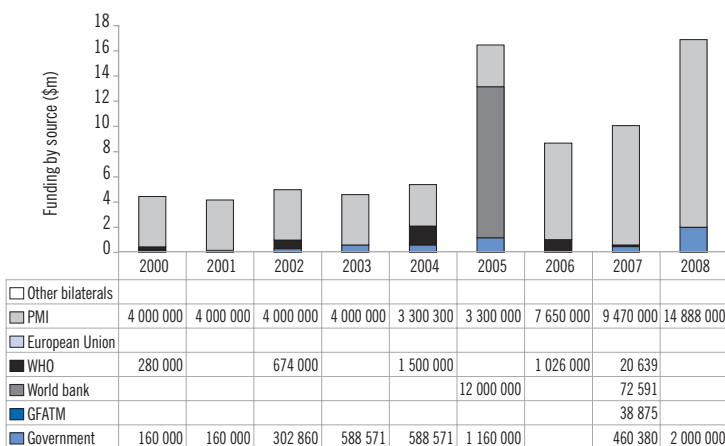
**Access to effective treatment: programme data**



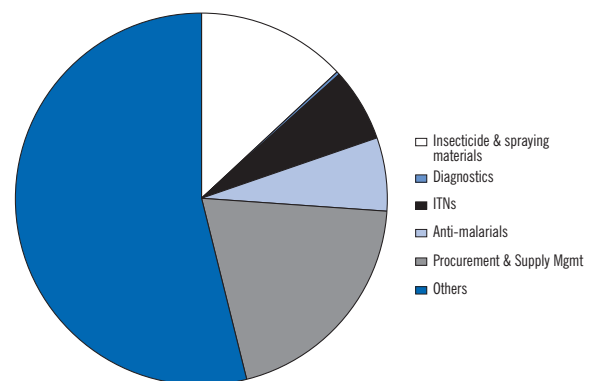
Year	Pregnant women who slept under any net (%)	Pregnant women who slept under an ITN (%)	Children < 5 years with fever (%)	Febrile children < 5 years who sought treatment in HF (%)	Number of households protected by IRS	Number of people protected by IRS	Number of ITNs and/or LLINs	Number of 1st-line treatment courses received	Number of ACT treatment courses received
2000						279 321			
2001	17	9	—	—		37 890	115 891		
2002						391 926	112 020		
2003						324 137	557 071		
2004						772 644	176 082	1 184 698	1 184 698
2005						1 251 701	516 999	1 379 955	1 379 955
2006		24	—	—		2 408 080	1 162 578	2 111 348	2 111 348
2007			—	—		3 288 475	2 458 183	3 036 982	3 036 982
2008			—	—		5 747 995	1 188 443	3 142 405	3 142 405

### 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 1999, DHS 2001-02, MIS 2006, DHS 2007, MIS 2008
Treatment	MICS 1999, DHS 2001-02, MIS 2006, DHS 2007, MIS 2008
Use of health services	DHS 2001