

# MYANMAR

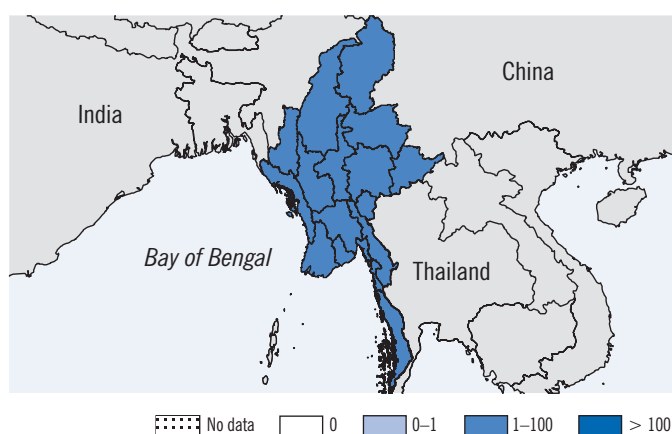
Although much of the population is at risk for malaria, the most vulnerable segment consists of non-immune migrant workers involved in gem-mining in forests, logging, agriculture and construction. The number of reported cases increased from 245 000 in 2000 to 566 000 in 2008, but most reported cases are not examined by microscopy or RDT. The number of cases confirmed by microscopy increased from 120 029 in 2000 to 411 494 in 2008. The increase was associated with a 20% increase in the number of slides examined and an increase in the slide positivity rate, from 31% to 45%. The introduction of RDTs added a further 187 289 confirmed cases in 2008. The percentage of cases due to *P. falciparum* was approximately 75% in 2008. The number of malaria admissions decreased from 85 409 in 2000 to 47 553 in 2008, and the number of deaths decreased from 2756 to 1088. Malaria represented 6% of all admissions in 2008 as compared with 16% in 2000 and 11% of recorded deaths in 2008 as compared with 19% in 2000. About 694 000 ITNs were delivered in 2008, of which 113 000 were LLINs. An additional 11 000 people were protected by IRS.

## I. EPIDEMIOLOGICAL PROFILE

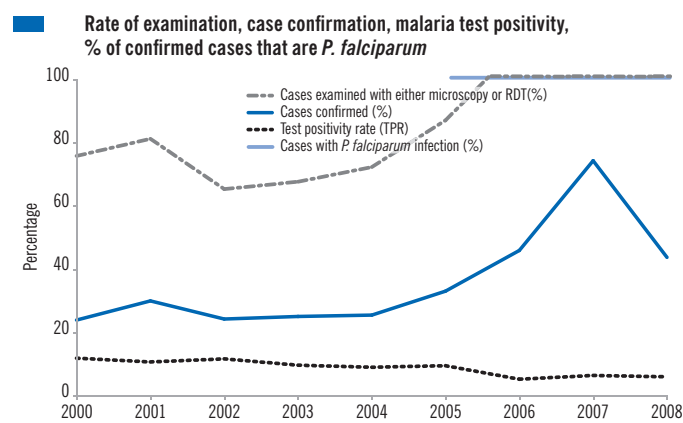
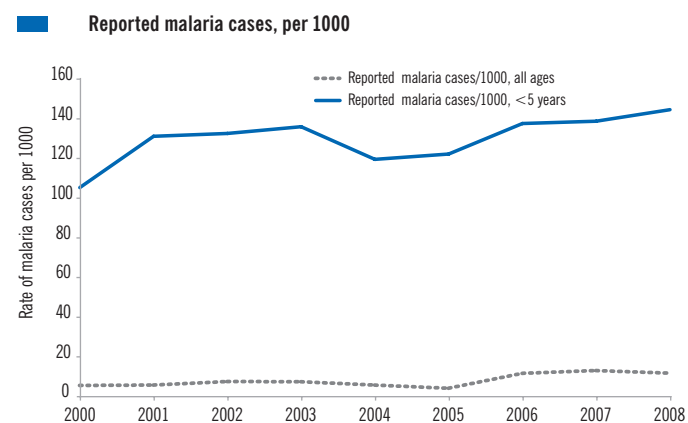
### Population, endemicity and malaria burden

Population (in thousands)	2008	%
All age groups	49 563	
< 5 years	4 629	9
≥ 5 years	44 934	91
Population by malaria endemicity (in thousands)	2008	%
High transmission ≥ 1/1000	25 011	50
Low transmission (0–1/1000)	9 038	18
Malaria-free (0 cases)	15 514	31
Rural population	33 418	67
Vector and parasite profiles		
Major <i>Anopheles</i> species	<i>dirus, minimus, sundaicus</i>	
<i>Plasmodium</i> species	<i>falciparum, vivax</i>	

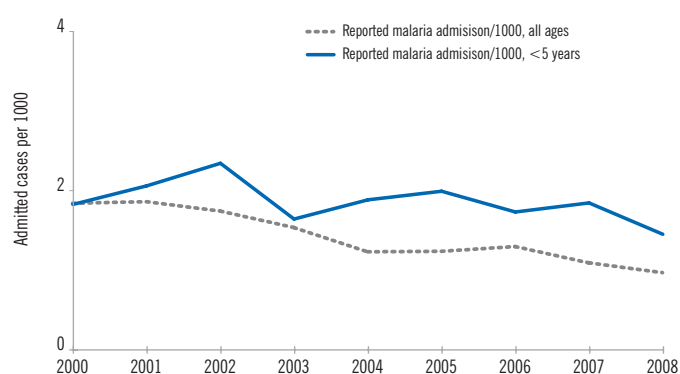
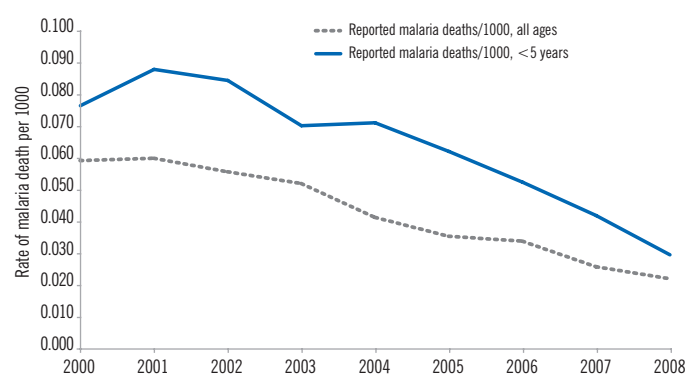
Stratification of burden (reported cases, per 1000)



### Trends in malaria morbidity and mortality



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	245 355	477 108	4 828 170		381 619	120 029			
2001	254 660	593 223	5 182 738		463 194	170 502			
2002	344 791	601 038	5 243 515		467 851	173 096			
2003	340 311	619 389	5 250 160		481 201	177 530			
2004	263 731	547 104	5 195 966		432 581	152 070			
2005	184 986	562 031	5 406 736		437 387	165 737			
2006	551 537	634 650	5 222 385		522 187	216 470			
2007	630 385	641 117	6 345 263		838 660	332 056			
2008	566 204	668 697	6 288 374		948 937	411 494			

**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	85 409	8 259	529 464	46 908	2 756	347	14 212	2 007		
2001	87 111	9 301	591 546	61 296	2 814	398	15 382	1 791		
2002	82 193	10 610	612 823	70 639	2 634	383	14 583	2 546		
2003	72 824	7 470	602 178	63 738	2 476	320	14 269	1 969		
2004	58 641	8 615	600 939	76 002	1 982	326	13 183	1 995		
2005	59 405	9 147	650 417	81 201	1 707	286	13 560	1 734		
2006	62 813	7 974	643 594	80 138	1 647	242	12 473	1 674		
2007	53 220	8 516	723 380	83 279	1 265	194	12 682	1 669		
2008	47 553	6 701	740 930	96 135	1 088	137	9 676	1 356		

## 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	No –
	Targeting all age groups	Yes	2003	Distribution – EPI routine and campaign	No –
				Targeting children < 5 years and pregnant women	No –
				ITN distribution is subsidized	No –
Indoor residual spraying (IRS)	IRS is a primary vector control intervention	Yes	–	Insecticide-resistance management implemented	Yes –
	DDT is used for IRS (public health) only	Yes	–	Where IRS is conducted, other options are also implemented, e.g. ITN	Yes –
				IRS is used for prevention and control of epidemics	Yes –
Intermittent preventive treatment (IPT)	IPT used to prevent malaria during pregnancy	No	–		
Case management	Oral artemisinin monotherapies banned (prohibited from registration or removed from the system)	No	–	Parasitological confirmation for patients ≥ 5 years only	No –
	Parasitological confirmation for patients of all ages	Yes	–	Malaria diagnosis is free of charge in the public sector	Yes –
	ACT is free of charge for < 5 years old in the public sector	Yes	2002	ACT is free of charge for patients ≥ 5 years in the public sector	Yes –
	Diagnosis of malaria of inpatients is based on parasitological confirmation	Yes	2002	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	2002	Uncomplicated malaria cases are admitted	No –
	Oversight regulation of case management in the private sectors	No	–		
	RDTs used at community level	Yes	–		

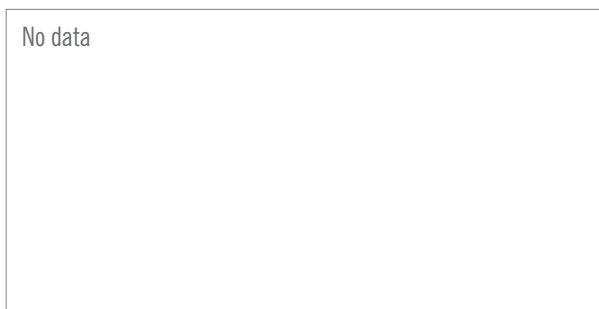
### Results of therapeutic efficacy tests

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)	CQ	2002	2000–2006	9	1.8	0	8.9	0	6.55
First-line treatment of <i>P. falciparum</i> (confirmed)	DHA-PPQ, AL, AS+MQ	2008	2003–2008	5	0	0	5	0	2.85
Treatment failure of <i>P. falciparum</i>	DHA-PPQ, AS+AM, AL	2008							
Treatment of severe malaria	AM inj, QN and ACT*, AS inj	2008							
Treatment of <i>P. vivax</i>	CQ+PQ(14d)	2008							

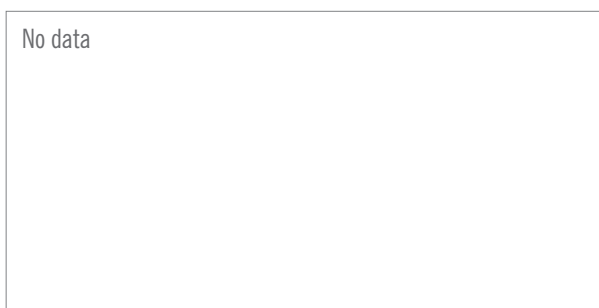
\* if patient can tolerate oral treatment

### III. IMPLEMENTING MALARIA CONTROL

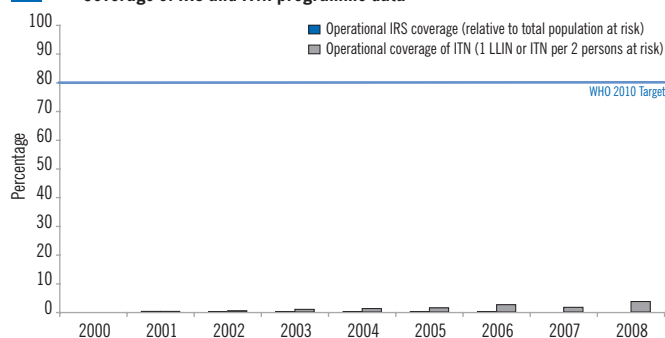
#### Coverage of ITN: survey data



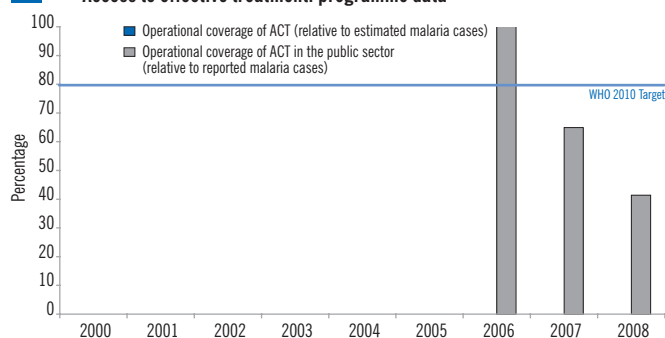
#### Access by febrile children to effective treatment: survey data



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



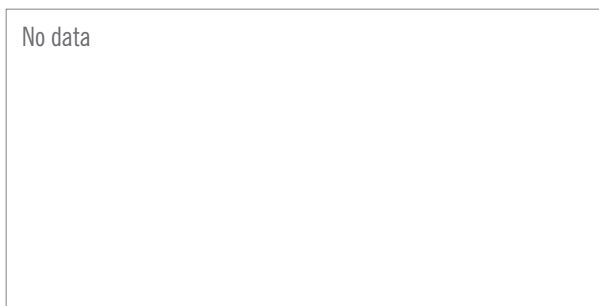
#### Access to effective treatment: programme data



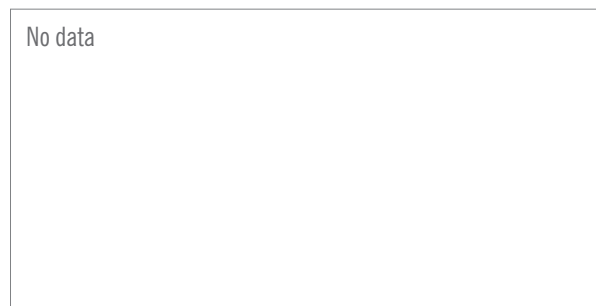
Year	Pregnant women who slept under any net (%)	Pregnant women who slept under an ITN (%)	Children < 5 years with fever (%)	Febrile children < 5 years who sought treatment in HF (%)	Number of households protected by IRS	Number of people protected by IRS	Number of ITNs and/or LLINs	Number of 1st-line treatment courses received	Number of ACT treatment courses received
2000									
2001					20 437	95 795	46 903		
2002					12 445	63 015	47 329		
2003					7 932	44 075	137 695		
2004					4 165	19 764	181 072		
2005					4 934	32 840	222 886		
2006					6 116	33 391	538 436		326 188
2007					3 098	10 479	298 579		226 397
2008					2 902	11 284	693 858		187 102

### 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)	No surveys
Treatment	No surveys
Use of health services	MICS 2000