

Bhutan

I. EPIDEMIOLOGICAL PROFILE

Population, endemicity and malaria burden

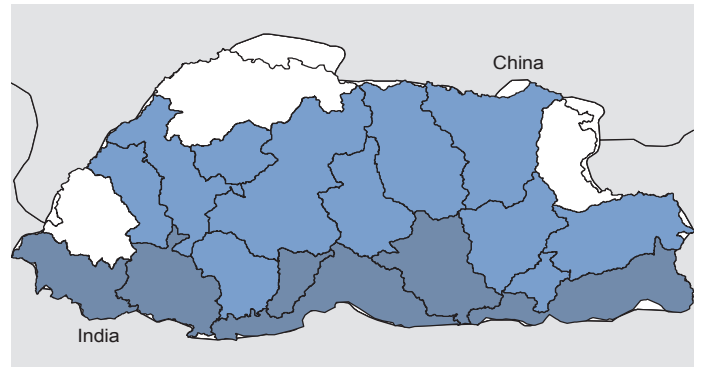
Population (000)	2006	%
All age groups	649	
< 5 years	61	9
≥ 5 years	587	91

Population by malaria endemicity (000)	2006	%
High transmission ≥ 1/1000	240	37
Low transmission (0-1/1000)	239	37
Malaria-free (0 cases)	170	26
Rural population	575	89

Vector and parasite profile

Major Anopheles species	<i>fuviatilis, maculatus, minimus</i>
Plasmodium species	<i>falciparum, vivax</i>

Stratification by burden (reported cases/1000)

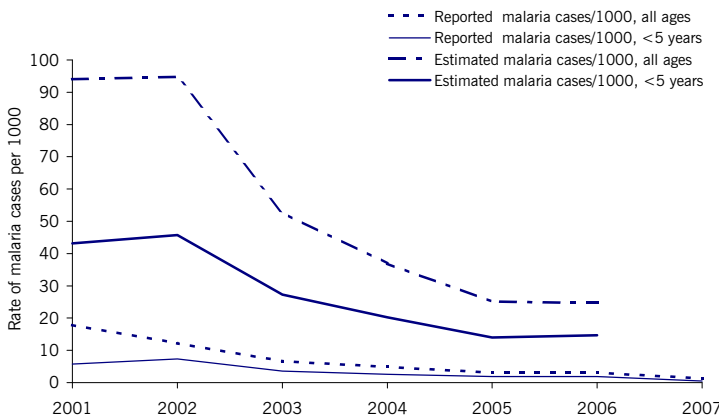


No data [dotted] 0 [white] 0 < 1 [light blue] 1 >= [medium blue] < 100 [dark blue] >= 100 [black]

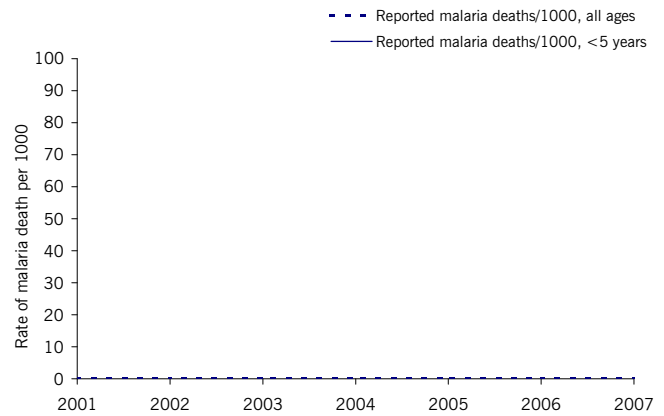
Estimated burden of malaria	Estimated cases and deaths (2006)			Estimated cases and deaths per 1000 (2006)			
	Age group	Numbers	Lower	Upper	Rate per 1000	Lower	Upper
Fever suspected of being malaria	All ages	759 000	179 000	2 130 000	1 170	276	3 283
	<5 years	43 000	10 000	120 000	702	163	1 958
Malaria cases	All ages	16 000	4 500	42 000	25	7	65
	<5 years	900	250	2 400	15	4	39
Malaria deaths	All ages	20	10	40	0.031	0.015	0.062
	<5 years	10	0	20	0.163	0	0.326
Malaria-case-fatality rate (%)	All ages	0	-	-	-	-	-
	<5 years	1	-	-	-	-	-

Trends in malaria morbidity and mortality

Reported and estimated malaria cases, per 1000



Reported malaria deaths, per 1000



Reported malaria cases, all ages	10 242	7 206	4 043	3 027	1 947	1 991
Reported malaria cases, <5 years	403	499	239	163	117	113

Reported malaria deaths, all ages	14	11	15	5	5	6
Reported malaria deaths, <5 years	31					

All-cause outpatient consultations, all ages	1 115 408	1 082 365	1 392 523	1 475 819	1 225 046	1 762 125
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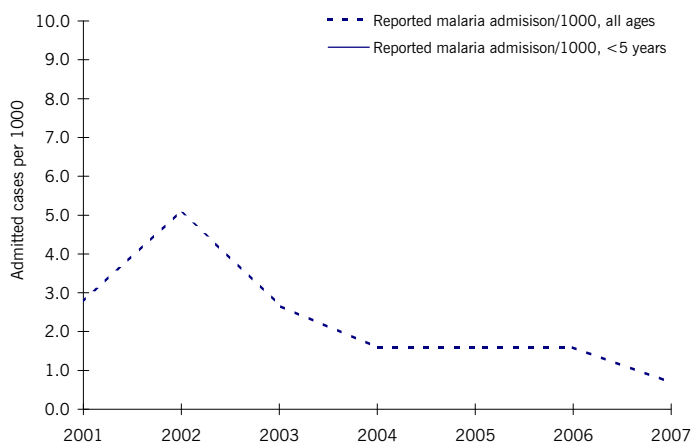
All-cause deaths, all ages	1 075	945	771	694	702	844
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All-cause outpatient consultations, <5 years						
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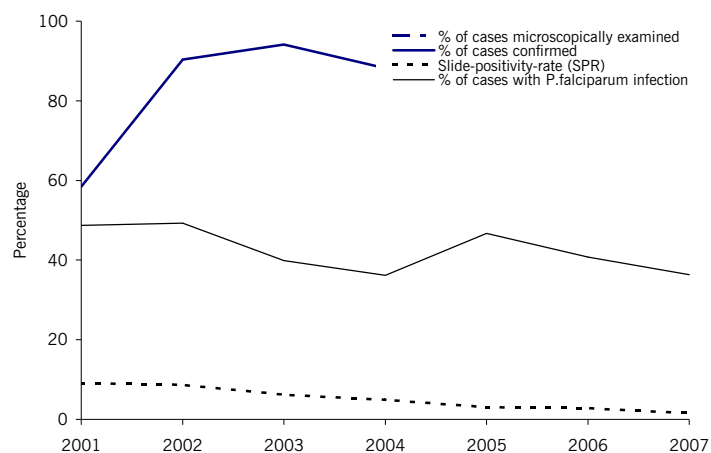
All-cause deaths, <5 years						
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I. EPIDEMIOLOGICAL PROFILE (continued)

Reported malaria admissions, per 1000



Slide examination, case confirmation, *Plasmodium* spp



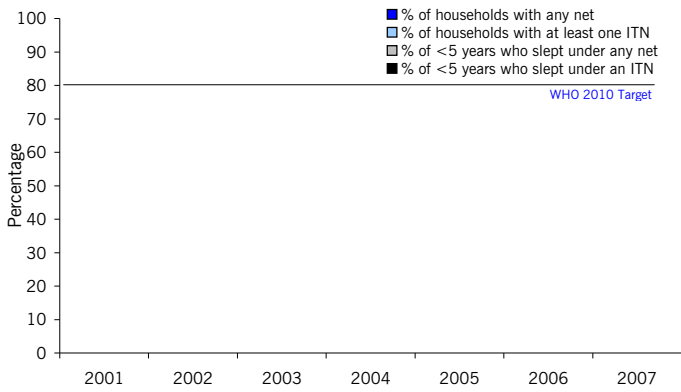
	2001	2002	2003	2004	2005	2006	2007		2001	2002	2003	2004	2005	2006	2007
Reported malaria admissions, all ages	1 592	3 028	1 621	991	1 015	1 031	450	Examined	65 974	74 696	61 246	54 892	60 152	66 047	51 446
Reported malaria admissions, <5 years								Positive	5 982	6 511	3 806	2 670	1 825	1 868	793
All-cause admissions, all ages	27 705	28 135	29 536	26 424	39 509	24 456	25 435	P. falciparum	2 915	3 207	1 518	966	853	761	288
All-cause admissions, <5 years															

II. INTERVENTION POLICIES AND STRATEGIES

Intervention	WHO-recommended policies/strategies			Optional policies/strategies		
	Policy/strategy	Yes/No	Year adopted	Policy/strategy	Yes/No	Year adopted
Insecticide-treated nets (ITN)	Distribution of ITN/LLINs – Free	Yes	1997	Distribution – Antenatal care	No	-
	Targeting – All age groups	Yes	1997	Distribution – EPI routine and campaign	No	-
Indoor residual spraying (IRS)	Targeting – Children under 5 years and pregnant women	No	-			
	DDT is used for IRS (public health) only	No	-	DDT is used alternately with other insecticides in the same area	No	-
	Insecticide-resistance management implemented	No	-	IRS is the primary vector-control intervention	Yes	1995
				IRS is used for prevention and control of epidemics	Yes	1964
Intermittent preventive treatment (IPT)				Where IRS is conducted, other options are also implemented, e.g. ITN	Yes	1997
	IPT used to prevent malaria during pregnancy	No	-	IPT implemented countrywide	No	-
	ACT is free or highly subsidized in public sector	Yes	2005	Free malaria diagnosis and first-line treatment of malaria	Yes	1964
	Oral artemisinin monotherapies banned	Yes	2005	Home management of malaria	No	-
	Parasitological confirmation for all age groups	Yes	1964	Prereferral treatment at health-facility level with quinine im or artesunate suppositories	Yes	2005
Case management				RDTs in areas without microscopy	Yes	1998
		Antimalarial policy	Type of medicine	Year Adopted		
	First-line treatment of P.falciparum (unconfirmed)		-	2006		
	First-line treatment of P.falciparum (confirmed)		AL	2006		
	Treatment failure of P.falciparum		QN(7d)	2006		
	Treatment of severe malaria		QN/AM	2006		
Treatment of P.vivax		CQ+PQ(14 d)	-			

III. IMPLEMENTING MALARIA CONTROL

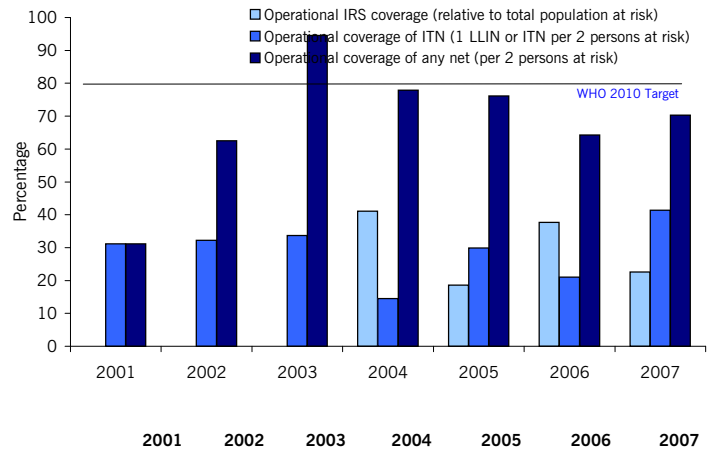
Coverage of ITN: survey data



Sources:

2001 2002 2003 2004 2005 2006 2007

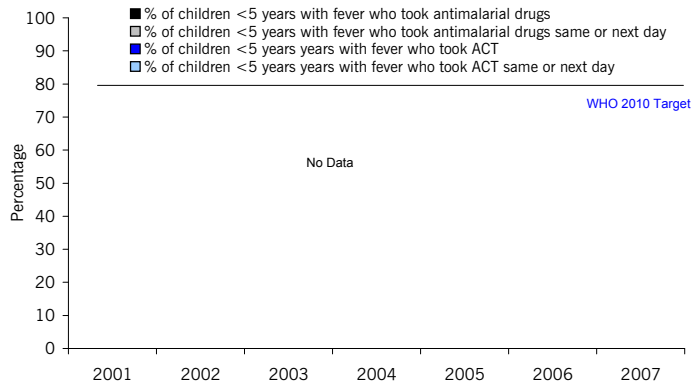
Coverage of IRS and ITN: programme data



Year	% of pregnant women who slept under any net	% of pregnant women who slept under an ITN
2001	30	30
2002	32	32
2003	33	33
2004	40	15
2005	30	18
2006	38	20
2007	40	22

Year	No. of HHs protected by IRS	No. of ITNs and or LLINs
2001	37 797	66 084
2002	17 530	70 399
2003	36 073	75 514
2004	21 954	33 349
2005		70 232
2006		50 361
2007		50 298

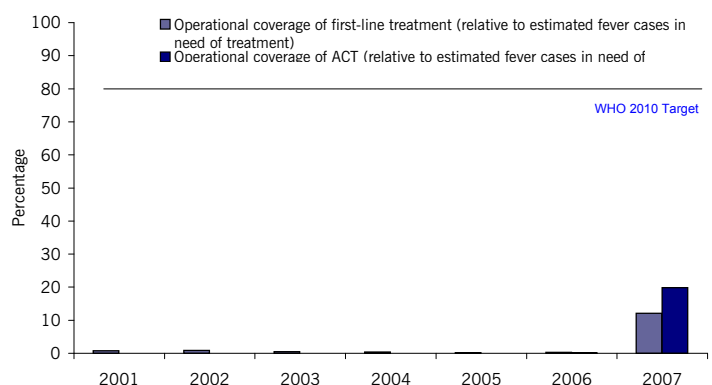
Access by febrile children to effective treatment: survey data



Source:

2001 2002 2003 2004 2005 2006 2007

Access to effective treatment: programme data

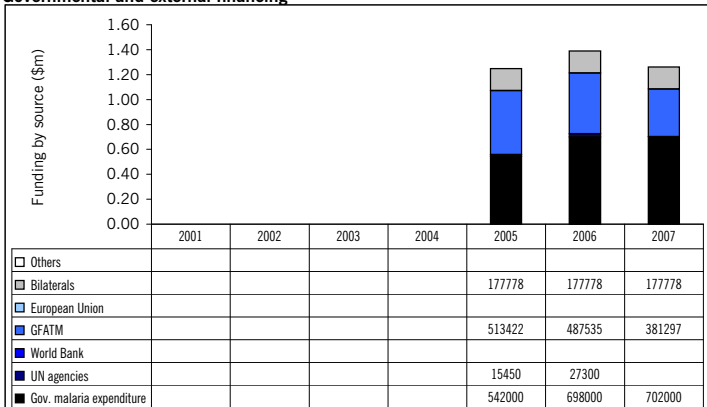


Year	% of children < 5 years with fever	% of febrile children < 5 years who sought treatment in HF
2001	0	0
2002	0	0
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2007	0	0

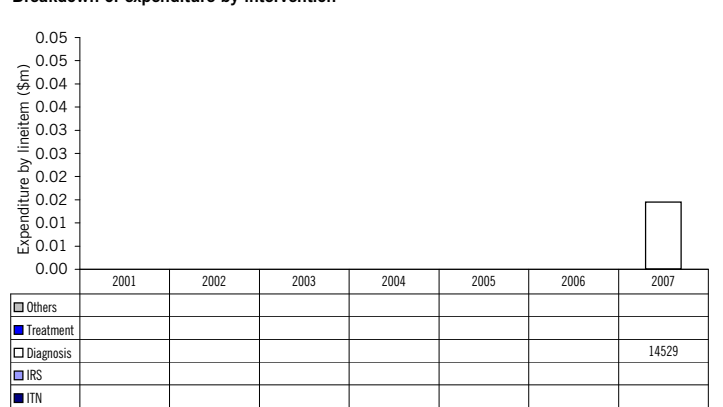
Year	No. of 1st-line treatment courses received	No. of ACT treatment courses received
2001	5 982	0
2002	6 511	0
2003	3 806	0
2004	2 670	0
2005	1 825	0
2006	1 868	905
2007	91 839	150 819

IV. FINANCING MALARIA CONTROL

Governmental and external financing



Breakdown of expenditure by intervention



V. SOURCE OF INFORMATION

Programme data

Reported cases

Operational coverage of ITNs, IRS and access to medicines

Financial data

Surveillance data

Programme report

Programme report

Survey and other data

Insecticide-Treated Nets (ITN)

Treatment

Use of health services

No surveys

No surveys

Imputed