



MALARIA 2007

No. 25, 2008

In 2007, Danish laboratories reported a total of 80 cases of imported malaria, [Table 1](#). Among the cases in which the presumed country of infection was stated, 78% (60/77) were acquired in Africa, 18% (14/77) in Asia and 4% (3/77) in Oceania or Central or South America. A total of 73% (58/80) of the cases were caused by *Plasmodium falciparum*, and the majority of these cases were acquired in Africa, while one case was acquired in Oceania. All cases from Asia were caused by *P. vivax*. Males comprised 65% and females 35% of the cases. Among the cases in which the nationality was stated, 59% (40/68) were of Danish origin and 41% (28/68) were of non-Danish origin. The median age was 33 years (range: 2 months to 76 years). Children < 15 years comprised 19% (15/80) of the total number of cases, and in 93% of these cases the children and/or their parents were of non-Danish origin.

The past ten year's changes in the distribution of malaria species and places of infection are presented in [Figures 1 and 2](#), respectively.

Prophylaxis levels

As previously, there are four levels of malaria prophylaxis, depending on the assessed local risk of infection, EPI-NEWS 24/08.

Chloroquine (250 mg chloroquine phosphate tablets) may be ordered at Glostrup Pharmacy where they are manufactured according to specification and order. Ercoquin (hydroxychloroquine) may also be used. Proguanil (Paludrine) can now only be prescribed following individual authorisation from the Danish Medicines Agency, EPI-NEWS 48/07. It is essential to inform travellers that mosquito bite prevention is always important, regardless of any additional use of chemoprophylaxis. Furthermore, all travellers should be aware of any symptoms of malaria during and after the journey, regardless of prophylaxis used, as no prophylaxis provides 100% protection.

Updated country recommendations

The latest country-specific recommendations for malaria prophylaxis are detailed in EPI-NEWS 23/08 and 24/08. The recommendations are continuously adjusted by the Danish reference group for vaccination recommendations and are generally in line with the recommendations of WHO. See also www.ssi.dk/rejser for guiding maps showing malaria

Table 1. Imported malaria cases in Denmark, 2007

	Africa	Asia	Central & South America	Oceania	Not stated *)	Total 2007	Total 2006
<i>P. falciparum</i>	54	0	0	1	3	58	70
<i>P. vivax</i>	0	14	1	1	0	16	13
<i>P. ovale</i>	2	0	0	0	0	2	9
<i>P. malariae</i>	2	0	0	0	0	2	6
Mixed	2	0	0	0	0	2	1
Not stated	0	0	0	0	0	0	2
Total	60	14	1	2	3	80	101

*) Including travellers to more than one continent

Figure 1. Imported malaria cases in Denmark by species, 1998-2007

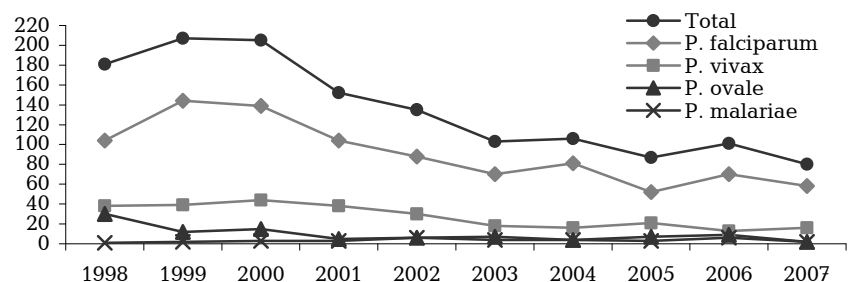
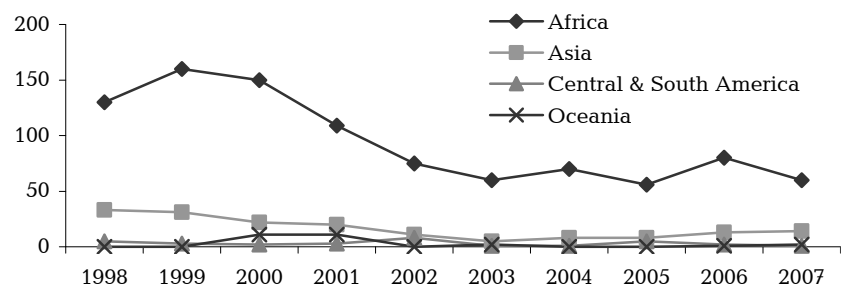


Figure 2. Imported malaria cases in DK by continent of infection, 1998-2007



occurrence and information on novel outbreaks (Danish language).

Still risk of malaria in Goa, India

In January 2007, a recommendation on the use of level IV chemoprophylaxis (atovaquone-proguanil/mefloquine/doxycycline) was issued for all travellers to Goa in India. The reason was a high number of malaria cases among European short-term tourists returning from Goa, EPI-NEWS 1-2/07. Still in the first quarter of 2008, several reports have been received concerning a high number of European tourists returning from Goa with malaria, including two Danes, one of whom was a child aged 12 years. Level IV chemoprophylaxis is thus still recommended for all travellers to Goa.

Commentary

The number of notified imported malaria cases in 2007 is the lowest number reported since 1980. The low number confirms the receding tendency observed since the late 1990s,

EPI-NEWS 19/05. The reduction, which has been observed for all four plasmodium species, is particularly notable for *P. falciparum* imported from Africa, [Figures 1 and 2](#).

The reduction may have several explanations, e.g.: 1) use of more effective chemoprophylaxis and improved compliance, 2) a globally receding tendency in malaria risk, as observed e.g. in parts of West and East Africa, and/or 3) changed habits of travellers towards destinations with lower risk of malaria.

Despite the generally positive development, information efforts concerning the use of appropriate malaria prophylaxis remain essential. It is particularly important that such information be given to immigrants and their children, who typically return to their home countries for extended periods, sometimes to areas with a considerable risk of malaria. (L.S. Vestergaard, H.V. Nielsen, Parasitology Laboratory, ABMP)

Individually notifiable diseases

Number of notifications received in the Department of Epidemiology, SSI (2008 figures are preliminary)

Table 1	Week 24 2008	Cum. 2008 ¹⁾	Cum. 2007 ¹⁾
AIDS	0	14	27
Anthrax	0	0	0
Botulism	0	0	0
Cholera	0	0	0
Creutzfeldt-Jakob	0	3	4
Diphtheria	0	0	0
Food-borne diseases	21	194	233
of these, infected abroad	0	30	40
Gonorrhoea	3	150	164
Haemorrhagic fever	0	0	0
Hepatitis A	0	21	14
of these, infected abroad	0	7	6
Hepatitis B (acute)	0	7	13
Hepatitis B (chronic)	0	72	133
Hepatitis C (acute)	0	4	2
Hepatitis C (chronic)	0	143	159
HIV	0	103	126
Legionella pneumonia	3	49	39
of these, infected abroad	0	15	7
Leprosy	0	0	0
Leptospirosis	0	2	6
Measles	0	6	1
Meningococcal disease	0	28	42
of these, group B	0	13	22
of these, group C	0	5	13
of these, unspec. + other	0	10	7
Mumps	0	21	3
Neuroborreliosis	1	22	32
Ornithosis	0	1	3
Pertussis (children < 2 years)	1	48	32
Plague	0	0	0
Polio	0	0	0
Purulent meningitis			
Haemophilus influenzae	0	1	1
Listeria monocytogenes	0	1	6
Streptococcus pneumoniae	0	42	67
Other aethiology	0	14	7
Unknown aethiology	0	12	9
Under registration	3	25	-
Rabies	0	0	0
Rubella (congenital)	0	1	0
Rubella (during pregnancy)	0	0	0
Shigellosis	2	33	27
of these, infected abroad	0	26	17
Syphilis	0	36	47
Tetanus	0	0	0
Tuberculosis	10	194	178
Typhoid/paratyphoid fever	0	14	6
of these, infected abroad	0	12	6
Typhus exanthematicus	0	0	2
VTEC/HUS	4	59	67
of these, infected abroad	0	18	22

¹⁾ Cumulative number 2008 and in corresponding period 2007

Selected laboratory diagnosed infections

Number of specimens, isolates, and/or notifications received in SSI laboratories

Table 2	Week 24 2008	Cum. 2008 ²⁾	Cum. 2007 ²⁾
Bordetella pertussis (all ages)	6	74	70
Gonococci	2	165	161
of these, females	0	31	21
of these, males	2	134	140
Listeria monocytogenes	0	19	23
Mycoplasma pneumoniae			
Resp. specimens ³⁾	1	45	235
Serum specimens ⁴⁾	1	55	277
Streptococci ⁵⁾			
Group A streptococci	4	87	66
Group B streptococci	0	57	45
Group C streptococci	1	7	10
Group G streptococci	2	57	57
S. pneumoniae	12	578	614
Table 3	Week 22 2008	Cum. 2008 ²⁾	Cum. 2007 ²⁾
MRSA	12	236	-
Pathogenic int. bacteria ⁶⁾			
Campylobacter	63	773	1085
S. Enteritidis	4	110	160
S. Typhimurium	47	440	114
Other zoon. salmonella	18	350	281
Yersinia enterocolitica	6	146	123
Verocytotoxin- producing E. coli	2	51	63
Enteropathogenic E. coli	3	37	61
Enterotoxigenic E. coli	5	122	82

²⁾ Cumulative number 2008 and in corresponding period 2007

³⁾ Resp. specimens with positive PCR

⁴⁾ Serum specimens with pos. complement fixation test

⁵⁾ Isolated in blood or spinal fluid

⁶⁾ See also www.germ.dk