5.6 MALARIA
NOTIFIABLE

RECOMMENDATIONS

Offer test (thick and thin malaria films) to:

Symptomatic migrants only, particularly those who have:

- Fever
- Lived or travelled in malaria-endemic regions within the previous 12 months, particularly in Sub-Saharan Africa

Refer all positive cases to specialist hospital services for review

Note: Migrants returning to malaria endemic countries of origin to visit family and friends are at risk of contracting malaria. Effective chemoprophylaxis, taken correctly, reduces the risk of malaria by approximately 90%.

Malaria is a serious disease that occurs when an infected anopheles mosquito bites a person and injects malaria parasites into the blood. Although five species of malaria parasites can infect humans and cause illness (*Plasmodium falciparum, P. malariae, P. vivax, P. ovale and P. knowlesi*), only falciparum malaria is potentially life-threatening.[1]

Epidemiology

Malaria occurs in most of Sub-Saharan Africa, southern and Southeast Asia, Mexico, Haiti, the Dominican Republic, Central and South America, Papua New Guinea, Vanuatu, and the Solomon Islands. Major cities in Asia and South America are nearly malaria free; cities in Africa, India, and Pakistan are not.[1] Cases are occasionally seen in Saudi Arabia and Yemen. It should be borne in mind that high incidence countries such as those in Sub-Saharan Africa and East Timor experience malaria at very high rates and so the likelihood of encountering malaria in migrants from such areas is high (for example, Nigeria with a population of 162,000,000, sees an estimated 100 million malaria cases with over 300,000 deaths per year).[2]

Figures 5.6.1 and 5.6.2 show the global distribution of malaria

Figure 5.6.1 Malaria endemic countries in the Western hemisphere

Source: Centers for Disease Control and Prevention. CDC Health Information for International Travel 2012, New York: Oxford University Press; 2012

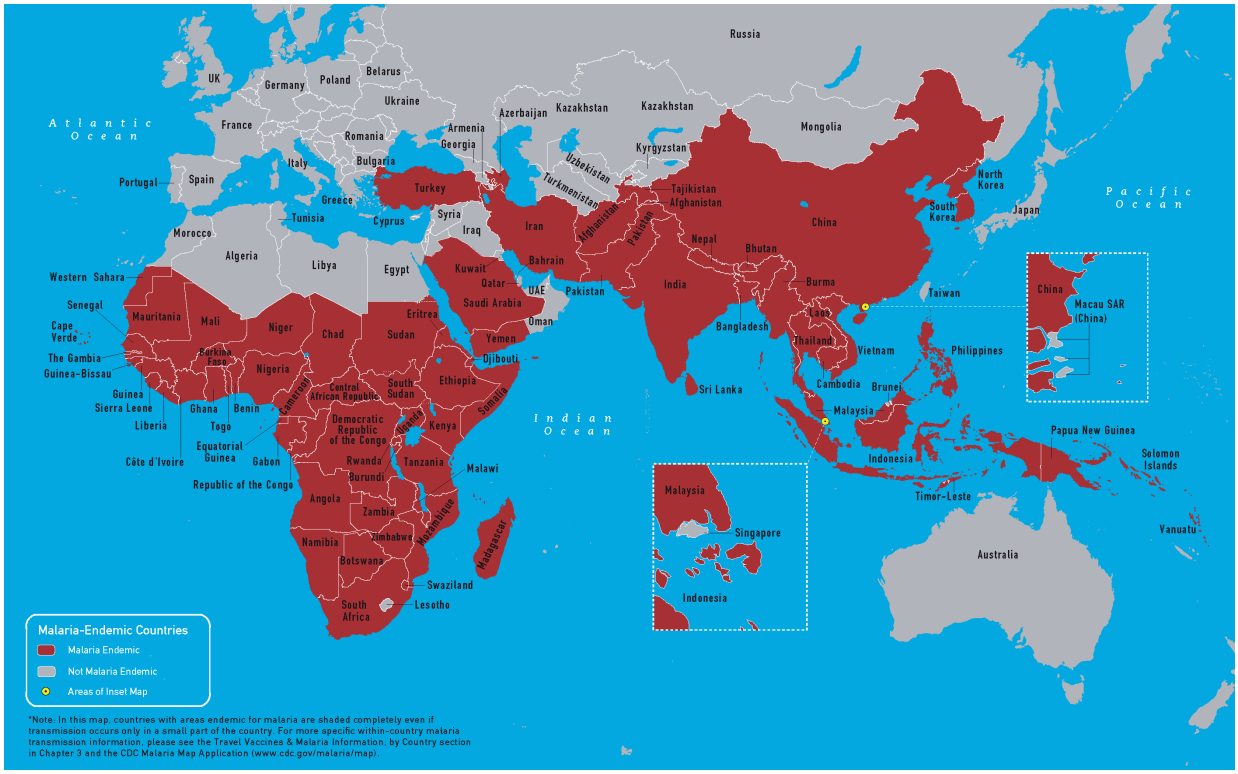

Figure 5.6.2. Malaria endemic countries in the Eastern hemisphere

Source: Centers for Disease Control and Prevention. CDC Health Information for International Travel 2012, New York: Oxford University Press; 2012

The following epidemiological information is from HPSC.[3]

Ireland had the third highest incidence rate of imported malaria among EU member states in 2010. In 2013, the number of malaria notifications in Ireland increased by 9% compared with 2012 (figure 5.6.3), with an incidence rate of 1.55 per 100,000. The group affected most were African immigrants and their families. (Table 5.1.1) Migrants returning to malaria endemic countries of origin to visit family and friends are at risk of contracting malaria. The view that this group is relatively protected is a dangerous myth. Effective chemoprophylaxis, taken correctly, reduces the risk of malaria by approximately 90%.[4] Nigeria was the country most frequently visited. *P. falciparum* infection made up 89% of cases in 2013. (Table 5.6.2)

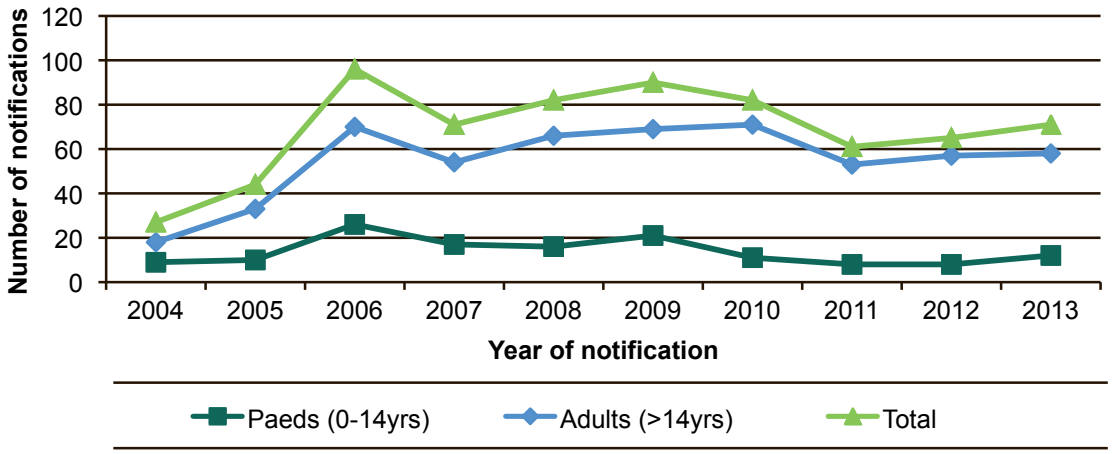

Figure 5.6.3 Annual number of malaria notifications by age group, Ireland 2004-2013[3]

Table 5.6.1 Number of malaria notifications by reason for travel and country of birth, Ireland 2013[3]

Reason for travel	Country of Birth					
	Nigeria	Ireland	Other Africa	Oceania	Not reported	**Total**
Visit family country origin	21	5	6	0	1	**33**
Foreign visitor ill in Ireland	3	0	0	0	0	**3**
Business/Professional travel	0	2	0	1	0	**3**
Other	1	1	0	0	0	**2**
Holiday travel	0	1	0	0	1	**2**
New entrant to Ireland	0	0	0	0	1	**1**
Child visiting parents	0	1	0	0	0	**1**
Irish citizen living abroad	0	1	0	0	0	**1**
Reason for travel not reported	1	0	2	0	22	**25**
Total	**26**	**11**	**8**	**1**	**25**	**71**

Table 5.6.2 Number of malaria notifications by infecting species and country of infection[3]

Organism	Nigeria	Other African country[1]	Not reported	Total
Plasmodium falciparum	31	16	16	**63**
Plasmodium ovale	0	1	0	**1**
Plasmodium vivax	1	0	0	**1**
Plasmodium	3	0	2	**5**
Malarial parasites	0	0	1	**1**
Total	**35**	**17**	**19**	**71**

[1]n=1 each from Angola, Congo DR, Egypt, Ivory Coast, Mozambique, Papua New Guinea, Sierra Leone, South Africa, Sudan and Tanzania
n=2 each from Cameroon, Ghana and Uganda.

Assessment

Malaria should be suspected in a patient presenting with a febrile illness who has travelled to a malarious area within the past 12 months.

Asymptomatic screening is not recommended for malaria. However, it is important that the assessing healthcare professional is aware of the symptoms of malaria. These are flu-like and may include fever, chills, muscle aches, headache and sometimes vomiting, diarrhoea and coughing.[1] Patients with severe falciparum malaria may develop liver failure, convulsions, and coma. Although infections with *P. vivax* and *P. ovale* may cause less severe illness, parasites may remain dormant in the liver for many months, causing a reappearance of symptoms months or even years later.[1]

Malaria should be considered in anyone with a fever, or history of a fever, who has recently returned from or previously visited a malaria endemic area in the last year, regardless of whether they have taken prophylaxis or not.[5] In all settings, clinical suspicion of malaria should be confirmed with a parasitological diagnosis. **A blood sample should be sent urgently** to check for malaria parasites. Immediate treatment of falciparum malaria is critical and thus urgent referral for treatment is advised.

References

(1) World Health Organization. WHO Fact Sheet Malaria No 94 [Internet]. 2013. Available from: http://www.who.int/mediacentre/factsheets/fs094/en/

(2) US Embassy Nigeria Malaria Fact Sheet [Internet]. Available from: http://photos.state.gov/libraries/nigeria/231771/Public/December-MalariaFactSheet2.pdf

(3) Jackson S, McKeown P. World Malaria Day April 2014 – Irish malaria surveillance data. Epi-Insight [Internet]. 2014;15(4). Available from: http://ndsc.newsweaver.ie/epiinsight/sk2vu4rndzm?a=1&p=46147915&t=17517774

(4) Public Health England. Guidelines for malaria prevention in travellers from the UK 2014. UK: Public Health England; 2014. Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/337761/Guidelines_for_malaria_prevention_in_travellers_UK_PC.pdf

(5) Public Health England. Migrant Health Guide. [Internet]. UK: Public Health England. 2013 May 30th. Available from: http://webarchive.nationalarchives.gov.uk/20140714084352/http://www.hpa.org.uk/MigrantHealthGuide/HealthTopics/InfectiousDiseases/Malaria/