4.1 Malaria

Summary

Number of cases malaria, 2012: 65
Crude incidence rate malaria 2012: 1.42/100,000
Number of cases malaria, 2011: 61

In 2012, the number of malaria cases in Ireland increased slightly to 65 from 61 cases in 2011 (6% increase), but stayed low relative to the annual number of malaria cases in the three years prior to that (Figure 1). The incidence rate now stands at 1.42 per 100,000 population. Among European Member (EU) States reporting malaria data to the European Centre for Disease Control, Ireland had the third highest incidence rate for imported malaria in 2010 (the latest year for which comparative data are available); only the United Kingdom and Luxembourg had higher reported incidence rates. Despite the decreased incidence in 2011 and 2012, it is likely that Ireland will continue to have one of the highest reported incidence rates in the EU for 2011-2012. [1]

In common with the rest of the EU, males predominated (male: female ratio 1.5:1), with the highest numbers of cases among males aged between 35 and 54. The number of paediatric cases reported this year is the same as last year (n=8), but represents a 70% decrease on 2006 (n=26), the year in which notifications of paediatric malaria cases peaked in Ireland (Figure 1). Seven of the paediatric cases reported 'visiting family in country of origin' as their reason for travel; there was no information on reason for travel for the remaining paediatric case. All seven visited sub-Saharan Africa, staying for between 3 and 7 weeks duration. At least four were children born in Ireland to immigrant

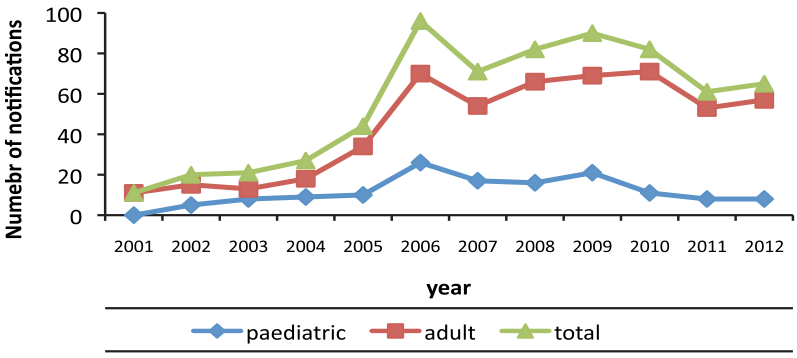

Figure 1. Annual number of malaria notifications by age, Ireland 2001-2012

Table 1. Number of malaria notifications by reason for travel and country of birth, Ireland 2012

Reason for travel	Country of Birth					
	Nigeria	Ireland	Other Africa	Asia	Unk/NS	Total
Visit family country origin	21	4	4	0	2	31
Business/Professional Travel	1	3	2	0	0	6
Irish citizen living abroad	0	6	0	0	0	6
New entrant to Ireland	1	0	0	1	0	2
Other	2	1	0	0	1	4
Not reported	3	1	1	0	11	16
Total	28	15	7	1	14	65

Unk/NS =Unknown/Not specified

parents, and only two were reported to have taken any prophylaxis for their travel.

The group most affected in Ireland continued to be African immigrants and their families who were exposed while returning to 'visit family in country of origin' (Table 1). This almost certainly reflects the greater frequency with which this group travels to malarious areas, but also reflects Ireland's importance as a destination for those emigrating from English speaking West Africa. Sixty-three per cent of cases with a known reason for travel in 2012 cited 'visiting family in country of origin', with at least 80% of these being of African origin (Table 1).

The second most commonly cited reasons for travel this year were 'Business/professional travel' (n=6) and 'Irish Citizens Living Abroad' (n=6), each making up 12% of cases with known reason for travel in 2012. There were no cases reported associated with holiday travel - the first time since enhanced malaria records began in 2001.

Figure 2 shows the distribution of cases by reason for travel 2006-2012. During that time period 'visiting family in country of origin' remained the most common reason for travel, with new entrant and holidaymaker case numbers declining. The numbers of cases in persons exposed during business/professional travel has increased as has the number of notifications in Irish citizens living abroad.

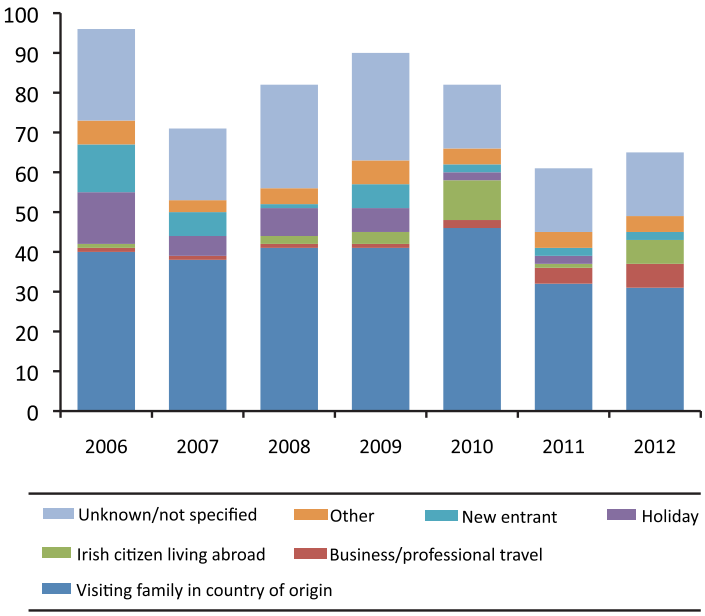

Figure 2: Annual number of notifications malaria by reason for travel, Ireland 2006-2012

Nigeria remained the country most frequently visited -51% of all cases [58% of those with country of infection reported (Table 2)]. The majority of the remaining cases were exposed in other countries within Africa, with only one case each reporting exposure in Asia and South America.

The majority of cases who reported travel to Nigeria were 'visiting family in country of origin' (24/29 with known reason), whereas visitors to other parts of Africa reported a variety of reasons for travel.

Plasmodium falciparum accounted for 80% of infections in 2012, reflecting the dominance of exposure in Africa as the source of the majority of notifications. *P. ovale* was the second most common species (n=5). *The one P vivax* case reported in 2012 is considerably lower than the 10 cases reported in 2011 but not atypical relative to previous years.

There has been a welcome decline in malaria notifications in Ireland over the last two years. While this report has highlighted the high incidence among persons travelling to 'visit family in their country of origin', malaria prevention messages should also be targeted at tourists, business travellers and other travellers with little previous exposure to malaria.

Children can be particularly at risk. It is important that persons born in Western and Central Africa who take up residence in Ireland and who return to their country of origin with their Irish-born children are made aware of the fact that their children have no innate immunity to malaria (and their own immunity will likely have waned considerably), and must complete their full course of advised chemoprophylaxis while taking steps to ensure they avoid mosquito bites.

HPSC resources for health professional include a poster which can be downloaded from the HPSC website for

Table 2. Number of cases malaria by infecting species and country of infection, in Ireland 2012

Organism	Country of Infection				Total
	Nigeria	Other Africa[a]	Other	Unknown/Not specified	
P.falciparum	29	16	1	11	57
P.ovale	2	3	0	0	5
P.vivax	0	0	1	0	1
P. malariae	0	1	0	0	1
Not Specified	0	0	0	1	1
Total	31	20	2	12	65

[a]*Includes cases associated with Ghana (n=5), Cameroon (n=3), Siera Leone (n=3), Uganda(n=2), Sudan (n=2), and one each with Tunisia, Mozambique, Zambia, DR Congo and Africa Unspecified.*

display in GP surgeries, maternity hospitals, paediatric hospitals and A&E departments, advising immigrant families travelling to Africa to consult their doctor about malaria before travelling. A leaflet for intending travellers, available in English and French, highlights the value of antimalarial prophylaxis and protection against mosquito bites. The poster and leaflet are available here.

Finally, one pertinent recent development at European level is the re-emergence of indigenous malaria due to *P. vivax* in Greece, particularly in 2011 and 2012.[2,3] However, case numbers are very low and have been identified in areas not usually associated with tourism. In a European Centre for Disease Control and Prevention Risk Assessment of the situation, the risk to travellers to the country was deemed limited, with general advice for travellers to take prophylaxis not recommended, although travellers to Greece should take standard measures against mosquito bites to protect against this and other mosquito-borne diseases.[4] Moreover, health professionals who see cases of febrile illness returning from the affected parts of Greece should be alert to the possibility of malaria (NaTHNaC).[5]

References

1. ECDC. Annual epidemiological report 2012 - Reporting on 2010 surveillance data and 2011 epidemic intelligence data

2. Danis K, *et al.* Autochthonous *Plasmodium vivax* malaria in Greece, 2011. Euro Surveill. 2011;16(42):pii=19993.

3. European Centre for Disease Prevention and Control (ECDC). Communicable disease threats report (CDTR) Week 37, 9-15 September 2012. Stockholm: ECDC.

4. European Centre for Disease Prevention and Control (ECDC). Rapid risk assessment: Update on autochthonous *Plasmodium vivax* malaria in Greece. October 2011

5. NaTHNac. Clinical update for health professionals on Malaria in Greece 4th October 2012 http://www.nathnac.org/pro/clinical_updates/malaria_Greece_041012.htm