

Introduction

- The Republic of Ireland has one of the highest incidence rates of imported malaria in Europe, ranking seventh in 2018¹
- Malaria is a notifiable disease with notification rates in 2019 reported as 1.7/100,000 population¹
- In the majority of cases, imported malaria is identified in returning travellers who were visiting friends and relatives overseas, a trend seen in other European countries ²
- The Health Protection Surveillance Centre (HPSC) publishes annual statistics on malaria cases in the Republic of Ireland
- Between 2015 – 2019 there were 305 cases of malaria officially reported to the HPSC¹
- This report aims to examine the data of malaria hospitalisations over a four year period in a clinical context
- Patient demographics and clinical particulars including the inpatient length of stay, the inpatient subspecialty supervising care and the severity of clinical disease were examined

Methods

- A retrospective analysis was performed of all patients with malaria admitted to Irish hospitals between January 1st 2016 and December 31st 2019
- Anonymised data was obtained from the National Quality Assurance Improvement System (NQAIS), an application that analyses hospitals’ discharge coding data
- Data was analysed using STATA and compared with data available from the HPSC

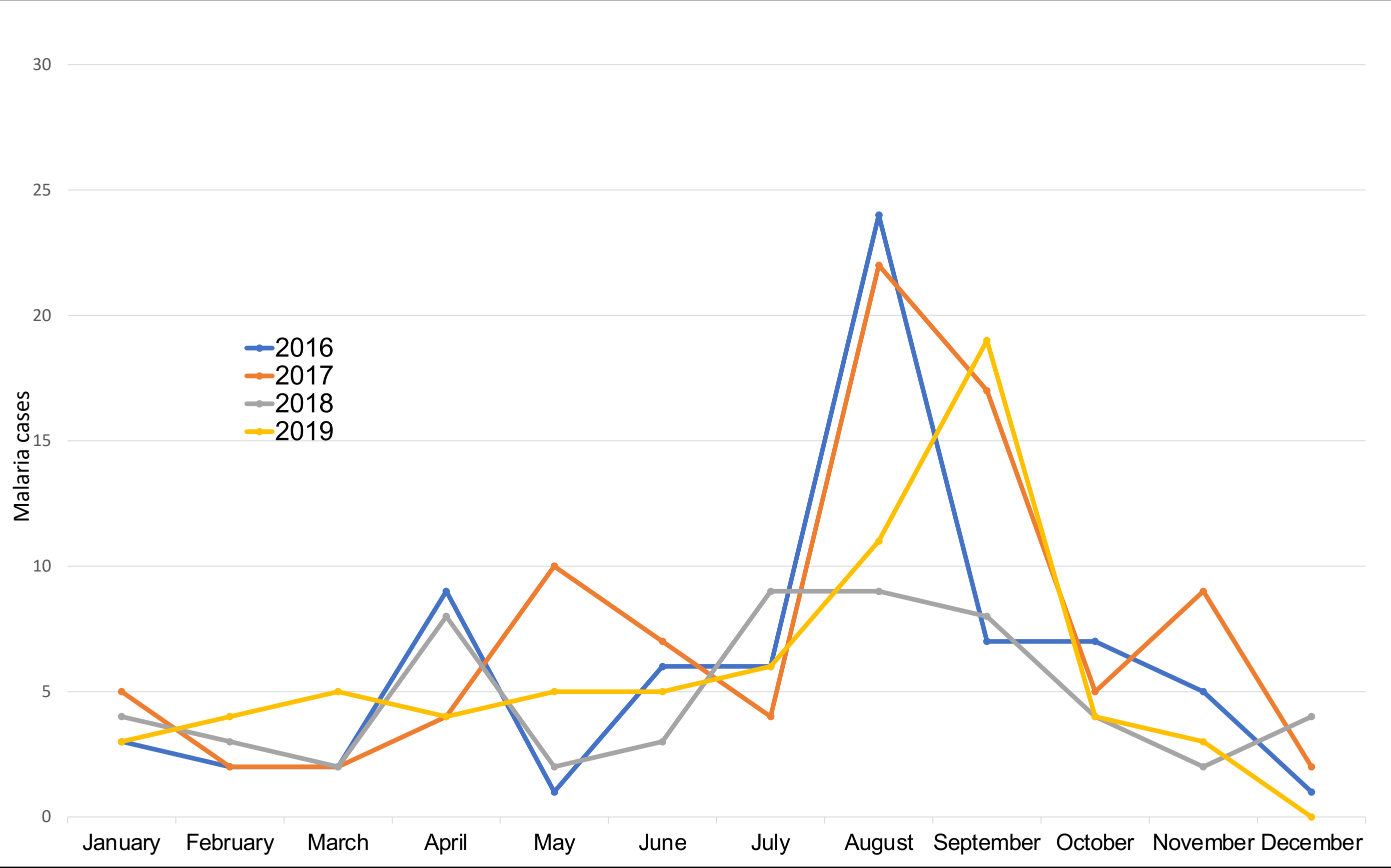


Figure 1: Trend graph demonstrating the annual pattern of malaria hospitalisations (from NQAIS database) between 2015 - 2019

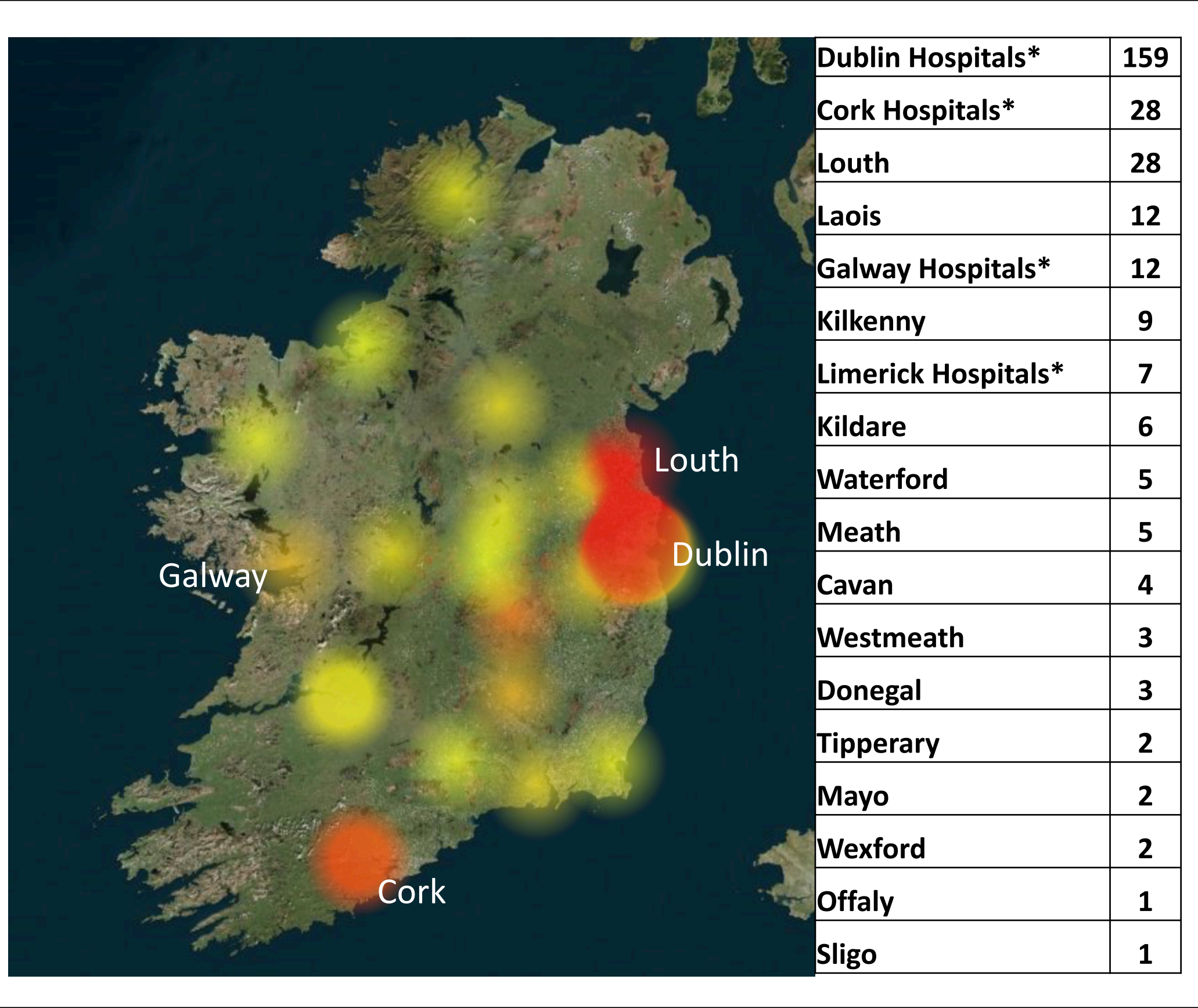


Figure 2: Heat map of Ireland demonstrating the regions in which malaria hospitalisations are most frequent (red) and accompanying table listing the frequency per county
*Data from two or more hospitals within the same county collated

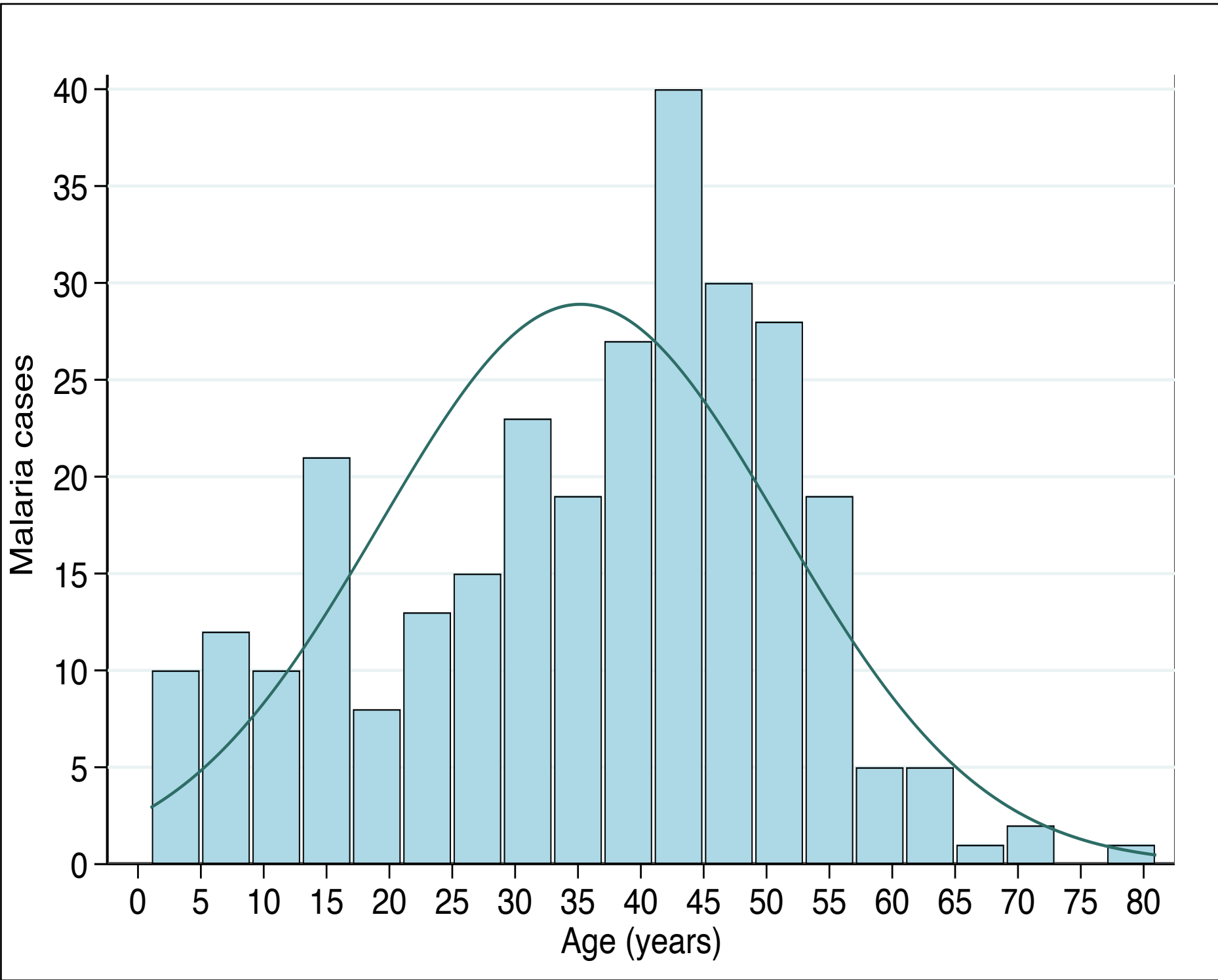


Figure 3: Histogram showing a normal distribution of age among malaria hospitalisations

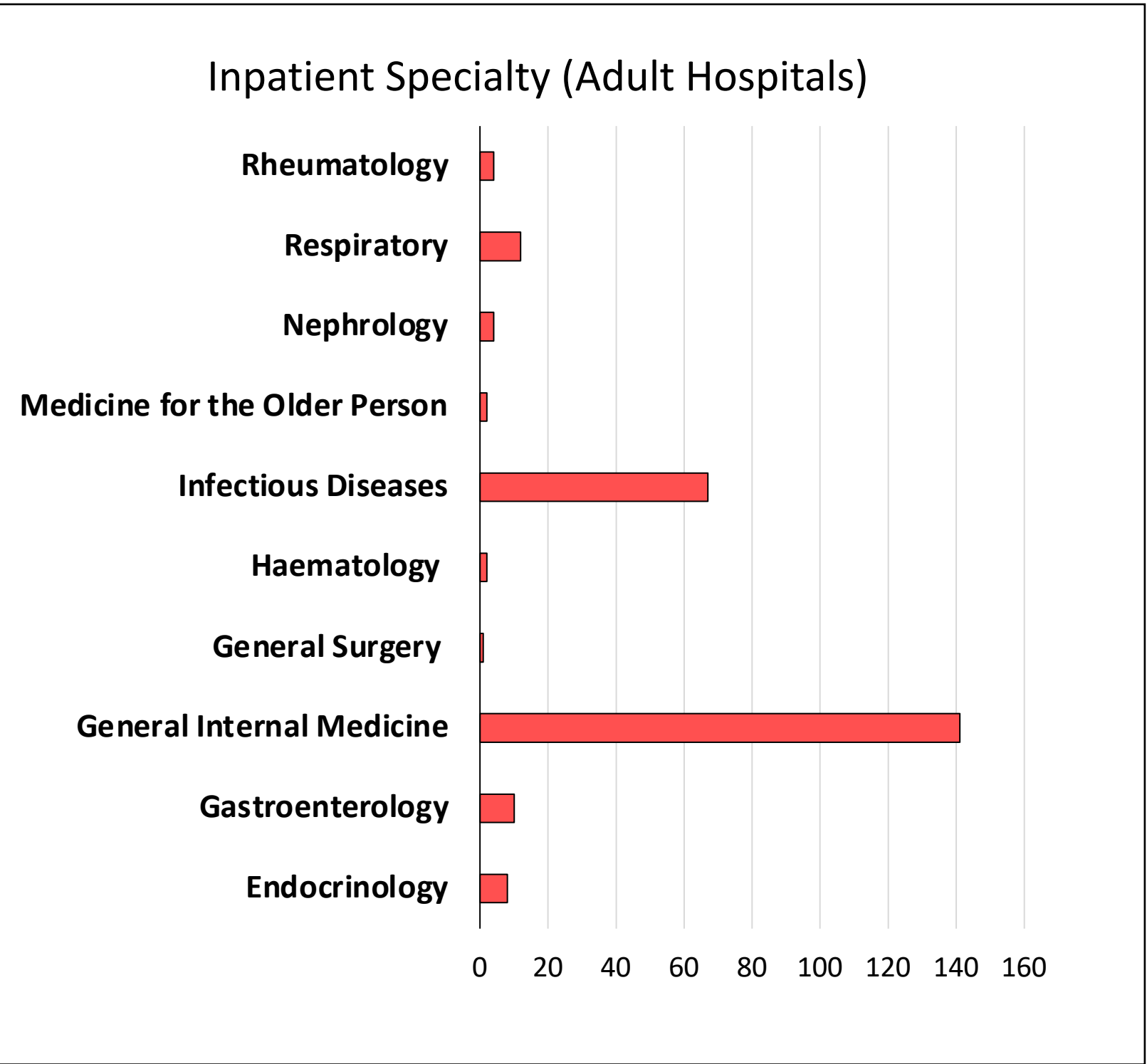


Figure 4: Bar chart demonstrating (among the adult hospitalisations) the variety of inpatient specialties supervising care

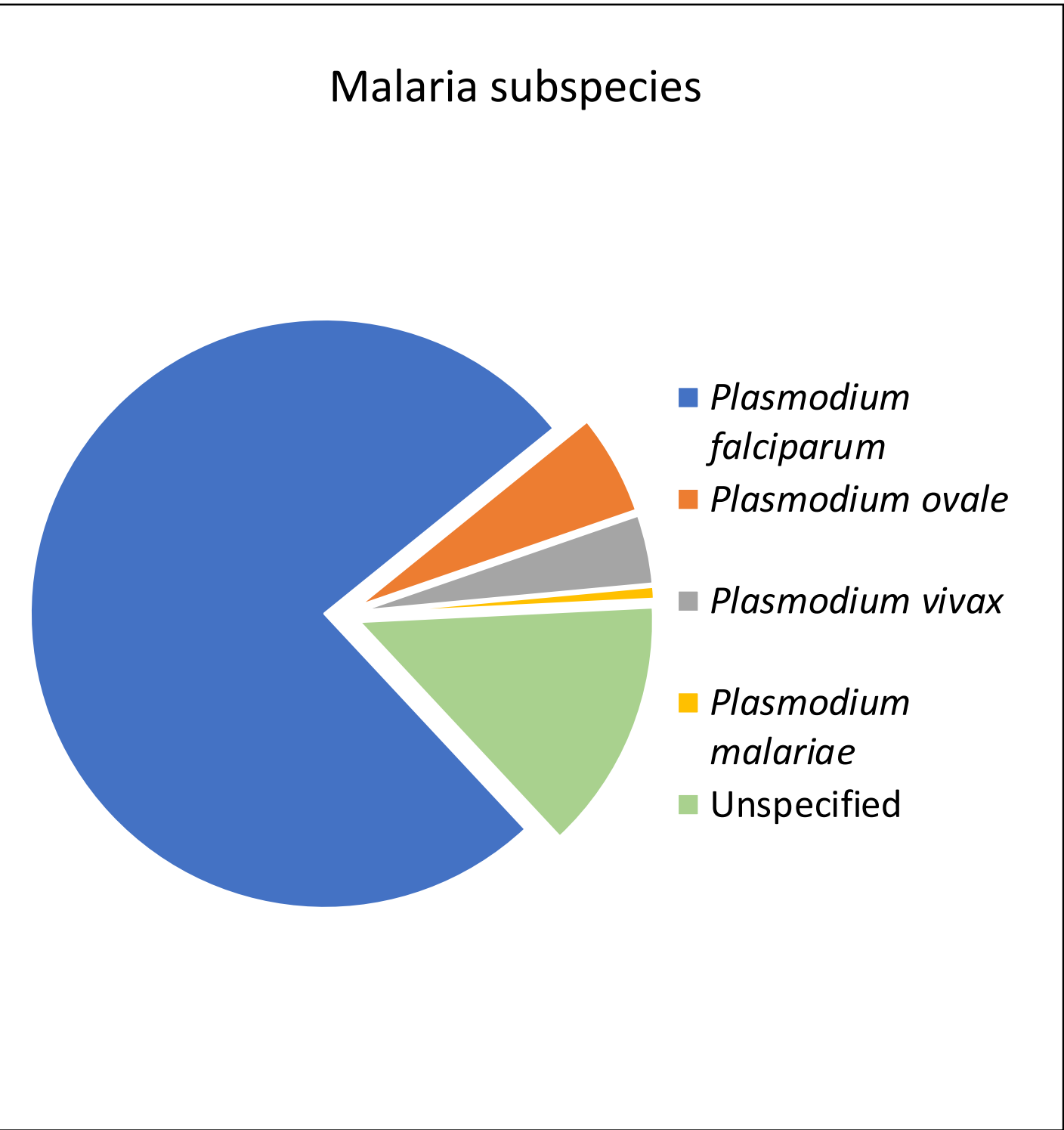


Figure 5: Pie chart demonstrating the proportions of each malaria species between 2015 - 2019

Results

- Between January 1st 2016 and December 31st 2019 there were 289 cases of malaria admitted to Irish hospitals as per NQAIS data, 16 less than the official HPSC records
- 13/289 (4.5%) required high dependency care and there were no reported deaths
- 197/289 (68%) were male with a mean age was 35 years (95% CI 33.3 – 37)
- 220/289 (76%) of all cases resulted from *Plasmodium falciparum* infection, 16/289 (5.5%) *Plasmodium ovale*, 11/289 (3.8%) *Plasmodium vivax* and 2/289 (0.7%) *Plasmodium malariae*, while 40/289 (13.8%) were unspecified
- Median length of stay was 3 days (IQR 1-4 days) and 72/289 (25%) were admitted under an Infectious Diseases team, although this had no significant impact in length of stay (3.1 days versus 3.4 days, p=0.67)
- 117/289 (40%) were admitted in the months of August and September

Discussion

- The majority of all cases in the four year period were *P. falciparum*, reflective of the dominant African region of exposure in most returning travellers³
- 43% of all cases were from hospitals outside of the Dublin City catchment area, reflecting a diversification of travel and population demographics in Ireland
- This highlights the importance of malaria awareness in all regions, not simply the major urban centres that have access to Infectious Diseases expertise, and the importance of malaria education for travellers returning home to visit friends and family in endemic areas

References

1. Health Protection Surveillance Centre. Surveillance Report; Annual epidemiological report for malaria. 2019 https://www.hpsc.ie/a-z/vectorborne/malaria/publications/annualreportsonmalaria/2018_Malaria_20181008_v1.0km.pdf

2. Behrens RH, Neave PE, Jones COH. Imported malaria among people who travel to visit friends and relatives: is current UK policy effective or does it need a strategic change? *Malar J* 2015; **14**: 149.

3. Health Protection Surveillance Centre (HPSC). Burden of Imported Malaria in Ireland: Recommendations for Surveillance and Prevention 2010 <https://www.hpsc.ie/a-z/vectorborne/malaria/publications/File,4680,en.pdf>