# Vectorborne Diseases in Ireland, 2023

**January 2025**

# Acknowledgements

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# Preventing Vectorborne diseases

**See HPSC website for information on prevention of mosquito-borne diseases: Protect yourself against mosquitoes**

- The best protection against mosquito-borne diseases is to protect yourself against their bites
- Avoid areas where mosquitoes live and breed, such as near standing or slow-moving water including rainwater collections, ponds, lakes and marshes
- Protect your skin from mosquito bites by wearing long sleeves, long trousers, closed shoes and hats
- Use bug spray/insect repellent and read the instructions on the label carefully before use. Your local pharmacist can advise you on the best product for your trip.
- To prevent malaria there are effective prophylactic medications that should be taken as prescribed

**See HPSC website for information on prevention of tick-borne diseases: Prevent tick bites**

- Protect yourself against bites as above
- Check skin, hair and warm skin folds (especially the neck and scalp of children) for ticks, after a day out
- Check for ticks and remove any from your pets/clothing/outdoor gear
- Remove any ticks and consult with a GP if symptoms develop

# Summary of Vectorborne Diseases in Ireland

1. There has been an increase in notifications of diseases associated with international travel such as Malaria and Dengue Fever following a return to pre-pandemic levels of travel

2. There has been an identified increase in the number of dengue cases notified in Ireland reported in travellers returning from the Americas. For further information, please see: Increase in dengue fever associated with travel to the Americas. Epi Insight Vol 25 Issue 5 | May 2024

3. There is now a risk of travel associated Dengue Fever cases from Europe, though as of the end of 2023 no such cases have been identified in Ireland

4. The best protection against vectorborne diseases is to protect yourself against their bites. Mosquitoes bite in order to feed on blood. Following the advice provided in the following link can markedly reduce your chances of being bitten by mosquitoes: Protect yourself against mosquitoes - Health Protection Surveillance Centre (hpsc.ie)

5. It is important to take precautions prior to travel. The Department of Foreign Affairs and Trade (DFA) provides guidance to travellers that is updated regularly. Please consult the DFA website and click on the relevant country. It is important to check this information prior to any trips, as the situation could change rapidly.

# Malaria in Ireland

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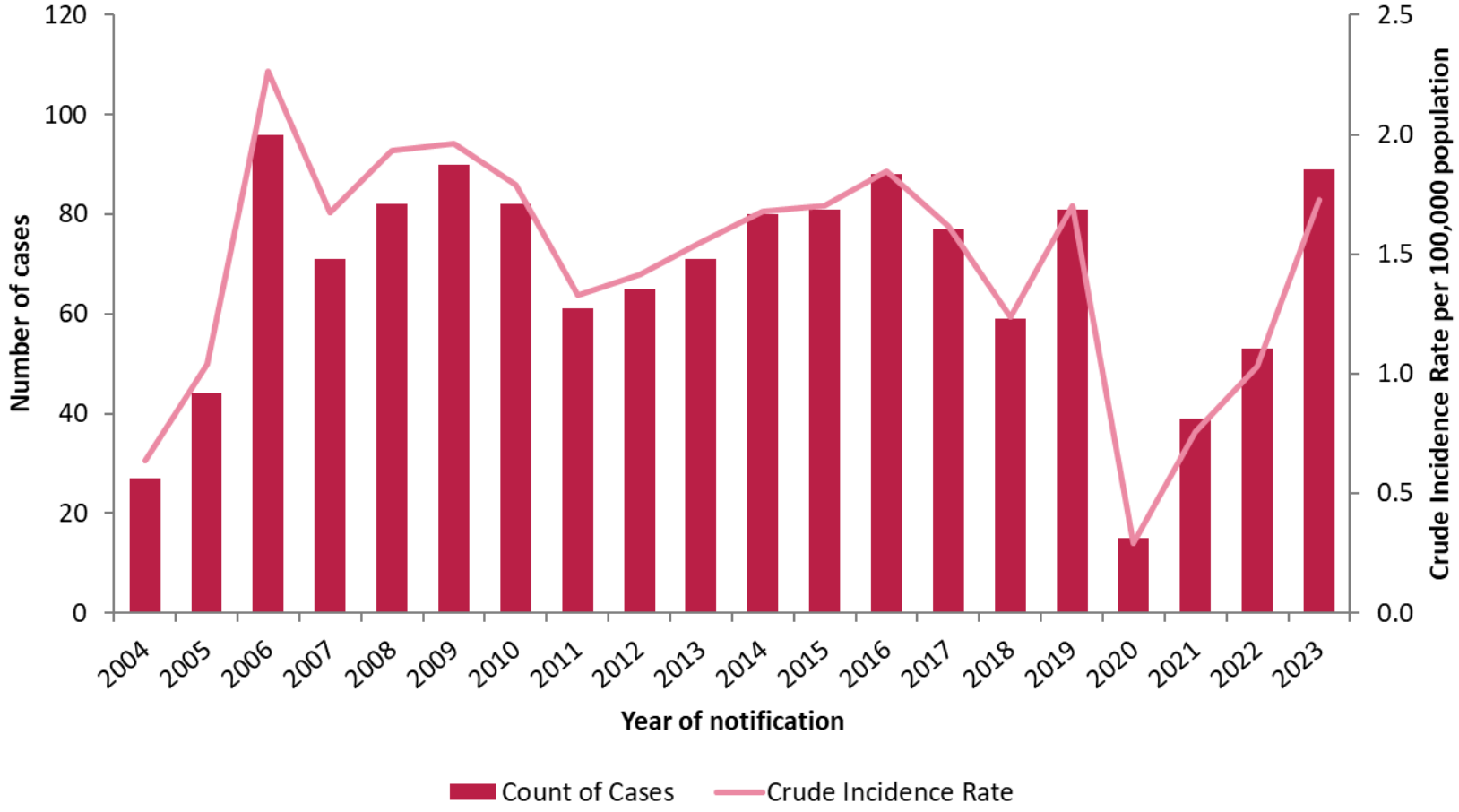
Malaria is a common and serious tropical disease caused by a type of parasite (protozoan) transmitted to humans by biting mosquitoes. There are four species of malarial parasite that commonly infect humans (*Plasmodium falciparum, P. vivax, P. ovale, P. malaria*). A further two less common and primarily zoonotic species (*P. knowlesi* and *P. cynomolgi*) are also capable of infecting humans. *P. falciparum* causes the most severe form of malaria. *P. falciparum* and *P. vivax* are the most commonly encountered.

Malaria is a major public health problem in more than 100 countries, with over 2 billion people living in malarious parts of the world. More than 90% of cases occur in tropical Africa, but malaria also occurs in the Indian subcontinent, Southeast Asia, Central and South America, Hispaniola (Haiti and the Dominican Republic), the Middle East, and Oceania. For travellers and tourists, Sub- Saharan Africa represents the area of greatest risk of malaria.

For more information on risk factors and precautions please see the Malaria Fact Sheet on the HPSC website.

# Malaria in Ireland: trends, 2004-2023




There were 89 cases of malaria notified in Ireland in 2023, this is a 68% increase from 2022

Case numbers decreased during the pandemic due to decreased international travel but returned to pre-pandemic levels in 2023 as international travel resumed

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

# Malaria in Ireland, 2019 - 2023

## Summary of notified malaria cases in Ireland from 2019 - 2023

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Total cases** | **81** | **15** | **39** | **53** | **89** |
| Male cases | 41 | 10 | 29 | 35 | 66 |
| Female cases | 38 | 5 | 10 | 18 | 23 |
| Unknown | 2 | 0 | 0 | 0 | 0 |
| M:F Ratio | 1.1 | 2.0 | 2.9 | 1.9 | 2.9 |
| **Crude Incidence Rate (per 100,000)** | **1.7** | **0.3** | **0.8** | **1.0** | **1.7** |
| **Median age (range)** | **37 (0-64)** | **39 (9-70)** | **42 (3-64)** | **45 (6-64)** | **40 (7-79)** |
| Percent aged under 15 | 9.9% | 6.7% | 5.1% | 9.4% | 6.7% |
| **Hospitalised cases** | **25** | **6** | **20** | **23** | **32** |
| Percent hospitalised | 30.9% | 40.0% | 51.3% | 43.4% | 36.0% |

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

# Malaria cases by reason for travel, 2011-2023


- Where reason for travel to malarious region was reported (36%), “Visiting family of origin” continued to be the most commonly reported reason in 2023.
- Nigeria was the most commonly reported country of infection in 2019-2023, comprising of 29%-66% of cases where country of infection was known.
- Data completeness for reason for travel (36%) and country of infection (34%) is low. Therefore, caution is advised when interpreting these data.

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

# Dengue Fever in Ireland

# Dengue Fever in Ireland

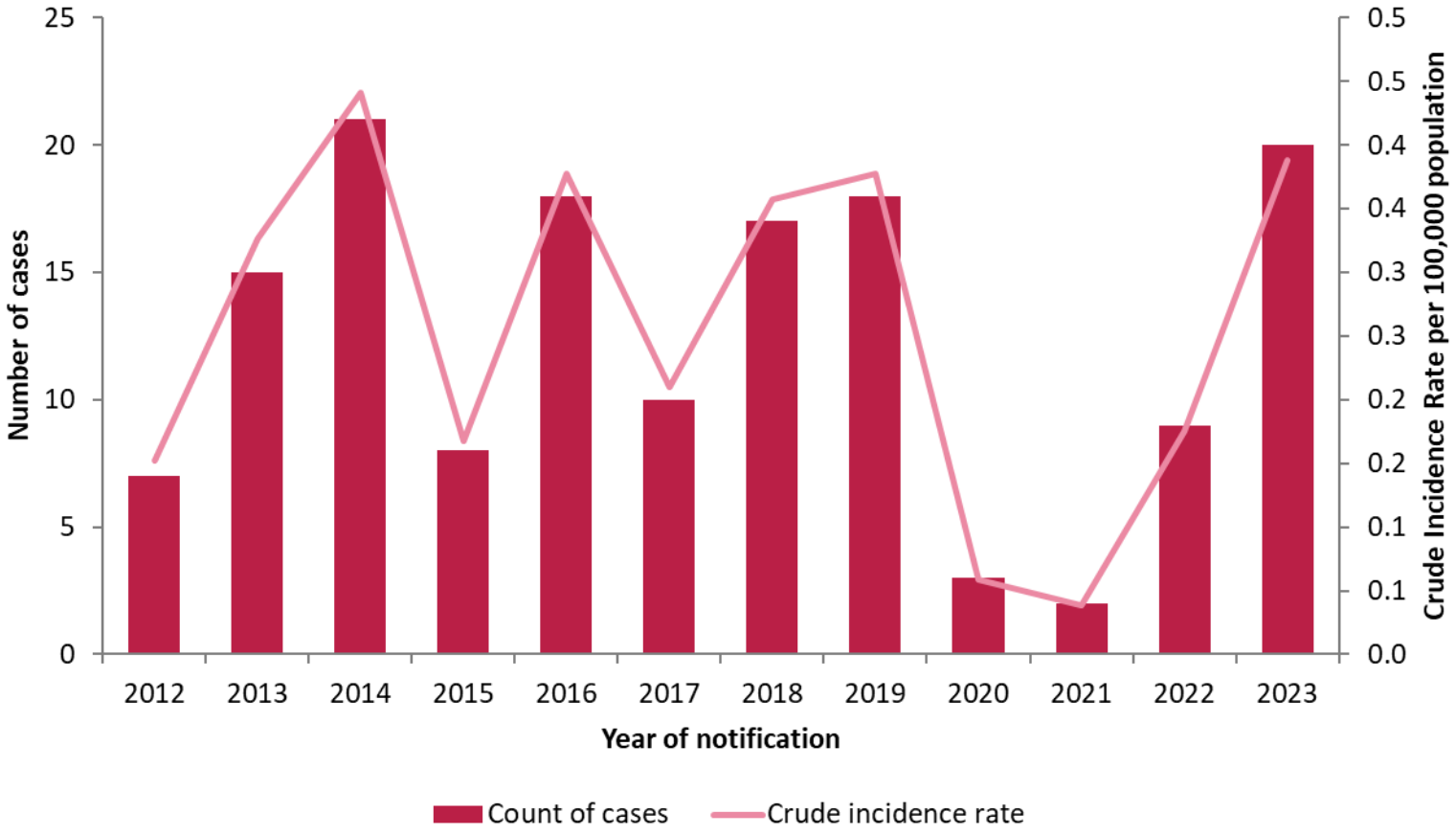
Dengue Fever (also known as break bone fever) is a severe, flu-like viral illness that affects infants, young children and adults, but rarely causes death. It is spread by the bite of an infected *Aedes* mosquito and is common throughout the tropics and subtropics.

With *Aedes* mosquitoes becoming established in mainland Europe, locally acquired cases of Dengue Fever have become more common with a transmission period lasting from June to November. Non-travel associated dengue cases have been reported in Europe from Italy, France, and Spain[1].

For more information on risk factors and precautions please see the Dengue Fact Sheet on the HPSC website.

1. ECDC Website, 2024, *'Autochthonous vectorial transmission of dengue virus in mainland EU/EEA, 2010-present',* accessed 29/10/2024, https://www.ecdc.europa.eu/en/all-topics-z/dengue/surveillance-and-disease-data/autochthonous-transmission-dengue-virus-eueea

# Dengue in Ireland: trends, 2012-2023




Case numbers decreased during the pandemic due to decreased international travel but increased in 2023 as international travel resumed

There were 20 cases of dengue notified in Ireland in 2023, this is a 122% increase from 2022

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

# Dengue in Ireland, 2019 - 2023

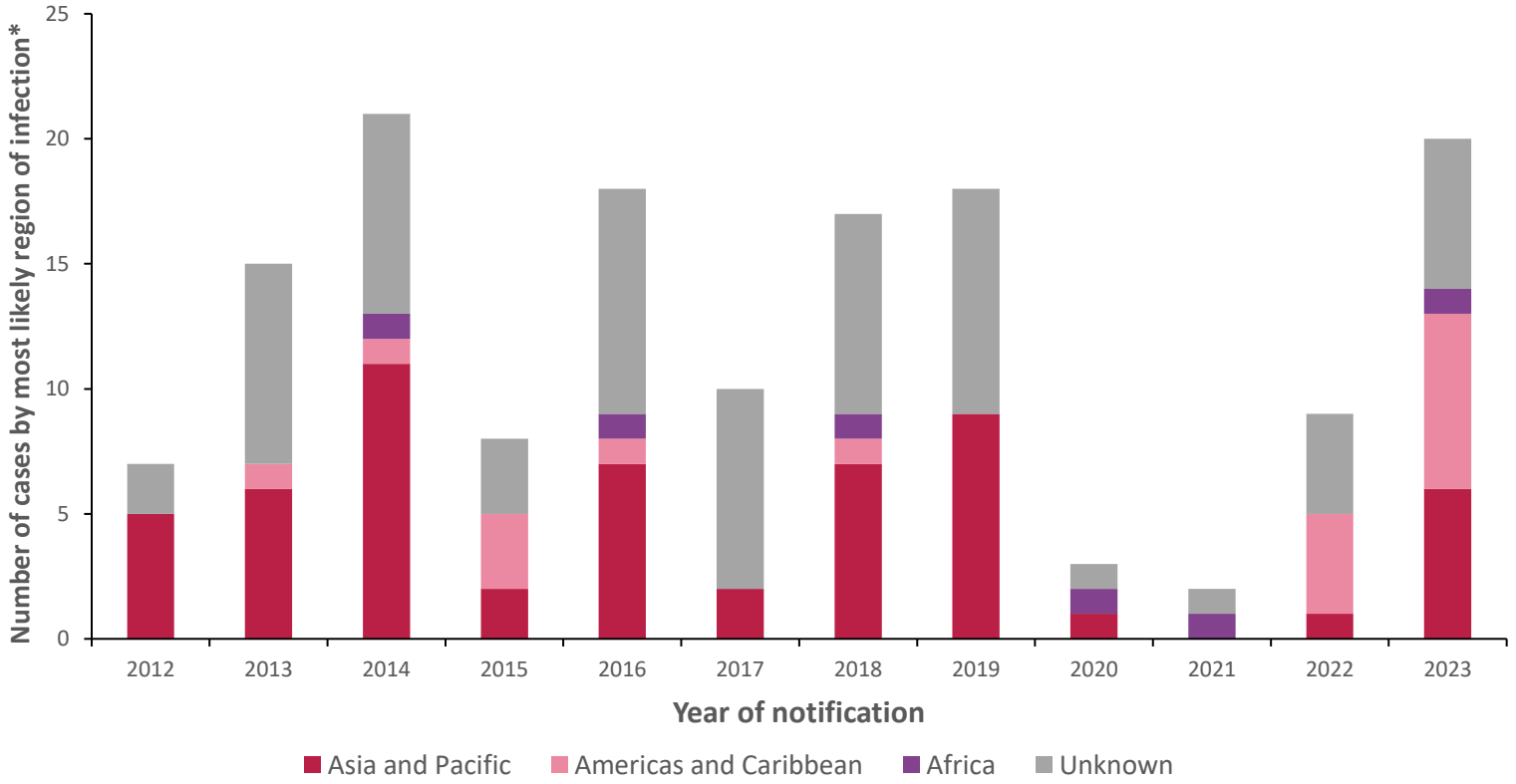
## Summary of notified dengue cases in Ireland from 2019 - 2023

| | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| **Total cases** | **18** | **3** | **2** | **9** | **20** |
| Male cases | 10 | 3 | 1 | 4 | 11 |
| Female cases | 8 | 0 | 1 | 5 | 9 |
| Unknown | 0 | 0 | 0 | 0 | 0 |
| M:F Ratio | 1.25 | N/A | 1.0 | 0.8 | 1.2 |
| **Crude Incidence Rate (per 100,000)** | **0.4** | **0.1** | **0.0** | **0.2** | **0.4** |
| **Median age (range)*** | **27.5 (13-62)** | **-** | **-** | **54 (26-70)** | **27.5 (0-45)** |
| **Hospitalised cases** | **4** | **0** | **1** | **4** | **5** |
| Percent hospitalised | 22.2% | 0.0% | 50.0% | 44.4% | 25.0% |

*Due to low number of cases, median age and age range are not reported for 2020 and 2021

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 21/10/2024**

# Dengue Fever cases in Ireland by likely continent of infection, 2012-2023




*Likely region of infection is a composite variable using country of infection data as well as free text comments indicating travel to one or more countries where definitive country of infection could not be determined.

- Notifications of Dengue Fever decreased during the pandemic due to travel restrictions, with an increase in 2022 and 2023 due to a return to international travel.
- 2022 and 2023 had a notable increase in Dengue Fever cases returning from the Americas and Caribbean, compared to most pre-pandemic years where most cases returned from Asia
- Data completeness related to countries of travel is sub-optimal (70%). Therefore, caution is advised when interpreting this data.

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

# Other Vectorborne Diseases in Ireland, 2019-2023

**Table 2. Notified cases of Other Vectorborne diseases in Ireland, 2019-2023**

| Disease Name | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| Chikungunya disease | 1 | 0 | 0 | 0 | 0 |
| Lyme Neuroborreliosis | 6 | 12 | 4 | 4 | 6 |
| Tularaemia | 0 | 0 | 0 | 0 | 1 |
| Typhus | 0 | 0 | 0 | 0 | 1 |
| Zika virus infection | 0 | 2 | 0 | 0 | 1 |
| **Total** | **7** | **14** | **4** | **4** | **9** |

**Data source: Computerised Infectious Diseases Reporting System (CIDR) 29/10/2024**

- No cases of tick-borne encephalitis, West Nile fever, or yellow fever were notified in Ireland between 2019-2023

# Technical notes

1. Data are based on statutory notifications and were extracted from the Computerised Infectious Disease Reporting (CIDR) system on the indicated dates.
2. Data are provisional and subject to ongoing review, validation and update. As a result, figures in this report may differ from figures published at other times.
3. Population data were taken from the Central Statistics Office. In general, a 5 year rule of thumb was used, i.e. year of census and two years before and after. In situations where the census was cancelled/delayed (e.g. 2021), population estimates for the year(s) involved were reviewed, and the census with results most closely aligning to the estimates was applied.