

## Malaria

Reporting on 2014 data retrieved from TESSy\* on 19 November 2015

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### Key facts

- 6 017 confirmed malaria cases were reported to TESSy in 2014.
- The notification rate in 2014 was 1.24 cases per 100 000 population.
- 99.9% of cases for which travel information was provided were travel related. Five cases were locally acquired (three reported by Spain and two by France).
- The highest notification rates were reported in males in age groups 15–24 and 25–44 years.
- The number of cases increased during the summer months, and a smaller upsurge was observed in January. This reflects most probably travel patterns.
- The worldwide decrease in malaria incidence did not yet result in a decrease of travel-related cases reported in the EU/EEA. Therefore, awareness among travellers and clinicians, particularly among those visiting friends and relatives in endemic countries, should be maintained.
- Local transmission of *Plasmodium vivax* remains possible in the EU and stresses the need for continued surveillance, preparedness and prevention.

### Methods

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• 26 EU/EEA countries provided information on malaria. No data were reported by Denmark, Germany, Iceland, Italy and Liechtenstein.

• 23 countries used the [EU case definition](#), two countries (Belgium and Finland) did not specify which case definition was used, and one country used an alternative case definition (France). Surveillance is mostly case based except in Bulgaria and Croatia. The surveillance coverage for France is not nationwide.

• All reporting countries have a comprehensive surveillance system. Reporting is compulsory in 23 countries, voluntary in two countries (Belgium and France), and not specified in the United Kingdom. Disease surveillance is mostly passive except in Belgium, the Czech Republic, Slovakia and the United Kingdom, where active surveillance is in place. Greece also has active disease surveillance in high-risk areas. (Annex 1).

### Epidemiology

Most reported malaria cases were travel related. Five cases were reported as locally acquired: two in France and three in Spain. The Spanish malaria cases were characterised as follows:

- One case of congenital *Plasmodium falciparum* malaria. A newborn whose mother had recently returned from Equatorial Guinea was diagnosed with malaria one week after birth. The baby had no symptoms but the laboratory tests identified *P. falciparum*.
- Induced infection: *Plasmodium malariae* in a patient who had received a kidney transplant. The donor had travelled to Equatorial Guinea. An antigenic study and a smear test were carried out before the transplant; both were negative. Two transplant recipients from the same donor did not develop symptoms, also with negative laboratory test results. Both patients received preventive malaria treatment.
- Introduced infection: a *Plasmodium vivax* case. The patient had no history of travel or hospitalisation but lived a few kilometres from a town with a travel-related case. Molecular typing showed that the same strain of *P. vivax* was responsible for both infections. No infected mosquitoes were found during the entomological investigation.

The two locally acquired cases in France should be interpreted with caution: according to the French case definition, malaria cases are classified by default as locally acquired unless patients report that they travelled to malaria-endemic areas in the previous 12 months. The two patients did not report any recent travel but the investigation could not be completed because both patients were undocumented residents.

Greece recorded zero locally acquired cases in 2014, compared with three cases in 2013 and 20 cases in 2012.

The overall confirmed case rate in 2014 was 1.24 cases per 100 000 population, which is the highest rate observed during the period 2010–2014. The individual country rates varied between 0.05 cases (Poland) and 3.67 cases (Sweden) per 100 000 population. The rates in Sweden and Norway were notably higher than in previous years. In Sweden, the notification rate in 2014 was 3.67 cases (2013: 1.25 cases per 100 000 population), while in Norway the 2014 rate was 2.35 cases per 100 000 population (2013: 1.43 cases per 100 000 population).

The highest number of confirmed cases notified in 2014 was observed in France (n=2 299), followed by the United Kingdom (n=1 510) (Table 1).

**Table 1. Reported malaria cases: number and rate per 100 000 population, EU/EEA, 2010–2014**

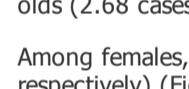
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Country	2010		2011		2012		2013		2014					
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	National data	Report type	Reported cases	Confirmed cases	Rate	ASR
Austria	48	0.6	7	0.1	28	0.3	42	0.5	Y	C	68	68	0.8	0.8
Belgium	166	1.5	184	1.7	206	1.9	253	2.3	Y	C	235	235	2.1	2.2
Bulgaria	5	0.1	8	0.1	16	0.2	8	0.1	Y	A	10	10	0.1	0.1
Croatia	.	.	.	.	23	0.5	0	0.0	Y	A	6	6	0.1	0.1
Cyprus	1	0.1	6	0.7	1	0.1	3	0.3	Y	C	8	8	0.9	0.9
Czech Republic	11	0.1	28	0.3	25	0.2	27	0.3	Y	C	30	30	0.3	0.3
Denmark	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Estonia	1	0.1	1	0.1	6	0.5	3	0.2	Y	C	3	3	0.2	0.2
Finland	33	0.6	33	0.6	46	0.9	38	0.7	Y	C	39	39	0.7	0.8
France	2439	-	1891	-	1851	-	2165	-	N	C	2299	2299	-	-
Germany	615	0.8	562	0.7	547	0.7	637	0.8	.	.	.	.	.	.
Greece	45	0.4	92	0.8	95	0.9	25	0.2	Y	C	38	38	0.3	0.4
Hungary	5	0.0	10	0.1	5	0.1	5	0.1	Y	C	15	15	0.2	0.2
Iceland	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ireland	82	1.8	61	1.3	65	1.4	71	1.5	Y	C	79	79	1.7	1.7
Italy	662	1.1	.	.	.	.	.	.	.	.	.	.	.	.
Latvia	5	0.2	4	0.2	3	0.1	4	0.2	Y	C	6	6	0.3	0.3
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lithuania	3	0.1	3	0.1	6	0.2	8	0.3	Y	C	5	5	0.2	0.2
Luxembourg	12	2.4	3	0.6	7	1.3	4	0.7	Y	C	3	3	0.5	0.5
Malta	0	0.0	1	0.2	2	0.5	5	1.2	Y	C	3	3	0.7	0.7
Netherlands	247	1.5	253	1.5	194	1.2	162	1.0	Y	C	276	276	1.6	1.7
Norway	37	0.8	30	0.6	37	0.7	72	1.4	Y	C	120	120	2.3	2.3
Poland	35	0.1	14	0.0	21	0.1	36	0.1	Y	C	19	19	0.0	0.0
Portugal	50	0.5	67	0.6	71	0.7	117	1.1	Y	C	144	144	1.4	1.4
Romania	19	0.1	40	0.2	32	0.2	43	0.2	Y	C	47	47	0.2	0.2
Slovakia	2	0.0	1	0.0	6	0.1	4	0.1	Y	C	5	5	0.1	0.1
Slovenia	9	0.4	6	0.3	7	0.3	3	0.1	Y	C	7	7	0.3	0.3
Spain	351	0.8	405	0.9	421	0.9	518	1.1	Y	C	688	688	1.5	1.5
Sweden	115	1.2	95	1.0	85	0.9	119	1.2	Y	C	354	354	3.7	3.8
United Kingdom	1761	2.8	1677	2.7	1378	2.2	1501	2.3	Y	C	1510	1510	2.3	2.4
<b>EU/EEA</b>	<b>6759</b>	<b>1.0</b>	<b>5482</b>	<b>1.0</b>	<b>5184</b>	<b>0.9</b>	<b>5873</b>	<b>1.0</b>	.	<b>C</b>	<b>6017</b>	<b>6017</b>	<b>1.2</b>	<b>1.3</b>

Source: Country reports. Legend: Y = yes, N = no, C = case based, · = no report, ASR: age-standardised rate

**Figure 1. Number of reported and confirmed malaria cases, EU/EEA, 2014**

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Note: 99.9% of the cases are imported.

Source: Country reports from Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, France, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

### Age and gender distribution

In 2014, the overall rate of confirmed malaria cases was higher among men than women (1.75 cases and 0.74 cases per 100 000 population, respectively), and the male-to-female ratio was 2.4:1. The highest notification rate for males was in the 25–44-year-old age group (2.73 cases per 100 000 population), followed by the group of 15–24-year-olds (2.68 cases per 100 000 population).

Among females, the highest notification rate was in the age groups 15–24 years old and 25–44 years old (1.22 cases per 100 000 and 1.10 cases per 100 000 population, respectively) (Figure 2).

**Figure 2. Confirmed malaria cases, by age and gender, EU/EEA, 2014**

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Source: Country reports from Austria, Belgium, Cyprus, the Czech Republic, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

### Seasonality

A marked seasonal trend was observed across all countries, with cases increasing during the summer holiday months (July–September) and a lower increase in January.

**Figure 3. Seasonal distribution of confirmed malaria cases, EU/EEA, 2014 compared with 2010–2013**

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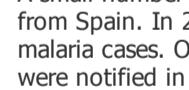
Source: Country reports from Austria, Belgium, Cyprus, the Czech Republic, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.

### Trend

In the period 2010–2014 the highest number of reported cases was seen in 2014, but overall the trend appears to be stable.

**Figure 4: Trend and number of confirmed malaria cases, EU/EEA, 2010–2014**

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Source: Country reports from Austria, Belgium, Cyprus, the Czech Republic, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.