

SURVEILLANCE REPORT

Annual Epidemiological Report for 2015

Hepatitis A

Key facts

- In 2015, 29 EU/EEA countries reported a total of 12 641 cases of hepatitis A, 12 527 (99.1%) of which were confirmed.
- The EU/EEA notification rate was 2.5 cases per 100 000 population, ranging from zero cases in Iceland, which also reported zero cases in 2013 and 2014, to 26.0 cases per 100 000 population in Romania, where 5 176 confirmed cases were reported.
- In 2015, the number of reported cases and the notification rates were at the lowest level since 2011, and slightly lower than in 2014.
- As in previous years, children between 5 and 14 years of age accounted for most cases (38%); children in this age group also had the highest notification rate (9.1 cases per 100 000 population).
- In 2015, a number of sporadic cases of hepatitis A among refugees and asylum seekers was reported, mostly in migrants from the Middle East.

Methods

This report is based on data for 2015 retrieved from The European Surveillance System (TESSy) on 16 November 2016. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases. For a detailed description of methods used to produce this report, please refer to the *Methods* chapter [1].

An overview of the national surveillance systems is available online [2].

A subset of the data used for this report is available through ECDC's online *Surveillance atlas of infectious diseases* [3].

In 2015, 30 EU/EEA countries reported hepatitis A data; Liechtenstein did not report. Twenty-four countries used EU case definitions: 12 countries used the EU-2012 case definition, 11 countries used the EU-2008 case definition, and one country used the EU-2002 case definition. The remaining six reporting countries used non-specified or other case definitions. Reporting of hepatitis A was compulsory in 28 countries. Twenty-nine countries had a comprehensive surveillance system, and one country (Belgium) undertook sentinel surveillance. In 29 countries, surveillance was based either on laboratory or physician reporting, or a combination of the two. Romania reported

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only hospitalised cases. Twenty-seven countries reported case-based data, and three countries (Belgium, Bulgaria and Croatia) reported aggregated data [2].

In addition to TESSy reporting, information from event-based surveillance for hepatitis A clusters or outbreaks with a potential EU dimension was collected through the Epidemic Intelligence Information System for Food- and Waterborne Diseases (EPIS-FWD).

Epidemiology

In 2015, 29 EU/EEA countries reported 12 641 cases of hepatitis A, 12 527 (99.1%) of which were confirmed cases (Table 1). Romania reported 41.3% of the EU/EEA cases in 2015. The EU/EEA notification rate in 2015 was 2.5 cases per 100 000 population, ranging from zero in Iceland, where no cases were reported in 2015, to 26.0 in Romania. The number of reported cases in 2015 represented a 11.2% decrease compared with the previous year; 2015 was also the year with the lowest number of reported cases for the period 2011–2015. In the same time period, the average number of reported cases was 13 091, ranging from 12 527 to 14 113. The notification rate in Romania in 2011 (26.0 cases per 100 000 population) was the fourth highest notification rate reported in the EU/EEA between 2011 and 2015; the three highest notification rates in this period were reported by Bulgaria and Romania: in 2011, Bulgaria reported 75.8 cases per 100 000 population; in 2012, Bulgaria reported 66.8 cases per 100 000 population; in 2014, Romania reported 33.3 cases per 100 000 population.

Table 1. Distribution of hepatitis A cases by country and year, EU/EEA, 2012–2016

Country	2011		2012		2013		2014		National coverage	Reported cases	2015		
	Confirmed cases		Confirmed cases		Confirmed cases		Confirmed cases				Confirmed cases		
	Number	Rate	Number	Rate	Number	Rate	Number	Rate			Number	Rate	ASR
Austria	5	0.1	43	0.5	78	0.9	47	0.6	Y	60	60	0.7	0.7
Belgium	167	-	147	-	134	-	125	-	N	113	113	-	-
Bulgaria	5587	75.8	4896	66.8	1819	25.0	601	8.3	Y	1062	1061	14.7	16.2
Croatia	.	.	0	0.0	0	0.0	7	0.2	Y	4	4	0.1	0.1
Cyprus	0	0.0	2	0.2	2	0.2	8	0.9	Y	4	4	0.5	0.5
Czech Republic	264	2.5	284	2.7	348	3.3	673	6.4	Y	724	724	6.9	7.1
Denmark	13	0.2	53	0.9	103	1.8	29	0.5	Y	19	19	0.3	0.3
Estonia	153	11.5	63	4.8	6	0.5	12	0.9	Y	6	6	0.5	0.4
Finland	14	0.3	8	0.1	41	0.8	27	0.5	Y	45	45	0.8	0.9
France	1115	1.7	1096	1.7	914	1.4	933	1.4	Y	743	743	1.1	1.1
Germany	820	1.0	828	1.0	766	1.0	679	0.8	Y	856	845	1.0	1.1
Greece	41	0.4	74	0.7	155	1.4	84	0.8	Y	62	62	0.6	0.6
Hungary	79	0.8	331	3.3	1117	11.3	1548	15.7	Y	979	963	9.8	10.2
Ireland	18	0.4	28	0.6	47	1.0	21	0.5	Y	36	35	0.8	0.7
Italy	439	0.7	458	0.8	1388	2.3	601	1.0	Y	505	487	0.8	0.9
Latvia	49	2.4	11	0.5	12	0.6	20	1.0	Y	6	6	0.3	0.3
Lithuania	17	0.6	113	3.8	64	2.2	17	0.6	Y	7	7	0.2	0.2
Luxembourg	0	0.0	2	0.4	3	0.6	5	0.9	Y	5	5	0.9	0.9
Malta	4	1.0	0	0.0	0	0.0	2	0.5	Y	4	4	0.9	0.9
Netherlands	115	0.7	112	0.7	105	0.6	97	0.6	Y	75	75	0.4	0.5
Poland	64	0.2	70	0.2	48	0.1	75	0.2	Y	49	49	0.1	0.1
Portugal	12	0.1	10	0.1	15	0.1	23	0.2	Y	26	26	0.3	0.3
Romania	2581	12.8	3603	17.9	4173	20.8	6646	33.3	Y	5219	5176	26.0	27.1
Slovakia	400	7.4	124	2.3	204	3.8	735	13.6	Y	883	883	16.3	16.7
Slovenia	11	0.5	11	0.5	23	1.1	11	0.5	Y	5	5	0.2	0.2
Spain	463	1.0	557	1.2	629	1.3	594	1.3	Y	581	557	1.2	1.2
Sweden	54	0.6	87	0.9	105	1.1	84	0.9	Y	96	96	1.0	1.0
United Kingdom	277	0.4	314	0.5	309	0.5	334	0.5	Y	435	435	0.7	0.7
EU	12762	2.6	13325	2.7	12608	2.5	14038	2.8	Y	12609	12495	2.5	2.6
Iceland	1	0.3	4	1.3	0	0.0	0	0.0	Y	0	0	0.0	0.0
Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.
Norway	22	0.4	40	0.8	51	1.0	75	1.5	Y	32	32	0.6	0.6
EU/EEA	12785	2.6	13369	2.7	12659	2.5	14113	2.8	.	12641	12527	2.5	2.6

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

* Provisional data for 2015. Notification rates not calculated

In 2015, 19 countries reported fewer than 100 confirmed cases, while eight countries reported more than 500 cases (Figure 1). Compared with the four-year average (2011–2014), a number of countries reported increases of over 50% in the number of confirmed cases (Czech Republic, Finland, Luxembourg, Malta, Portugal and Slovakia) in 2015, while four countries (Estonia, Latvia, Lithuania and Slovenia) reported decreases of less than 50%. In the 23 countries reporting information on travel history for all or part of their cases, 784 of 3925 cases with available information (20.0%) were travel-associated. France (n=296) and Germany (n=193) accounted for almost two thirds of all travel-associated cases.

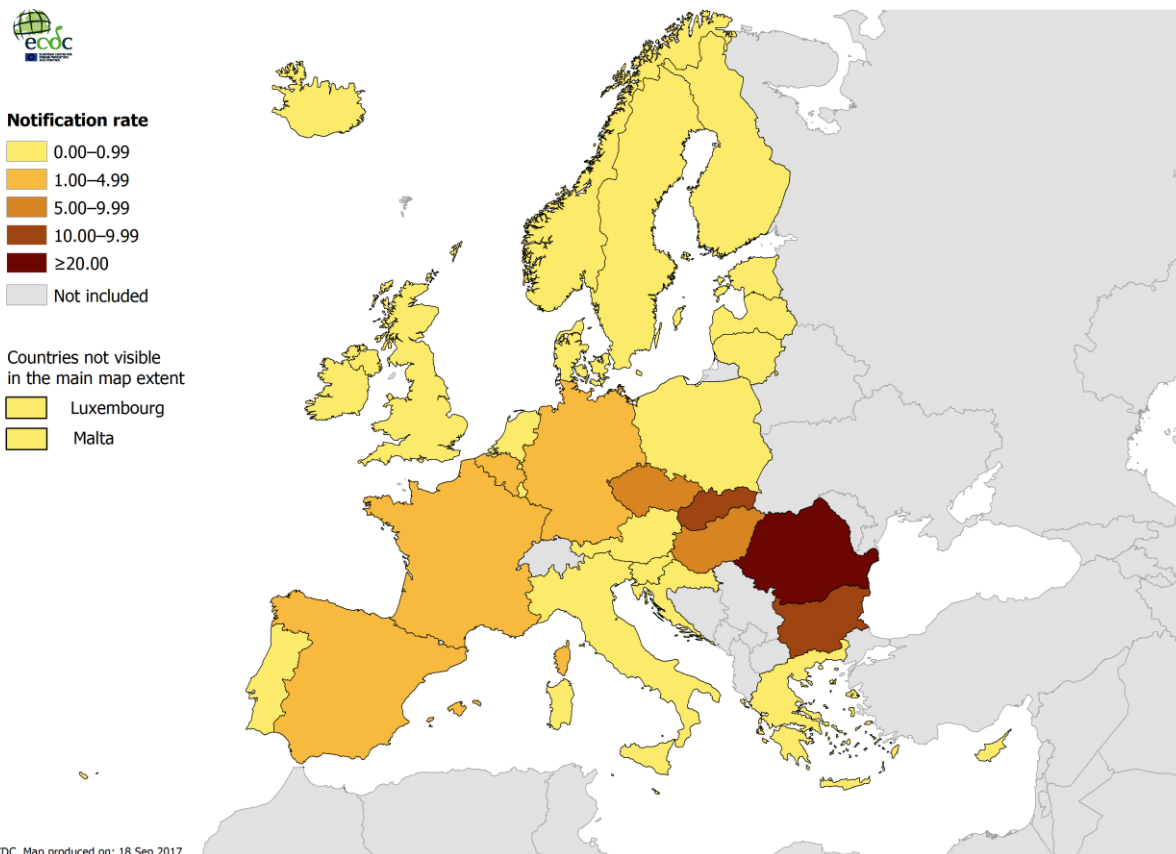
Figure 1. Reported confirmed hepatitis A cases: number of cases, EU/EEA, 2015



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

In 2015, most countries (21/29) had notification rates below 1 confirmed case per 100 000 population (Figure 2). Countries with the highest notification rates were Romania (26.0), Slovakia (16.3), Bulgaria (14.7 cases), Hungary (9.8), and the Czech Republic (6.9).

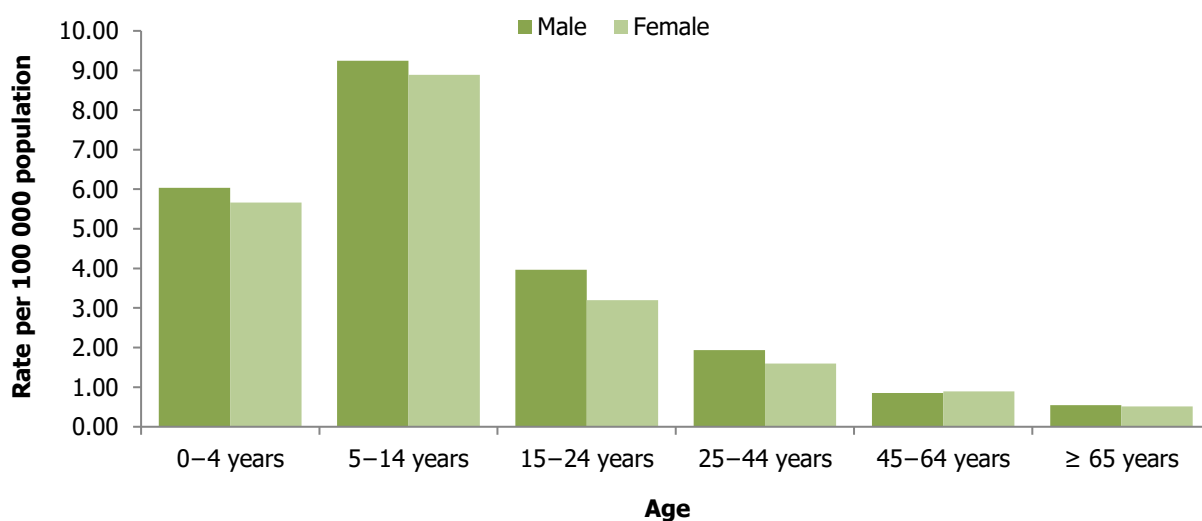
Figure 2. Rate of confirmed hepatitis A cases per 100 000 population, by country, EU/EEA, 2015



Source: Country reports from Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Finland, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Luxembourg, Malta, Norway, Poland, Slovakia, Slovenia, Sweden, the United Kingdom.

In 2015, the highest notification rate was observed in the age group 5 to 14 years (9.1 confirmed cases per 100 000 population), followed by the age groups 0 to 4 years (5.9 confirmed cases per 100 000 population) and 15 to 24 years (3.6 confirmed cases per 100 000 population). About 1 750 confirmed cases were older than 44 years of age. Confirmed male cases had slightly higher notification rates than confirmed female cases in all age groups, except in the 45–64-year-olds, where females had slightly higher rates (Figure 3).

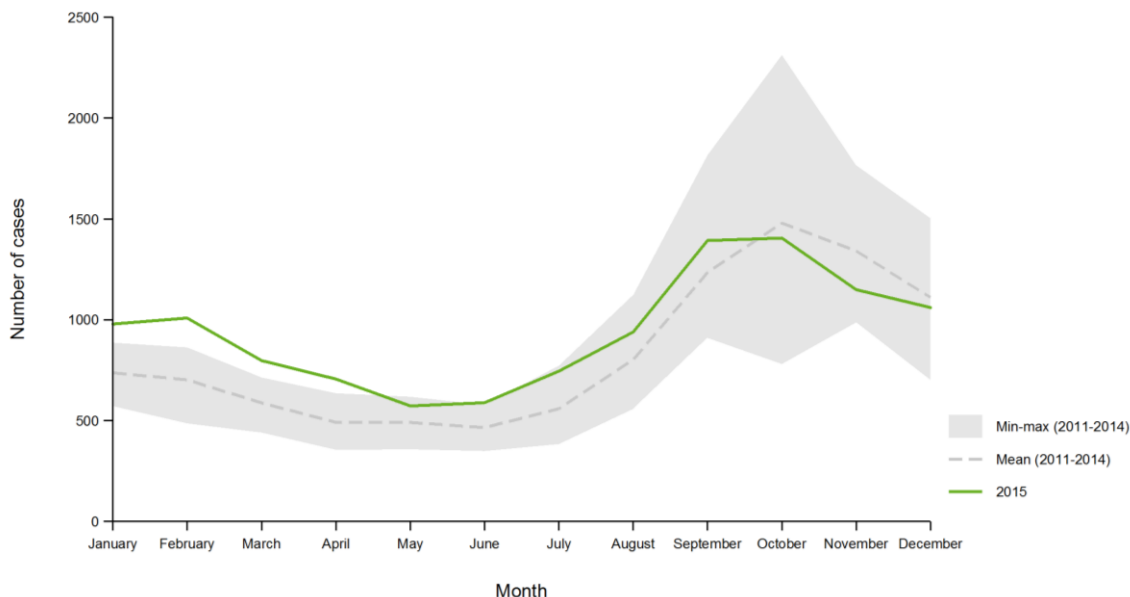
Figure 3. Rate of confirmed hepatitis A cases per 100 000 population, by age group and gender, EU/EEA, 2015



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

Hepatitis A has a marked seasonality in EU/EEA countries, with a peak of confirmed cases reported between September and November (Figure 4). The monthly number of reported confirmed cases in 2015 was quite similar to the number of cases reported in the same period in 2011–2014.

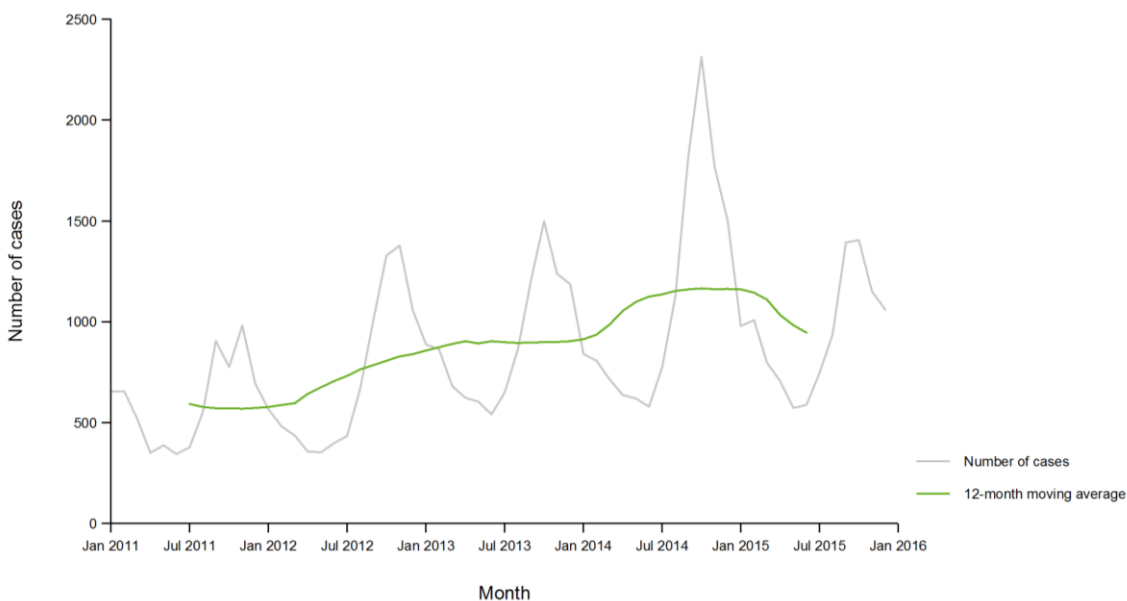
Figure 4. Reported confirmed hepatitis A cases by month, EU/EEA, 2015 compared with 2011–2014



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

After a continuous increase from 2011 to 2014, hepatitis A case numbers decreased in 2015 (Figure 5).

Figure 5. Reported confirmed hepatitis A cases: numbers and trend, EU/EEA, 2011–2015



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

Threats description for 2015

Unlike 2013 and 2014, when a number of large multi-country outbreaks of hepatitis A affected several EU/EEA countries [4-7], only small clusters were reported in 2015.

The United Kingdom, France, Germany and the Netherlands reported a cluster of 11 hepatitis A cases with subgenotype IIIA on the Greek island of Rhodes in November and December 2015.

In EPIS FWD, Finland reported an independent cluster of cases infected with subgenotype IB. The cases were found to be associated with the consumption of smoothies prepared from frozen berries. Ireland, Sweden and the United Kingdom reported twenty cases infected with an identical or a closely related strain, which was first identified in the UK in 2013.

In December 2015, also in EPIS FWD, a number of EU/EEA countries discussed reports of sporadic hepatitis A cases in refugees or asylum seekers that had recently arrived in Europe, mostly from the Middle East.

Discussion

The number of hepatitis A cases reported in 2015 was the lowest in five years. This does not seem to be related to changes in national surveillance systems: the number of reporting countries and the types of surveillance did not change in 2015.

The decrease in the overall number of cases reported in the EU/EEA in 2015, particularly when compared with 2014, appears to be linked to the cyclic character of hepatitis A incidence observed in low-endemicity settings, both within the general population and in groups at increased risk of infection [8].

As in previous years, most cases were reported in young people, who are more likely to develop a mild or very mild disease, which is difficult to capture with disease surveillance systems. It is therefore possible that our findings are an underestimation of the actual case numbers.

Similar to previous years, the majority of cases was in young people, yet about 1 750 cases were in older adults at risk of severe outcome (hepatitis A severity is closely correlated with the patient's age) [8]. This shows the risk associated with sporadic transmission within the growing cohort of a susceptible elderly population.

Eastern EU countries reported most cases. In Bulgaria, of 105 tested strains, genotypes IA (74%) and IB (26%) were the predominant circulating strains in 2012–2014. Part of the cases with subgenotype IA were genetically linked to a hepatitis A outbreak in the EU/EEA in 2013–2014, which was caused by mixed frozen berries [7,9].

No large multicountry outbreaks were detected in 2015. A large proportion of the cases reported in eastern EU countries are associated with person-to-person transmission, unlike the rest of the EU/EEA where a substantial part of the cases appears to be associated with infections acquired abroad or through food-borne transmission.

In 2015, several EU/EEA countries reported sporadic cases of hepatitis A, both through EPIS FWD and in the literature. These cases affected refugees and asylum seekers, mostly in people from the Middle East [10,11]. This was in contrast with previous years, when most migrants arriving in the EU/EEA were considered at very low risk of hepatitis A infection because they came from countries with high endemicity.

Public health implications

Hepatitis A continued to pose a threat to public health in EU/EEA countries. Eastern European EU countries reported the majority of the cases. Western and northern EU/EEA countries reported cases in unvaccinated travellers and in refugees/asylum seekers from the Middle East.

Prompt alerts in EPIS FWD of clusters or outbreaks, combined with rapid harmonised investigations, can reduce the risk of large or prolonged outbreaks in the EU/EEA.

Molecular characterisation and sharing of sequences at the international level offers the opportunity to rapidly link sporadic cases and detect cross-border outbreaks. The molecular characterisation of hepatitis A viruses and sharing of sequences should be prioritised at the European level.

The current WHO vaccination recommendations outline several options for intervention (i.e. universal childhood vaccination in countries at intermediate endemicity, and vaccination of groups at increased risk of infection and severe outcome in low- and very-low-endemicity countries) [8].

Vaccination recommendations to travellers to HAV-endemic areas should be promoted in all EU/EEA countries, in accordance with the national guidelines.

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