

Annual epidemiological report

Shigellosis

Reporting on 2014 data retrieved from TESSy* on 4 December 2015

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Key facts

- In 2014, 6 125 confirmed shigellosis cases were reported by 30 EU/EEA countries.
- The overall notification rate was 1.4 cases per 100 000 population in 2014.
- The notification rate was the highest in young children, followed by male cases aged 24–44 years.
- In some countries, the disease is mainly related to travel outside of the EU/EEA, while in others, domestically acquired cases dominate.
- There was a decreasing trend of shigellosis in the EU/EEA in the last five years.
- Several outbreaks due to sexual transmission among men who have sex with men were reported in recent years.

Methods

[Click here for a detailed description of the methods used to produce this annual report](#)

The data used for this report were extracted from TESSy on 4 December 2015. Thirty countries reported data for 2014, three of which reported zero cases. Twenty-five countries reported data using the current EU case definition for shigellosis as published in 2008 and 2012, four used another definition, and two had not specified the used definition (Annex). The disease is under mandatory notification in 25 countries, notification is voluntary in four countries, and one country uses another type of surveillance system. All except two countries have comprehensive surveillance of shigellosis, the other two countries employ a sentinel system. Three countries have active surveillance systems while the rest have passive systems. Twenty-one countries have surveillance systems which integrate laboratory and epidemiological data.

Epidemiology

In 2014, 6 125 confirmed cases of shigellosis were reported in the EU/EEA (Table 1). The overall EU/EEA notification rate for confirmed shigellosis cases has slowly declined in the past five years and was at 1.4 cases per 100 000 population in 2014. Bulgaria, with 7.1 cases per 100 000 population, continued to report the highest notification rate of the EU/EEA countries, followed by Slovakia, Sweden, France and the UK (with 4.1, 3.5, 2.8 and 2.8 cases per 100 000 population, respectively) (Table 1, Figure 1).

Travel information was available for 2 946 (48%) of the confirmed cases, and of these, 42% were related to travel, mostly to India, Morocco and Egypt. More than 80% of the cases reported in Iceland, Finland, Norway and Sweden were travel-related. In contrast, almost all cases reported in Hungary, Greece, Slovakia and Belgium were domestically acquired. The proportion of travel-associated cases has decreased from 70% in 2010 to 42% in 2014 while the proportion of cases with known travel status has remained constant over the period.

Table 1. Reported confirmed shigellosis 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	98	1.2	36	0.4	57	0.7	70	0.8	Y	C	75	75	0.9	0.9
Belgium	342	-	317	-	340	-	323	-	N	C	403	403	-	-
Bulgaria	596	8.0	798	10.8	777	10.6	486	6.7	Y	A	513	512	7.1	7.7
Croatia	.	.	.	.	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Cyprus	0	0.0	2	0.2	0	0.0	0	0.0	Y	C	0	0	0.0	0.0
Czech Republic	387	3.7	157	1.5	266	2.5	255	2.4	Y	C	92	92	0.9	0.9
Denmark	91	1.6	91	1.6	105	1.9	109	1.9	Y	C	110	110	2.0	2.0
Estonia	46	3.5	22	1.7	34	2.6	12	0.9	Y	C	10	10	0.8	0.8
Finland	162	3.0	126	2.3	88	1.6	111	2.0	Y	C	89	89	1.6	1.7
France	774	2.7	641	2.2	686	2.4	662	2.3	44%	C	873	873	3.0	3.1
Germany	697	0.9	665	0.8	523	0.6	562	0.7	Y	C	552	511	0.6	0.7
Greece	33	0.3	47	0.4	89	0.8	112	1.0	Y	C	90	90	0.8	0.9
Hungary	63	0.6	43	0.4	32	0.3	39	0.4	Y	C	8	7	0.1	0.1
Iceland	2	0.6	1	0.3	1	0.3	0	0.0	Y	C	2	2	0.6	0.6
Ireland	60	1.3	42	0.9	29	0.6	45	1.0	Y	C	56	53	1.2	1.1
Italy	.	.	.	.	30	0.1	19	0.0	Y	C	24	24	0.0	0.0
Latvia	11	0.5	10	0.5	3	0.1	2	0.1	Y	C	10	8	0.4	0.4

Liechtenstein	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lithuania	42	1.3	40	1.3	52	1.7	32	1.1	Y	C	21	21	0.7	0.7
Luxembourg	14	2.8	17	3.3	14	2.7	23	4.3	Y	C	12	12	2.2	2.1
Malta	2	0.5	4	1.0	0	0.0	2	0.5	Y	C	0	0	0.0	0.0
Netherlands	449	2.7	397	2.4	450	2.7	382	2.3	Y	C	348	335	2.0	2.0
Norway	132	2.7	163	3.3	77	1.5	104	2.1	Y	C	93	93	1.8	1.8
Poland	24	0.1	18	0.0	13	0.0	19	0.0	Y	C	44	41	0.1	0.1
Portugal	6	0.1	3	0.0	10	0.1	2	0.0	Y	C	5	5	0.0	0.1
Romania	293	1.4	371	1.8	354	1.8	156	0.8	Y	C	148	147	0.7	0.8
Slovakia	370	6.9	536	9.9	449	8.3	256	4.7	Y	C	228	222	4.1	4.1
Slovenia	31	1.5	18	0.9	25	1.2	10	0.5	Y	C	18	18	0.9	0.9
Spain	76	0.2	81	0.2	264	0.6	141	0.3	Y	C	246	230	0.5	0.5
Sweden	557	6.0	454	4.8	328	3.5	335	3.5	Y	C	324	324	3.4	3.5
United Kingdom	1881	3.0	2070	3.3	2021	3.2	2076	3.2	Y	C	1818	1818	2.8	2.9
EU/EEA	7239	1.8	7170	1.8	7117	1.5	6345	1.4	.	C	6212	6125	1.4	1.4

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

Figure 1. Reported confirmed shigellosis cases: rate per 100 000 population, EU/EEA, 2014

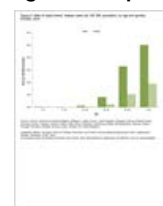


Source: Country reports from Austria, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom. No rate was calculated for Belgium which has a sentinel surveillance system without national coverage.

The highest case rate of shigellosis was observed among children 0-4 years old with 4.0 cases per 100 000 population (Figure 2). Notification rates in the 0-4 years of age group was highest in Bulgaria and Slovakia with 70.1 and 46.8 cases per 100 000, respectively. Male cases aged 25-44 years had the second highest overall notification rate with 2.5 cases per 100 000 population. The male-to-female ratio was overall 1.7:1 though among 25-44 year olds in the UK and Ireland, the male-to-female ratio was as high as 4.7:1 and 4.5:1, respectively.

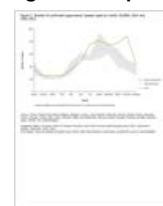
Shigellosis in the EU/EEA follows a seasonal pattern, with peaks in late summer/early autumn. In 2014, the peak was particularly pronounced in September (Figure 3). A decreasing trend in the number of reported shigellosis cases has been observed since 2010 (Figure 4).

Figure 2. Reported confirmed shigellosis cases by age and gender: rate per 100 000 population, EU/EEA, 2014



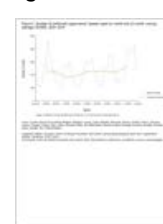
Source: Country reports from Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, the United Kingdom.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

Figure 3. Reported confirmed shigellosis cases by month, EU/EEA, 2014 compared with 2010–2013



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

Figure 4. Number of reported confirmed shigellosis cases by month, and 12-month moving average, 2010–2014, EU/EEA



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

Threats description for 2014

No shigellosis-related threats were reported in 2014.

Shigellosis, although relatively uncommon in the EU/EEA, remains of concern in some countries and for some population groups. Bulgaria and Slovakia continue to report high rates of infection, particularly among young children. The disease burden in these countries is mostly due to indigenous cases. In contrast, a number of countries, particularly the Nordic countries, mainly report cases associated with foreign travel, predominantly to countries outside of the EU/EEA. Shigellosis is endemic in most developing countries and is the most important cause of bloody diarrhoea worldwide [1].

In 2014, 21 foodborne outbreaks of *Shigella* (five of which were caused by *S. sonnei*) were reported by nine Member States [2]. The outbreaks affected 104 cases, of which 22 were hospitalised. Since shigellosis is not a zoonosis, the source in these outbreaks was most likely an infected food handler or food contaminated by human faeces during production. Several foodborne outbreaks of shigellosis in recent years have been attributed to fresh vegetables or herbs imported from outside of the EU/EEA [3-6].

Sexual transmission of shigellosis among men who have sex with men (MSM) has increased among domestically acquired cases in several European countries in recent years, particularly in England, Wales [7-9] and the Netherlands (personal communication, R Pinjacker, RIVM, the Netherlands, Sep 2016). This could possibly explain the large overrepresentation of male cases in the age group of 24–44 year-olds, particularly in the UK and Ireland. Oral-anal contact is often reported, and many cases are immunocompromised due to other infections, e.g. HIV [7-9]. A multidrug-resistant lineage of *S. flexneri* serotype 3a with high-level resistance to azithromycin has recently been described among the MSM population globally [10]. The azithromycin resistance is thought to have evolved due to treatment of other sexually transmitted diseases in MSM as azithromycin is the first-line treatment for e.g. gonorrhoea and chlamydia [10].

Public health conclusions

Shigellosis is not a zoonosis, and humans are the only known reservoir. Prevention of infection and control of outbreaks therefore relies on good personal and environmental hygiene practices to prevent faecal–oral transmission. Since the disease is endemic in large parts of the world, travellers benefit from adhering to common advice on how to avoid food- and waterborne infections when travelling.

Sexual transmission of shigellosis, particularly among men who have sex with men, is becoming more common in developed countries as transmission through poor hygiene and sanitation is decreasing. Targeted information campaigns to increase the awareness of shigellosis could help reduce the spread among these risk groups.

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Additional information

ECDC Surveillance Atlas of Infectious Diseases

European Centre for Disease Prevention and Control. Surveillance of seven priority food- and waterborne diseases in the EU/EEA. Stockholm: ECDC; 2015. Available from <http://ecdc.europa.eu/en/publications/Publications/food-and-waterborne-diseases-surveillance-report-2015.pdf>.

Annex

Table. Shigellosis, surveillance systems overview, 2014

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* The European Surveillance System (TESSy) is a system for the collection, analysis and dissemination of data on communicable diseases. EU Member States and EEA countries contribute to the system by uploading their infectious disease surveillance data at regular intervals.