

Legionnaires' disease (legionellosis)

- Legionnaires' disease remains an uncommon infection in the EU and EEA/EFTA countries.
- The rate of confirmed cases remains low and relatively stable at 1.0 per 100 000 population.
- The peak of reported cases, in July in previous years, has changed in 2009 to a more prolonged period, from June to September.
- The number of reported cases and clusters of travel-associated Legionnaires' disease decreased compared with 2008.

Legionnaires' disease is an uncommon respiratory infection caused by bacteria belonging to the *Legionella* genus. The infection can be fatal and outbreaks from a

common environmental source can occur. The bacteria survive well in watery environments, and transmission to humans is most commonly through inhalation of contaminated aerosols.

Epidemiological situation in 2009

Of the 5530 cases of Legionnaires' disease reported across 26 EU and EEA/EFTA countries in 2009, 5133 cases were confirmed. Three countries reported zero cases (Cyprus, Czech Republic and Lithuania). Data were not available from Liechtenstein.

The overall confirmed case rate was 1.0 per 100 000 population (Table 2.1.1). The individual country rates varied between <0.1 and 2.0 cases per 100 000 population; only two countries (Slovenia and Spain) reported a rate over 2.5 per 100 000.

Table 2.1.1. Number and rate of reported cases of Legionnaires' disease in EU and EEA/EFTA countries, 2006–09

Country	2009					2008		2007		2006	
	National Coverage	Report type*	Total cases	Confirmed cases and notification rate		Confirmed cases and notification rate		Confirmed cases and notification rate		Confirmed cases and notification rate	
				Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Austria	Y	C	92	83	0.99	95	1.14	96	1.16	64	0.78
Belgium	Y	C	80	64	0.60	0	0.00	77	0.73	131	1.25
Bulgaria	Y	C	4	3	0.04	0	0.00	1	0.01	2	0.03
Cyprus	Y	C	3	3	0.38	9	1.14	1	0.13	1	0.13
Czech Republic	Y	C	20	10	0.10	9	0.09	14	0.14	12	0.12
Denmark	Y	C	123	99	1.80	130	2.37	126	2.31	90	1.66
Estonia	Y	C	6	6	0.45	7	0.52	3	0.22	4	0.30
Finland	Y	C	22	8	0.15	30	0.57	46	0.87	0	0.00
France	Y	C	1206	1181	1.83	1205	1.88	1336	2.10	1386	2.20
Germany	Y	C	503	378	0.46	406	0.49	392	0.48	363	0.44
Greece	Y	C	15	15	0.13	26	0.23	22	0.20	30	0.27
Hungary	Y	C	65	14	0.14	20	0.20	11	0.11	6	0.06
Ireland	Y	C	7	7	0.16	8	0.18	14	0.32	11	0.26
Italy	Y	C	1207	1159	1.93	2194	3.68	1842	3.12	1717	2.92
Latvia	Y	C	3	3	0.13	10	0.44	4	0.18	2	0.09
Lithuania	Y	A	0	0	0.00	2	0.06	2	0.06	0	0.00
Luxembourg	Y	C	5	5	1.01	4	0.83	5	1.05	9	1.92
Malta	Y	C	4	4	0.97	2	0.49	14	3.43	2	0.49
Netherlands	Y	C	251	214	1.30	313	1.91	300	1.83	418	2.56
Poland	Y	C	10	4	0.01	6	0.02	5	0.01	18	0.05
Portugal	Y	C	96	93	0.88	91	0.86	78	0.74	89	0.84
Romania	Y	C	3	1	0.00	0	0.00	0	0.00	-	-
Slovakia	Y	C	2	1	0.02	6	0.11	2	0.04	2	0.04
Slovenia	Y	C	66	61	3.00	44	2.19	32	1.59	-	-
Spain	Y	C	1231	1205	2.63	1220	2.69	1123	2.53	1328	3.03
Sweden	Y	C	126	126	1.36	153	1.67	127	1.39	105	1.16
United Kingdom	Y	C	376	372	0.61	394	0.64	486	0.80	581	0.96
EU total	-	-	5526	5119	1.03	6384	1.28	6159	1.24	6371	1.36
Iceland	Y	C	7	6	1.88	2	0.63	4	1.30	1	0.33
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-
Norway	Y	C	34	32	0.67	35	0.74	33	0.70	26	0.56
Total	-	-	5567	5157	1.02	6421	1.28	6196	1.24	6398	1.35

Source: Country reports. Y: Yes; N: No; A: Aggregated data report; C: Case-based report; -: No report; U: Unspecified.

Age and gender distribution

Cases of Legionnaires' disease are mainly reported in persons in older age groups: in 2009, 4 438 (86%) were at least 45 years old. The male-to-female ratio is 2.9:1. The confirmed case rates increased with age, from <0.1 per 100 000 in the under 25 years old to 2.6 per 100 000 in persons aged 65 years and above (4.2 per 100 000 in males and 1.5 per 100 000 in females) (Figure 2.1.5).

Seasonality

A clear trend in the monthly reports can be observed across all countries, with cases increasing in May, peaking during July to September and then decreasing gradually throughout the winter months. In 2009, July to September accounted for 2 547 cases which represent almost 50% of the reported cases in 2009 with a known month of report (Figure 2.1.6).

Enhanced surveillance in 2009

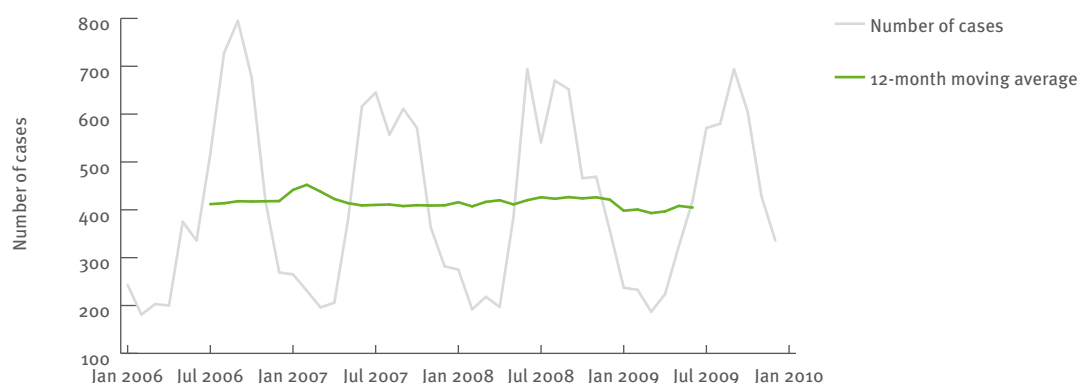
EWGLINET was the EU's dedicated surveillance network collecting data on cases of Legionnaires' disease in the EU and travel-associated Legionnaires' disease (TALD) in 2009. The network is since 1 April 2010 coordinated

by ECDC and renamed ELDSNet (European Legionnaires' Disease Surveillance Network). In 2009, the countries collaborating in the EWGLINET scheme reported 824 confirmed individual TALD cases resulting in 88 new TALD clusters being identified⁴. The number of reported individual cases has decreased compared with 2007 (947 cases) and 2008 (871 cases). The number of TALD clusters of cases detected in 2009 also decreased compared with 2007 and 2008 (113 and 108, respectively).

Discussion

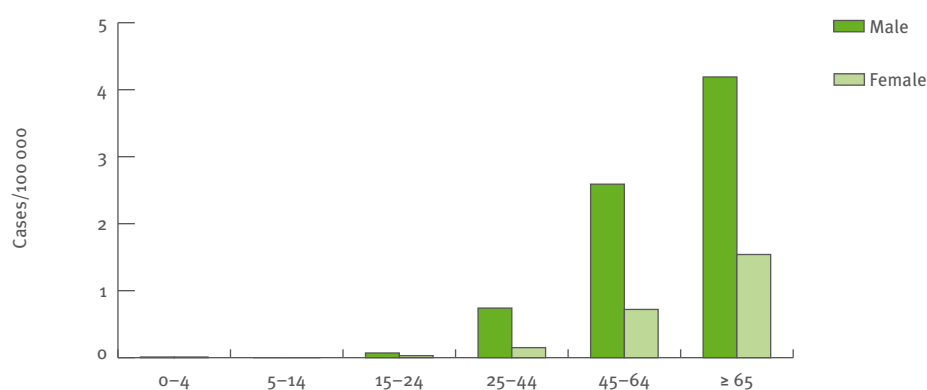
The confirmed case rate of reported Legionnaires' disease across the EU and EEA/EFTA remained stable in 2009 (allowing for delays in case reporting). Seasonality and age and gender distributions of cases were similar to those observed in previous years. The slight decrease in occurrence of TALD cases and clusters in 2009 compared to previous years may reflect the implementation of EWGLI guidelines and country legislation for the control of Legionnaires' disease in the EU and EEA/EFTA. However, the decrease in global travel, associated with the worldwide recession, is also likely to have influenced the occurrence of travel-associated Legionnaires' disease. There was in 2010 a small increase in international

Figure 2.1.4. Trend and number of reported confirmed Legionnaires' disease cases by month in EU and EEA/EFTA countries, 2006–09



Source: Country reports: Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Malta, Netherlands, Norway, Poland, Slovakia, Spain, Sweden, United Kingdom.

Figure 2.1.5. Rates of reported confirmed Legionnaires' disease cases, by age and gender, in EU and EEA/EFTA countries, 2009



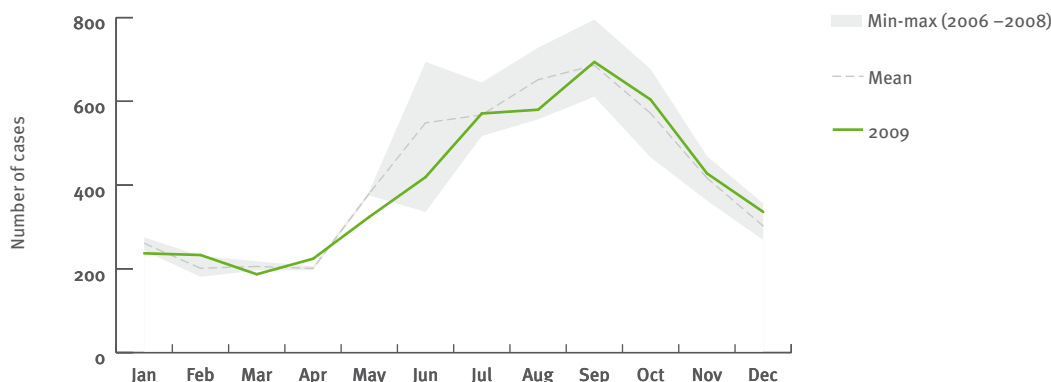
Source: Country reports: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom.

traveller numbers, associated with a small increase in the number of TALD cases reported (from 824 to 863). More information on TALD cases and clusters in 2010 can be found in Chapter 3.

References

1. Joseph CA, Ricketts KD, Yadav R, Patel S, on behalf of the European Working Group for Legionella Infections. Travel-associated Legionnaires' disease in Europe in 2009. Euro Surveill. 2010;15(41):pii=19683.

Figure 2.1.6. Seasonal distribution of reported confirmed cases of Legionnaires' disease, in EU and EEA/EFTA countries, 2006–09



Source: Country reports: Austria, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Malta, Netherlands, Norway, Poland, Slovakia, Spain, Sweden, United Kingdom.

Surveillance systems overview

Country	Data Source	Compulsory (Cp) / Voluntary (V) / Other(O)	Comprehensive (Co) / Sentinel (Se) / Other(O)	Active (A) / Passive (P)	Case-Based (C) / Aggregated (A)	Data reported by				National Coverage
						Laboratories	Physicians	Hospitals	Others	
Austria	AT-Epidemiegesetz	Cp	Co	P	C	Y	Y	Y	Y	Y
Belgium	BE-FLA_FRA_LABNET_REFLAB	Cp	O	A	C	Y	Y	Y	-	Y
Bulgaria	BG-NATIONAL_SURVEILLANCE	Cp	Co	P	A	Y	Y	Y	Y	Y
Cyprus	CY-NOTIFIED_DISEASES	Cp	Co	P	C	N	Y	N	N	Y
Czech Republic	CZ-EPIDAT	Cp	Co	A	C	-	Y	Y	N	Y
Denmark	DK-MIS	Cp	Co	P	C	Y	Y	N	N	Y
Estonia	EE-LEGIONELLOSIS	Cp	Co	P	C	Y	Y	Y	Y	Y
Finland	FI-NIDR	Cp	Co	P	C	Y	Y	N	N	Y
France	FR-MANDATORY_INFECTIOUS_DISEASES	Cp	Co	P	C	Y	Y	Y	Y	Y
Germany	DE-SURVNET@RKI-7.1	Cp	Co	P	C	Y	N	N	Y	Y
Greece	GR-NOTIFIABLE_DISEASES	Cp	Co	P	C	Y	Y	Y	N	Y
Hungary	HU-EFRIR	Cp	Co	P	C	Y	Y	Y	N	Y
Iceland	IS-SUBJECT_TO_REGISTRATION	Cp	Co	P	C	Y	Y	Y	N	Y
Ireland	IE-CIDR	Cp	Co	P	C	Y	Y	Y	N	Y
Italy	IT-LEGIONELLOSIS	Cp	Co	P	C	N	Y	Y	N	Y
Latvia	LV-BSN	Cp	Co	P	C	Y	Y	Y	N	Y
Lithuania	LT-COMMUNICABLE_DISEASES	Cp	Co	P	C	Y	Y	N	N	Y
Luxembourg	LU-SYSTEM1	Cp	Co	P	C	Y	Y	N	N	Y
Malta	MT-DISEASE_SURVEILLANCE	Cp	Co	P	C	Y	Y	Y	Y	Y
Netherlands	NL-OSIRIS	Cp	Co	P	C	Y	Y	N	Y	Y
Norway	NO-MSIS_A	Cp	Co	P	C	Y	Y	Y	N	Y
Poland	PL-NATIONAL_SURVEILLANCE	Cp	Co	P	C	Y	Y	Y	N	Y
Portugal	PT-LEGIONELLOSIS	Cp	Co	P	C	Y	Y	N	N	Y
Romania	RO-RNSSy	Cp	Co	P	C	N	N	Y	N	Y
Slovakia	SK-EPIS	Cp	Co	A	C	Y	Y	Y	N	Y
Slovenia	SI-SURVIVAL	Cp	Co	P	C	Y	Y	Y	N	Y
Spain	ES-STATUTORY_DISEASES	Cp	Co	P	C	N	Y	Y	N	Y
Sweden	SE-SMINET	Cp	Co	P	C	Y	N	N	N	Y
United Kingdom	UK-LEGIONELLOSIS	O	Co	A	C	Y	N	Y	Y	Y