Seirbhís Sláinte Níos Fearr á Forbairt | Building a Better Health Service

hpsc

Annual Epidemiological Report

September 2019

Legionellosis in Ireland, 2018

Key Facts

- There were 25 cases of Legionnaires' disease notified in Ireland in 2018
- The rate per million population remained stable at 5.3 in 2018, the same as in 2017.
- The majority of Legionnaires' disease cases notified in Ireland in 2018 were male.
- Thirteen cases were travel associated.
- Two deaths due to Legionnaires' disease were reported in 2018 giving a case fatality rate of 8%.
- The annual trend over the last six years indicates that the number of case notifications of Legionnaires' disease has been increasing over time.

Suggested citation: HSE Health Protection Surveillance Centre. Legionellosis in Ireland, 2018. Dublin: HSE HPSC; 2019

Methods

Figures for the year 2018 presented in this report were extracted from the computerised infectious disease reporting (CIDR) system on the 22nd August 2018.

Epidemiology

In 2018, there were 25 cases of Legionnaires' disease notified in Ireland, a rate of 5.3 per million population, which is stable compared to 2017. The majority of cases were male (68%). The median age for all cases was 61 years, ranging from 48 to 87 years. Two deaths due to Legionnaires' disease were reported among the 25 cases, giving a case fatality rate of 8%.

The HSE areas who reported cases in 2018 are shown in Table 1.

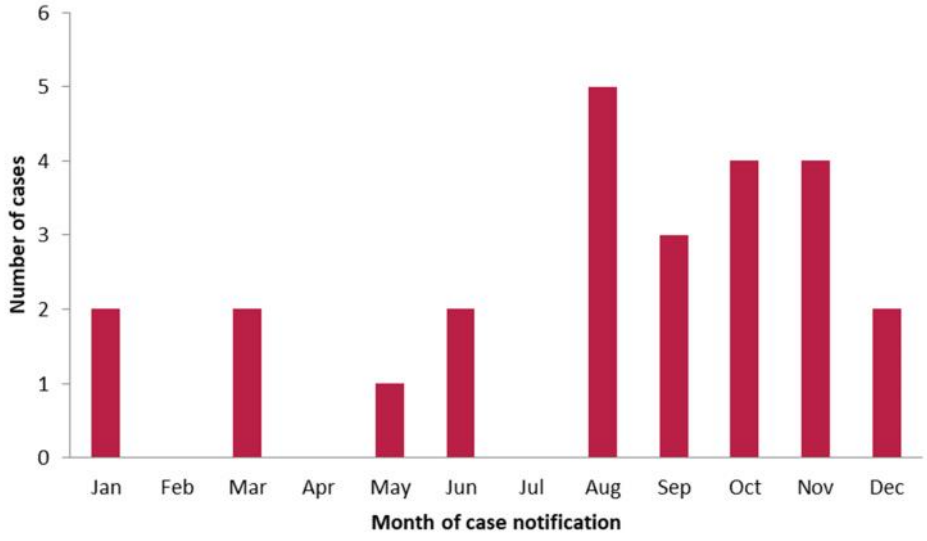
Table 1. Number of Legionnaires' disease cases by HSE area of reporting in Ireland, 2018

Area of reporting	Number of cases
HSE-East	13
HSE-South	3
HSE-South East	1
HSE-Mid-West	5
HSE-North East	1
HSE-Midlands	1
HSE-West	1
Ireland	**25**

Seasonality

Autumnal seasonality was observed in case notifications in 2018 with higher numbers of cases reported between August and November (Figure 1).

Figure 1. Number of Legionnaires' disease cases by month of notification in Ireland, 2018



Causative organism

The majority (96%) of cases, 24 out of 25, were classified as confirmed *Legionella pneumophila* serogroup 1 detected by urinary antigen test. One case of *Legionella longbeachae* was also confirmed by sputum sample culture.

Case definitions

Each case of Legionnaires' disease is investigated and given a definition for surveillance, shown in Table 2. Thirteen cases (52%) were travel-associated, geographically grouped by continental region below. Eight cases were assumed to be community acquired, one case was nosocomial, one 'other' and two cases could not be classified due to missing data.

Table 2. Number of Legionnaires' disease cases by case definition, 2018

Case definition	Number of cases
Travel abroad	13
Africa	2
Americas	2
Asia	3
Europe	6
Oceania	0
Antartica	0
Community assumed	8
Nosocomial	1
Other	1
Unknown	2
Total cases	**25**

Age as a risk factor for Legionellosis infection

Analysing the data over time, between 2009 and 2018, shows that the burden of disease lies in the older population with the majority of cases occurring in those aged 50 years and older (Table 3).

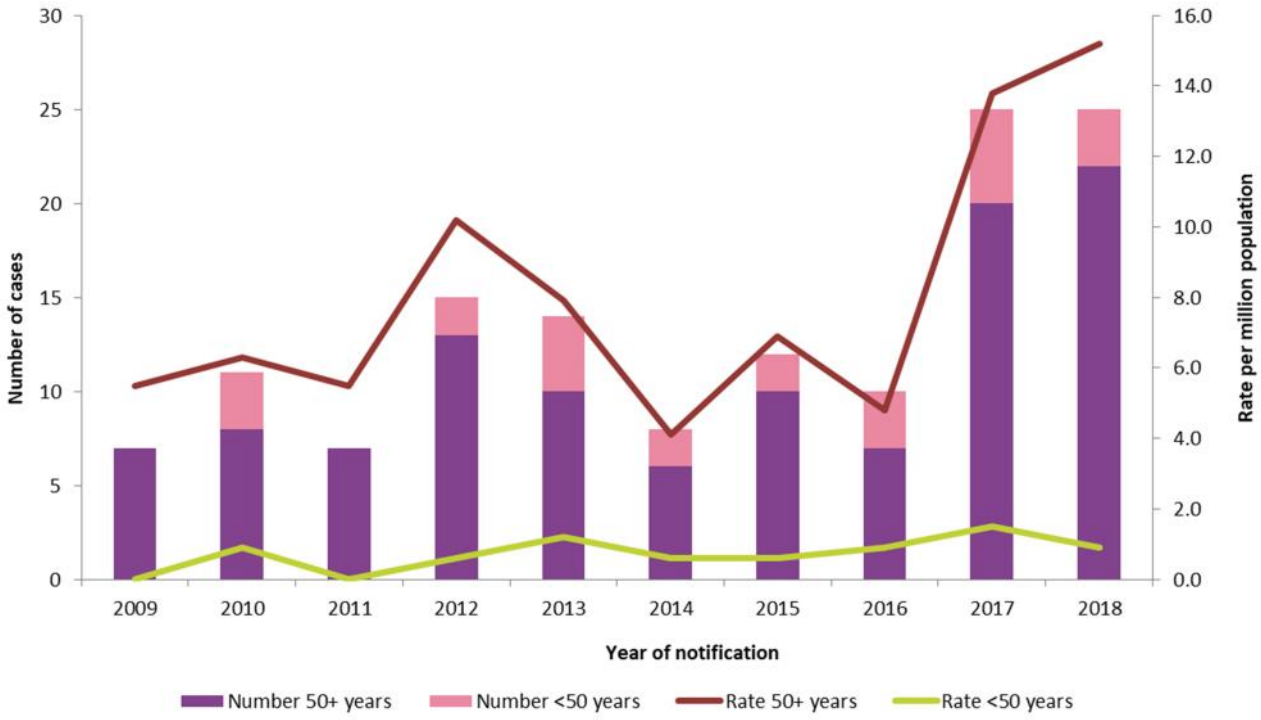
Table 3. Number of Legionnaires' disease cases and crude incidence rates (CIR) per million population in Ireland by age group, 2009-2018

Age Group (years)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<50	0	3	0	2	4	2	2	3	5	3
50-59	2	1	1	1	4	2	3	1	6	9
60-69	3	3	4	6	1	3	1	2	6	5
70+	2	4	2	6	5	1	6	4	8	8
Total	7	11	7	15	14	8	12	10	25	25
Total CIR per million	**1.5**	**2.4**	**1.5**	**3.3**	**3.1**	**1.7**	**2.5**	**2.1**	**5.3**	**5.3**

To calculate the crude incidence rate (CIR), Census of the Population data was used as the denominator with Census 2011 for the analysis of 2009-2013 data and Census 2016 for the analysis of 2014-2018.

The crude incidence rate in those aged less than 50 years remains low and relatively stable over time; fewer than two cases per million population (Figure 2). Comparatively, the crude incidence rate for those aged 50 years and older remains higher in number than the younger age group but fluctuates over time, peaking in 2018 at 15.2 per million population.

Figure 2. Number of Legionnaires' disease cases by age group and crude incidence rates per million population in Ireland, 2009-2018

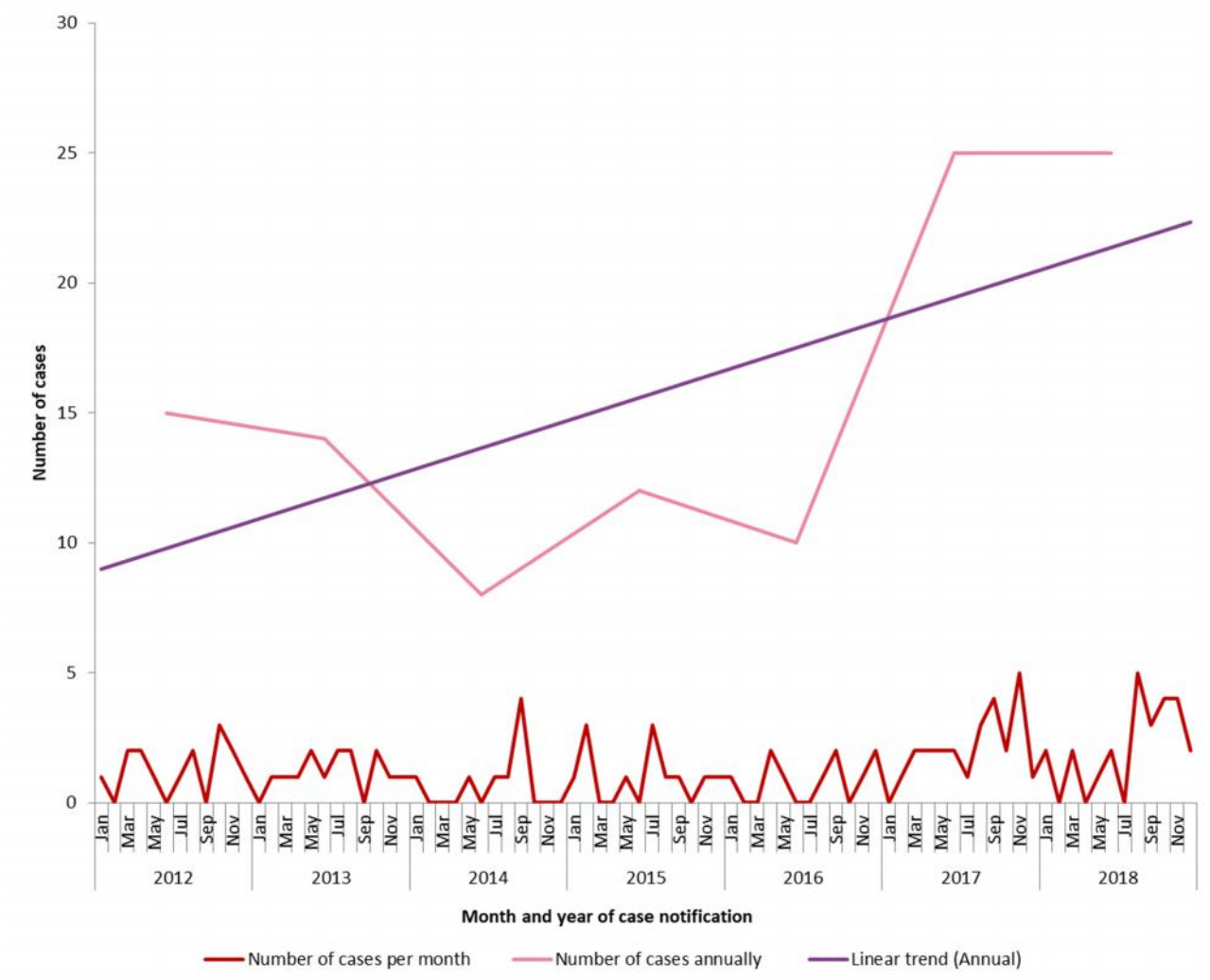


To calculate the crude incidence rate (CIR), Census of the Population data was used as the denominator with Census 2011 for the analysis of 2009-2013 data and Census 2016 for the analysis of 2014-2018.

Trends over time

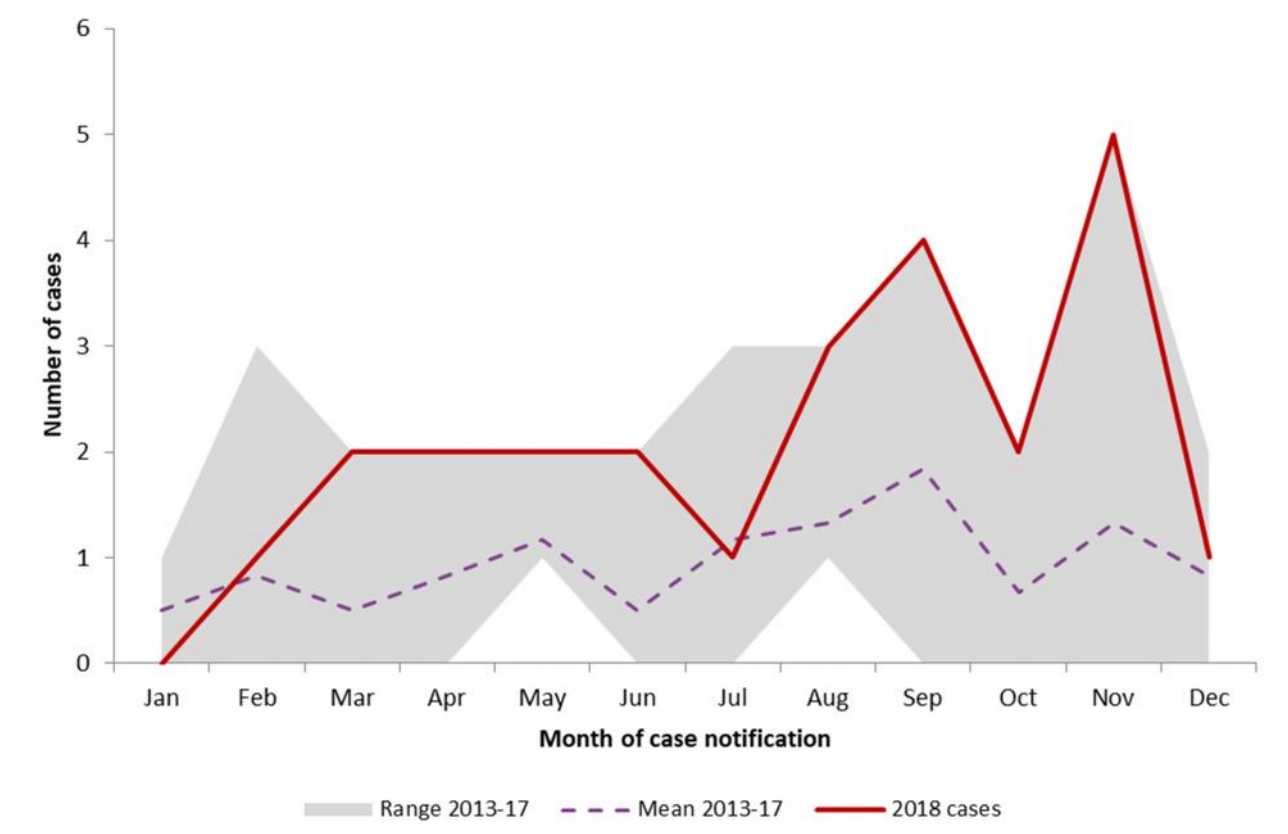
The number of Legionnaires' disease cases by month of notification between 2012 and 2018 are presented in Figure 3. The annual trend over the past seven years indicates that the number of Legionnaires' disease case notifications has been increasing over time even though the actual number of notified cases remains low.

Figure 3. Number of Legionnaires' disease cases by month and year of notification in Ireland, 2012-2018



The numbers of cases notified in 2018 were within historical thresholds when compared with the mean for the previous seven years (Figure 4).

Figure 4. Number of Legionnaires' disease cases by month of notification in 2018 in Ireland compared to the mean and range by month for the years 2013-2017



Further information available on HPSC website

The HPSC website contains the following information on Legionellosis:

- Factsheets for the public and General Practitioners
- National Guidelines for the Control of Legionellosis in Ireland 2009
- Guidance on how to respond to an outbreak of Legionnaires' disease in the community and in a hospital, and to an outbreak of cases of travel-associated Legionnaires' disease etc.
- Checklists for hotels, leisure centres and other accommodation sites
- Checklist for gardeners for precautionary measures to take while working with compost
- Additionally, the Legionella links section provides a list of additional resources including European and international guidance from the European Centre for Disease Prevention and Control and Prevention and the World Health Organization.

Acknowledgements

We would like to thank all of the departments of public health and laboratories for providing and validating Legionnaires' disease data each year.

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