



Annual Epidemiological Report

July 2018

Legionellosis in Ireland, 2017

Key Facts

- There were 25 cases of Legionnaires' disease notified in Ireland in 2017
- The rate per million population increased from 2.1 in 2016 to 5.3 in 2017.
- The majority of cases of Legionnaires' disease notified in Ireland in 2017 were male.
- Eleven cases were travel associated.
- Four deaths due to Legionnaires' disease were reported in 2017.
- The annual trend over the last six years indicates that the number of case notifications of Legionnaires' disease has been increasing over time.

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Methods

Figures for the year 2017 presented in this report were extracted from the computerised infectious disease reporting (CIDR) system on the 31st March 2018.

Epidemiology

In 2017, there were 25 cases of Legionnaires’ disease notified in Ireland, a rate of 5.3 per million population, which is an increase compared to 10 cases in 2016 and a rate of 2.1 per million population. The majority of cases were male (60%). The median age for all cases was 62 years, ranging between 39 to 90 years. Four deaths due to Legionnaires’ disease were reported among the 25 cases, giving a case fatality rate of 16%.

The HSE areas who reported cases in 2017 are shown in Table 1.

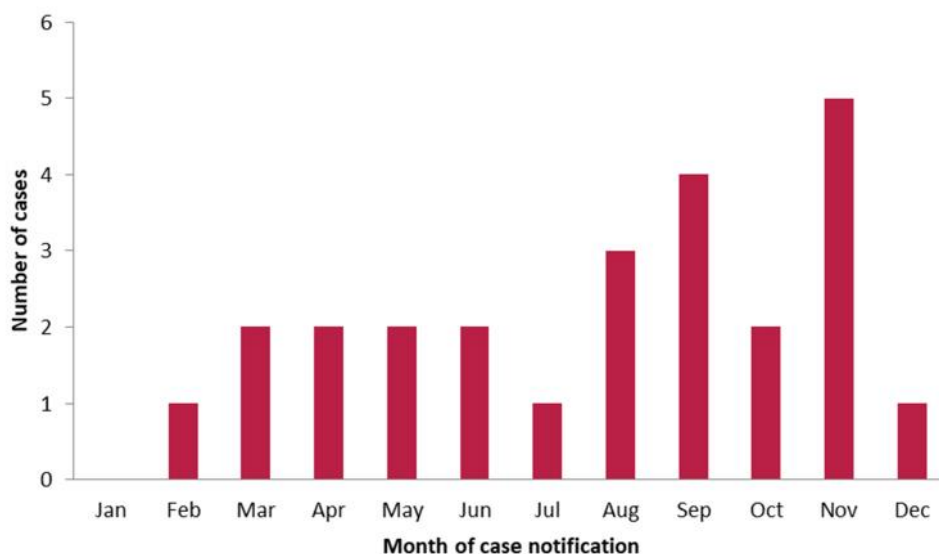
Table 1. Number of Legionnaires’ disease cases by HSE area of reporting in Ireland, 2017

Area of reporting	Number of cases
HSE-East	15
HSE-South	4
HSE-Mid-West	3
HSE-North East	1
HSE-Midlands	1
HSE-West	1
Ireland	25

Seasonality

Autumnal seasonality was observed in case notifications in 2017 with higher numbers of cases reported between September and November (Figure 1).

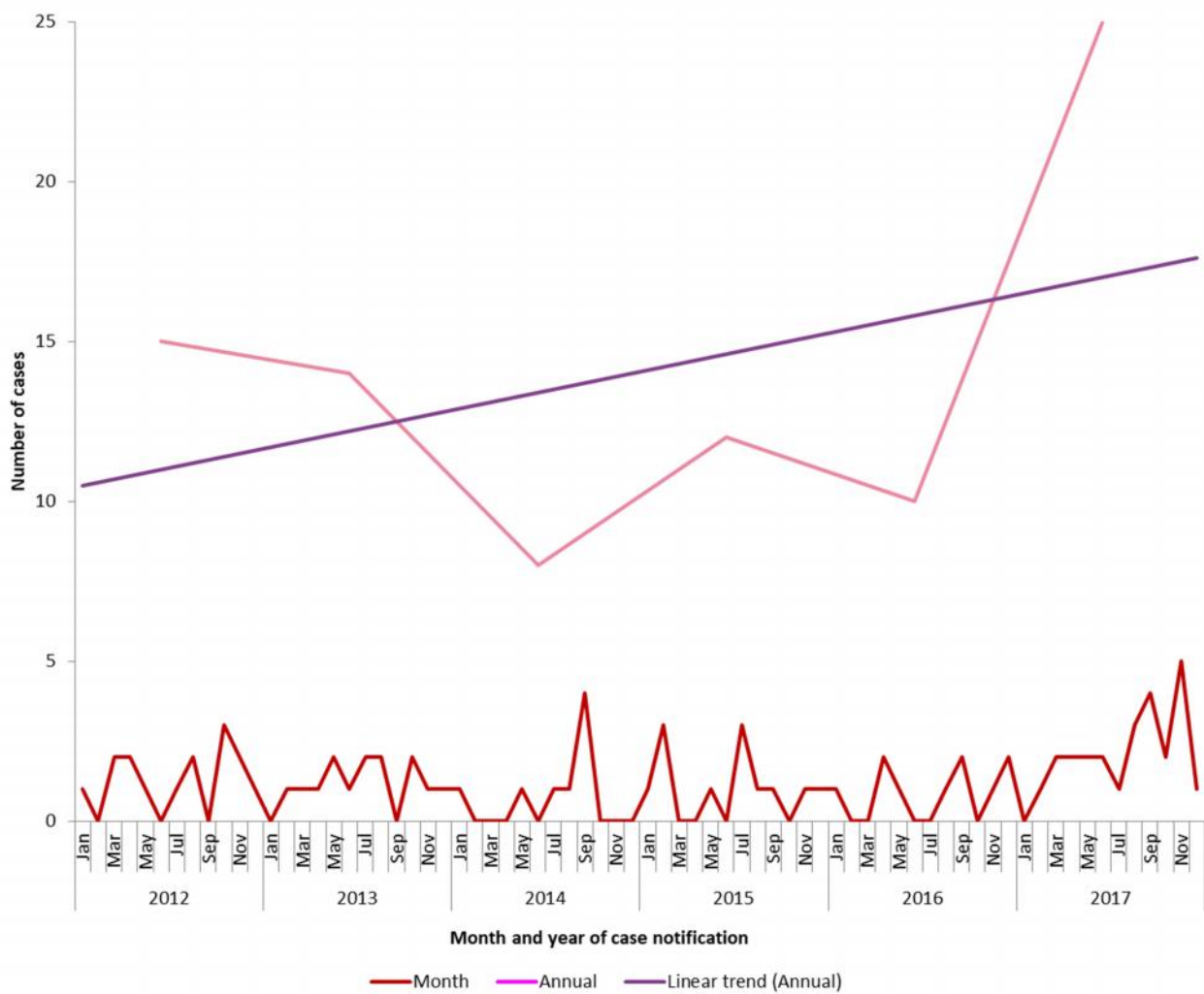
Figure 1. Number of Legionnaires’ disease cases by month of notification in Ireland, 2017



Trends over time

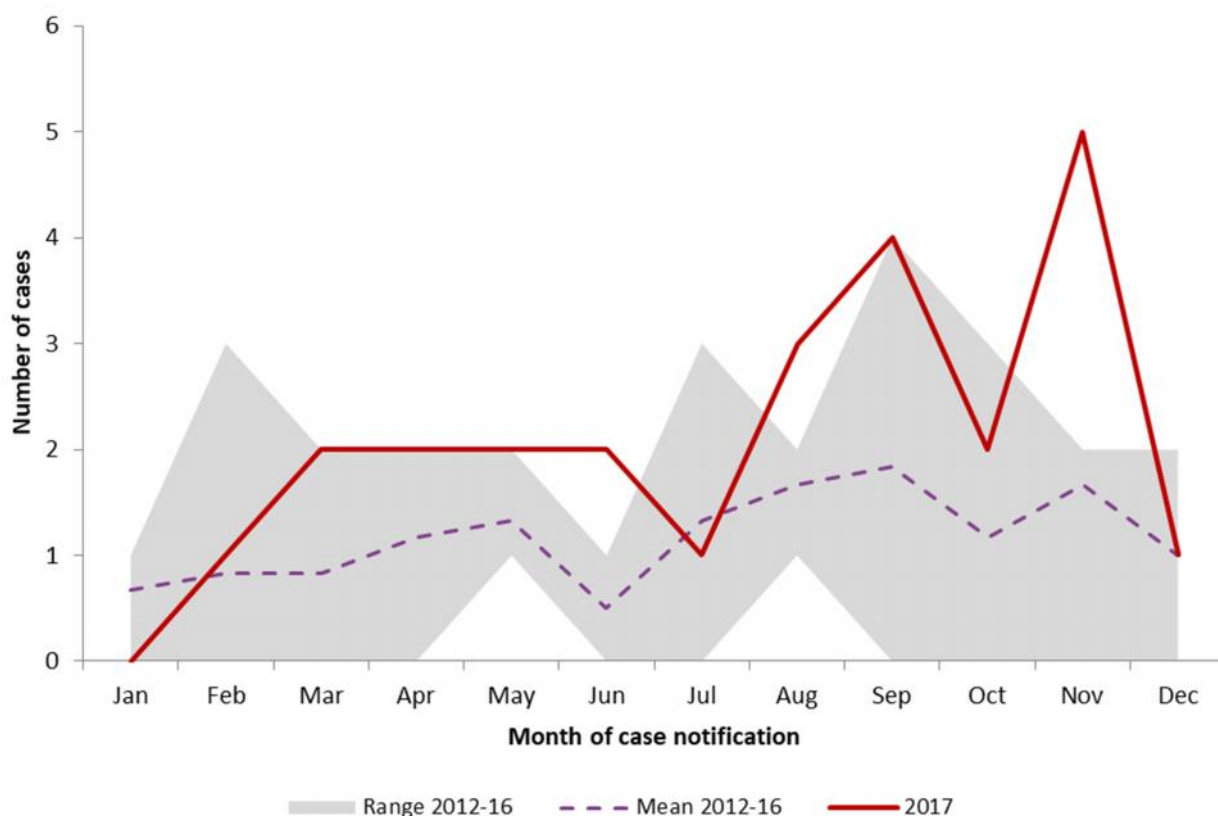
The number of cases of Legionnaires’ disease by month of notification between 2012 and 2017 are presented in Figure 2. The annual trend over the past six years indicates that the number of Legionnaires’ disease case notifications has been increasing over time.

Figure 2. Number of Legionnaires’ disease cases by month and year of notification in Ireland, 2012-2017



The numbers of cases notified in 2017 were above historical thresholds when compared with the mean for the previous six years (Figure 3).

Figure 3. Number of Legionnaires’ disease cases by month of notification in 2017 in Ireland compared to the mean and range by month for the years 2012-2016



Causative organism

All 25 cases were classified as confirmed *Legionella pneumophila*. *Legionella pneumophila* serogroup 1 was detected in 21 cases (84%), and these were detected predominantly by urinary antigen test. *Legionella pneumophila* serogroups 2-14 were detected in two cases, confirmed by sputum sample culture. Serogroup type was unknown for two cases (Table 2).

Table 2. Number of Legionnaires’ disease cases by serogroup type and laboratory test undertaken in Ireland, 2017

Pathogen	Urinary antigen test (UAT)	Culture test	UAT and Culture test	Total
Serogroup 1	19	1	1	21
Serogroups 2-14	0	2	0	2
Serogroup unknown	0	2	0	2
Total	19	5	1	25

Travel associated notifications

Eleven cases (44%) were travel-associated. Countries of travel included Spain (2), Turkey (2), United Kingdom (2), Germany (1), Italy (1), Serbia (1), United Arab Emirates (1) and the United States of America (1). Eleven cases were assumed to be community acquired and three cases (12%) could not be classified due to missing data.

Age as a risk factor for Legionellosis infection

Analysing the data over time, between 2009 and 2017, 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).

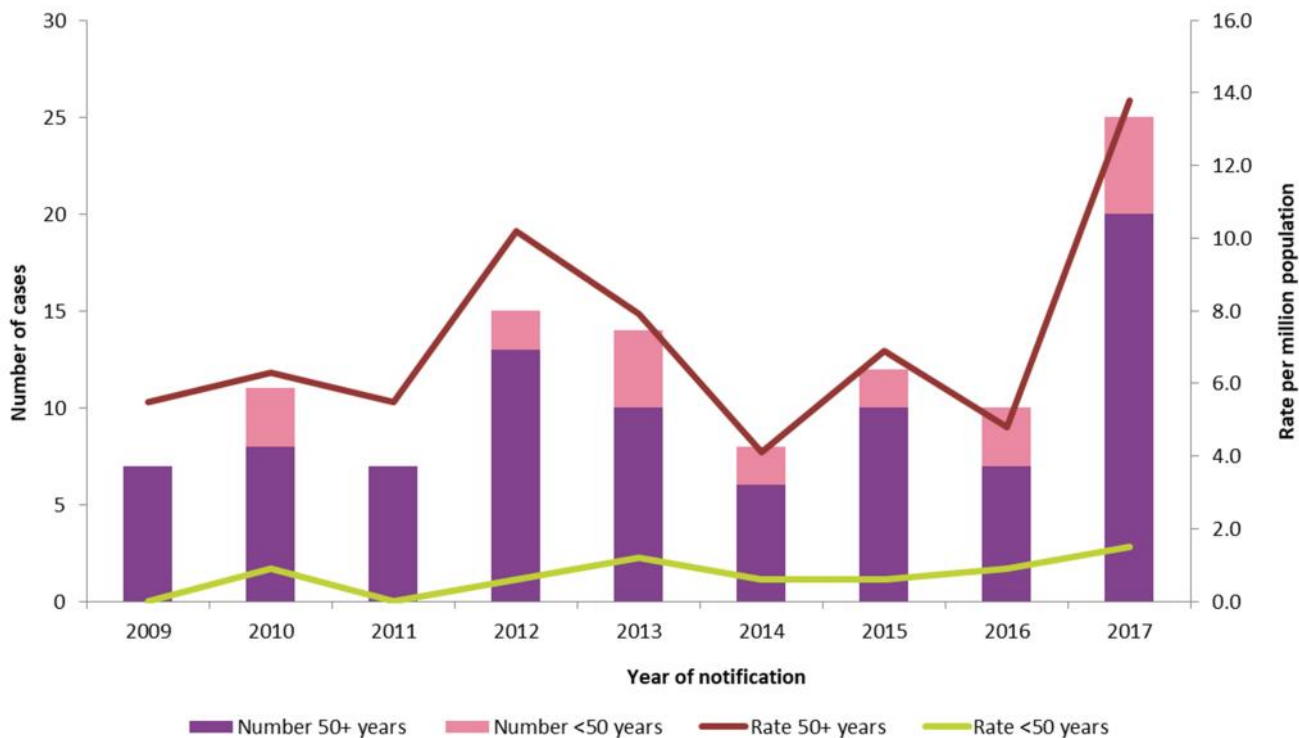
Table 3. Number of Legionnaires' disease cases and crude incidence rates (CIR) per million population in Ireland by age group, 2009-2017

Age Group (years)	2009	2010	2011	2012	2013	2014	2015	2016	2017
<30	0	1	0	0	0	0	0	1	0
30-39	0	0	0	1	1	1	1	1	1
40-49	0	2	0	1	3	1	1	1	4
50-59	2	1	1	1	4	2	3	1	6
60-69	3	3	4	6	1	3	1	2	6
70+	2	4	2	6	5	1	6	4	8
Total	7	11	7	15	14	8	12	10	25
Total CIR per million	1.5	2.4	1.5	3.3	3.1	1.7	2.5	2.1	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 2014-2017.

The crude incidence rate in those aged less than 50 years remains low and relatively stable over time; less than two cases per million population (Figure 4). 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 2017 at 13.8 per million population.

Figure 4. Number of Legionnaires’ disease cases by age group and crude incidence rates per million population in Ireland, 2009-2017



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 2014-2017.

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 Control and Prevention and the World Health Organisation.

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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