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Annual Epidemiological Report

November 2018

Giardiasis in Ireland, 2017

Key Facts

- There were 240 notifications of giardiasis in Ireland in 2017. This represents a greater than five-fold increase in notifications in 5 years
- The median age of giardiasis cases was 36 years, two-thirds of cases were male and two-thirds were GP patients
- 37% of giardiasis cases in 2017 were travel-related
- The increase appears to be largely due to recent changes in laboratory practice in respect of selection of stools for testing coincident with the introduction of newer, more sensitive, molecular detection methods.
- In addition to causing a much larger burden of disease than previously recognised, other subtle changes are becoming evident, e.g. cases diagnosed in HSE-areas with higher rates of diagnoses tend to have an older age distribution and a lower proportion of travel-related cases.
- It is likely there is still under-ascertainment of giardiasis cases in several HSE-areas.

Suggested citation: HSE Health Protection Surveillance Centre. Giardiasis in Ireland, 2017. Dublin: HSE HPSC; 2018

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Background

Giardiasis is a form of gastroenteritis, characterised by diarrhoeal illness that is caused by a microscopic parasite, *Giardia lamblia*. *G. lamblia* lives in the intestines of humans and many animals. Giardiasis occurs when the parasites are ingested, most commonly when contaminated water, containing the parasites, is drunk. Contaminated water may come from lakes or ponds, swimming pools, contaminated drinking water or ice. It may also be aacquired if the contamination is on food and environmental surfaces. It is resistant to levels of chlorination routinely used in drinking water. Symptoms occur between 7-10 days (usually 1-3 days) after exposure to *Giardia*. Sexual transmission between men who have sex with men (MSM) has also been reported as a risk factor.

Symptoms include:

- diarrhoea
- foul smelling, greasy stools
- flatulence
- nausea

Diarrhoea can be prolonged, leading to temporary malabsorption. Many cases are asymptomatic.

Methods

Disease notification

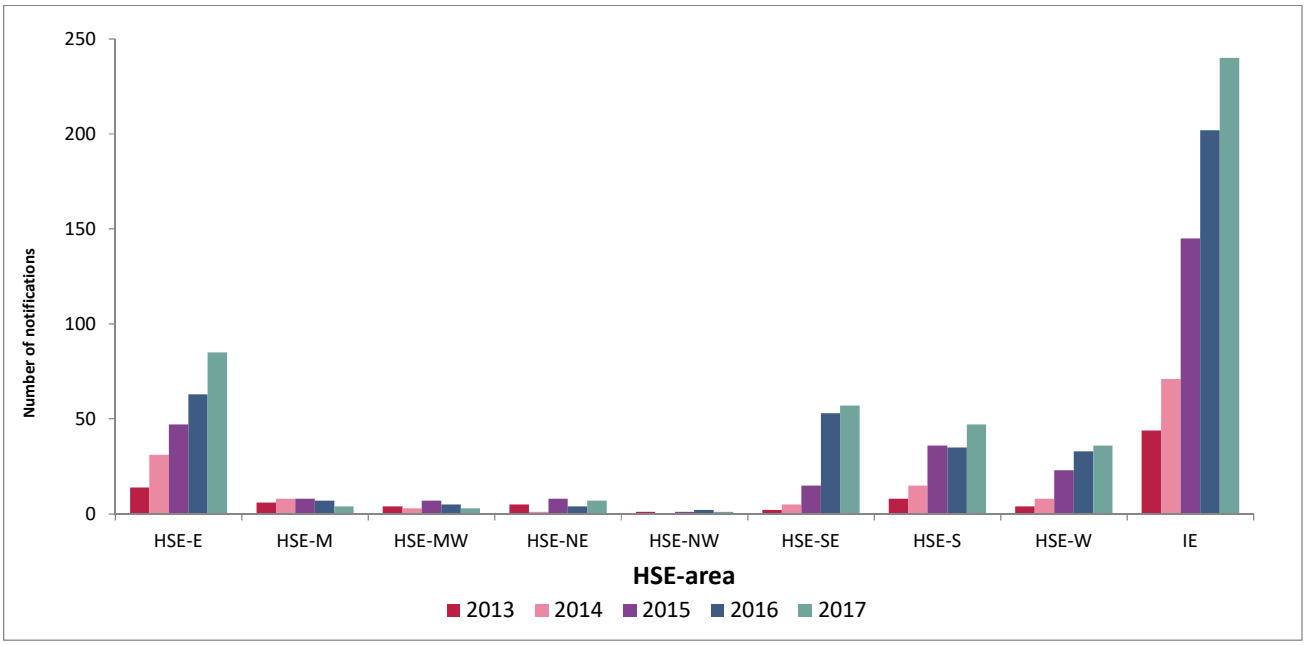
Giardiasis is a notifiable disease in Ireland under the Infectious Disease Regulations and cases should be notified to the Medical Officer of Health. Notifications are reported using the Computerised Infectious Disease Reporting system (CIDR) which is described here. Further information on the process of reporting notifiable infectious diseases is available here. The case definition in use in 2017 is here. For this report, data on cases notified to CIDR in 2017 were extracted from CIDR as of 31st August 2018.

Results

Basic epidemiology

In 2017, there were 240 cases of giardiasis notified in Ireland, corresponding to a crude incidence rate (CIR) of 5.0 per 100,000 population. This is an increase of 19% in the CIR compared to 2016. In particular, four HSE-areas have experienced dramatically increasing trends in the number of notifications reported over the last five years (Figure 1).

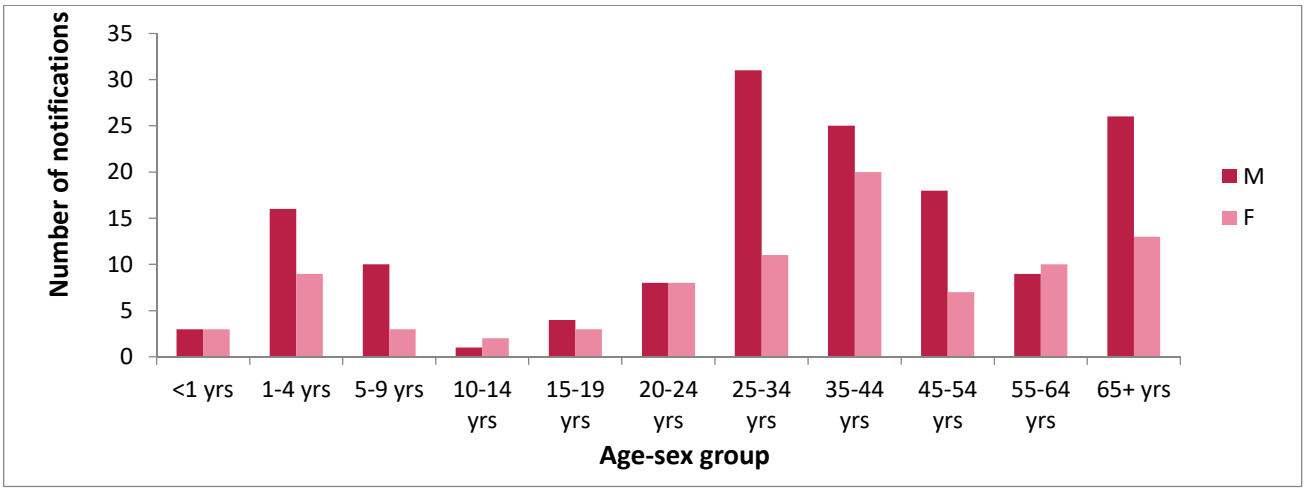
Figure 1. **Annual number of giardiasis notifications by HSE-area, Ireland 2013-2017**



Cases ranged in age from four months-95 years with a median age of 36 years. Across the four areas with low numbers of cases (M, MW, NE and NW), the median age was lower (19 years) than in areas with higher numbers of cases (E, SE, S and W) (37 years).

The male to female ratio was 1.7:1.0, with the number of male cases exceeding that in females in age groups 1-9 years and in all age groups over 25 years (Figure 2).

Figure 2. **Number of giardiasis notifications by age group and sex, Ireland 2017**



The majority of cases were diagnosed in GP patients (64.0%), with 25% of cases admitted to hospital. A relatively long interval between onset and specimen submission (median 13 days) may reflect the relatively long duration of illness, albeit with perhaps less severity than some bacterial gastrointestinal pathogens.

Country of infection

Country of infection was reported for only 47% of cases in 2017, a decrease compared to 2016 (Table 1). Of the 113 cases where country of infection was reported, 42 (37%) were reported as being associated with foreign travel. Twenty three different countries were reported, the most common of which were India (n=13), Spain (n=4), and Colombia (n=3). Seventy-one cases (63.0% of those with country of infection information) were reported as being acquired in Ireland, a further increase compared to the 59% reported in 2016. Country of infection was not reported for the remaining 127 cases.

Table 1. Number of *Giardia* notifications by place of infection, Ireland 2017

Place of infection	Number of notifications
Ireland	71
Asia	18
Other Europe	9
Africa	7
Americas	8
Unknown/not specified	127
Total	240

Outbreaks and clusters

Eight family outbreaks of giardiasis were notified in 2017, with 19 persons ill. Four were considered to be due to person to person transmission, one due to food/waterborne transmission and three with transmission route unknown.

Discussion

The number of notifications of giardiasis has increased five-fold in Ireland in the last five years. This increase appears to be largely due to recent changes in laboratory practice in respect of selection of stools for testing coincident with the introduction of newer, more sensitive, molecular detection methods. The rise in case numbers in HSE-areas occurred most suddenly in those areas served largely by a single regional laboratory where practice changed (HSE-SE, HSE-S and HSE-W), and was more gradual in the HSE-E which is served by multiple laboratories, reflecting most likely a more gradual introduction of the new methodology across several laboratories.

Public health implications

Given that four HSE-areas still notify very few cases, it is likely that there remains a degree of under-ascertainment. In addition to changes in the total number of cases reported, other subtle changes are becoming evident, e.g. cases diagnosed in HSE-areas with higher rates of diagnoses tend to have an older age distribution and a lower proportion of travel-related cases. Much remains to be learned about the true distribution of giardiasis in Ireland, but it is clear that it causes a much larger burden of disease than previously thought, especially the burden acquired in Ireland. It is likely that a better understanding will be achieved when diagnosis by PCR is fully rolled out across all clinical diagnostic laboratories.

Further information available on HPSC website

Further information about giardiasis is available at http://www.hpsc.ie/a-z/gastroenteric/giardiasis/

Previous annual reports on giardiasis in Ireland available at http://www.hpsc.ie/a-z/gastroenteric/giardiasis/publications/annualreports/

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