

3.2 Cryptosporidiosis

Summary

Number of cases, 2009: 445
Number of cases, 2008: 416
Crude incidence rate, 2009: 10.5/100,000

Cryptosporidium is a protozoal parasite that causes a diarrhoeal illness in humans known as cryptosporidiosis. It is transmitted by the faecal-oral route, with both ruminants and humans serving as reservoirs. Human cryptosporidiosis became a notifiable disease in Ireland in 2004, and the case definition in use is published in the HPSC case definition booklet.

In 2009, 445 cases of cryptosporidiosis were notified in Ireland, a crude incidence rate of 10.5 per 100,000 population, with 28% of notified cases reported as hospitalised for their illness. This was a 7% increase on the number of cases notified in 2008 (Figure 1). In 2007 (the most recent year for which data are available), the ECDC reported an incidence rate overall of 2.4 per 100,000 population in the European Union, with Ireland reporting the highest rate among those countries reporting on this disease at the time.¹

Consistent with previous years, the highest reported incidence was in children under 5 years, with over 90 cases per 100,000 population in this age group (Figure

2). While there is likely to be a bias towards testing of diarrhoeal stool specimens from children (as opposed to adults) for *Cryptosporidium*, it is also likely that this distribution reflects to some extent a true difference in risk between adults and children.

The crude incidence (CIR) rates by HSE area for 2009 are reported in Figure 3. As in previous years, there was a strong urban-rural divide, with the HSE-E having a much lower reported incidence rate (0.73 per 100,000) than other HSE areas. The HSE-M and HSE-W reported the highest crude incidence rates (23.84 and 26.07 per 100,000 respectively) –over twice the national rate.

Since 2004, a large increase in cases has been recorded each spring, and in 2009 a similar peak in the reported number of cases occurred (Figure 4). This year, there was also a smaller peak in case numbers in September. Notably although only 16 notifications across the full year were specifically reported as being associated with foreign travel, eight of these were reported during the month of September.

Speciation of *Cryptosporidium* specimens can provide valuable information on the epidemiology of this disease. *C. hominis* is a species primarily linked with humans, whereas both humans and animals can be sources of *C. parvum* infections. In 2009, around 17% of positive human *Cryptosporidium* specimens in Ireland were referred for speciation to the UK *Cryptosporidium*

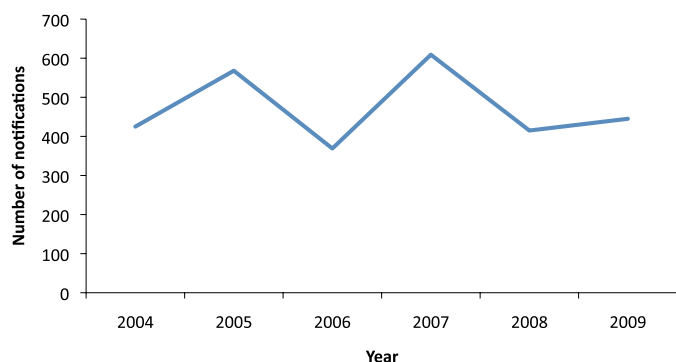


Figure 1: Annual number notifications cryptosporidiosis, Ireland 2004-2009.

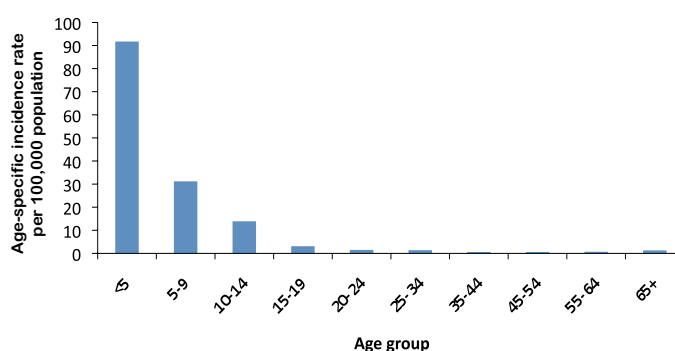


Figure 2: Age-specific incidence rate cryptosporidiosis, Ireland 2009

Reference Unit in Swansea by a small number of hospital laboratories. This is a decrease on the proportion of cases for which specimens were typed in 2008 (35%). As in 2008, *C. parvum* was the most common species reported (Table 1).

Six outbreaks of cryptosporidiosis were reported in 2009: one general outbreak and five family outbreaks (Table 2). All were small outbreaks, and between them accounted for only 7 cases. Table 2 lists the transmission routes and locations for these outbreaks. Three were reported due to person-to-person transmission; no waterborne outbreaks were reported. The overwhelming majority of cases in 2009 were reported as sporadic cases.

Reference

1. ECDC. 2009. Annual Epidemiological Report on Communicable Disease in Europe. ISBN 978-92-9193-196-5.

Table 1. Species distribution of *Cryptosporidium* cases, Ireland 2009

Species	Number of cases	% of cases
<i>C. parvum</i>	68	15.3%
<i>C. hominis</i>	7	1.6%
<i>C. sp:nontypeable</i>	1	0.2%
<i>C. species</i>	369	82.9%
Total	445	100%

Table 2. *Cryptosporidiosis* outbreaks Ireland 2009

Month	HSE-area	Transmission route	Type	Location	No. ill
Mar	NWHB	Person-to-person	Family	Private house	2
Apr	MHB	Animal contact	Family	Private house	3
Apr	NEHB	Unknown	Family	Private house	3
May	NWHB	Person-to-person	General	Community outbreak	3
Jun	SEHB	Unknown	Family	Private house	2
Jun	WHB	Person-to-person	Family	Private house	4

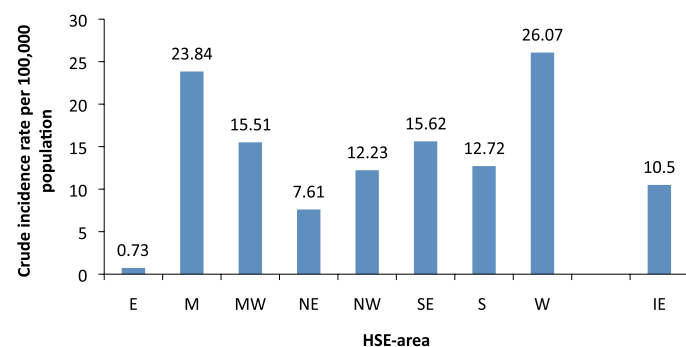


Figure 3: Regional crude incidence rates cryptosporidiosis, Ireland 2009.

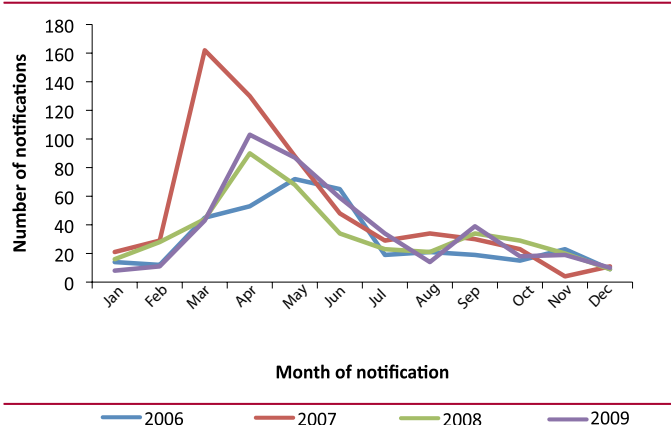


Figure 4. Seasonal distribution of cryptosporidiosis cases 2006-2009