

3.1 Campylobacter

Summary

Number of cases 2008: 1758
 Number of cases 2007: 1891
 Crude Incidence Rate: 41.4/100,000

Campylobacter became a notifiable disease in Ireland in 2004 under the Infectious Diseases regulations. Prior to this, data on laboratory-confirmed cases of *Campylobacter* infection in humans were collected nationally as part of the EU Zoonoses Regulations. It is an acute zoonotic bacterial disease and characterised by diarrhoea, abdominal pain, malaise, fever, nausea and vomiting. Symptoms generally last for only a few days. Undercooked meat especially poultry is often associated with illness as is unpasteurised milk and untreated water. Findings of the first national case control study conducted in Ireland investigating risk factors for sporadic *Campylobacter* infections show that consuming chicken, lettuce and eating takeaways were important risk factors for contracting the disease in Ireland. Contact with sheep, peptic ulcer, hiatus hernia, lower bowel problems were also independently associated with infection. However mains water supply showed protective effect from contracting the illness¹.

Campylobacteriosis is the commonest bacterial cause of gastroenteritis in Ireland and Europe. Despite there being 133 less notifications than in 2007 this dominant trend continued in 2008 with 1758 cases of *Campylobacter* notified. Of the cases notified 99.8% were laboratory confirmed.

Table 1: ASIR and CIR of *Campylobacter* by Region, 2008

HSE-Region	Age Standardised Incidence Rate (95% CI)	Crude Incidence Rate (95% CI)
East	36.8 [33.8 - 40.0]	37.7 [34.6 - 40.8]
Midlands	58.8 [49.4 - 68.3]	60.0 [50.4 - 69.6]
Midwest	48.8 [41.6 - 56.1]	48.8 [41.6 - 56.0]
Northeast	32.7 [27.2 - 38.3]	34.0 [28.3 - 39.8]
Northwest	40.9 [32.8 - 49.1]	41.3 [33.2 - 49.5]
Southeast	38.8 [33.1 - 44.5]	39.1 [33.4 - 44.8]
South	44.0 [38.7 - 49.2]	43.2 [38.0 - 48.3]
West	45.8 [39.2 - 52.4]	44.7 [38.2 - 51.1]
National	41.3 [39.3 - 43.2]	41.4 [39.5 - 43.4]

The national crude incidence rate (CIR) was 41.4/100,000. The most recent community summary report published by the European Food Safety Authority (EFSA) in January 2009 calculates a European CIR of 45.2/100,000 for 2007².

The CIR varied regionally ranging from 34.0/100,000 in the Northeast, to 60.0 /100,000 in the Midlands (Figure 1). Over the past three years a consistent increase in rates has been observed in the Mid and Midwest areas of the country. Conversely the East and the Northwest have both incurred year on year consistent decrease rates per 100,000.

Campylobacteriosis is seen in all age groups with the highest burden of illness experienced in the 0-4 age group. This group had the highest age specific incidence rate (ASIR) of 141.9/100,000 in 2008 (figure 2). The second highest ASIR observed was in the 20-24 age group (43.8/100,000). The least affected age group were the 10-14 year olds (ASIR of 21.2/100,000). This preponderance in younger children is a well known characteristic of the disease and is also observed at European level. The EFSA community summary report for 2007 calculates the ASIR of the 0-4 age group at 120.0/100,000. Table 1 presents both ASIR and CIR by region for 2008.

Campylobacter has a well documented seasonal distribution with a peak in early summer. During 2008 the occurrence of *Campylobacter* did not conform to this usual trend. July experienced the highest rate of occurrence during the summer months (n=204) but in October there was late second peak (n=230). The reason for this is not known. The number of cases remained elevated for the remaining months with 128 cases notified in December (figure 3).

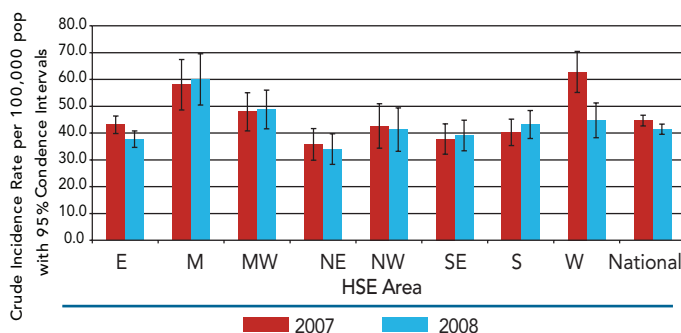


Figure 1: National CIR of *Campylobacter* by Region, 2007 and 2008.

Overall there was a slightly elevated rate of male cases reported in 2008. This is evident when the ASIRs are examined by age-sex adjusted rates. The proportion varies between age groups, most notably in the 10-14 age group where the occurrence in male cases is almost three times greater than in their female counterparts.

There is currently no national referencing facility for routine typing of *Campylobacter* isolates. As a result information on species type is very poor. In 2008 67.5% of *Campylobacter* cases identified were not further speciated. Of those that were typed *C. jejuni* accounted for 88.1% (n=503) of cases, *C. coli* (n=67) for 11.7% and *C. lari* for 0.2% (n=1).

Table 2: ASIR of *Campylobacteriosis* by Age Group and Sex, 2008

Age Group	Rate per 100,000 - Females	Rate per 100,000 - Males
0-4	58.9	81.7
05-09	21.5	19.1
10-14	5.5	15.7
15-19	12.4	13.8
20-24	23.7	20.2
25-34	22.8	19.7
35-44	16.7	15.1
45-54	11.5	14.2
55-64	12.5	13
65+	18	19
Total	19.7	21.4

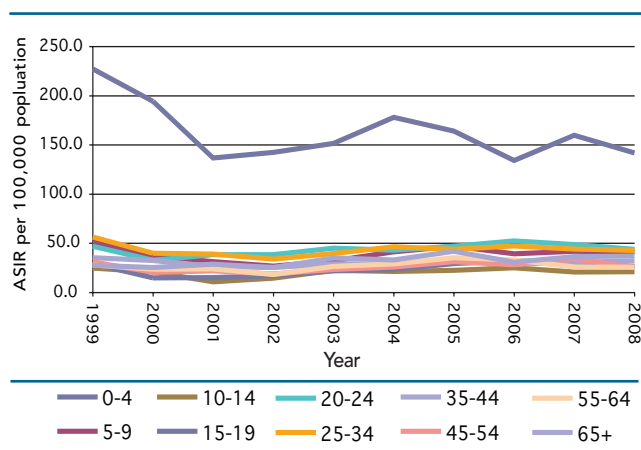


Figure 2: National ASIR of *Campylobacter* by Age Group, 1999 – 2008

Information on country of origin was recorded in 16.9% of all cases. This is a slight improvement on the rate of information provided in 2007 (14% of all cases). Of cases where country of origin was specified, indigenous cases accounted for 94.3%. There were 17 foreign travel cases associated with 16 different countries (two cases identified the UK in travel history).

During 2008 there were seven family outbreaks of *Campylobacter* notified on CIDR with 14 associated cases of illness. These were all small clusters of illness with no more than two people ill in any outbreak. Mode of transmission was described in five of the outbreaks with person to person spread being the most common route (n=3). Foodborne and animal route contact was suggested for the remaining two outbreaks however no further details were available to substantiate these hypothesised routes.

References:

1. Danis K et al., *Risk factors for sporadic Campylobacter infection: an all-Ireland case-control study.* Euro-Surveillance. 2009 Feb 19;14(7). pii: 19123
2. *Community Summary Report – Trends and Sources of Zoonoses and Zoonotic Agents in the European Union in 2007;* Published by the European Food Safety Authority and the European Centre for Disease Control, January 2009

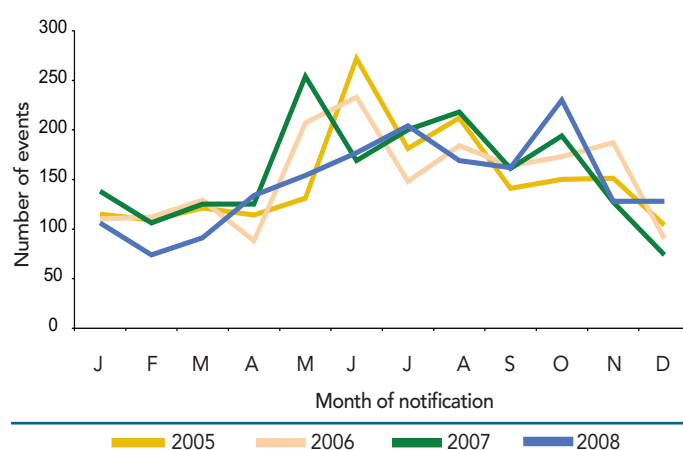


Figure 3: *Campylobacter* Notifications in Ireland by Month, 2004-2008