

# 3.8 Shigellosis

## Summary

Number of cases, 2011: 42  
 Crude Incidence rate, 2011: 0.92 per 100,000  
 Number of cases, 2010: 60

In the last twenty years, the number of cases of shigellosis in Ireland has been low in comparison to the number of cases notified in the early 1990s (Figure 1). Shigellosis, however, remains a common cause of gastrointestinal illness in developing countries, and many cases notified in Ireland are now identified as being travel-associated.

While person-to-person spread is an important transmission route between children, risks also remain from food, with at least four general outbreaks having

been reported in Scandinavia in 2009 associated with imported fresh produce.<sup>1-5</sup> Transmission between men who had sex with men (MSM) has been reported.<sup>6,7</sup>

Forty-two cases of shigellosis were notified in Ireland in 2011 (CIR 0.92 per 100,000, 95% CI 0.64-1.19), all of which were laboratory confirmed. This compares to 60 cases in 2010 and 70 cases in 2009 (Figure 1). Of 35 cases where hospitalisation status was recorded, 5 (14%) were reported as hospital in-patients.

Cases ranged in age from 11 months to 65 years (median age=26 years). Like 2009 and 2010, more males (n=25) than females (n=17) were notified (Figure 2). This differs to the three years previous to that when there were more females than males reported each year.

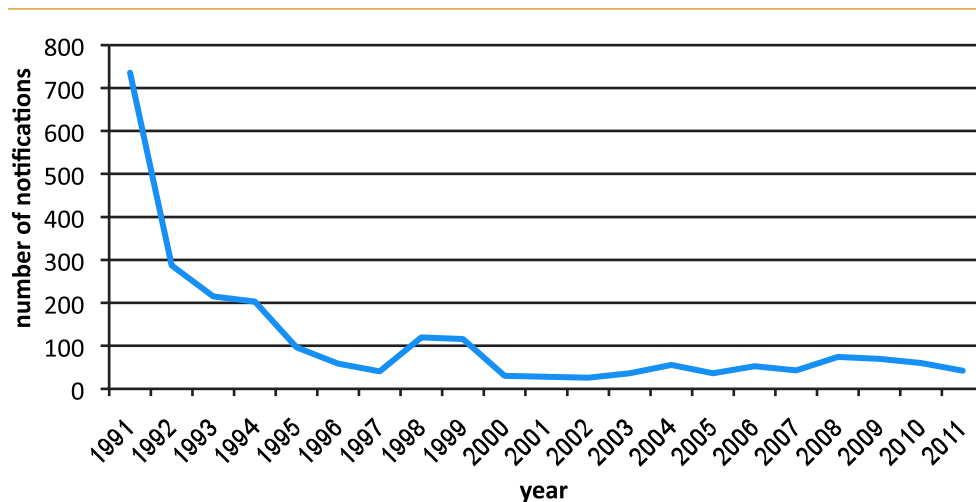


Figure 1: Annual number of notifications shigellosis, Ireland 1991-2011

Table 1: Number of notifications shigellosis by species and country of infection, Ireland 2011

Organism	S. America	Africa	Asia	Europe	Ireland	Not specified	Total
Shigella boydii	0	2	0	0	0	0	2
Shigella flexneri	1	3	1	2	1	2	10
Shigella sonnei	1	8	5	1	9	5	29
Shigella species	0	0	1	0	0	0	1
Total	2	13	7	3	10	7	42

(Data source: CIDR)

Information on travel history is very valuable when reviewing surveillance data for possible indigenous clusters, and data on country of infection in the national dataset continues to improve, being available for 83% of shigellosis notifications this year. Twenty-five cases were reported associated with foreign travel (Table 1). The countries of infection reported were India (n=4), Morocco (n=3), with two cases each associated with Spain, Gambia, Egypt and Ghana, and one case associated each with travel to Argentina, Timor-Leste, Panama, Thailand, Sudan, Nigeria, Belgium, Ethiopia, Kenya and Lebanon. Ten infections were reported as being acquired in Ireland, while no country of infection information was available for seven cases.

*Shigella sonnei* was the most common species reported (n=29), followed by *S. flexneri* (n=10). There were also two *S. boydii* and one confirmed case for which the species was not reported. The species distribution of cases by country of infection is reported in Table 1.

More detailed typing of *Shigella* isolates can provide useful information on the relatedness of strains which can be used by public health personnel to outrule/provide evidence for links between cases during investigations of case clusters. The National *Salmonella*, *Shigella* and *Listeria* Reference Laboratory (NSSLRL) in University College Hospital, Galway can provide laboratory services for speciation, serotyping, antimicrobial resistance profiling, and where appropriate, Pulsed Field Gel Electrophoresis (PFGE) of *Shigella* isolates.

In 2010, 30 human *Shigella* isolates were referred to the NSRL, three-quarters of the isolates from all confirmed cases. The species/serotype distribution of these cases is reported in Table 2.

There were two shigellosis outbreaks notified in 2011, details of which are provided in Table 3. Both were caused by *Shigella sonnei*.

Table 2: Species/serotypes of *Shigella* isolates referred to NSRL in 2011 (Data courtesy of Martin Cormican, Niall de Lappe and Jean O Connor at NSSLRL)

Strain	Number of isolates
<i>Shigella flexneri</i> 1a	1
<i>Shigella flexneri</i> 2a	5
<i>Shigella flexneri</i> 3a	1
<i>Shigella flexneri</i> 3b	1
<i>Shigella flexneri</i> 6	2
<i>Shigella sonnei</i>	20
Total	30

[Data source: NSSLRL]

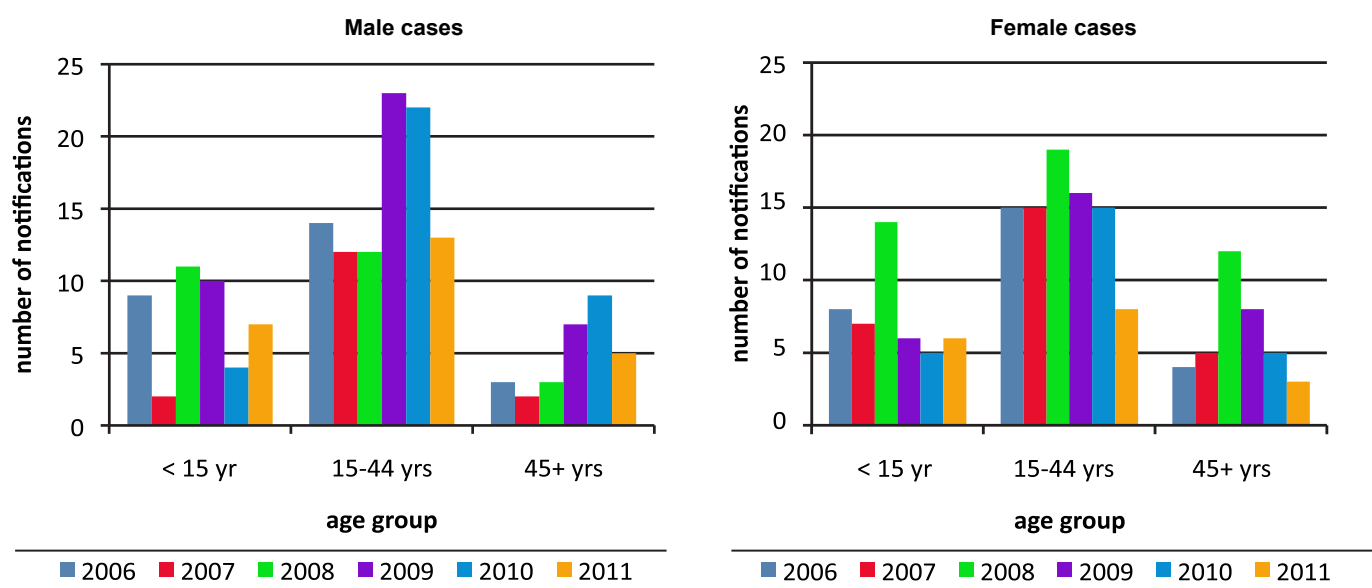


Figure 2: Age-sex distribution shigellosis notifications, Ireland 2011 relative to 2006-2011

Although foreign travel is a major risk factor for shigellosis among Irish residents, indigenous risks are likely to be through person-to-person spread (in some instances from persons who have contracted shigellosis abroad), and from food as demonstrated by the Scandinavian outbreaks associated with imported foods in recent years.

#### References

1. *Shigella sonnei* infections in Norway associated with sugar peas, May – June 2009. B T Heier , K Nygard, G Kapperud, B A Lindstedt, G S Johannessen, H Blekkan <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19243>
2. Imported fresh sugar peas as suspected source of an outbreak of *Shigella sonnei* in Denmark, April – May 2009. L Müller, T Jensen, R F Petersen, K Mølbak, S Ethelberg <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19241>
3. Lewis HC, Ethelberg S, Olsen KE, Nielsen EM, Lisby M, Madsen SB, et al. Outbreaks of *Shigella sonnei* infections in Denmark and Australia linked to consumption of imported raw baby corn. *Epidemiol Infect* 2009;137(3):326-34.
4. Lewis HC, Kirk M, Ethelberg S, Stafford R, Olsen KE, Nielsen EM, Lisby M, Madsen SB, Mølbak K. Outbreaks of shigellosis in Denmark and Australia associated with imported baby corn, August 2007 – final summary. *Euro Surveill.* 2007;12(40):pii=3279. Available from: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=3279>
5. M Löfdahl, S Ivarsson, S Andersson, J Långmark, L Plym-Forsshell 2009. An outbreak of *Shigella dysenteriae* in Sweden, May–June 2009, with sugar snaps as the suspected source. *Eurosurveillance* 14:28 <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19268>
6. Gournis, E. 2010. SHIGELLOSIS, CHANGING EPIDEMIOLOGY - CANADA: (ONTARIO) REQUEST FOR INFORMATION. [http://www.promedmail.org/pls/apex/f?p=2400:1001:687576564639::NO::F2400\\_P1001\\_BACK\\_PAGE,F2400\\_P1001\\_PUB\\_MAIL\\_ID:1010,81401](http://www.promedmail.org/pls/apex/f?p=2400:1001:687576564639::NO::F2400_P1001_BACK_PAGE,F2400_P1001_PUB_MAIL_ID:1010,81401)
7. HPA. 2011. Outbreak of UK acquired *Shigella flexneri* in men who have sex with men. Volume 5 No 40; 7 October 2011 <http://www.hpa.org.uk/hpr/archives/2011/news4011.htm#shgflx>

Table 3: Shigellosis outbreaks, Ireland 2011

Month	HSE-area	Transmission Route	Location	Type	Number ill
Sep	MW	Person to person	Creche	General	3
Oct	E	Person to person	Extended family	Family	3