

Listeriosis in Northern Ireland, 2000-2012

Listeriosis is a foodborne disease that is caused by the consumption of contaminated raw, chilled, and ready-to-eat food items. The major human pathogen is *Listeria monocytogenes*, which is the most common causative agent of listeriosis. Listeriosis is a rare but serious disease, primarily affecting the elderly, pregnant women, newborn infants, and immunosuppressed individuals. The case fatality rate of listeriosis is high with up to a third of all cases dying, making it the leading cause of food-poisoning related mortality in the UK [1]. Listeriosis also has a significant economic impact due to the high hospitalisation costs associated with the disease. Northern Ireland has a low incidence of listeriosis; however it is important to ensure continued surveillance of this significant public health disease [2]. This short report summarises the epidemiological data relating to listeriosis over the period 2000-2012.

A total of 59 cases of laboratory confirmed listeriosis were reported in Northern Ireland during the period 2000-2012 (Figure 1). An average of 5 cases (median 4) were reported annually, with fluctuations in incidence throughout the time period. The number of cases remained relatively stable between 2000 and 2007, with between 2 and 6 cases reported each year. In 2008 an outbreak occurred resulting in an annual total of 11 cases. An investigation into this outbreak concluded that there was a possible association with sandwiches provided to hospital inpatients; however this exposure explained only 4 of the 7 cases in the outbreak. The total incidence declined in 2009 with 4 cases reported, and remained low until 2012 when a second outbreak occurred, contributing 6 of the total 7 cases in the year. The source of the 2012 outbreak has not been confirmed and the outbreak report is ongoing. Of the 59 cases reported over the time period, only one case in 2012 was confirmed as pregnancy related.

The majority of cases over the time period (64%; n=38) occurred in those 65 years and over, with the 45-64 year age group the second highest at 25% (n=15). The gender ratio was inconsistent, however in 2008 and 2004 there were peaks in the number of male cases (Figure 3). The proportion of males/females did not significantly differ from 50% each over the whole time period ($p=0.193$), and the numbers were too small to statistically test for gender differences over time. There was also no significant difference in age between males and females over the whole time period ($p=0.356$). However, again the numbers were too small to statistically test for age differences over time.

Overall the majority of cases over the period 2000-2012 were untyped (59%; n=35). Of those that were typed (n=24), the most common serotypes were 4 (38%) and 1/2A (38%) (Figure 4, Table 1). Since 2008 an agreement with the bacteriology laboratories has improved the proportion of listeria isolates that are typed, with the proportion untyped over the time period 2008-2012 reducing to 22% (n=6). The most common serotypes over this time period were again 1/2A and 4, making up 43% and 38% of all typed isolates respectively (Figure 5, Table 2).

Figure 1: Number of laboratory confirmed listeriosis cases in Northern Ireland; 2000–2012

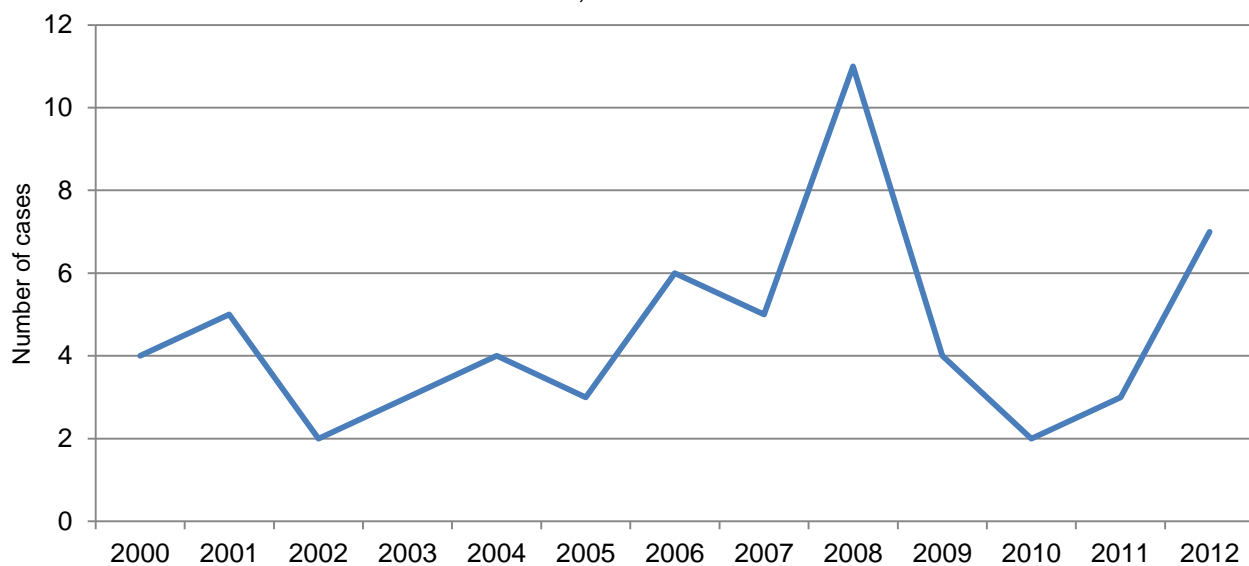


Figure 2: Number of laboratory confirmed listeriosis cases in Northern Ireland by ageband; 2000–2012

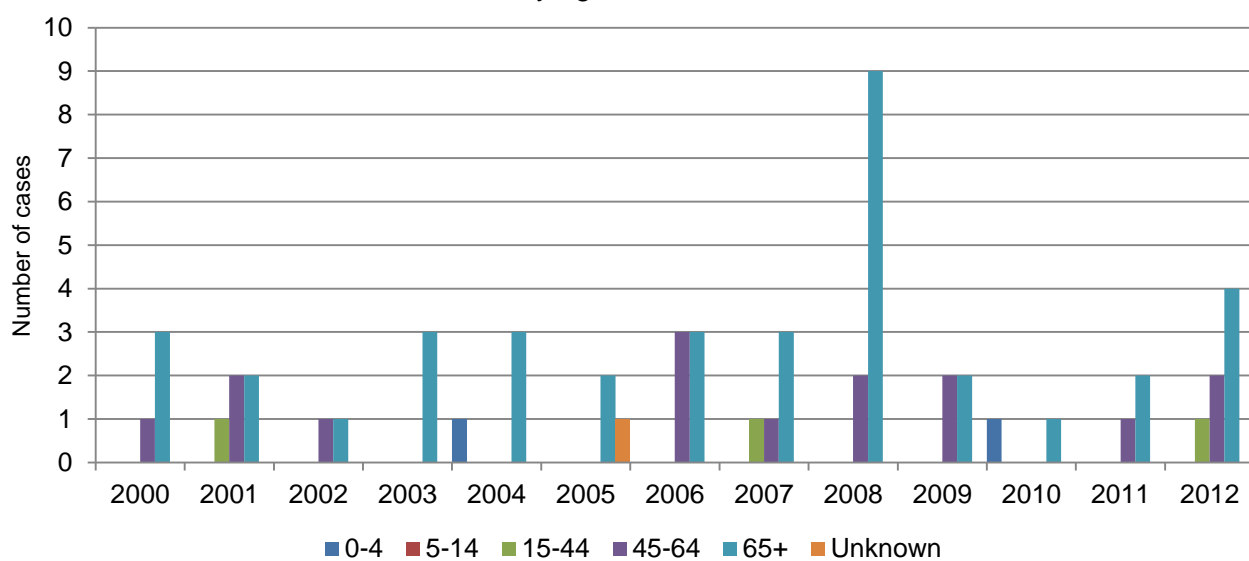


Figure 3: Number of laboratory confirmed listeriosis cases in Northern Ireland by sex; 2000–2012

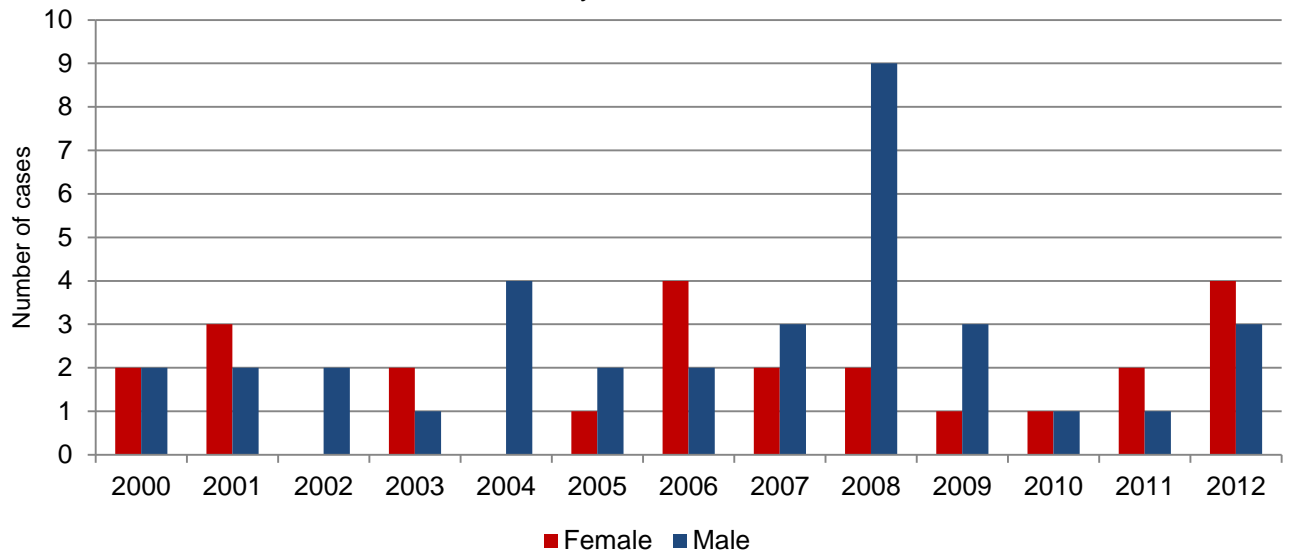


Figure 4: Distribution of laboratory confirmed listeria serotypes; 2000-2012

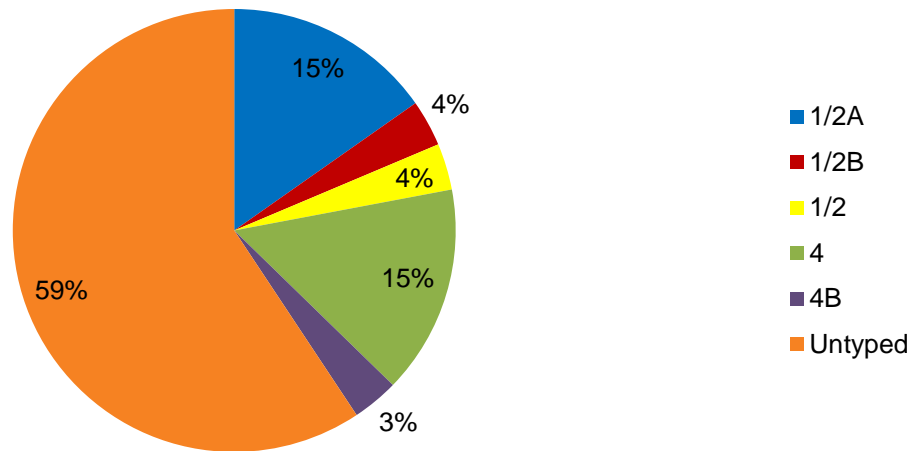


Table 1: Distribution of laboratory confirmed listeria serotypes, 2000-2012

Serotype	Freq.	Percentage	Percentage (ex. untyped)
1/2A	9	15%	38%
1/2B	2	3%	8%
1/2	2	3%	8%
4	9	15%	38%
4B	2	3%	8%
Untyped/not known	35	59%	-
Total	59		

Figure 5: Distribution of laboratory confirmed listeria serotypes; 2008-2012

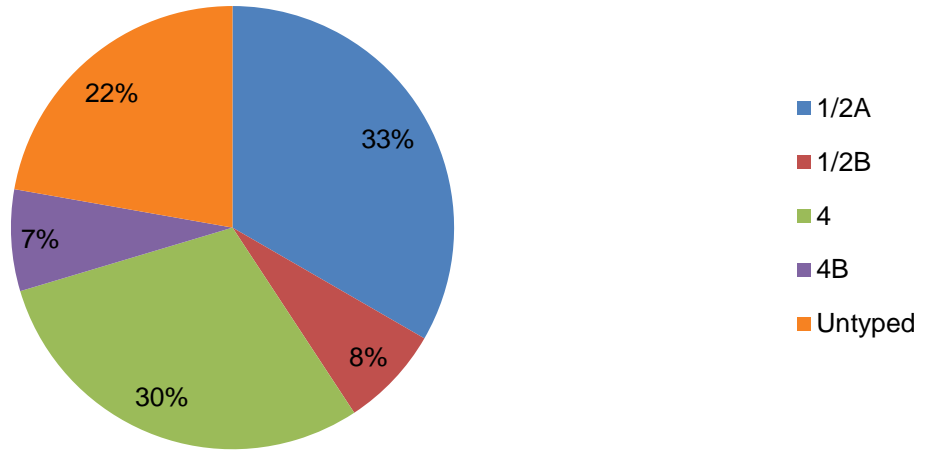


Table 2: Distribution of laboratory confirmed listeria serotypes, 2008-2012

Serotype	Freq.	Percentage	Percentage (ex. untyped)
1/2A	9	33%	43%
1/2B	2	7%	10%
4	8	30%	38%
4B	2	7%	10%
Untyped	6	22%	-
Total	27		

1. Food Standards Agency. Listeria factsheet - Monday 13 May 2013. Available at: <http://www.food.gov.uk/safereating/microbiology/listeria>.
2. Health Protection Agency, Health Protection Weekly Report, Vol. 7(12). 22 March 2013. Available at: <http://www.hpa.org.uk/hpr/archives/2013/hpr1213.pdf>.