

# 1.1 *Haemophilus influenzae* (invasive)

## Summary

Number of cases, 2010: 28  
Number of cases, 2009: 43  
Number of cases, 2008: 22  
Crude incidence rate, 2010: 0.7/100,000

In 2010, 28 cases of invasive *Haemophilus influenzae* disease were notified in Ireland (0.7/100,000 total population). This is a marked decrease compared to 2009 when 43 cases were notified in (figure 1).

The main changes in 2010, when compared to 2009, are the reductions in the number of non-typeable/non-capsular strains from 25 to 20, of other typed strains (excluding type b) from eight to three and of non-typed strains from nine to two, but an increase of type b strains from one to three (figure 1). No other noteworthy change in the number of cases due to other serotypes has been observed in recent years.

Non-typeable/non-capsular cases accounted for the majority of the invasive *H. influenzae* cases notified in 2010 (71.4%, n=20/28). The remaining cases were due to *H. influenzae* type b (10.7%, n=3), type f (10.7%; n=3) and isolates that were not typed (7.1%; n=2). The cases ranged in age from four days to 88 years. The incidence rates were highest in infants <1 year (3.3/100,000) and those aged 65 years or more (2.6/100,000) (table 1).

Cases occurring in children <10 years of age (n=5) and elderly adults over 65 years of age (n=12) accounted for 60.7% of all invasive *H. influenzae* notifications in 2010 (table 1).

The clinical manifestations of invasive *H. influenzae* disease in the five children <10 years of age in 2010 were three cases of septicaemia and one case of pneumonia. Clinical diagnosis was not reported in the remaining case. A breakdown by clinical diagnosis for all age groups by year between 2004 and 2010 is presented in table 2.

No imported cases were reported in 2010, nor were there any invasive *H. influenzae* related deaths reported.

In 2010 three cases of *H. influenzae* type b (Hib) occurred, one in a completely vaccinated ten year-old child who had received three doses of Hib vaccine and in two unvaccinated adults (age range 23-76 years). In contrast, in 2009, there was only one Hib case reported: an incompletely vaccinated four year old who received three doses of the 5 in 1 vaccine but not the Hib booster dose.

In 2010, one true Hib vaccine failure was reported; the first since 2007 highlighting the positive impact the Hib booster catch up campaign has had in Ireland. Back in 2007, two true Hib vaccine failures occurred in children aged 14 years or less, one of whom died from

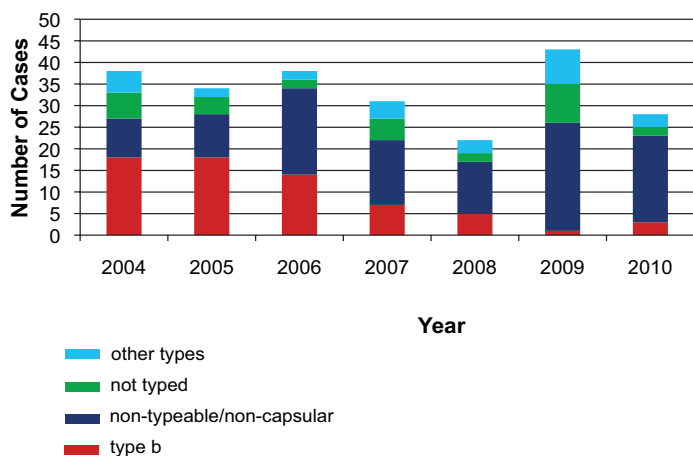


Figure 1. Annual number of invasive *Haemophilus influenzae* cases notified in Ireland, 2004-2010

Table 1. Number and incidence rates of invasive *Haemophilus influenzae* cases by serotype plus number of Hib vaccine failures by age group, 2010

Age Group	Type b	Type e	Type f	Non-typeable/ non-capsular	Not Typed	Total	ASIR of Hib	ASIR of all <i>H.</i> <i>influenzae</i>	Type b TVFs
<1	0	0	0	2	0	2	0.00	3.27	0
1-4	0	0	0	2	0	2	0.00	0.83	0
5-9	0	0	0	1	0	1	0.00	0.35	0
10-19	1	0	0	1	0	2	0.18	0.35	1
20-34	1	0	0	3	1	5	0.09	0.47	0
35-54	0	0	2	2	0	4	0.00	0.35	0
55-64	0	0	0	0	0	0	0.00	0.00	0
65+	1	0	1	9	1	12	0.21	2.56	0
<b>All Ages</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>20</b>	<b>2</b>	<b>28</b>	<b>0.07</b>	<b>0.66</b>	<b>1</b>
<b>CIR</b>	<b>0.07</b>	<b>0.00</b>	<b>0.07</b>	<b>0.47</b>	<b>0.05</b>	<b>0.66</b>	-	-	-

CIR, crude incidence rate per 100,000 total population

ASIR, age specific incidence rate per 100,000

TVFs, true Hib vaccine failures

Table 2. Number of invasive *Haemophilus influenzae* cases by clinical diagnosis, 2004- 2010

Clinical Diagnosis	2004	2005	2006	2007	2008	2009	2010	2004- 2010	% of Total
Septicaemia	8	14	13	6	3	9	8	61	26.1%
Pneumonia	5	0	3	6	3	8	5	30	12.8%
Meningitis	3	9	3	2	2	2	1	22	9.4%
Epiglottitis	1	3	3	1	1	0	2	11	4.7%
Cellulitis	1	1	2	1	1	0	0	6	2.6%
Meningitis & septicaemia	1	0	1	0	1	1	1	5	2.1%
Osteomyelitis	1	0	0	0	0	0	0	1	0.4%
Septic arthritis	0	1	0	0	1	0	0	2	0.9%
Unknown	18	6	13	15	10	23	11	96	41.0%
<b>Total</b>	<b>38</b>	<b>34</b>	<b>38</b>	<b>31</b>	<b>22</b>	<b>43</b>	<b>28</b>	<b>234</b>	<b>100%</b>

Table 3. Incidence rates of invasive *Haemophilus influenzae* by HSE area, 2004-2010

HSE Area	2004	2005	2006	2007	2008	2009	2010
<b>E</b>	1.1	1.0	0.9	0.8	0.5	0.8	0.6
<b>M</b>	0.5	0.5	0.2	0.5	0.3	0.5	0.2
<b>MW</b>	0.8	0.3	0.8	0.6	0.8	2.2	0.6
<b>NE</b>	0.2	1.1	0.2	0.0	0.0	0.2	0.4
<b>NW</b>	0.4	0.0	2.0	0.4	0.0	0.4	0.4
<b>SE</b>	1.3	0.5	1.0	1.3	0.8	1.3	1.3
<b>S</b>	3.0	0.8	3.4	0.8	1.7	3.4	3.0
<b>W</b>	0.5	1.4	0.7	1.4	0.5	1.2	0.2
<b>Ireland</b>	<b>0.9</b>	<b>0.8</b>	<b>0.9</b>	<b>0.7</b>	<b>0.5</b>	<b>1.0</b>	<b>0.7</b>

septicaemia. Both children received three doses of Hib vaccine when they were less than one year of age. Similar to the Hib vaccine failure reported in 2010, one of the two true vaccine failures in 2007 occurred in a 10-14 year old child who would not have been targeted by the catch-up programme, which ran between 2005 and 2006 and was aimed (at the time) at children under four years of age.

Since September 2008, the Hib booster dose has been administered at 13 months of age as part of the routine

childhood immunisation schedule in addition to the three doses at 2, 4 and 6 months of age. Vaccination is routinely recommended for those at increased risk of Hib disease.

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 4<sup>th</sup> August 2011. These figures may differ from those published previously due to ongoing updating of notification data on CIDR.