

1.1 *Haemophilus influenzae* (invasive)

Summary

Number of cases, 2007: 31
Number of cases, 2006: 38
Number of cases, 2005: 34
Crude incidence rate, 2007: 0.7/100,000

In 2007, 31 cases of invasive *Haemophilus influenzae* disease were notified in Ireland (0.7/100,000 total population). This was similar to previous years when 38 and 34 cases were notified in 2006 and 2005, respectively (figure 1).

The main changes in 2007, when compared to 2006, is the decline by half of the number of *H. influenzae* type b (Hib) cases and a decrease by a quarter of the number of invasive *H. influenzae* cases due to non-capsular strains (figure 1). No other noteworthy change in the number of cases due to other serotypes has been observed in recent years.

Non-capsular strains accounted for the majority of the invasive *H. influenzae* cases notified in 2007 (48%, n=15/31). The remaining cases were due to Hib (n=7, 23%), type e (n=1), type f (n=3) and five isolates were

not typed. The cases ranged in age from one week to 95 years. The incidence rates were highest in infants <1 year (8.2/100,000) and adults ≥65 years of age (2.8/100,000), followed by the 1-4 year old age group (1.7/100,000) (table 1.1).

Cases occurring in children <10 years of age (n=9) and elderly adults ≥65 years (n=13) accounted for 71% of the invasive *H. influenzae* notifications in 2007 (table 1).

The clinical manifestations of invasive *H. influenzae* disease in the nine children <10 years of age in 2007 were meningitis, cellulitis, epiglottitis and pneumonia with one case each and clinical diagnosis not reported (n=5).

Four invasive *H. influenzae* related deaths were reported in 2007, one was associated with a type b strain, one with a non-capsular strain, and two were not typed. One death occurred in a child <1 year of age, one in a 10-14 year old and the remaining two occurred in adults aged >65 years.

H. influenzae type b (Hib) accounted for 23% of the invasive *H. influenzae* notifications in 2007, with seven cases being notified (0.2/100,000 total population).

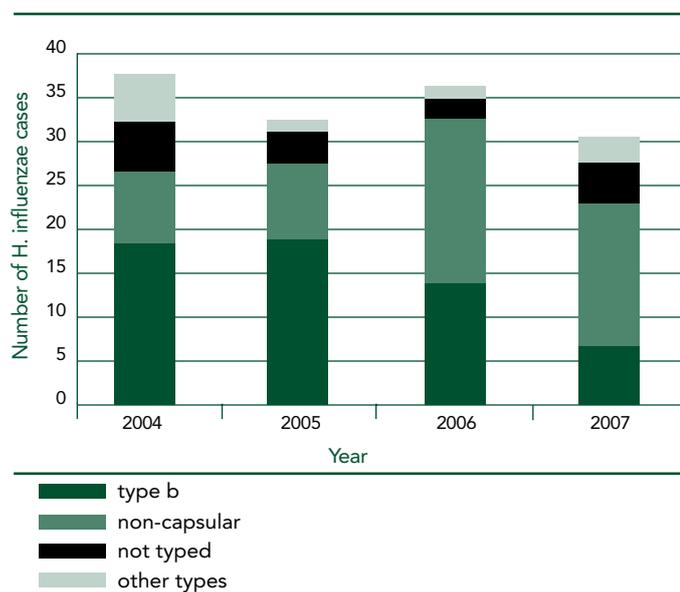


Figure 1. Annual number of invasive *Haemophilus influenzae* cases notified in Ireland, 2004-2007

Three of the seven Hib cases (43%) occurred in children ≤ 4 years of age, with two cases occurring in infants < 1 year and one in the 1-2 years age group.

In contrast, in 2006, 14 Hib cases were notified, with five (36%) occurring in children ≤ 4 years of age. In 2005 when 18 cases in total were notified, the number of Hib cases in the same age group was 13 (72%). The introduction of a Hib booster catch-up campaign for children under four years of age in November 2005 and a routine Hib booster dose at 12 months in September 2006 has led to a reduction in the incidence of Hib disease in young children in 2007.

In 2007, two true Hib vaccine failures occurred in children aged 14 years or less, one of whom died from septicaemia. Both children received three doses of Hib vaccine when they were less than one year of age. In contrast, the number of true vaccine failures in 2006 was four, but in 2005 the number was markedly higher at 14; highlighting once more the positive impact the Hib booster catch up campaign has had in Ireland.

Of note in 2007, was the fact that one of the two true vaccine failures occurred in a slightly older child, aged

10-14 years who would not have been targeted by the catch-up programme.

In 2007, there were no apparent Hib vaccine failures, compared to three in 2006 and one in 2005. Apparent failures are defined as cases in children who are incompletely vaccinated.

From September 2008, the Hib booster dose will be 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.

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 19th August 2008. These figures may differ slightly from those published previously due to ongoing updating of notification data on CIDR.

Table 1. Number and incidence rates of invasive *Haemophilus influenzae* cases by serotype and age group and number of Hib vaccine failures by age group, 2007

	Type b	Type e	Type f	Non-capsular	Not Typed	Total	ASIR of Hib	ASIR of all H. influenzae	TVFs
<1	2	0	0	2	1	5	3.3	8.2	1
1-4	1	1	0	2	0	4	0.4	1.7	0
5-9	0	0	0	0	0	0	0.0	0.0	0
10-19	1	0	0	0	0	1	0.2	0.2	1
20-54	1	0	0	2	2	5	0.0	0.2	0
55-64	0	0	1	2	0	3	0.0	0.7	0
65+	2	0	2	7	2	13	0.4	2.8	0
All ages	7	1	3	15	5	31	0.2	0.7	2
CIR	0.2	0.02	0.07	0.4	0.12	0.7	–	–	–

CIR, crude incidence rate per 100,000 total population

ASIR, age specific incidence rate per 100,000

TVFs, true Hib vaccine failures