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Laboratory reports of *Haemophilus influenzae* by age group and serotype, England: annual 2020 (and 2019)

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During 2020 (January to December inclusive), there were 344 laboratory-confirmed cases of invasive *Haemophilus influenzae* (Hi). This was a 42% decrease compared to the 591 cases confirmed in 2019 and also noticeably lower than the 2018 total (741).

The proportion of serotyped isolates remained high with 100% isolates in 2020 and 93% (551 out of 591) in 2019. Of the serotyped isolates, most were non-encapsulated *Haemophilus influenzae* (ncHi) with 87% in 2020 and 81% in 2019. A further 12% were serotype a, e, or f, which declined from 16% in 2019. Serotype b (Hib) contributed to only 2% of serotyped cases and was well controlled across all age groups. Most Hib cases were in the 15 years and over age group with 12 cases in 2019 and 6 cases in 2020. Hia cases were higher than in 2018 with 7 cases in 2020 and 6 cases in 2019 ([Table 1](#)). The coronavirus (COVID-19) pandemic and implementation of social distancing measures and national lockdown has led to reductions across a number of infections including invasive *Haemophilus influenzae* disease during 2020 [[1](#)].

Most cases of *Haemophilus influenzae* are in the 15 years and over age group, accounting for 82% of serotyped cases in 2020 ([Table 1](#)). Whilst 10% were under one year of age, 6% were between 1 to 4 years and the remaining 1% of cases were among the 5 to 14 year old age group. This is quite similar to 2019 where 86% of cases were 15 years and over; 6% were under one year of age; 5% were 1 to 4 year olds and the remaining 2% were between 5 to 14 year olds. Despite this distribution, the incidence remains higher in under 5s compared to persons over 5 years of age (1.8 per 100,000 and 0.5 per 100,000 respectively in 2020) and it is very low overall (1.0 per 100,000 persons in 2019 and 0.6 per 100,000 in 2020).

As reported previously [[2](#)], cases of invasive Hib disease have declined since the introduction of the Hib conjugate vaccine in 1992 and have remained at low levels since the introduction of the 12-month booster in 2006 ([Figure 1](#)). In 2020, invasive Hib disease continued to be well controlled across all age groups. The number of Hib cases remained stable at 14 in 2019 and 6 in 2020.

Table 1. Number of *Haemophilus influenzae* cases by serotype and age group, England, 2019 and 2020

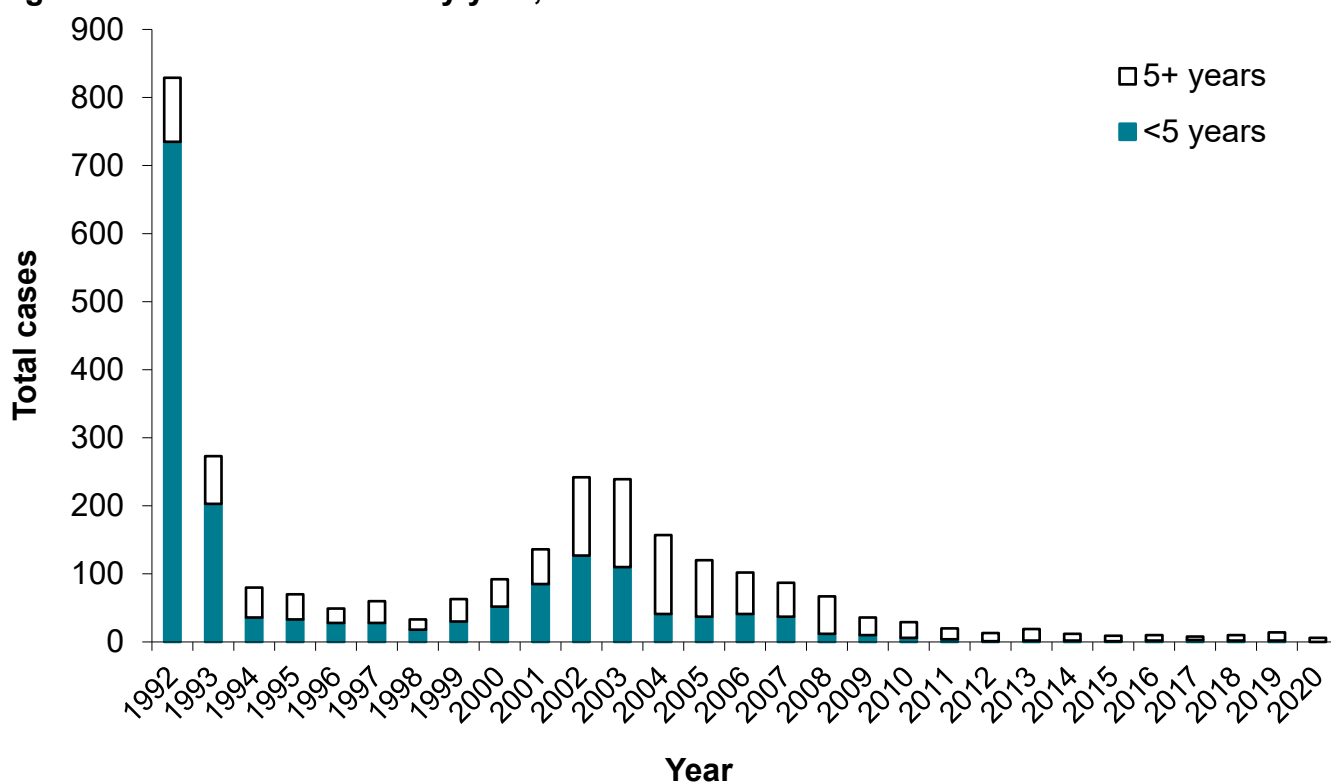
(‘Not typed’ refers to samples that have not been received at the reference laboratory for typing)

Type	Under 1 year		1 to 4 years		5 to 14 years		Over 15 years		Total	
	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
b	0	2	0	0	0	0	6	12	6	14
Non encapsulated	31	30	16	23	2	10	249	385	298	448
a,e,f	5	2	5	6	2	2	28	79	40	89
Not typed	0	1	0	3	0	2	0	34	0	40
Total	36	35	21	32	4	14	283	510	344	591

During 2020, there were no cases in children under 5 years of age eligible for immunisation. In 2019, there was one case of Hib in a child who was eligible for immunisation: a 4 month old who had received a delayed first dose of vaccine 9 days before the episode and presented with pneumonia. There was another case in a 6 week old who presented with meningitis and was not yet due for their first vaccination. Both patients made a full recovery.

There were no deaths attributed to invasive Hib disease in 2020 or 2019. The most recent deaths attributed to invasive Hib disease in an adult was in a 45 year old patient in 2015 and in a child aged under 16 years in 2011.

Figure 1. Total cases of Hib by year, 1992 to 2020



References

1. Brueggemann AB, Jansen van Rensburg MJ, Shaw D, McCarthy ND, Jolley KA, Maiden MCJ and others (2021). 'Changes in the incidence of invasive disease due to *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Neisseria meningitidis* during the COVID-19 pandemic in 26 countries and territories in the Invasive Respiratory Infection Surveillance Initiative: a prospective analysis of surveillance data.' *The Lancet Digital Health*: volume 3, issue 6, pages e360-e70
2. Public Health England (2016). '[Laboratory reports of *Haemophilus influenzae* by age group and serotype \(England and Wales\): annual report for 2015.](#)' *Health Protection Report* Volume 10 Issue 8

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