

# 2023 *Haemophilus influenzae* Pediatric Supplemental Surveillance Report (HiPSS)

Invasive *Haemophilus influenzae* disease is nationally notifiable in the United States. In 2023, 661 cases were reported among children aged <5 years in the United States. Two supplemental surveillance projects exist for *H. influenzae*: active surveillance conducted as part of [Active Bacterial Core Surveillance](#) in 10 sites and *H. influenzae* Pediatric Supplemental Surveillance (HiPSS), which is conducted as part of the Epidemiology and Laboratory Capacity for Infectious Diseases (ELC) Cooperative Agreement Enhanced Surveillance of Vaccine Preventable Diseases Project. Jurisdictions participating in HiPSS collect data and isolates for cases of invasive *H. influenzae* disease in children aged <5 years. In 2023, 14 states participated with 5,491,040 children aged <5 years under surveillance. This report focuses on only cases reported from these 14 participating states.

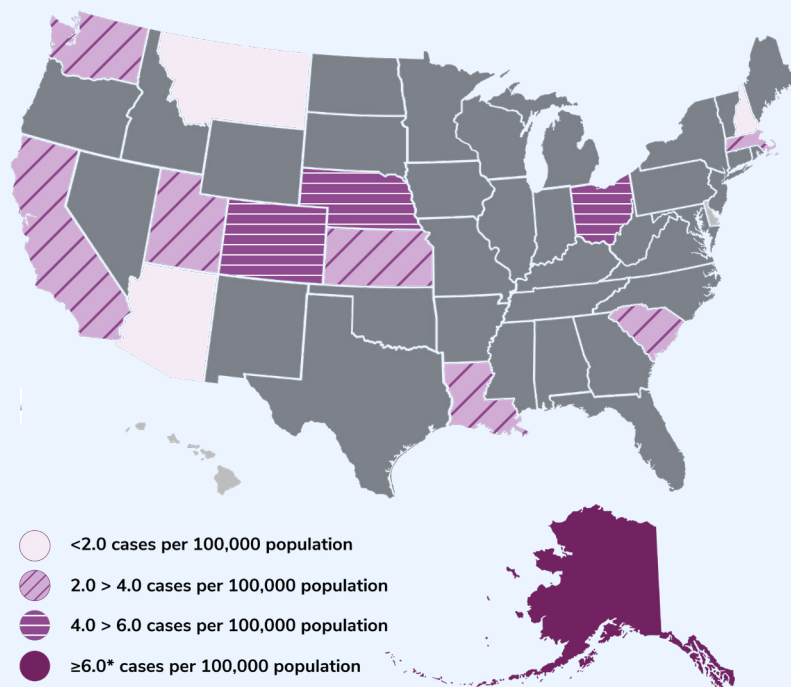
## CSTE case definition:

A confirmed case was defined as isolation of *Haemophilus influenzae* or detection of *H. influenzae*-specific nucleic acid by PCR from a normally sterile body site.

A probable case was defined as meningitis with detection of *H. influenzae* type b antigen in cerebrospinal fluid (CSF)<sup>1</sup>.

<sup>1</sup>The probable case definition used in this report only includes cases of *Haemophilus influenzae* type b disease (Hib) and does not capture non-type b *H. influenzae* disease (non-b) cases.

Invasive *H. influenzae* Disease in Children Aged <5 Years by State



Incidence† of Invasive *H. influenzae* Disease in Children Aged <5 years by Serotype and Age in Participating States

Age	Non-typeable No. (Incidence)	a No. (Incidence)	b No. (Incidence)	d No. (Incidence)	e No. (Incidence)	f No. (Incidence)	Total* No. (Incidence)
<1 month	33 (36.49)	0 (0.00)	1 (1.11)	0 (0.00)	0 (0.00)	0 (0.00)	40 (44.23)
1-11 months	25 (2.51)	13 (1.31)	9 (0.9)	0 (0.00)	0 (0.00)	4 (0.4)	56 (5.63)
1 year	10 (0.91)	4 (0.36)	1 (0.09)	0 (0.00)	1 (0.09)	2 (0.18)	19 (1.73)
2 years	14 (1.31)	1 (0.09)	2 (0.19)	0 (0.00)	1 (0.09)	1 (0.09)	22 (2.05)
3 years	12 (1.08)	3 (0.27)	0 (0.00)	1 (0.09)	0 (0.00)	0 (0.00)	20 (1.8)
4 years	10 (0.89)	1 (0.09)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	12 (1.07)
Total*	106 (1.93)	22 (0.40)	13 (0.24)	1 (0.02)	2 (0.04)	7 (0.13)	171 (3.11)

†Cases per 100,000 population. \*Includes 2 cases with unknown age. ‡Includes 20 cases with unknown serotype.

Incidence† of Invasive *H. influenzae* Disease in Children Aged <5 years by Serotype and Race in Participating States

Race	Non-typeable No. (Incidence)	a No. (Incidence)	b No. (Incidence)	d No. (Incidence†)	e No. (Incidence)	f No. (Incidence)	Total* No. (Incidence)
White	53 (1.38)	11 (0.29)	7 (0.18)	0 (0)	1 (0.03)	5 (0.13)	87 (2.26)
Black or African American	18 (3.01)	3 (0.5)	1 (0.17)	1 (0.17)	1 (0.17)	1 (0.17)	28 (4.69)
American Indian / Alaska Native‡	8 (6.13)	3 (2.3)	2 (1.53)	0 (0)	0 (0)	0 (0)	14 (10.72)
Asian / Pacific Islander	5 (1.04)	1 (0.21)	1 (0.21)	0 (0)	0 (0)	0 (0)	8 (1.66)
Total**	106 (1.93)	22 (0.4)	13 (0.24)	1 (0.02)	2 (0.04)	7 (0.13)	171 (3.11)

†Cases per 100,000 population. \*Includes 20 cases with unknown serotype.

‡Excluding Alaska, the overall incidence among American Indian/Alaska Native children was 4.90.

\*\*Includes 34 cases with unknown race.

Confirmed Versus Probable Cases

99.4% (170/171) of cases were confirmed, and 0.6% (1/171) were probable.

Laboratory Confirmation Method for Confirmed Cases

84.7% (144/170) were confirmed by culture; of those 76 (52.8%) had isolates submitted to CDC.

5.9% (10/170) were confirmed by PCR.

9.4% (16/170) had unknown laboratory confirmation method.

Syndrome

Information on clinical syndrome was reported for 86.5% (148/171) of cases. Of those, 67 (45.3%) had bacteremia, 30 (20.3%) had meningitis, 25 (16.9%) had bacteremic pneumonia, and 26 (17.5%) had other syndromes.

Daycare Attendance

Information on daycare attendance was reported for 62.6% (107/171) of cases. Of those, 33 (30.8%) were among children who attended daycare.

H. influenzae Serotype b (Hib) Vaccination Status for Hib Cases

Information on Hib vaccine receipt was reported for 76.9% (10/13) of Hib cases; of those 2 (20%) received ≥1 dose of Hib vaccine. One occurred in a 3-month-old who was up to date with one dose of ActHIB® (PRP-T). The second occurred in a 5-month-old who received a single dose of an unspecified vaccine product. Of the 8 unvaccinated cases, 1 (12.5%) was too young to be vaccinated, and 7 (87.5%) were eligible for vaccination but had not received any doses.

Case Fatality

Serotype	No. Deaths	(CFR†)
Non-typeable (NT)	11	(10.9)
a	1	(5.6)
b	2	(15.4)
d	0	0
e	0	0
f	2	(28.6)
Unknown	4	(21.1)

Age in Years	No. Deaths	(CFR†)
0	10	(11.1)
1	4	(23.5)
2	2	(9.5)
3	3	(15.0)
4	1	(9.1)

Race	No. Deaths	(CFR†)
White	9	(10.7)
Black	2	(8.0)
American Indian / Alaska Native	3	(21.4)
Asian / Pacific Islander	1	(12.5)
Unknown	5	(16.7)

Syndrome	No. Deaths	(CFR†)
Bacteremia	5	(7.9)
Meningitis	4	(14.3)
Pneumonia	3	(12.0)
Other	1	(4.2)
Unknown	7	(36.8)
Overall	20	(12.4)

†Case fatality ratio (CFR): deaths per 100 cases with known outcome; 10 (5.8%) cases with unknown outcome