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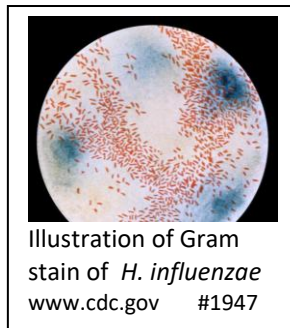
Invasive *Haemophilus influenzae* and Recent Reporting Changes

While typically considered a pediatric disease, infection with *Haemophilus influenzae* (*H. influenzae*) can occur at any age. An increase in cases in the last 18 months among adults in King County has resulted in a request for expanded case reporting and surveillance to inform statewide prevention and public health response.

The Agent

Invasive *H. influenzae* disease is a serious illness caused by a gram-negative coccobacillus. Some strains have a polysaccharide capsule, which is antigenic, is used to classify serotypes (a–f), and contributes to pathogenicity. Strains lacking a capsule are referred to as nontypeable or unencapsulated. One serotype (b) is vaccine preventable. Before conjugate vaccines against serotype b (Hib) were introduced, serotype b was the main cause of invasive *H. influenzae* disease occurring in children. Meningitis occurred in approximately two thirds of children with invasive Hib disease resulting in hearing impairment or severe permanent neurologic sequelae in 15–30% of survivors. Approximately 4% of all invasive Hib cases were fatal. Since 1989, with the introduction of the of the vaccine and the recommendations for routine vaccination, there has been a 99% reduction in invasive Hib disease among children younger than 5 years of age.

H. influenzae commonly colonizes the upper respiratory tract of healthy individuals without causing symptoms, a state known as asymptomatic carriage. Most carriers do not develop disease, but carriage is responsible for person-to-person transmission via respiratory droplets. Following transmission, a newly exposed individual may either enter a carriage state or develop a symptomatic infection.



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When bacteria invade normally sterile sites invasive *H. influenzae* disease occurs including:

- **Bacteremia:** infection of the bloodstream, which can progress to sepsis
- **Meningitis:** infection of the membranes surrounding the brain and spinal cord, potentially causing neurological complications
- **Pneumonia:** infection of the lungs
- **Epiglottitis:** acute infection of the airway that can obstruct breathing
- **Bone or joint infections:** acute infection leading to pain, swelling, and impaired mobility

Invasive *H. influenzae* infection often leads to hospitalization, resulting in death or long-term complications. Children historically carried the highest burden of Hib disease, while adults were more frequently affected by non-b or nontypeable strains. Non-invasive *H. influenzae* infections, including otitis media (middle ear infection) and sinusitis, are more common but less severe.

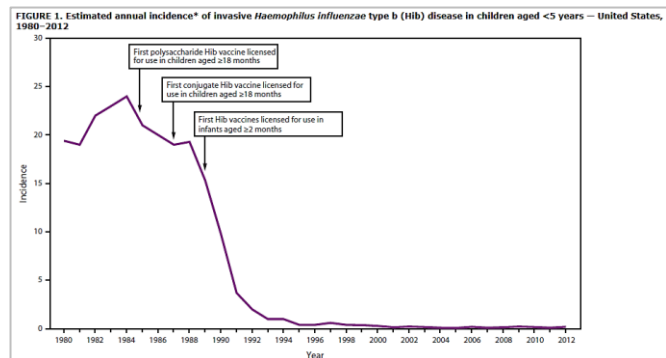
Laboratory confirmation is essential for diagnosing invasive *H. influenzae* disease with isolation from normally sterile body sites – including blood, cerebrospinal fluid, pleural fluid, pericardial fluid, or synovial fluid – confirming infection. Serotyping differentiates Hib from other serotypes and nontypeable strains, which is critical for public health surveillance and outbreak response. Public health investigation is not required for non-invasive infections; non-sterile-site specimens or isolates do not need to be submitted to the Washington State Public Health Laboratories (PHL).

Molecular techniques such as whole genome sequencing can identify clusters of genetically related isolates, guiding outbreak investigations. Antimicrobial susceptibility testing informs treatment decisions, as some isolates may be resistant to one or more antibiotics.

Vaccination for Preventing Hib Disease

Children under 5 years of age historically had the highest rates of invasive Hib disease. In adults, risk is greatest among those with chronic medical or immunocompromising conditions. Behavioral and social factors, including smoking, substance use, and unstable housing, also increase risk of invasive *H. influenzae* disease.

In 1985 the first Hib polysaccharide vaccine was introduced in this country, followed in 1987 and 1989 by conjugate Hib vaccines, which remain the standard. Routine childhood vaccination has drastically reduced invasive Hib disease and carriage among children and adults through indirect herd effects (Figure, from <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6301a1.htm>).



Current licensed Hib vaccines in the United States include monovalent and combination formulations (e.g., with diphtheria, tetanus, or pertussis). These vaccines are safe and highly effective. Vaccination is the most effective strategy to prevent invasive Hib disease. ACIP recommends routine vaccination for all infants beginning at 2 months of age, with a primary series (2 or 3 doses depending on the product) and a booster dose at 12–15 months.

Hib vaccination is recommended for children through 5 years of age. It may be recommended for older children with certain immunocompromising conditions, depending on prior vaccination history. Hib vaccination is recommended for adults only in specific situations, including for unvaccinated individuals with anatomic or functional asplenia and for recipients of hematopoietic stem cell transplants. Routine Hib vaccination is not typically recommended for other adults.

Emerging Adult Cases in Washington

In Washington state, invasive *H. influenzae* disease has historically been reportable only for children under 5 years of age (See Notifiable Condition [WAC 246-101](#)). In 2024 and 2025, Public Health – Seattle & King County (PHSKC), a King County hospital, and the Washington State Department of Health (DOH) identified an emerging cluster of invasive Hib disease among adults.

From May 2024 through December 2025, PHL received 27 *H. influenzae* isolates from adults at one King County Hospital, of which 23 (85%) were serotype b. Whole genome sequencing of the first 19 isolates revealed a novel phylogenetic cluster. Median patient age was 56 years (range 30–80 years), and nearly all patients had experienced unstable housing or homelessness and reported tobacco, marijuana, fentanyl, or other substance use. All patients were hospitalized with bacteremia and pneumonia; three died during hospitalization. Notably, there was no concurrent increase in invasive Hib disease among children during this time. For comparison, isolates collected at the same hospital from adults during 2016–2023 were investigated. During that period, there were 21 invasive *H. influenzae* cases, 7 of which were serotyped, and none were Hib.

Provisional Reporting Changes in Washington

Note that this request does not change existing reporting requirements for children under 5 years.

As of January 1, 2026, DOH requests provisional reporting of all *H. influenzae* isolates from normally sterile sites for individuals aged 5 years and older. Laboratories should submit such isolates to the PHL for serotyping and local health jurisdictions should submit investigation reports for all confirmed Hib cases. More information about reporting can be found here: [HIB_Provisional_Reporting_Letter-12-31-2025_signed.pdf](#).

When a condition emerges or when a rate changes in a new subgroup, increased case reporting is needed to clarify the issues. Receiving these data is essential to understand transmission dynamics and risk factors among adults and to guide potential public health interventions, including potential vaccination campaigns and antibiotic prophylaxis.

Resources

CDC – *Hemophilus influenzae* Disease: <https://www.cdc.gov/hi-disease/index.html>

CDC ACIP – *Hemophilus influenzae* Type b Disease: <https://www.cdc.gov/mmwr/pdf/rr/rr6301.pdf>

WA DOH – *Hemophilus Influenzae* Reportable Conditions: <https://doh.wa.gov/public-health-provider-resources/notifiable-conditions/haemophilus-influenzae>

DOH – Hib Overview: <https://doh.wa.gov/you-and-your-family/immunization/diseases-and-vaccines/hib>

CDC – ABCs surveillance data:

https://www.cdc.gov/abcs/downloads/HFLU_Surveillance_Report_2023.pdf

