Unprotected People: #99 *Haemophilus influenzae* type b

Invasive Hib Disease Kills Unvaccinated Toddler, Sickens Another

The Immunization Action Coalition (IAC) publishes Unprotected People Reports about people who have suffered or died from vaccine-preventable diseases. This is the 99th in our series.

Before the introduction of a Hib vaccine, Haemophilus influenzae type b *(Hib) was the leading cause of bacterial meningitis among children younger than age five years in the United States. Hib disease can be very serious, causing neurologic damage (e.g., blindness, deafness, mental retardation) and death. Since 1988, when Hib vaccine was first introduced, the incidence of Hib disease has decreased more than 99%. Most recent cases have occurred in unvaccinated or incompletely vaccinated children.*

In January 2008, the New York State Department of Health, Bureau of Communicable Disease Control, Immunization Program issued a health advisory on invasive Haemophilus influenzae type b *(Hib) disease. The advisory is reprinted in its entirety and includes case summaries of Hib disease in two children from Erie County. One of the children, a two-year-old, died of Hib disease. The advisory was submitted by Richard Judelsohn, MD, Medical Director of the Erie County Department of Health, New York.*

Since January 2008, the Allegheny and Cattaraugus county health departments have notified the New York State Department of Health (NYSDOH) of 2 laboratory-confirmed cases of invasive *Haemophilus influenzae* type b *(Hib)* disease among young children. Both children were members of Amish communities and were not vaccinated.

Brief Case Summaries

Alleghany County: On the evening of January 4, 2008, a 2-year-old child was brought to a local hospital emergency department (ED). On presentation, the child had a rectal temperature of 104.7°F, was unresponsive to stimuli and was posturing [abnormal posturing behaviors may indicate specific injuries to the nervous system]. The child was intubated and transferred to a tertiary care hospital. The child died three days later. The child had not been immunized against Hib disease.

On January 5, 2008, the initial hospital laboratory reported that the culture of cerebrospinal fluid (CSF) was positive for a Haemophilus species, probably Haemophilus parainfluenza. The laboratory tests were rerun on January 6 and the CSF and blood cultures were positive for *Haemophilus influenzae.* It was recommended that household contacts receive chemoprophylaxis with rifampin for exposure to presumptive *Haemophilus influenzae* type b disease. The family included the parents and 6 children. The 3 older children were fully immunized, but the 3 younger children were not vaccinated. The family agreed to receive antibiotics but refused vaccination. Serotype b was identified by the NYSDOH Wadsworth Laboratory on January 14, 2008. The local health department (LHD) continues to reach out to this family and community.

Cattaraugus County: On January 15, 2008, a 1-year old child was seen at a local hospital ED with symptoms of vomiting, diarrhea, fever, and ear pain. The child was treated in the ED with IV Rocephin and discharged to home on oral antibiotic therapy. The blood culture from the ED visit was identified as *Haemophilus influenzae,* type unknown. Serotype b was identified by the NYSDOH Wadsworth Laboratory on January 25, 2008.

The family consisted of the parents and the child with Hib disease. No chemoprophylaxis for the family was ordered because chemoprophylaxis is not recommended unless there are additional residents of the household who are under 4 years of age. The child had not been vaccinated against Hib disease. The LHD has visited the family to ensure medication compliance, provide continued education, and encourage vaccination.

The contact investigation did not identify an epidemiological link between these two children with Hib disease.