



## Investigating a Pertussis Outbreak in Mississippi



**Nasopharyngeal specimen collection for pertussis testing, conducted by non-CDC staff.**

Pertussis, also called whooping cough, is a highly contagious respiratory disease caused by the bacterium *Bordetella pertussis*. One of the leading causes of vaccine-preventable disease in the United States, pertussis is most dangerous for infants and children. Since the 1980s, incidence of pertussis has

increased in the United States, where 15,000 cases were reported in 2006. In April 2007, the Mississippi State Department of Health reported an outbreak of pertussis in Leake and Neshoba counties, and asked CDC for help to investigate and control the outbreak.

CDC responded by sending a team—including three officers from CDC's Epidemic Intelligence Service (EIS)—to Mississippi. The response team evaluated disease-reporting data and described the distribution of the disease by age, race, gender. Investigators found that Native Americans' risk of getting pertussis during this outbreak was 41 times that of whites, despite the fact that the rates and effectiveness of vaccinations among Native Americans were comparable to the rates and effectiveness of vaccinations in the population as a whole. Further investigations would be needed to determine whether Native Americans in general are at increased risk for pertussis and what risk factors might be responsible.

The CDC team also provided recommendations for controlling the outbreak, including guidance regarding whom to vaccinate, and help with identifying probable cases. The team then worked with the Mississippi State Department of Health to implement these recommendations by appropriately distributing preventive antibiotics and increasing vaccine coverage in the community. The Mississippi State Department of Health successfully contained the outbreak, and CDC is aggressively pursuing strategies to reduce pertussis incidence nationwide. One such strategy is evaluation of a new adolescent and adult pertussis booster vaccine.

CDC's investigation of the Mississippi pertussis outbreak is just one example of the work of fellows in CDC programs such as EIS. CDC funds fellowships that recruit and train approximately 200 epidemiologists, economists, informaticians, physicians, and other health leaders into the field of public health each year. More than 70 percent of these fellows remain in public health after graduation from their programs, working at the federal, state, and local levels to prevent and detect disease, and prepare for threats before people become sick or injured.

**CDC EIS officers working on the Mississippi pertussis outbreak.**



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