



## Investigating an Unexplained Pneumonia Outbreak in Rhode Island

In December 2006, four Rhode Island schools reported a high number of students with pneumonia. In addition, two classmates at one of the schools were diagnosed with severe neurological illness; one later died of encephalitis. The Rhode Island Department of Health asked CDC to help identify the cause of the outbreak, recommend ways to stop disease transmission, and collaborate with state officials to keep the community healthy.

CDC rapidly deployed a multidisciplinary team to Rhode Island. CDC team members began by gathering data from medical record reviews and a survey of students and household contacts at the index school. CDC scientists determined that the community-wide outbreak was caused by *Mycoplasma pneumoniae*, highly infectious bacteria that can cause severe pneumonia and encephalitis. The team's analysis also showed that transmission was occurring within households. This knowledge allowed CDC and state officials to design specific interventions to prevent more people from becoming sick. CDC also designed and implemented a surveillance plan for pneumonia and



**The CDC & Brown School of Medicine team collected and analyzed data to learn if there had been an increase in severe neurological illness.**

severe neurological illness in area schools and the local children's hospital, and designed materials for school hand-hygiene and cough-etiquette campaigns. Rhode Island officials kept schools closed for extra days after winter vacation. This allowed CDC and state staff to finish key elements of the investigation and to implement infection control interventions, such as installation of alcohol-based hand sanitizing dispensers in all schools state-wide. No more children at the index school contracted pneumonia, and no severe neurological disease linked to mycoplasma was identified in any school-aged child in the region.

CDC's investigation of unexplained pneumonia in Rhode Island showed that school-based systems may be an important way to detect respiratory outbreaks in children, even if transmission occurs outside of school. New rapid diagnostic tests helped CDC scientists determine the cause of the outbreak; these tests are now being used for other respiratory outbreaks. In addition, information from students' and parents' responses to school closings is being used for pandemic influenza planning.



**Prior to antibiotic distribution at an elementary school, an information session was held for the school's staff and parents.**

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