Tracking a Measles Outbreak Case Study

The Ohio State Departmentof Health confirmed a diagnosis of measles in a 6-year-old girl who was hospitalized in Cincinnati while visiting relatives in May 2005. Because the patient was a resident of Indiana, the Indiana State Department of Health initiated an investigation that eventually identified a total of 34 cases of measles occurring between May 16 and June 24. Of the 34 infected persons, 33 had participated in a church gathering in northwestern Indiana on May 15—or were family members of a participant. The final case occurred in a phlebotomist who worked at a hospital where one of the measles patients had been admitted; childhood

school records indicated that he had received only one of two recommended doses of measles vaccine.

Three of the 34 patients were hospitalized, two with dehydration and one with pneumonia requiring 6 days of mechanical respiratory support. Complications seen in the 31 nonhospitalized patients included 16 cases of diarrhea and 2 cases of otitis media (ear infection). State and local health departments in Ohio, Indiana, and Illinois (where one patient lived) immediately began tracing the contacts of all 34 patients to determine the outbreak’s epidemiology.

* What type of infectious agent is responsible for measles? How is measles spread?
* Does this look like a point-source epidemic or a propagated epidemic? (See chapter 13 for a review of epidemiology.)