

Histoplasmosis Associated with a Barn Restoration

August

Carver County

August 14, 2012, the Minnesota Department of Health (MDH) was notified by an infectious disease physician of two cases of histoplasmosis. Both individuals were carpenters who had worked on an old barn restoration project in Carver County that involved cleaning out the barn, restoring the integrity of the foundation, and replacing deteriorated wood in the floors and walls with new material. During the initial cleaning of the barn, birds, bats, and their droppings, and old hay were removed from the barn. The project began around July 19 and continued until approximately August 9, when work was suspended due to several workers falling ill. An investigation was initiated on August 16.

A list of employees working on the barn restoration was obtained from the project manager, and the employees were interviewed to obtain illness history and information on specific tasks performed. The owner of the property and residents currently living on the property were also contacted regarding their illness and exposure histories. MDH staff visited the worksite on August 21 to speak with the worksite manager and view the worksite layout. Environmental samples in and around the worksite were collected to test for *Histoplasma capsulatum*. These samples were collected for future academic research purposes only in collaboration with University of Minnesota mycologists. Currently no assay exists that can reliably detect the presence of *H. capsulatum* spores in the environment.

A case was defined as an individual who had entered the barn and developed a cough and fever 3 to 17 days following exposure. Eighteen (82%) of 22 persons associated with the restoration project or property were interviewed. Six (33%) of 18 interviewed persons met the case definition, all of whom were employees who worked on the restoration project. Two persons never entered the barn and one person reported illness, but did not meet the case definition; these three were excluded from further analysis. Of the six cases, all reported cough, headache, and chills, five (83%) reported weakness, five (83%) reported shortness of breath, four (67%) reported chest pain, four (67%) reported loss of appetite, and two (33%) reported weight loss, with one person reporting losing 16 pounds. The incubation period was 10 days for the two cases for whom a single, specific exposure date was known. The duration of illness was 6 days in the only individual whose symptoms had resolved at the time of interview; the remaining five cases reported that their symptoms were ongoing. All six cases sought medical attention for their illness. Two cases were diagnosed with histoplasmosis based on a positive urine and serum antigen detection test. Participating in the repair of the foundation was significantly associated with illness (6 of 6 cases vs. 2 of 9 controls; odds ratio, undefined; $p = 0.007$).

On August 22, a letter in English and Spanish was provided to the project manager to be distributed to all employees who worked on the project. The letter provided information about histoplasmosis and recommended that they see a healthcare provider if symptomatic. Employee receipt of the letter was confirmed via verbal communication with their work supervisors.

This was a histoplasmosis outbreak associated with restoration of an old barn in Carver County. *Histoplasma* can be found in soil and other material that is contaminated with bird and/or bat droppings. The disease is transmitted by inhalation of contaminated dust. It is likely that employees inhaled spores of *Histoplasma capsulatum* present in the environment while working on the restoration project.