

Coccidioidomycosis in Arizona 2007-2008

[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC – safer, healthier people.

[Karen Hunter] Hello, I'm Karen Hunter. With me today is Dr. Tom Chiller, an epidemiologist at the Centers for Disease Control and Prevention. We're talking about a paper that appears in the November 2010 issue of CDC's journal, Emerging Infectious Diseases. The article looks at the impact of Coccidioidomycosis, or Valley Fever, in Arizona in 2007 and early 2008.

Welcome Dr. Chiller.

[Tom Chiller] Thanks, Karen.

[Karen Hunter] Dr. Chiller, let's start by first talking about what Valley Fever is and how it affects people.

[Tom Chiller] Well, Valley Fever, or as you mentioned, coccidioidomycosis, the more technical term, is an infection caused by inhalation of fungus or fungal spores that get disrupted from the soil and then get into the air. The disease itself, Valley Fever, usually causes flu-like illness, so mild cough, fever, fatigue, headache, muscle aches. It can cause a pneumonia, and the fungus can even spread outside of the lungs into the bones, joints, and skin, and in a very rare amount of cases, around the brain, which can lead to death, without proper treatment.

[Karen Hunter] This study looks into cases of Valley Fever reported in Arizona between January 2007 and February 2008. Tell us what you found.

[Tom Chiller] Well, thanks. And I want to acknowledge the tremendous amount of work that the Arizona Department of Health Services has been doing in the arena and area of Valley Fever and they really were the impetus and the lead behind this study, and so it's a pleasure to comment on the results on behalf of my coauthors. This study is really the largest population-based estimate of the effects of Valley Fever. So, of around 5,600 reported cases in Arizona, just under 500, or around nine percent, were interviewed about their illness and its effect on their daily lives and work. Forty one percent of those interviewed were hospitalized for their illness. People with Valley Fever reported that their symptoms lasted an average of four months. Of those who were working, almost three-quarters reported missing work for around two weeks and 75 percent of all interviewees said they could not perform their normal daily activities for around seven weeks. Importantly, people waited a median of two weeks or so before they saw a health care provider for their disease and it took almost two visits for them to get tested finally for Valley Fever. Lastly, there were more than I think 86 million dollars in hospital bills charged for Valley Fever in 2007 alone.

[Karen Hunter] Valley Fever is common in the southwest United States and your paper mentions that 60 percent of nationally reported cases occur in Arizona. Now, what are some of the reasons such a high percentage do occur in Arizona?

[Tom Chiller] Well, thanks. A lot of it has to do with the climate and elevation in the most populated areas of Arizona, such as Phoenix, Scottsdale, and the Tucson areas, where we see the most people and therefore the most cases. The hot, dry climates with these lower elevations are ideal for the Valley Fever fungus spores to grow in the soil and then they get dispersed and spread through the air via dust.

[Karen Hunter] I understand that Arizona uses criteria to identify Valley Fever cases that are different than other states. Can you explain how it works in Arizona and what this study determined about the effectiveness of using this method?

[Tom Chiller] Arizona counts any laboratory evidence, so any laboratory test, positive for Valley Fever as a confirmed case, whereas other states require confirmation that a person actually had some clinical sign and symptom of the disease. Our investigation, this study, showed that around 95 percent of reported cases with a positive laboratory test had symptoms consistent with Valley Fever. So with 5,000 or 10,000 cases reported per year, investigating each case by reviewing the medical records to ensure that there was some symptom consistent with the disease just to rule out five percent of cases is really unnecessary and would be a waste of public health resources. If the requirement that cases have to have symptoms were removed, other endemic states, or states where this disease is common, may find it more feasible to mandate laboratory reporting and therefore give us a much better handle on the true burden of this disease.

[Karen Hunter] The study found that people who were aware of Valley Fever sought treatment and were diagnosed earlier. Did this surprise you and why is it so important to diagnose this disease early?

[Tom Chiller] Well it's not really surprising, but it's definitely very interesting; really emphasizing the importance of educating the public about this disease. Since symptoms of Valley Fever are really indistinguishable from many other common colds and flu-like illnesses that people are getting all year round in Arizona and obviously around the world, many people with Valley Fever are unnecessarily treated with antibiotics, drugs that fight bacteria not the fungus, and early diagnosis of Valley Fever would reduce this unnecessary use of antibiotics, relieve patient anxiety, and actually allow for more optimal care and treatment of the disease. In this study, patients that were aware of Valley Fever before they were diagnosed, were more likely to get diagnosed earlier than those who had not heard of the disease, and also more likely to request testing for Valley Fever.

[Karen Hunter] What should be done to increase awareness of Valley Fever among different groups?

[Tom Chiller] Well the most important thing to do really is educate the public and health care providers about Valley Fever, its symptoms, and make sure health care providers themselves know who to test and how to test for it. Arizona gets many travelers from out of the state, and because Valley Fever is endemic in the southwestern United States, a lot of people will go back home to an area where Valley Fever is not common and their doctors will not know to test them for Valley Fever. So that's why it is really important that we get the word out about this disease and we explain to people how they can be tested and what the tests are.

[Karen Hunter] What can people do to help protect themselves from Valley Fever?

[Tom Chiller] Avoiding dust exposure, as you can imagine, is pretty difficult. So, right now I think awareness is the key. Making people aware of the disease and what the symptoms are. Making sure that if they have a prolonged cough, fatigue, chest pain, shortness of breath, and were in an area where this disease, Valley Fever, exists, that you can ask your doctor to test you for this disease. What we are really hoping for in the long run is a vaccine for people who live and travel to areas where this disease is endemic. People are working on that vaccine but we're at least five to ten years away from having something.

[Karen Hunter] Thanks, Dr. Chiller. I've been talking with CDC's Dr. Tom Chiller about a paper that appears in the November 2010 issue of CDC's journal, Emerging Infectious Diseases. You can see the article online at www.cdc.gov/eid. If you'd like to comment on this podcast, send an email to eideditor@cdc.gov. I'm Karen Hunter, for Emerging Infectious Diseases.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO, 24/7.