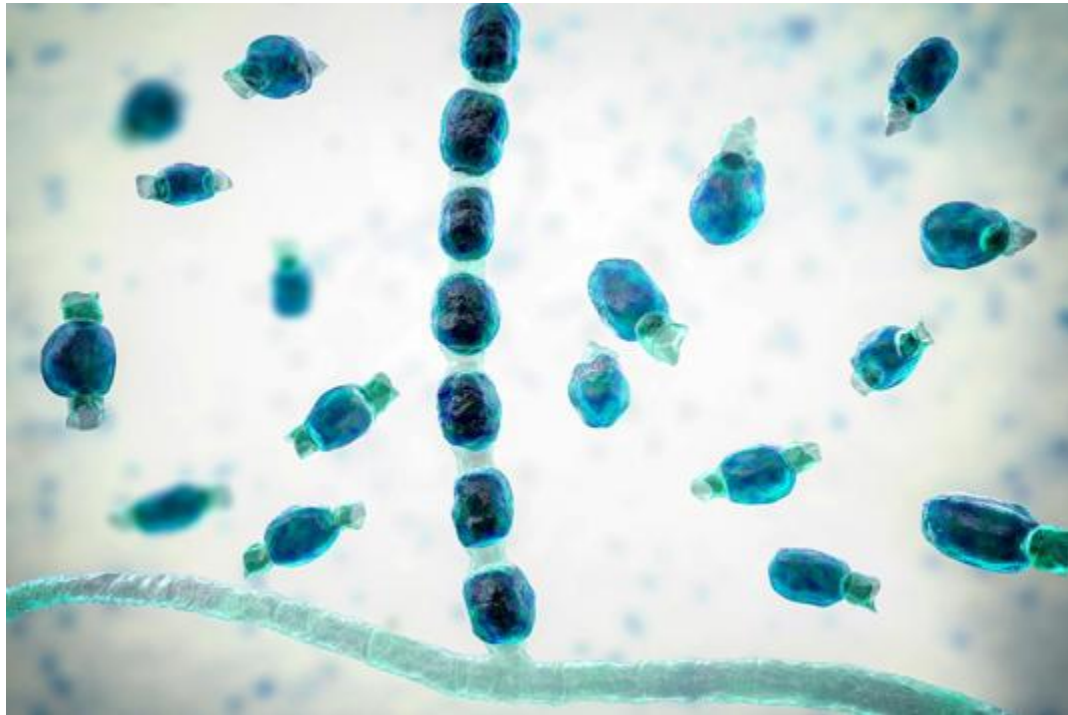


14 people got Valley fever after a California music festival, highlighting the fungus' growing threat

Story by Aria Bendix and Elysee Barakett



An illustration of the fungus *Coccidioides immitis*.

An outbreak of Valley fever among attendees and workers at an outdoor music festival in California's Central Valley highlights the [fungal infection's mounting threat](#).

Fourteen people who traveled to attend or work at the Lightning in a Bottle Festival in Bakersfield in May have tested positive for Valley fever and developed symptoms, the California Department of Public Health told NBC News on Thursday. At least three of them were hospitalized.

"About a week after getting back from the festival, I just got hit with crazy body aches and crazy fevers," said Eric Mattson, 33, a musician in San Luis Obispo, who said he attended the festival this year. He tested positive for Valley fever last month.

His symptoms progressed to joint pain that made it difficult to move, accompanied by night sweats, Mattson said: "I would wake up, like, two to three times a night, just soaking in sweat. I would have to change my bedding and change my pajamas while in a ton of pain. It was pretty awful."

The fungus that causes Valley fever, called *coccidioides*, thrives in hot, dry climates, so most cases are found in Arizona and California. As climate change creates more opportunities for it to proliferate, and Valley fever cases have been climbing in California.

“Preliminary Valley fever case reports have been particularly high in 2023 and 2024, which is possibly linked to heavy winter rains in 2022-2023 following years of drought,” the health department said in a statement.



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California's annual number of infections rose from fewer than 1,000 in 2000 to more than 9,000 in 2019. According to a [recent report from the state health department](#), there have been 5,370 suspected or confirmed cases so far this year.

In San Joaquin County, the combined tally of suspected and confirmed cases has exceeded 200 already this year, compared to 47 in all of last year and 59 in 2022.

Valley fever does not spread from person to person — rather, the lung infection results from inhaling spores in dust or soil. The name is a reference to the San Joaquin Valley, where *coccidioides* was discovered.

Mattson said he has not been contacted by California's health department, which has not disclosed the names of the 14 confirmed cases, so it is unclear whether Mattson is included. NBC News reviewed the medical record showing his positive test result.

Mattson estimated that he lost 20 pounds in four to five weeks.

He said he suspected Valley fever, since he had heard reports that some festivalgoers had gotten infected in past years, but he was initially diagnosed with pneumonia. Eventually, his primary care doctor ordered a blood test, which came back positive early last month.

Situations like Mattson's are common, said Dr. Geetha Sivasubramanian, an assistant clinical professor of medicine at UCSF Fresno: “A lot of times, patients with Valley fever are misdiagnosed as having bacterial pneumonia.”

That's because many doctors are not aware of the illness or they test for it too early or confuse it with another respiratory infection, she said. Such errors can lead patients to take antibiotics they do not need, rather than the appropriate antifungal medications.

Around 60% of people with Valley fever do not have symptoms, while others develop a cough, fatigue, fever, shortness of breath, night sweats, muscle aches, joint pain or a rash on the legs or the upper body. People who have diabetes or weakened immune systems or are pregnant are vulnerable to severe lung infections. In very rare cases — around 1% — a lung infection may spread to the bones, joints or brain, which can be deadly.

An ideal setting for Valley fever to spread

Sivasubramanian said she was not surprised by the cluster of cases among the more than 20,000 music festival attendees.

“We live in a high endemic area for Valley fever, so anybody who’s visiting, who lives in these areas, is at risk,” she said.

In the Central Valley, heavy rain in the winter helps the fungus grow in the soil. Then, as temperatures get hotter and the soil becomes drier, dust carries the spores into the air.

Activities that kick up lots of dust — such as construction or farming — increase the risk of exposure. In 2014, the Centers for Disease Control and Prevention [linked five confirmed and five suspected cases of Valley fever](#) to dry, dusty conditions on an outdoor film set.

Lightning in a Bottle seemed to be in the right location at the right time, said Dr. Arturo Casadevall, chair of molecular microbiology and immunology at the Johns Hopkins Bloomberg School of Public Health.

“You need two things: You need a cloud of spores, and you need people,” he said.

Mattson said wind during the festival stirred up dust near some of the stages and in the campground where many attendees stayed.

“When a lot of people are dancing, it definitely kicks up a lot of dust,” he said.

Valley fever may be expanding to new areas

As climate change prompts heavier rain and higher temperatures, it is fostering conditions conducive to the coccidioides fungus. More frequent and intense wildfires might also [carry spores to surrounding areas](#).

Outside of California and Arizona, a [2019 study](#) estimated that Valley fever may already be endemic in certain counties in 10 other states as far east as Kansas and Oklahoma.

“As the deserts expand, we’re going to see cases outside of historical regions,” Casadevall said.

Some researchers suspect that rodents may help spread the fungus as climate change alters their migration patterns, though others do not think that’s common. A [2022 study](#) detected coccidioides among rodents in Kern County, where the Lightning in a Bottle festival is held.

Mattson said he does not regret attending the festival but wants others in the area to be aware of the illness and its symptoms.

“You really need to advocate to get tested for if you’ve been in the valley or been in a place where there’s a lot of dust in the air,” he said.

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