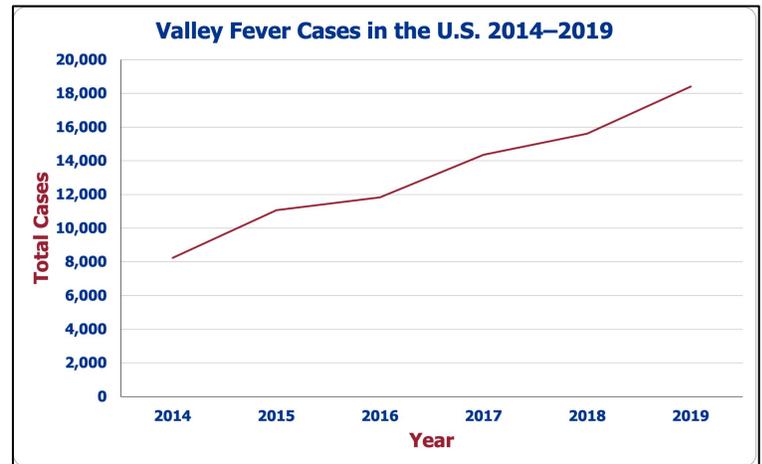


Fast Facts on Valley Fever

What is Valley fever? According to the Centers for Disease Control and Prevention (CDC), **Valley fever is a serious, costly illness.** The fungus that causes Valley fever – *Coccidioides* – is found in soil in Arizona, California, and several other western states, as well as parts of Mexico, Central America, and South America. The incidence of Valley fever in the United States is rising (*see graph*). Valley fever is not a contagious illness; it is contracted by breathing in microscopic *Coccidioides* fungal spores from the air.ⁱ



Source: <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/statistics.html>

Disturbance of contaminated soil or dust by human or animal activityⁱⁱ or weather events like rain storms and tornadoes release *Coccidioides* spores into the air. Valley fever is particularly common among individuals with occupations that require contact with dirt and dust and in populations exposed to severe weather events. Construction workers, agricultural workers, and military personnel are three large occupational groups at particularly high risk.^{iii,1}

On average, **160 people die** of Valley fever each year.²

In the U.S., **individuals of African and Filipino descent are at a 10 to 100-fold greater risk of severe illness** when they contract Valley fever.³

Upwards of **75%** of individuals infected with Valley fever report missing work or school, with nearly **40%** requiring hospitalization for treatment that is estimated to cost an average of \$50,000 per patient.⁴

Symptoms of Valley fever include coughing, chest pain, fever, headache, chills, and fatigue. People with weakened immune systems are at particular risk for serious cases. Severe cases might last for weeks, months, or years, and can result in hospitalization and death. These cases can develop even after leaving an area where *Coccidioides* is present.⁵

Valley fever infection can spread beyond the lungs to other parts of the body, including vital organs like the heart, liver, and brain. **Meningeal infection** occurs when the fungus reaches the brain: patients experiencing this type of infection require antifungal treatment for life. If untreated, meningeal infection is fatal.

i. Though extremely rare, Valley fever can be contracted through organ transplant from an infected donor.¹

ii. Research is still ongoing as to what level of activity can be tied to infection and which environments support propagation and spread of the fungus.⁴

iii. A historical record of outbreaks through 2015 is detailed in Freedman et al. "Coccidioidomycosis Outbreaks, United States and Worldwide, 1940–2015." *Emerging Infectious Diseases*. 2018;24(3):417–423.

Valley Fever and Antifungal Resistance

Antifungal Resistance occurs when antifungal treatments are no longer able to fight a fungal infection.⁶ This is a growing threat: because of their fast reproduction, fungi can easily adapt to changing environments, allowing for the emergence of resistant variants.⁷ **There are only four classes of fungal treatments, and some fungal pathogens have become resistant to all four.**⁷ Antifungal resistance can ultimately make it impossible to treat Valley fever unless new treatments are developed.

Research at Work Against Valley Fever

The University of Arizona Valley Fever Center for Excellence (VFCE) seeks to improve understanding, medical care, and research about the disease.

The University of California (UC) Valley Fever Research Initiative encompasses a 5-campus team (San Francisco, Riverside, Berkeley, Merced, and San Diego) researching the fundamental biology of *Coccidioides*.

The UC Davis Center for Valley Fever seeks to advance diagnosis and therapy for *Coccidioides* infection.

A Vaccine for Valley Fever?

A research team at the VFCE is testing a vaccine candidate to combat Valley fever in dogs.⁸ **This candidate could pave the way for a first-of-its-kind vaccine in humans, as there are presently no approved vaccines for human fungal diseases.**⁹

Legislation to Combat Fungal Infections

On October 12, 2021, House Minority Leader Kevin McCarthy (R-CA), along with Reps. David Schweikert (R-AZ), Karen Bass (D-CA), and Tom O'Halleran (D-AZ) introduced **H.R.5566**, the **FORWARD Act of 2021** (Finding Orphan-disease Remedies With Antifungal Research and Development Act of 2021), legislation focused on supporting fungal disease research and the development of antifungal treatments and vaccines.

The Global Impact of Fungal Infections

According to the Global Action Fund for Fungal Infections, over **300 million people globally are affected by a serious fungal infection.**¹⁰ Global mortality associated with fungal disease complications is 3-fold greater than malaria.¹¹ Furthermore, fungal pathogens cause and exacerbate chronic respiratory conditions such as asthma, obstructive pulmonary disease, and pneumonia. **Research focused on Valley fever can shed new light on how to address other serious fungal infections that pose a risk to Americans and communities across the globe.**

Sources:

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