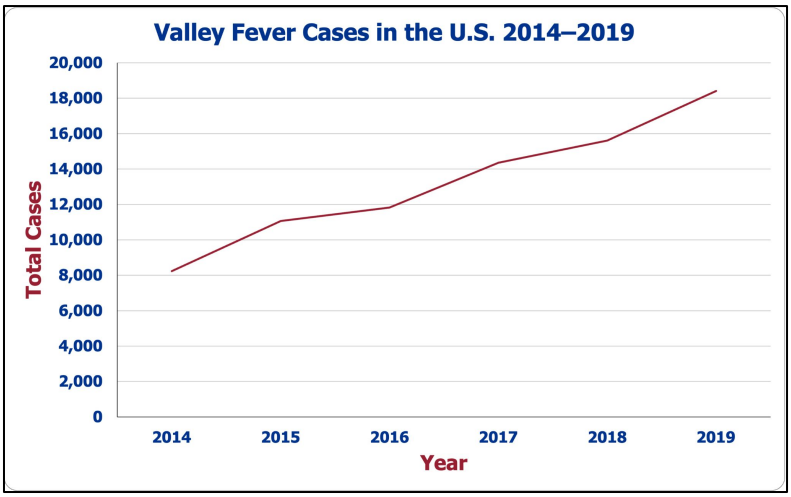
Fast Facts on Valley Fever

What is Valley fever? Valley fever is caused by the fungus, *Coccidioides*, which is found in the soil in Arizona, California, and several other western states, as well as parts of Mexico, Central America, and South America. Valley fever is caused by breathing in spores when contaminated dirt is disturbed. Individuals who work outdoors including construction workers, agricultural workers, and military personnel are at particular risk for contracting Valley fever.[1] Cases are rising in the US (*see graph*).



Approximately **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.[1]

Rising temperatures in the US are increasing the reach of Valley fever - spreading to more states and impacting more people. By 2095, Valley fever is expected to be **endemic across the entire western half of the US**.[2]

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.[3]

Valley fever infection can spread beyond the lungs to other parts of the body, including such vital organs as 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.

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Efforts to Combat Valley Fever

Driving Progress in the US:

- The University of Arizona Valley Fever Center for Excellence (VFCE)
- The University of California (UC) Valley Fever Research Initiative
- The UC Davis Center for Valley Fever

A Vaccine for Valley Fever?

A research team at the VFCE is testing a vaccine candidate to combat Valley fever in dogs.[4] 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.[5]

Legislation to Combat Fungal Infections

The FY2023 Consolidated Appropriations Act included key provisions from the Finding Orphan-disease Remedies With Antifungal Research and Development (FORWARD) Act to foster antifungal research and development to treat Valley fever.

Fungal infections and implications for Antimicrobial Resistance (AMR)

AMR occurs when bacteria, viruses, fungi, and parasites change over time and no longer respond to medicines, making infections harder to treat and increasing the risk of disease spread, severe illness, and death. AMR kills an estimated 1.27 million people worldwide.[6] Fungal diseases are of particular concern because there are limited treatments, and some fungi have become resistant to all of them.[7] It soon may become impossible to treat Valley fever unless there is more investment in R&D for new antifungal therapeutics.

Sources:
1. "Valley Fever (Coccidioidomycosis)." CDC. 2020.
2. "Valley fever, historically found only in the Southwest, is spreading. It can have devastating consequences." NBC News. 2023
3. "Five Things You Should Know About Valley Fever." University of Arizona Health Sciences. 2015.
4. Shubitz et al. "Δcps1 vaccine protects dogs against experimentally induced coccidioidomycosis." Vaccine. 2021;39(47):6894-6901
5. Oliveira et al. "Vaccines for human fungal diseases: close but still a long way to go." npj Vaccines. 2021; 6 (33)
6. "The latest estimates of global anti-microbial resistance show urgent policy action is needed to save lives." Institute for Health Metrics and Evaluation. 2022.
7. "Antifungal Resistance." CDC. 2021.

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