

STEM Solutions in Public Policy Award Competition  
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### Abstract

Coccidiomycosis, aka Valley fever, is an endemic fungal disease found in the Californian Central valley and most of the American Southwest. However in recent years, cases have been reported in historically non-endemic states both due to disease awareness and endemic regions spreading. Climate change modeling research shows that the endemic region for Valley fever could spread throughout Californian and to most of the American Midwest by 2060. Though a low mortality disease, chronic Valley fever can cause severe symptoms such as extreme fatigue and poor respiratory function, leading to loss of quality of life and ability to work. Little is known about patient susceptibility to developing chronic illness and timely diagnosis is key for preventing prolonged infection. Currently there is no centralized, standard diagnostic guide for physicians in California nor is there any mandated training course for coccidioidomycosis for physicians working in endemic counties. This results in many patients being misdiagnosed and treated with incorrect medication before receiving proper treatment. Alarming, recent studies on global pandemics show that respiratory viral infections increase susceptibility to fungal infection. More hospitalized patients die from fungal co-infections and complications resulting from the co-infections than the initial viral infection itself. For these reasons, it is critical that the state of California standardize and mandate diagnostic training for physicians on Valley fever.