September 2021.

Welcome to the Valley Fever Center for Excellence's website. Here we try to provide reliable and timely information about coccidioidomycosis, the medical name for Valley fever.

That Valley fever is a major public health problem within much of Arizona and significant parts of California is well established. In Arizona, Valley fever is the most frequently reported of all reportable diseases other than sexually transmitted infectious diseases, and as of September 7, there have been over 7,800 new Arizona Valley fever infections (<u>https://www.azdhs.gov/preparedness/epidemiology-disease-control/index.php#data-stats</u>). Recent estimates of the annual economic impact of Valley fever on these two states total nearly \$1.5 billion [1, 2]. It is for these reasons that public health departments of Arizona and the most endemic counties in California such as Kern have made Valley fever an important disease to highlight with education campaigns.

Not as well known is that other regions throughout the west are also endemic. In northeastern Utah, sporadic cases of Valley fever over several years have identified Dinosaur National Monument as being endemic [3]. A more recent report highlighted the risk of Valley fever infection in the southern part of the state [4]. Cases of Valley

fever have been contracted in southeastern Washington state [5]. The Texas department of health chooses not to report their infections to the CDC. However, it has been known for many years that the Rio Grande Valley is highly endemic [6] and cases have been acquired as far east as Beeville, Texas [7]. Although these parts of the western United States do not contribute the majority of infections. it is nonetheless worth knowing that they



Figure 1. Reporting state and frequency of travel to coccidioidomycosisendemic areas (Arizona, California, Nevada, New Mexico, Texas, Utah, Washington, Mexico, and Central or South America) in the 4 months before symptom onset or first positive coccidioidomycosis test among coccidioidomycosis patients reported from 14 low-endemic and nonendemic US states, 2016 [Benedict et al, 2019].

exist and leave open the possibility that other endemic foci might be identified in the future.

While greatest impact of Valley fever is on those who live in its endemic regions, it is also important for those who visit for business or recreation to also know what Valley fever is. The importance of travel has been highlighted in CDC publications reporting cases from nonendemic states and tracing recent travel to where Valley fever is endemic (**Figure 1**) [8, 9]. Simply put, anyone who develops symptoms of pneumonia in the month after being where Valley fever is common has the same high likelihood (~25%) that their illness is Valley fever as do endemic residents.

What can be done to better manage the Valley fever public health problem? Several strategies commonly used by public health departments are very applicable to control of Valley fever, and the Valley Fever Center for Excellence is very much a part of that effort.

First and foremost is awareness, both by all within the endemic communities and the medical profession itself. For the past 18 years, the Center has sponsored the Arizona Valley Fever Awareness Week to raise the public awareness about this disease. This year, the Valley Fever Awareness Week will again take place from November 13th through November 21st, and various events will be posted on this website as they are scheduled. Also, the Center, with both University of Arizona Colleges of Medicine in Tucson and Phoenix and Banner Health, have formed the Banner University-Health Valley Fever Program. The program's purpose is to improve the early recognition and management of Valley fever, especially within primary care, urgent care, and emergency clinics across the state. Several studies conducted by Center investigators have made clear how important improvements are in this area [10-12]. The Banner Program has made the "tool kit" of the program's support materials available to the entire medical profession on this website.

Second, more rapid and sensitive tests to diagnose Valley fever are needed. Currently diagnosis is most frequently done by a blood test only performed by reference laboratories. While very specific, these tests frequently are negative for early infections. Also, results are not available to the ordering clinicians for days or longer. The Valley Fever Center is working with companies that are trying to improve this situation [13]. It is also working to streamline a complex test developed in the 1940s to a more efficient and simpler methodology [14]. If a test could be completed quickly at the clinic where the patient is first seen, this would greatly improve diagnosis of Valley fever for most people.

Third, the best public health strategy for managing a problem is often its prevention through vaccination. For decades, a preventative Valley fever vaccine has been the "holy grail" for researchers, but many attempts in the past have not been successful [15]. Recently, a vaccine has been discovered by Valley Fever Center investigators that appears both safe and effective in experimental animal studies [16, 17]. It is currently being developed by a veterinary company with support from the NIH to become a veterinary canine product, possibly as soon as next year. NIH support for this project stems from the possibility that, if effective to prevent Valley fever in dogs, this vaccine

might more likely proceed to clinical trials in humans. This is a very exciting possibility that the Center is actively pursuing.

To conclude, Valley fever is a very important public health problem, not only within its known endemic regions but also elsewhere in the western United States and for travelers to those regions. There are many ways that Valley fever could be better managed, even controlled, and the Center, now in its 25th year, is very much helping with this effort.

The activities of the Valley Fever Center for Excellence are very much made possible by the generous donations to the Center by its supporters for which we are very grateful. Any who wish to join in that support can do so by <u>contacting the Center</u> or contributing <u>online</u>.

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