**Valley Fever Outcomes, Occurrences, & Occupational Risks in Vulnerable Populations in**

**California & Arizona: A Reflective Essay**

*Sterile, statistical samples*: this alliteration consists of the first three words that

immediately popped into my mind when I was asked by my UWP 104 professor to complete a

comprehensive, research paper on a health topic of my choice. As someone with little prior

experience conducting research, I knew deep down that I would not be able to fully immerse

myself in my work if I did not find a methodology and topic that  personally meaningful to me.

As a child of immigrants from California's Central Valley, I knew that I wanted to cover a topic

that affected my family and individuals living in my own community and covered this topic in a

way that uplifted their voices and unique experiences. My review of literature zones in on the

issue of Valley Fever, an evasive, fungal infection that is endemic to California & Arizona, and

the experiences of those affected. By critically appraising seven, peer-reviewed articles and

comparing and contrasting outcomes from both states, this qualitatively-approached review of

literature seeks to better understand and highlight the complex social, political, and economic

paradigms that shape the illness experience of the individuals who are infected with this

condition in these highly endemic states.

### Rocky Roads in Research

In order to effectively collect data on the subject, setting boundaries on what I was

interested in researching, the population I wanted to focus on, and what outcomes I was hoping

to achieve by following this specific population was crucial. To accomplish this, my review of

literature utilized a PICO-style research question to better define the objective of this review of

literature.

This PICO question underwent significant changes throughout the research process, but the fluid nature of this format allowed me to easily integrate new findings into my research question without feeling overwhelmed or frustrated by my setbacks. The initial review of literature's research question focused on residents of California's Central Valley exclusively, but ultimately ended up focusing on vulnerable populations in both California and Arizona. This significant jump in scope was the result of me realizing that a simple Google search wasn't sufficient for my research: I needed to dig deeper.

As mentioned earlier, prior to completing this review of literature I had little to no experience with research, and even less so with navigating the thousands of archives and articles available to UCD students at the UCD Library. Initially, I attempted to find source material for my review of literature from Google Scholar. It was there that I was able to access a handful of PubMed articles, but most of the articles found were not relevant, both in terms of context and recency. After coming short and having little information aside from publicly available data from government websites (CDC, CDPH), I knew that I would need to find a better way to search for my sources.

I decided to browse through the sources provided to me in my course modules, but I was quickly overwhelmed and unsure of how to proceed when bombarded with so many databases and articles to choose from. I knew that pounding my head against a wall trying to make sense of all this information was not going to help me, so I decided to take a step back from my research question and complete the other assignments my UWP professor had assigned to me. The assignments due for the week were 4, self-paced library modules on how to navigate the UCD library homepage, how to operate boolean operators, how to construct foreground and background questions, and how to use the get it at UC function when trying to request an article.

The modules provided were short, 2-5 minute videos with questions embedded within to test your knowledge after watching. After watching the videos a couple times and trying the questions multiple times, I felt much better equipped to tackle my research using the resources at the library. I quickly hopped onto the library's website, navigated to the research guides page, and found my way to the UWP 104F course research guide. After finding this research guide and browsing through the databases available, I settled on finding articles from PubMed and Embase. I typed "Valley Fever AND California's Central Valley" into the search bar, and ended up with only a handful of articles in both databases. After reviewing the search results, I decided I might need to expand my search, but I was confused by the brackets and "MeSH" terms the system kept prompting me to "embed" into my search.

I felt hopelessly confused. Even after taking the time to review the library modules and following the research guide to find databases that were relevant to health topics, I was still struggling to find sources that were specific and relevant to my research question. I knew that I was going to need some extra help if I actually wanted to get this assignment done. In the spur of the moment, I scheduled a meeting with a librarian for some extra advice on how to create a better tailored search and well-defined PICO research question for a review of literature.

### An Expert's Advice & the Creation of Exclusion and Inclusion Criteria

That meeting was the best decision I made in my research process. After consulting with the library, I walked away from my 45 minute session with 10+ search terms, a broader, more well-defined PICO question, and better databases to continue searching for sources from. Empowered with new source material and better understanding of how to both create and utilize pre existing MeSH terms, I set out to create well-defined inclusion and exclusion criteria for my project.

In my previous meeting, I found that the reason why I was coming up with so little sources was because the scope of my research question was too small. In order to broaden the scope of my research, I decided to zone in on keywords that the search engine might be able to use to help me find sources. The final keywords used for this project were valley fever, coccidioidomycosis, california, central valley, san joaquin valley, arizona; social determinants of health, farm laborers, construction, hispanic, african american, and asian-american pacific islander.

In order to best utilize these words, the librarian and I worked together to create a large MeSH framework for the PubMed and Cinahl databases, which were the primary databases used in this study, with a special emphasis on using the Scopus database to snowball and find more sources. Examples of MeSH terms used in PubMed include "California/epidemiology"[MeSH] AND valley fever, (((("Hispanic or Latino"[Mesh]) OR "Undocumented Immigrants"[Mesh]) OR "Healthcare Disparities"[Mesh]) OR "Social Determinants of Health"[Mesh]) AND (valley fever), and (("Farmers"[Mesh]) OR "Construction Industry"[Mesh]) AND (valley fever). In Cinahl, the only MeSH term used was (MH "Epidemiology+") AND ("valley fever" OR coccidioidomycosis). These MeSH terms, combined with the Boolean operators and an exclusionary search for only sources published within or after 2012 were included, allowed me to finally begin a PRISMA-style systematic review of all the literature available to me on my topic.

After sorting through all the articles and excluding based on their abstracts alone, the selected articles were then further sorted and read in their entirety to find which ones were the most internally and externally valid. The result was seven, peer-reviewed articles (which

included four cross sectional studies, one case-control studies, one cohort study, and a case study article).

These articles were chosen based on the final version of the PICO question, which focused on vulnerable populations in California and Arizona and what factors contributed to their unique health outcomes through a deeper analysis of disease occurrences and occupational risks. This expanded research question reflects the usage of broader search terms and is more inclusive of a wider population. While this paper initially was designed to focus on Central California exclusively, by choosing to include data from the state of Arizona, this paper hopes to explore a potential relationship between health outcomes in either state and what strategies can be shared to better serve the diverse, unique populations of both states.

## Acknowledgement of AI

This paper and the submitted review of literature did not utilize AI. My research process was extremely personal to me, and part of my journey included finding support systems that taught me how to be creative and thoughtful when I research. While I can acknowledge that AI is a useful tool for editing and polishing pieces, this piece is not polished or edited by any AI tools. Any mistakes made in this paper are imperfections generated solely from a human mind.

## Conclusion

Research, especially when created through the usage of proper tools, is a process that allows for the continued growth of the fountain of humanity's information and the fostering of personal growth and resilience in the hearts and minds of aspiring researchers. This research process taught me that the best tools are the ones smiling and helping you find a book in a catalog. It is crucial that students are informed of how valuable of a tool UCD's librarian's really are. By finding research that was meaningful to me and utilizing the expertise of individuals at

UCD's library, I was ultimately able to create a work that highlights the struggles and triumphs of my community back home by taking advantage of the community I have gained here at UC Davis.