

Jocelyn Chu

### Reflective Essay

I wrote my research paper, “Vector-borne Disease Control Plan for West Nile Virus in California, USA,” for ENT 153 (Medical Entomology) in Winter 2022. The goal of this assignment was to use independent research to develop a disease control plan about a vector-borne disease for a global population. A key requirement of the paper was to use at least three peer-reviewed primary sources. I was initially intimidated by the amount of research I needed to conduct to create a well-rounded disease control plan. Although I knew that the library had a vast number of databases available to students, I didn’t know how to utilize them. With the help of the library staff and the course guides, I was able to feel more confident using UC Davis library resources and databases.

I wanted to focus my paper on West Nile Virus because I had previously worked with an owl at the San Francisco Zoo that suffered neurological symptoms after contracting the virus. However, I did not know enough about West Nile Virus to write something as complicated as a disease control plan. I started my first search by typing “West Nile Virus” into the Google search bar. Thousands of results popped up on my screen. It would be impossible to distinguish which papers were primary or secondary sources in addition to being peer reviewed. Luckily, my professor had scheduled a workshop with the UC Davis library staff to show us how to conduct research for our research papers.

After the UC Davis library staff’s presentation, I started my research through Google Scholar to answer the background questions I needed to fully understand West Nile Virus. I found a review article on the recent state of West Nile Virus that included the epidemiology, vector, pathogen, reservoir hosts, and distribution. I was surprised to learn that there were a

significant number of West Nile Virus cases in humans and birds in California, yet I had never heard of West Nile Virus as a potential threat from the California Department of Public Health before my research. I was determined to use my research to improve the current West Nile Virus control plan and add more transparency between the public health department and the public in California.

Although the review article had led me to some primary source articles, the scope of topics that the articles were still limited. Creating the disease control plan required many parts including epidemiology of the disease, disease symptoms and treatment, pathogen biology and detection methods, vector biology and control, and public health methods. To find more specific articles to answer the foreground questions, I referred to the UC Davis subject guide for my course. Within the subject guide I found different databases specific to a scientific discipline to find more information about the various factors of West Nile Virus. I used the *Encyclopedia of Medical and Veterinary Entomology* to learn more about the insect vector, the *Culex* mosquito, and its relation to West Nile Virus. In contrast, I used *Pubmed* when looking for articles related to the pathogen and its relationship to the hosts.

Even within a database specific to a discipline, I had to use various terms to narrow down the results to articles that would be relevant to my paper. Typing in “West Nile Virus” was too broad of a topic to find information important for my control plan. After using the trial-and-error method in my searches, I learned that I needed to use more specific terms such as “California *Culex* mosquito surveillance” and “West Nile Virus control strategies.” After changing my approach from general terms to specific terms, I was able to find more relevant sources for my paper.

After narrowing down my search, I still had to evaluate my sources. I determined its relevance and scope by looking at the name of the journal and the purpose of the source. The name of the journal and purpose were important to show how the article would be relevant to my research paper. Credibility and currency were determined by the published date and the impact factor. The published date allowed me to focus on the most up to date information on the topic. There were a couple papers that were over the 10-year relevance range that I kept in my paper because they were important to my paper and still aligned with the most up to date control methods. With the suggestions from my professor and TA's, I made sure not to include papers that were published more than 20 years ago. The impact factor was the number of times the source was cited in the last couple years. I was able to determine the impact factor by looking the source up in Google scholar and see how many times source was cited. After finding the sources I wanted to use in my paper, I checked if the source was peer reviewed through Ulrich's Periodicals directory.

I completed the research paper through multiple drafts before submitting the final draft. At first, I didn't have many sources because I was still familiarizing myself with the research process and determining which search terms were the most effective to find sources relevant for my paper. As soon as I became more familiarized with the research process, I was able to find more relevant sources. I also found it useful to use the references of the papers I had already used to find more relevant sources. Through each iteration, I added more sources that supported a strong disease control plan. The last thing that I needed to strengthen my research was statistics and numbers. I pulled health statistics from reliable secondary sources published by the CDC and WHO.

Through this research paper, I was able to utilize the UC Davis library resources and databases unlike before. I had discovered how to use the library resources and felt more comfortable writing a project that required a vast amount of research about various topics. I learned that the most effective method for researching was developing narrowing down the search terms and finding more sources through the reference section of sources I have already referenced. Through this method I was able to create a disease control plan using thirteen peer reviewed sources. Overall, I have grown more confident in my ability to engage in academic research projects. I will be able to use these skills that I have learned through the library and Dr. Attardo to succeed in future coursework and my career in medicine and public health.