When you search the library databases such as CINAHL, Web of Science, and PubMed, you may be asked to use Boolean operators. But what are they? There are three basic Boolean operators AND, OR, and NOT, and they are used to link your search terms together. By using these terms you can either broaden or narrow your search terms in a database and search more effectively.

For example, let's say we're doing research on vaccines and perhaps also the flu shot. How would we go about searching for this topic?

One way we could do this is to search for each term separately. If we go into CINAHL and search for just "vaccines" we retrieve almost 49,000 results. Alternatively, we could do a similar search for "flu shot". Conducting that search for flu shot we've achieved just under 650 results.

However, our results will change if we start implementing our Boolean operators and run a search for vaccines AND flu shot. Here our search retrieved just over 500 results. Why is this? This is because when you use the operator AND our results are narrowed. We retrieve the results where vaccines AND flu shot appear in the citation. Basically, the places where both terms overlap.

Alternatively, if we use the operator OR we should anticipate seeing our result increase. Because OR will include any instances that vaccine appears, flu shot appears, OR they both appear in the citation. As you can see vaccines OR flu shot produces more than 49,000 results.

The final Boolean operator is NOT. A word of caution. NOT should be used thoughtfully and sparingly and only after conducting multiple searches using AND and OR often not will eliminate relevant results simply because the term appeared somewhere in the citation. NOT is used to remove results that contain a specific term. So if we want articles that are about vaccines but NOT about the flu shot, we would search for vaccine NOT flu shot. Our results would be limited to a more focused list. Here we are only seeing articles about vaccines that do NOT contain the term flu shot in the citation. But remember, NOT can limit relevant results too.

Now that you understand how Boolean operators work, you can begin applying them to your searches to both broaden and narrow your results.