

## Assignment

- Your task is to give a recommendation for a particular treatment of a particular disease.
- You must find at least one research article that discusses a medical experiment (or observational study) analyzed using various statistical techniques.
  - *The Journal of the American Medical Association* and *The New England Journal of Medicine* are two good places to start
  - Additionally, you could use the Web of Science to search for various diseases

First give a background on the disease

- Name of the disease / condition
- case definition / identification (how do we know someone has the disease?)
- infectious agent (if any)
- occurrence (person - which populations, place - geographic, time-seasonal or lifespan)
- mode of transmission
- incubation period
- main control measures (how is it currently treated, prevented, etc.)
- Next, summarize the statistical methods used and the resulting recommendations
  - assume your reader has some knowledge about statistics but none about the research
  - you should be reporting not only statistical significance but also practical significance
  - remember that part of the “statistics” of the paper includes the design of the experiment
- Be sure to cite your references appropriately (a general rule is that if you didn't know it before starting the research, you should probably cite it).

# Statistical Methods

I'd like this section to flow nicely within your paper. Your choice of where to put it, however. As mentioned in class, you need to provide details on one method (test, statistic, CI, plot, etc.) that we have covered in class and one that we haven't covered in class (which equals a minimum of two detailed descriptions). Here are some guidelines to help you communicate the details of the methods.

- Why did they choose the method you did? That is, why does it work for the research question and/or data?
- Give some background/theory to the method (convince me that you understand what is going on). I don't need mathematical derivations, but I do need to know what the method is doing.
- What assumptions does the model make? How sensitive are the results to the assumptions? Can you tell if they have been violated?

## dates

- Topic & background due Thursday Nov 4 (send in word, double spaced, via email)
- Complete draft due Thursday Nov 18 (send in word, double spaced, via email)
- Final draft due Thursday Dec 2

## Possible diseases/conditions

Ascariasis	Leishmaniasis
Aspergillosis	Malaria
Botulism	Onchocerciasis
Cardiovascular disease	Pertussis
Cholera	Plague
Creutzfeldt-Jacob disease	Poliomyelitis
Dengue Fever	Salmonellosis
Diabetes Mellitus	SARS
Dracunculiasis	Schistosomiasis
Ebola	Shigellosis
Giardiasis	Staphylococcal diseases
Hansen Disease	Syphilis
Hepatitis (A, B, or C)	Tuberculosis
Influenza	Typhoid fever
Legionellosis	Yellow fever