Logistics:
- Wed Feb 28, 12:30-2:00
  - 12:10-12:30 for last-minute Q&A
- Open-book, open-notes, open-anything else that I’ve provided or that you prepare yourself
- Bring calculator, no computer use
- Material from Mon Feb 5 – Mon Feb 26: Chapter 3, HW6-9, Quizzes 8-13

Overview:
We have primarily analyzed studies that involve two (binary) categorical variables, for which the results can be organized in a $2 \times 2$ table. We have also considered how the scope of conclusions to be drawn depends on how the data were collected. More specifically:
- Random assignment allows for the possibility of drawing cause/effect conclusions.
- Random sampling allows for generalizing to a larger population.

We have learned three ways to conduct statistical inference in this situation:
- Simulation
- Fisher’s exact test
- Normal approximation (two-proportion $z$-test, $z$-interval)
  - When conditions are satisfied

We have examined confidence intervals for three different parameters:
- Difference in success proportions
- Relative risk
- Odds ratio

Outline:
- Explanatory and response variables, observational studies, confounding variables
- Experiment, random assignment, placebo effect, blindness, cause-and-effect
- Simulating randomization test for assessing statistical significance with $2 \times 2$ tables
- Fisher’s exact test
- Ratio of conditional proportions, relative risk, odds ratio
- Confidence interval for population relative risk, CI for population odds ratio
- Case-control, cohort, and cross-classified studies

Advice:
- Organize notes for efficient retrieval of information/formulas
- Don’t plan to use text, notes too much
  - Prepare as if exam were closed book/notes
  - Focus on understanding, not memorization
  - Be cognizant of time constraint
- Expect similar questions to what we answer in class every day, on quizzes, on HW, on Exam 1
• Be prepared to think/explain/interpret
  o Not just plug into formulas
  o Be ready to explain process of how you would do calculations
• Be ready to interpret computer output
  o Possibly exclude irrelevant output
• Read carefully
  o Be sure to answer the question asked
• Take advantage of information provided
  o Perhaps including computer output
• Relate conclusions to context
• Prepare as thoroughly as you would for a closed-book exam
  o Re-work in-class investigations
  o Re-work HW questions
  o Work through examples
  o Re-read summary sections
  o Bring questions to class on Monday
  o Bring questions to office hours
• Show up on time!
  o Be cognizant of time constraint
  o Make attempt at all questions