Michelle Rawnsley Please come talk to me. Would love to help.

Exam #1

**Section 1: Data Work**

data <-read.csv("~/Downloads/Datasets/NCHS\_birthweight2000\_sample.csv")

datainc <- read.csv("~/Downloads/Datasets/NCHS\_income (1).csv")

#hist(data$annualincome)

head(data)

head(datainc)

hist(data$annualincome)

datanew <- merge(data, datainc, by = "person\_id", all.x = T)

head(datanew)

3. The coefficient on β is greater than 0 so it shows a causal relationship between mother’s education and infant health.

datanew <- subset(datanew, dmeduc < 99)

\*The education-gradient greatly varies in values. It’s not really in the same range.

datanew$low\_bwgt <- 0

datanew$low\_bwgt[datanew$dbirwt < 2500] <- 1

mean(datanew$low\_bwgt[datanew$dmeduc == 12])

help(plot)

datanew$aboveHS[datanew$dmeduc>12] <- 1.

8. The coefficient on β is greater than 0. There is a causal relationship.

9. The point estimate of γ is relatively average.

10. There is no possibility of omitted variable bias in this instance.

11. I prefer low\_birthweight = α + βabove\_HighSchool + e for its specificity. There are no other variables that will mess with the results.

**Section 2: Lectures**

1.

A. If β is greater than 0, then that means that having insurance does increase doctor visits. A positive slope for insurance in this linear regression with doctor visits as the independent variable would mean that for every new person who gets insurance, doctors' visits would increase by β.

B. No since statistical relationships don’t always mean causation since doctor’s visits depend only on insurance.

C. A lack of health coverage results in decreased access to care which then leads to a downward demand for doctor visits.

2.

A. Visits represent the total number of doctor visits. Treat is the group that was assigned insurance through the lottery draw and ϵ is the error term.

B. There is a positive relationship between being insured and doctor visits so there is a causal relationship.

C. There is a positive relationship which means that more people will go if they have a doctor. This could help more people become insured and go to the doctors more frequently.

D. The Oregon health insurance experiment was a research study that looked at the effects of Medicaid. The people selected were on a waitlist and later selected by lottery.

**Section 3: Readings**

1.

A. No treatment needs to be distributed to the group. People are automatically eligible for Medicare at the age of 65. Once they are on Medicare, the study begins, and you can observe the effects of the program as the people are on it.

B. Researchers try to eliminate any potential external variables behind the two groups to make sure everything is fair in a sense.

C. There is little difference in the patients’ health who were hospitalized with nondeferrable conditions under and over the age of 65. The quality of care is slightly higher with those 65 and higher. Obviously, people who are 65 and older will have insurance thanks to the program.

D. It focuses on only one health outcome. Medicare has the potential to affect other areas of health and in another population, not just in hospitalizations. The period of research done on the effects of Medicare is too short.