

# Problem Set #3: Implications of Health & Health Policy

Due by 11:59 ET 11/16/20

1. Read “Effects of Welfare Reform on Illicit Drug Use of Adult Women” by Hope Corman, Dhaval Dave, Nancy Reichman and Dhiman Das and answer the following questions. Really all you have to read is the I. Introduction and IV. Method and maybe some of the II. Background but of course read on if you want.

a. What are the authors trying to study? What is your hypothesis of how this might affect drug use and why?

b. The authors are also particularly interested in the health impacts of this policy change. How do they measure health here and do you think that’s an good enough measure? Why or why not? What is your hypothesis on how this reform might affect health overall?

c. What is the research design or identification strategy? Intuitively explain to me how the authors are measuring the treatment effect we talked about in class?

HINT: Section 5 of the Week 2 lectures and the beginning of this Week 3 will be your friend.

d. One of the measures the authors use is based on self-reports. What might be some worries about that?

e. What do the authors ultimately find for drug use and health impacts? What is the conclusion on the efficacy of this policy intervention?

2. A growing body of research suggests that conditions people experience in utero have long term consequences on health. In a series of famous studies, British epidemiologist DJP Barker demonstrates that children born with low birth weight tend to have much higher rates of cardiovascular/lung disease at ages 50 and above. Although this evidence is suggestive, why might one be suspicious about whether this represents a causal relationship?

3. On Blackboard, I’ve uploaded some R code (PS3\_RCode.R) and some .xlsx data (PS3\_Data.xlsx). You will need to change the setwd() line to the folder where you’ve save the PS3\_Data.xlsx file, but otherwise you can run the entire code and it will give you some regression results. Here we’re using National Health Interview Survey data on a health outcome (BMI>25 or overweight) and some factors that might contribute to that or not. So our regression’s dependent variable is whether the person is overweight enough and the independent variables are age, education, natural log of income, race, gender and smoking status.

a. In the R code, I’ve used the following code

```
PS3Data$Male <- ifelse(PS3Data$sex==2,1,0)
```

Explain what I’m doing here in R... i.e. what does this code create in our R dataframe?

b. Now let’s focus on our regression and interpret some of the coefficients. Interpret the coefficient on education (PS3Data\$educ: measured in years of education) in terms of magnitude and statistical significance.

c. Do the same for PS3Data\$lnincome. Recall it’s in natural log terms!

d. And finally interpret the coefficient for PS3Data\$Male.