

Final Project Guidance

BUSF-SHU 210: Business Analytics (Spring 2021)

Due at 11:59PM on Tuesday, May 18, 2021

This project set aims to provide you an opportunity to apply causal inference techniques to real experimental data. The instructions will not specify the exact steps to carry out. You are responsible for reading the relevant documents and papers and reproduce their causal inference analysis and results.

The overall goal is to estimate the causal effect of medicaid on emergency department utilization. You may read Taubman et al (2014), which is available in the Reference folder, for some background information.

Please download the data set and its relevant documentations in a zip file `OHIE.zip` from NYU Classes. After downloading the data set, please first read the starting guide `ohie_startguide.pdf` in the `OHIE_Documentation` folder to get a basic understanding of this data set. In this zip file, you can also find Stata code to replicate the results from the papers. In this data set, the data is stored in `.dta` format, which can be read into Python as a Pandas Data Frame using the function `pd.read_stata("oregonhie_descriptive_vars.dta")`. You may need to merge different parts of the data from different files in the data set.

Please answer the following question and support your answer with causal inference analysis. Please submit a PDF report articulating your answers with necessary explanations and supporting analysis and your code in a Jupyter Notebook. You are allowed to discuss with anyone about this project, but you should perform the analysis and write the report on your own. This project will count 10 percent towards your final grade.

Question

- Read Taubman et al (2014) and estimate the causal effect of medicaid coverage on average emergency department usage per person. Clearly explain the identification strategy and make necessary quantitative justifications in your report.

Reference

Taubman, Sarah L., Heidi L. Allen, Bill J. Wright, Katherine Baicker, and Amy N. Finkelstein. 2014. Medicaid increases emergency-department use: evidence from Oregon's Health Insurance Experiment. *Science*. **343**(6168) 263-268.