Internet-accessed sexually transmitted infection (e-STI) testing and results service: A randomised, single-blind, controlled trial.

Wilson et. al (2017)

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Research Question and Hypothesis

- Research Question: *Does e-STI testing[1] increase access to testing in comparison with face-to-face services?*
- Main Hypothesis: When STI is accessible throught the internet, people test of STDs at a higher rate.

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[1]Internet-accessed sexually transmitted infection testing

Data Description

- Description of Data: The data includes participants aged 16 to 30, residing in London boroughs of Lambeth and Southwark, who are sexually active, have internet access, and are willing to take an STI test.
- Unit of Observation: The units of observation are at the individual level
- Experiment or Quasi-experiment: An RCT experimental design is followed.

Main Results

- Result 1: Increase in self-report STI testing by 23.4*** (control group mean = 26.6%)
- Result 2: Increase in STI diagnosis by 1.4* (control group mean = 1.4%)
- Result 3: Treated units tested for STI 7.7*** days sooner on average (control group mean = 36.5)
- Results 4: No signifcant heterogeneous effects were found.

Proposed Improvements/extension

- Proposed Method 1: Causal Tree
- Proposed Method 2: Double Lasso

Justification for Causal Tree

- Why this method fits: This methods allows us to find possible heterogeneous effects among covariate groups. The group selection isn't done arbitrarily, but rather based on how much belonging in a specific group explains the outcome's variance.
- Hypothesis when using Causal Machine Learning Method: We think age will be the first variable of the regression tree.

Justification for Double Lasso

Having established the heterogeneities to be studied, we'll estimate the interaction's coefficient using partitioned regression (FWL) by using double lasso.

- Why this method fits: This method should allow us to reduce the point estimate's standard error. This increases the chances of rejecting the null hypothesis on non-significance.
- Hypothesis when using Causal Machine Learning Method: We think that by doing double lasso we can find heterogeneous effects.