Team: No Free Lunch

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Primary Questions/General Goal:

* How does non-medical drug usage correlate with police density by state for different drugs? Ex: non-medical drug usage of different drugs vary with police density.
  + Regression Models led to non-significant p-values (alpha = 0.05) for all drugs vs police per capita. All drugs vs arrest per capita non-significant except illegal use(p<0.011). This led to checking if non-linearity was at play in any of these variables.
  + Lowess Smoothing showed some non-linearity for police per capita & linearity for all drugs vs arrests per capita
* What policing variables predict drug use (police density, arrests made) of different drugs? Ex: Are certain drug usages more sensitive to police density, others more sensitive to arrests made.
* Policing has no impact on recreational drug use
* Higher policing reduces illegal drug use; would expect higher policing on higher illegal drug use areas

Methods Used:

* Importing Police data and adding these variables: Total Police Employment Per State, Estimated Populations Per State, Total Drug abuse Arrests Per State, Regression models, Lowess Smoothing to find non-linearity(all in Python), Choropleth in R

Description of Findings:

* Map:
  + No relationship -> high drug abuse rate and low drug abuse & high arrest and low arrest

For a non illegal drug map drug use density by state, take a look at 2 of highest police density states (state A high rec drug, state B low rec drug)

Select 2 low state c and D (state C is high and state D is low)

No relationship

Map that visualizes police density

Police density side by side

Not varying between types of recreational drugs, its recreational v. Illegal

“Table 69.” *FBI*, FBI, 12 Sept. 2019,

ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-69.

“Table 77.” *FBI*, FBI, 7 Aug. 2019,

ucr.fbi.gov/crime-in-the-u.s/2018/crime-in-the-u.s.-2018/tables/table-77.