**Project 1**

Background and driving question of the study:

<https://www.npr.org/sections/health-shots/2020/08/18/902328016/how-bars-are-fueling-covid-19-outbreaks>

***Do social gathering fuel COVID-19 outbreaks?***

**Hypothesis**: cities/areas with high densities of social gathering places, e.g. bars or restaurants have higher incidence of COVID-19.

**Approach/datasets**: The number of bars or restaurants in each areas (by zip code or city in Chicago and Los Angeles) were obtained. In parallel, the number of accumulative COVID cases to date were collected. The number of bars/restaurants were correlated with number of COVID cases in Chicago/LA. Additionally, to explore the potential impact of # of bars in COVID incidence, two zip codes, each with the highest or lowest # of bars in Chicago were selected. The case # were plotted in a time course.

1. **Chicago data (by zip code)**

Zip codes of Chicago (public data from City of Chicago) (CSV downloaded)

# of bars: <https://data.cityofchicago.org/resource/x7bm-cj66> (data updated daily since 2006) (API)

Accumulative # of cases: <https://data.cityofchicago.org/Health-Human-Services/COVID-19-Cases-Tests-and-Deaths-by-ZIP-Code/yhhz-zm2v> (API) (updated Oct. 1)

Extracted # of bars, # accumulative COVID cases from each zip code

Plotted # of bars vs. #COVID cases (7 zip codes had over 1000 bar-outliers)

Plotted again without outliers

Selected the zip code with highest or lowest # of bars and plotted COVID incidence (case #) in a time course.

1. **LA data (by city)**

COVID data per city from public health LA ([publichealth.lacounty.gov/media/coronavirus/locations/htm](http://publichealth.lacounty.gov/media/coronavirus/locations/htm)) (grab from website)

# of full service restaurant (<https://data.lacity.org/resource/6rrh-rzua.json?>) (API)

Found COVID case # by city

Found restaurant # for each city

Plotted # of full service restaurants vs. #COVID cases

**Results:**

Chart, scatter chart

Description automatically generated

The r value is -0.19

The p value is 0.17

Chart, scatter chart

Description automatically generated

The r value is -0.34

The p value is 0.02

Chart, line chart

Description automatically generated

Chart, scatter chart

Description automatically generated

The r value is 0.13

The p value is 0.2

Chart, scatter chart

Description automatically generated

The r value is -0.13

The p value is 0.23

**Conclusion: TBD**