**QR Final Project Proposal**

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* **Motivation:**
  + Access to health care insurance / health care services is crucial for a person’s physical wellbeing and longevity. A healthy person can be more productive to the economy, provide financial and emotional support to their family, and contribute to their communities.
  + Health insurance in US, however, is expensive and many are not able to afford, especially if they do not have a job or their job does not offer healthcare benefits. Unexpected medical bills are extremely burdensome to the already uncovered and the financially disadvantaged individuals/families.
  + This study aims to understand correlations between access to health coverage and other social-economic factors in NYC Bronx at the census tract level. Unable to access health insurance may be positively related to low income, poverty, minority races, employment sectors, educational attainment, and school attendance.
* **Topic:**
  + Access to health insurance access vs per capita income, race, poverty level, employment sectors, and education attainment in NYC Bronx at the census tract level.
    - May expand study regions to Queens, Manhattan, King
    - Limitation:
      * There are different forms of health insurance, public, private, high-deductibles, Medicare… The study is not comprehensive to examine which type people are using.
      * One may gain access to insurance through their family members. This study does not measure who provides insurance plans for their dependents.
      * The independent variables can also correlate highly
* **Key questions:**
  + 1. Is there a lack of health insurance among the minority (lm(racial~ income + poverty) neighborhoods?
    - ***Logical progression -> is it social disadvantage or economic disadvantage?***
  + How does education attainment impact Bronx population to have access to health insurance?
  + Does employment sectors allow more Bronx population to have health insurance?
* **Outline of the steps:**
  + Download data from ACS Survey 2016-2020 (done)
  + Find correlation between health insurance coverage and:
    - Race
    - Income
    - Education Attainment level
    - Employment sectors
  + May also look into children’s (under 18) health insurance coverage in relationship with:
    - parents/single parents -> generational difference
    - school enrollment rate -> ***maybe lead to higher enrollment of health insurance?***
      * Find some policy explanation
  + Use GIS mapping to demonstrate data spacially.
* **Data**
  + I will use ACS 2016-2020 Data – Bronx Census Tract in NYC
  + Variables:
    - Dependent: healthcare coverage
    - Independent: racial, income, education attainment, employment sectors, school enrollment, single parents / co-parenting
  + Ha: healthcare coverage is not related to
    - Race/income/employment\_sector/education attainment
  + Ho: healthcare coverage is related to
    - Race/income/employment\_sector/education attainment
  + Ha: school enrollment is not related to healthcare coverage & parenting
  + Ho: school enrollment is related to healthcare coverage & parenting
  + Expected equation.
    - healthcare coverage (y) = constant + correlation\_coefficient \* race
    - healthcare coverage (y) = constant + correlation\_coefficient \* income
    - healthcare coverage (y) = constant + + correlation\_coefficient \* race+ correlation\_coefficient \* income
    - \*healthcare coverage (y) = constant + correlation\_coefficient \* mortgage
      * Negative correlation?
    - healthcare coverage (y) = constant + correlation\_coefficient \* education\_attainment
    - healthcare coverage (y) = constant + correlation\_coefficient \* employment\_sectors
    - school enrollment = (y) = constant + correlation\_coefficient \* healthcare\_coverage + correlation\_coefficient \* single parents / co-parenting
      * perhaps some variable related school policy / more children related
      * education quality
  + Level of significance: 0.05
  + Data:
    - 1. ACS 5 year estimate 2019
    - 2.Census tract (Bronx, kings, queens, new York)
    - 3.
    - Graphical user interface, text, application

      Description automatically generated
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