**Project 1 Title: Early Indicators of Covid 19 Updates for the United States**

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**Project Description/Outline:**

The early indicators represent a portion of national Covid 19 tests and emergency visits. It is important to [see the rates of COVID-19-associated hospitalizations each year](https://www.cdc.gov/coronavirus/2019-ncov/covidnetdashboard/de/powerbi/dashboard.html)

COVID-NET is a population-based surveillance system. Population-based surveillance is the active collection, analysis, and interpretation of data on a population in a specified geographic area.

Tracking COVID-19-associated hospitalization rates helps public health professionals understand trends in virus circulation, estimate disease burden, and respond to outbreaks. understand trends in virus circulation, estimate disease burden, and respond to outbreaks.

**Project Questions**

COVID-NET collects surveillance data on laboratory-confirmed, COVID-19-associated hospitalizations among children and adults. Data are collected and reported from a network of sites in acute-care hospitals across 98 counties in 13 states.

### **Calculating Hospitalization Rates**

To calculate COVID-19-associated hospitalization rates, COVID-NET collects the following data from identified cases:

* Age
* Sex
* Race and ethnicity
* County of residence
* Date of hospital admission
* Date of SARS-CoV-2 test
* Positive SARS-CoV-2 test result

Hospitalization rates are calculated as the number of residents in a surveillance area who are hospitalized with laboratory-confirmed COVID-19, divided by the total population estimate for that area.

We will be going through these factors related to COVID-19 deaths.

#### **COVID-NET Surveillance Area**

COVID-NET currently comprises 98 counties in the 13 states participating in the [Emerging Infections Program (EIP)](https://www.cdc.gov/ncezid/dpei/eip/index.html) and the Influenza Hospitalization Surveillance Project (IHSP). The participating states are California, Colorado, Connecticut, Georgia, Maryland, Michigan, Minnesota, New Mexico, New York, Ohio, Oregon, Tennessee, and Utah.

**Data Sets to be Used:**

We will be using a data set found on CDC. The data set is called COVID 19 data tracker.

Rough Breakdown of Tasks:

* Use Pandas to clean data
* Create Jupyter notebook to describe our process through the clean up and data exploration
* Choose 3-8 factors that we now have clean information about
* Create Jupyter notebook to illustrate the final data analysis
* Use this final data analysis to guide in what graphs to make using Matplotlib (create 6-8 visualizations, possibly 2 per question)
* Save PNG images of visualizations for class and instructional team
* Write-up summary of major findings.
  + Heading for each question
  + Short description of findings
  + Relevant plots
  + Power Point Presentation