**Description of the problem:**

The COVID-19 pandemic has been wreaking havoc globally for the larger part of 2020. My home country of India is one of the most severely affected countries in the world and, while many countermeasures are currently underway, the virus still seems to be on the winning side.

One problematic issue that India faces is the enormous percentage of rural population that, most often, do not have access to proper medical facilities. This creates significant problems for anyone attempting to reach out to the rural population and these sections of the country almost always require special planning in terms of distribution due to the lack of passable roadways. I believe that it would be immensely helpful for anyone planning a rollout of supplies and eventually, a vaccine, to be able to understand not only the break up of urban/rural population across states but also the number of hospitals in each state. I believe that this information can be an immensely beneficial input to any strategic rollout of any resources/medication/vaccines.

**Description of the data:**

Through this project, I aim to use the FourSquare API to discover the density of hospitals in a state using their capital cities as a reference point.

In addition to the data collected from FourSquare, I have also collected data on the Urban and Rural population in each state.

The data used contains the following variables:

State (str): The name of the state/Union Territory

Population (num): The population of the state as per the 2011 Census

Capital (str): The capital city of the state/Union Territory in question

U to R (num): The ratio of Urban to Rural population in the state

Latitude (num): The latitude value of the state capital (captured using geolocator)

Longitude (num): The latitude value of the state capital (captured using geolocator)

The geographical coordinates will be used to discover hospitals within a given radius of the capital city of each state. All of these locations will be represented on a map of India.

The two other outcomes of this project will be choropleth maps that represent,

1. The count of hospitals within a given radius of the state capital (attained from FourSquare). This can be used as an indicator for areas that may require more attention in the addressal of the pandemic problem.
2. The ratio of urban to rural population for each state. This can be used as an indicator for the potential difficulty in accessing a particular state based on how much of their population lives in areas currently classified as rural.

**Sources:**

1. <https://en.wikipedia.org/wiki/List_of_state_and_union_territory_capitals_in_India>
2. <https://en.wikipedia.org/wiki/List_of_states_and_union_territories_of_India_by_population>
3. FourSquare API