Battling COVID-19: USA vs India

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1 Question

1. To critically compare the spread of COVID-19 in USA and India.
2. To understand the progression of the disease in each of these countries based on the measures taken by the respective administrations.

2 Visual Strategies

Chloropleth maps capture the variability of desired measure across a region. Here they are plotted using states colored in different gradients of red based on number of active cases or deaths. Lighter shades of red (pink) mean that the state has low active cases or deaths. Conversely, states with darker shades of red (maroon, black) have higher active cases or deaths. These maps are more suited to compare different states within the country but not two different countries as a whole. Therefore another plot of time vs cases or deaths is made to compare both the countries based on number of cases or deaths rather than color.

3 Process and Approaches

- Data from multiple resources is merged to get state wise counts of COVID-19. Country-wise text data of major events relating to COVID-19 response is gathered to include in the visualization.
- Chloropleth maps and time vs cases plots are made in tableau.
- In order to display the dashboard as time series animation, date is added to 'pages' shelf.
- Two separate worksheets are made to display the text data of COVID-19 response in each country.
- Added a radio button by creating a new parameter which allows the selection of either cases or deaths based on which the chloropleths are colored.
- **For the static visual**, I only used final date (3rd May) chloropleth maps of each of the countries. Added both count vs time plot on a single timeline diverging from the center and annotated them multiple major events of COVID-19 response of each country, color coded as blue (for India) and orange (for USA) which is consistent with the dashboard.
- Corona virus images from internet are placed on the visual with very opacity to give some texture to the visual. Similar image is used at the bottom of the visual to make it aesthetically pleasing.

4 Challenges and Techniques

- Different color ranges in each of the country. Changed the color scale so it is same in both maps.
- USA map looks much smaller because of the location of Alaska. Mapped Alaska in a different worksheet and pulled it over the USA map on the bottom left. Hawaii is also too far from mainland. Including it makes the entire map much smaller.
- Manipulated map layers and worksheet pane borders to blend the maps within the dashboard seamlessly.
- One major drawback in using Tableau is we cannot assign custom ranges to assign colors. Particularly in cases like this with few extreme values, it is important to have different sizes of color ranges. For example apart from New York all the other states are below 100,000. This populates all the other states in the lower end of the color spectrum. One way to work around this problem is to create a custom color palette in 'ordered-sequential' way. By repeating the color steps in the palette to suit the problem, we can alter the color range sizes. I had to add 100 steps of 2 colors in the palette to work for my visual which is very tedious.

Range	Color	Number of steps
10 - 1000	#ffe6e6	1
1000 - 5000	#ffb3b3	4
5000 - 10,000	#ff8080	5
10,000 - 20,000	#ff4d4d	10
20,000 - 50,000	#ff0000	30
50,000 - 100,000	#b30000	50
100,000 - 200,000	#800000	100
200,000 - 317,000	#ff0000	117

- **For Static Visual**, in order to get two plots on same timeline axis, I had to get a vertical flipped image of one of the plots.
- The x-axis of the original plot is too light and hard to see, so I made both the x and y axis in illustrator using pen tool.

5 Reflections

Both the static and interactive visual are very informative and explain the spread of COVID-19 in USA and India. Adding the annotations help build the context and delivers a story of disease progression in the respective countries. In the interactive visual, we can compare the cases statewise and country-wise over the time. Since, static visual has all the annotations on the screen, it is best used to compare the country-wise actions Battling COVID-19. It draws a picture of current state of COVID-19 in both the countries by using the past measures(annotated) and current statistics and maps.