Status of Nursing Home Resources

The goal of this hackathon is to analyze the nursing home data provided by the Center for Medicare & Medicaid Services(CMS) and create visualizations to communicate the resource constraints faced by the nursing homes

Data

Use the data provided by CMS. The link includes the data file, and variable description. The dataset has 660K rows and 120 columns. After navigating to the data source select "Export" button on the top right and download the CSV file

Tasks

1. Visualize the distribution of number of nursing home facilities by state and county
2. Conduct a facility and county level analysis on shortage of aides, clinical staff, nursing staff and other staff (define the following metric for this analysis: **number of weeks the shortage was experienced**). Visualize how this metric changes by facility and county. Show the top 10 facilities that face the aforementioned shortages. In addition show visualizations to compare the differences between aides, clinical staff, nursing staff and other staff shortages at a national level.
3. Conduct a facility and county level analysis on one week supply of eye protection, gloves, hand sanitizer, N95 masks, surgical masks, and ventilator supplies (define the following metric for this analysis: **number of weeks the supply shortage was experienced**). Visualize how this metric changes by facility and county. Show the top 10 facilities that face the aforementioned supply shortages. In addition show visualizations to compare the differences between one week supply of eye protection, gloves, hand sanitizer, N95 masks, surgical masks, and ventilator supplies at a national level.
4. Conduct a facility and county level analysis on the number of beds available, and the ratio of number of ventilators dedicated for COVID-19 to the total number of ventilators available in a facility. Highlight the top 10 facilities and counties where the aforementioned ratio is high.
5. Analyze how the metrics given in task 2, 3, and 4 change with respect to time (weeks).

Submission Format

1. This is a group effort. Only one member needs to submit the reports.
2. Submit a report with the visualizations and write your observations
3. The report should be generated as Google web page
4. Use google sites to create the report
5. The visualizations can be created using any tool (R, Python, Tableau, Excel, Datawrapper, Flourish etc.)
6. The images included in your report must be of high quality (minimum 300 dpi).
7. The visualization must have title, axis labels (for non map based vis), and legends
8. Maximize the usage of text annotations and highlights to convey important points
9. The font size in the figures must be minimum 14 points
10. Submit a google drive or one drive folder that has link to your Google site report, R code files (if using R), Tableau workbook in .twbx format (if using Tableau)
11. One can use multiple tools. If using R and Tableau include both R code files and Tableau workbook in .twbx format
12. Submit by March 28 midnight