COVID 19

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The Pandemic

- Why COVID?
- Started early 2020
- caused by a virus named SARS-CoV-2.
- As of August BA.2.86 Variant

Focus of Interest

- Data source: CDC
- 2023
- Focus of interest
  - Confirmed Cases
  - Hospital Occupation
  - Total Admissions
  - Report Date

state
county
fips_code
county_population
health_sa_name
health_sa_number
health_sa_population
report_date
week_end_date
mmwr_report_week
mmwr_report_year
total_adm_all_covid_confirmed_past_7days
total_adm_all_covid_confirmed_past_7days_per_100k
total_adm_all_covid_confirmed_past_7days_per_100k_level
admissions_covid_confirmed_week_over_week_percent_change
admissions_covid_confirmed_week_over_week_percent_change_level
avg_percent_inpatient_beds_used_confirmed_covid
avg_percent_inpatient_beds_used_confirmed_covid_level
abs_chg_avg_percent_inpatient_beds_occupied_covid_confirmed
avg_percent_staff_icu_beds_covid
avg_percent_staff_icu_beds_covid_level
abs_chg_avg_percent_staff_icu_beds_covid

Development

Data Components

- Dataset: Weekly United States COVID-19 Hospitalization Metrics by County (csv)
- PostgreSQL database
- Python Flask-powered API
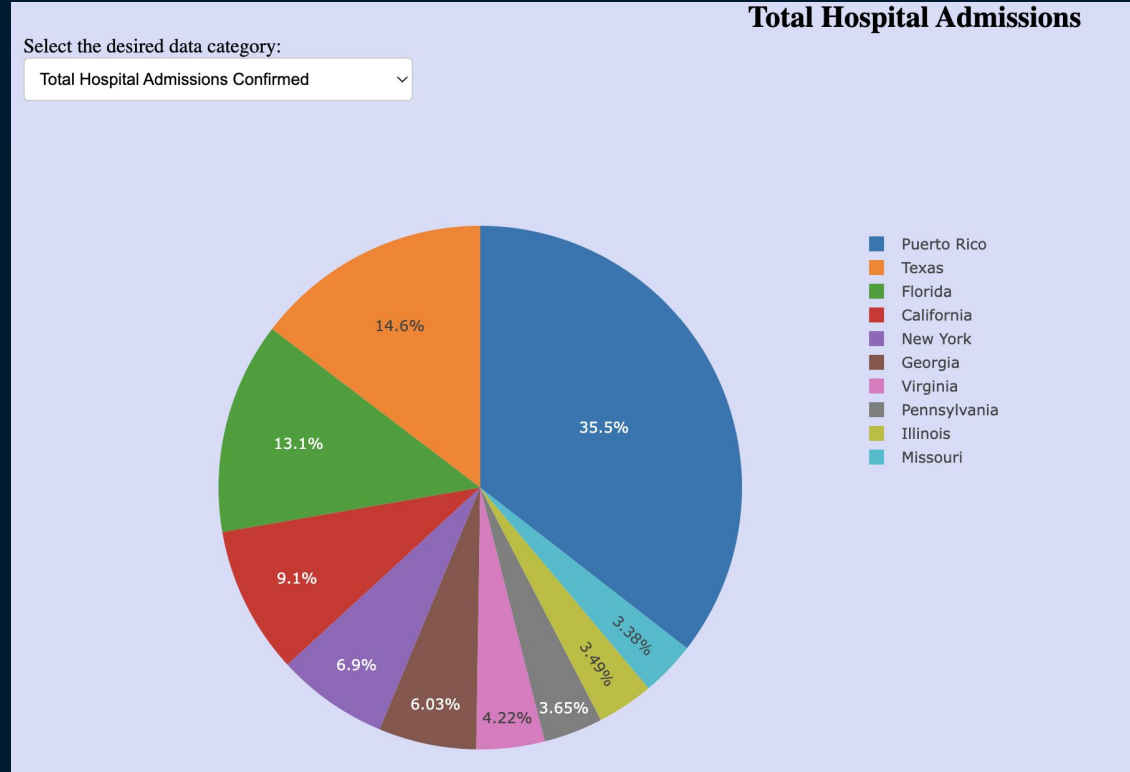- HTML/CSS/JavaScript (Plotly.js, Vis.js)

Data Wrangling

- IDs Primary Key
- GROUPBY – state/date
- Exclude null records
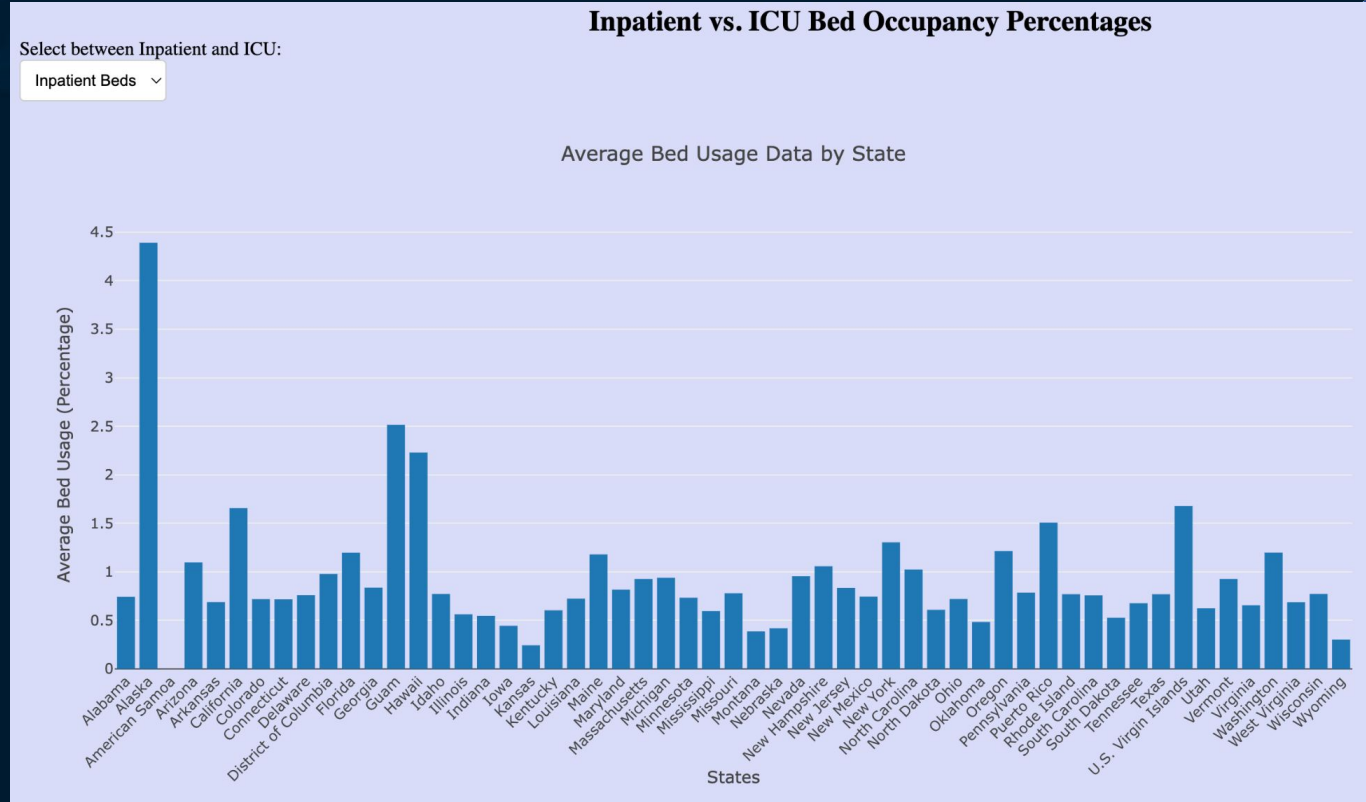- SUM / AVG
- INT, FLOAT

Visualizations

Which states have the highest covid cases?

- Our data includes US states and territories
- May to Aug of 2023
- Total Hospital Admissions / Per 100k Density (2019 Population)

Total Hospital Admissions

Select the desired data category:

[Total Hospital Admissions Confirmed ▾]

Pie chart legend:
- Puerto Rico — 35.5%
- Texas — 14.6%
- Florida — 13.1%
- California — 9.1%
- New York — 6.9%
- Georgia — 6.03%
- Virginia — 4.22%
- Pennsylvania — 3.65%
- Illinois — 3.49%
- Missouri — 3.38%

Impact of Covid on Hospital Occupancy

- Inpatient / ICU
- Looking at the percentage of beds used for Covid patients
- The same states with high inpatient bed occupancies also had high ICU bed numbers

Covid Trend so far for 2023...

- Using Report Date and Total Hospital Admissions across the US & US Territories.
- August to May
- Shows that admissions could continue to rise throughout the rest of the year.

Timeline of Total Covid Hospitalization Admissions

How could this data be useful in the future?

- Following the Trends
- May to August could be a good representation of what's to come for the rest of 2023
- We have access to more data that could be used to further our observations and predictions
- This tool can be continually developed to monitor the prevalence of Covid19 in 2023