

COVID-19 Trends

Group 24: Dino Nuggies



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Introduction / Dataset



Dataset Source:

- Github Repository - Our World in Data Covid-19
- Focus: (01/22/20 - 11/01/22)
- 219,637 observations
- 67 variables

Purpose:

- To delve deeper into the lingering effects of Covid on today's world
- To investigate possible correlations between various factors and its impacts on Covid mortality

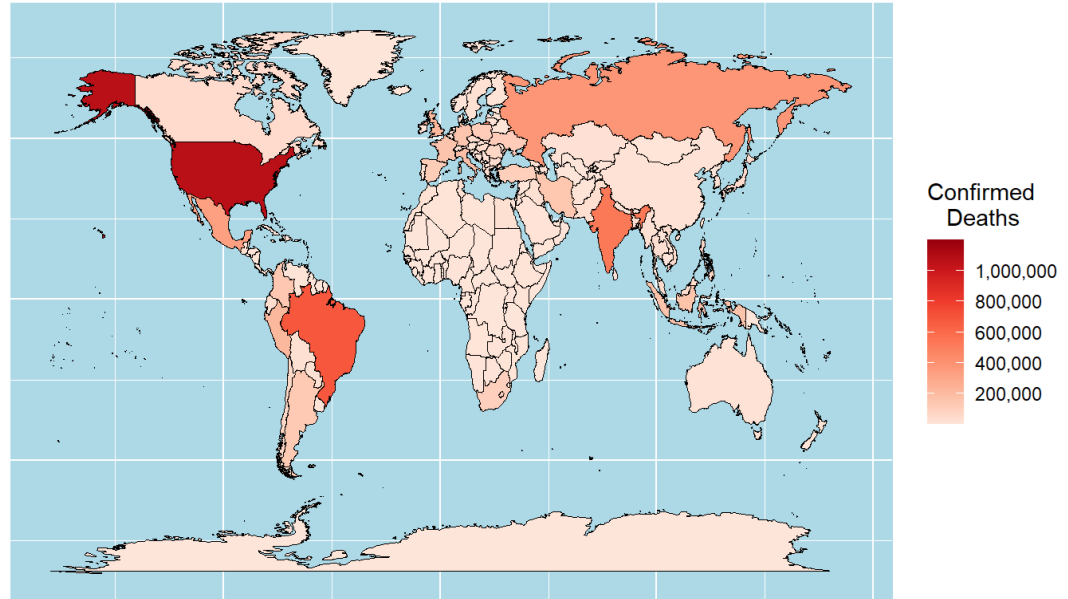
Driving Questions:

- What is the distribution of total Covid deaths by country and where are hotspots located?
- In which countries are the deaths to cases percentage the highest?
- Is there a correlation between GDP per capita and Covid mortality?
- What is the COVID mortality trend according to vaccination status?

COVID Total Deaths Distribution

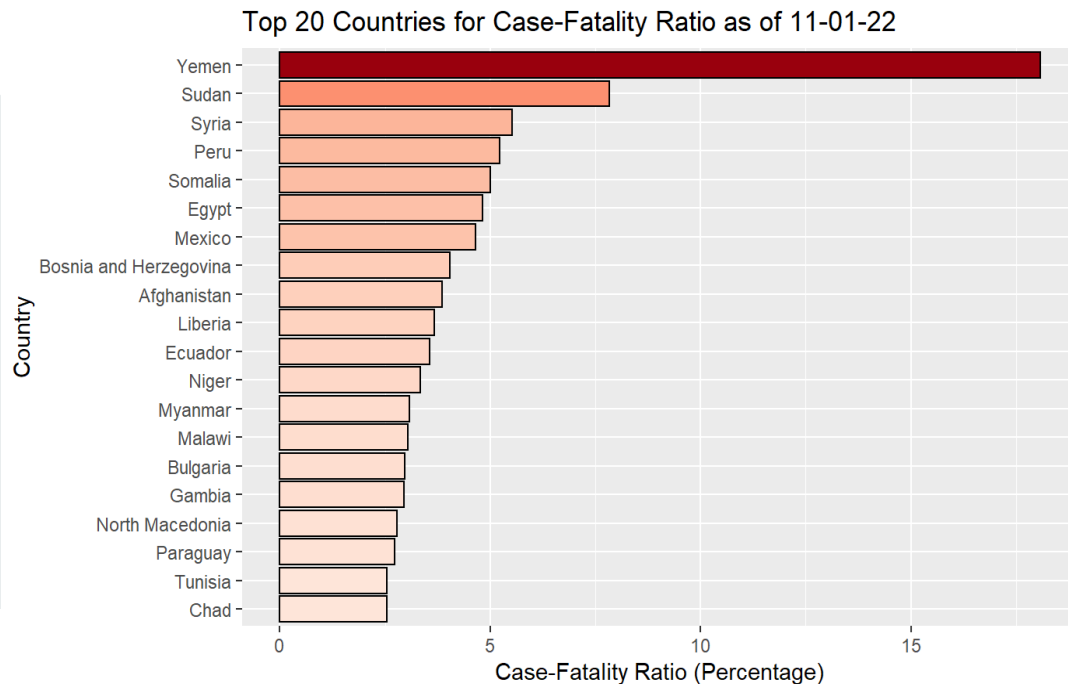
- The US, followed by Brazil and India, bears significantly more cumulative deaths compared to the rest of the world
- Possible Underreporting: e.g.
 - US Population: ~300 Million
 - US Covid Deaths: ~1 Million
 - China Population: ~1.4 Billion
 - China Covid Deaths: ~16,000

Cumulative COVID Deaths by Country as of 11-01-22



Deaths to Cases Ratio

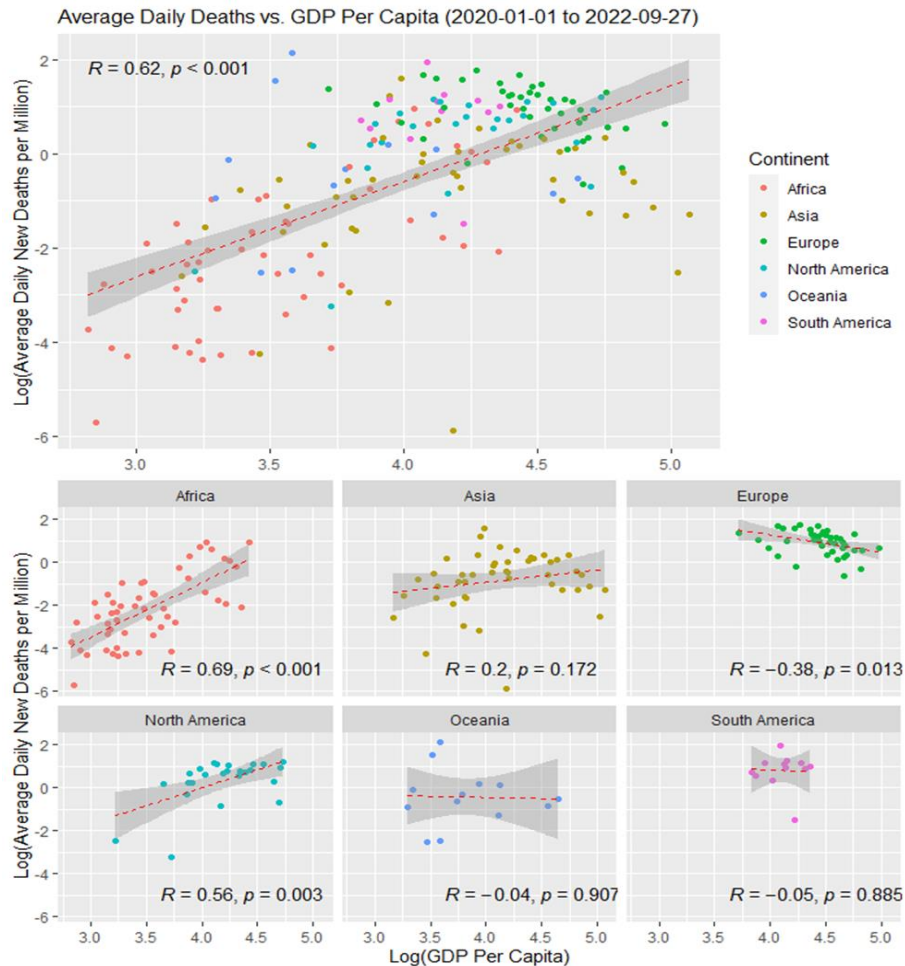
- Indicative of where COVID is deadlier
- US not even in the top 20 despite having the most total deaths
- Primarily concentrated in the Middle East/African sub-continent
- Yemen is currently in a humanitarian crisis



Note: North Korea removed due to too large of an outlier and unsure of validity of reports

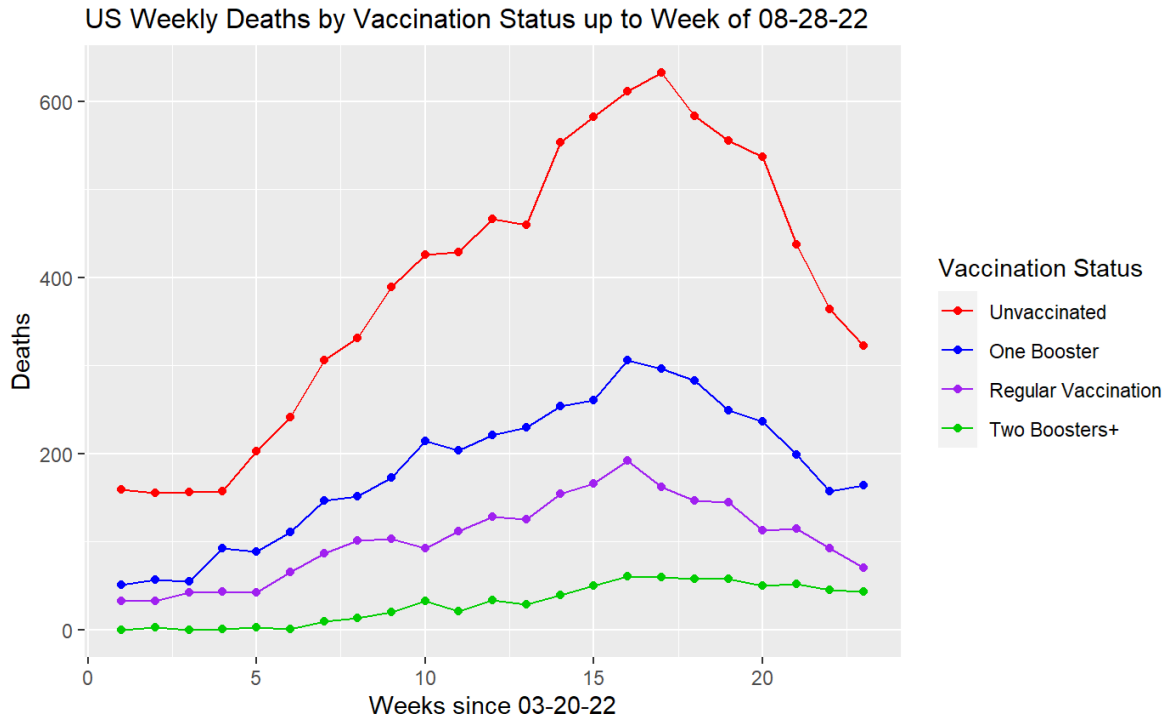
GDP Per Capita vs. Mortality Rates

- North America/Africa show a positive correlation between daily deaths and GDP
- Europe demonstrates a negative correlation
- Asia, Oceania, and South America yield an inconclusive correlation (i.e. we cannot reject the null hypothesis)



Vaccine Impact on Mortality

- As expected, unvaccinated individuals have the most deaths recorded
- Discrepancy between those regularly vaccinated and those with only one booster





Future Work

- How do Covid statistics correlate with political and environmental factors?
 - Lock-down policies
 - Pollution levels
- How effective were the amount of booster shots on reducing the hospitalization and mortality rate of the immunocompromised population?
- What is the impact of a country's societal norms on the transmissibility of Covid?
 - Masks
 - Levels of Sanitation
- What is the effect of vaccination status in other countries?

References



GitHub:

- https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data/csse_covid_19_daily_reports
- <https://github.com/owid/covid-19-data/tree/master/public/data>

CDC:

- <https://data.cdc.gov/Public-Health-Surveillance/Rates-of-COVID-19-Cases-or-Deaths-by-Age-Group-and/ukww-au2k>