

PIC 16B: Vaccination Process in Different Countries

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1. Project Description

Since Covid-19 has been rampant for 2 years, vaccination is essential to preventing the spread of infections. However, the general public from all over the world face the shortage and issues surrounding vaccinations efficiency. Thus, we will explore the vaccination process from different countries and the relationship between vaccination rate and the economic, demographic properties of different nations.

Here is the Vaccination Process dataset:

https://www.kaggle.com/gpreda/covid-world-vaccination-progress?select=country_vaccinations_by_manufacturer.csv

2. Research Question

We are going to investigate how economic and demographic factors are related to the number and rate of vaccination processes in different countries.

3. Methods

- a. We plan on using SQLite to merge the vaccination by country dataset with the vaccination ID's by manufacturer to investigate the efficiency of vaccine distribution across nations through Pandas data analysis or regression models.
- b. We will use plotly to create interactive visualizations outlining our findings on the timeline and efficiency of the vaccination process in different countries.

4. Schedules

- a. Week 6: Wrap up data merging and cleaning
- b. Week 7: Exploratory Data Analysis
- c. Week 9: Create visualizations and necessary regression models
- d. Week 10: Finish writing up final report

5. Individual Assignments

- a. Mingze takes responsibility for finding the dataset, providing general questions, and doing some data modeling and analysis.
- b. Roger takes responsibility for doing the data cleaning, data analysis, and some data modeling.
- c. Lulu takes responsibility for doing the data cleaning, data visualization and some data modeling

6. Potential Questions

- a. Which country implemented the most advanced and effective vaccination program?
- b. What geographical regions achieve the most vaccinations in terms of people per day? Represent the figure as a percentage of the country's entire population.
- c. What is the relationship between economic development and vaccination numbers in different countries?