

COVID-19 Vaccinations Trend Analysis

Aim:

This project aims to analyze data in detail on vaccinated and fully vaccinated people by year and country.

Introduction:

The COVID-19 pandemic has had a significant impact on the world, with countries around the globe struggling to control the spread of the virus. Vaccinations have emerged as a key tool in the fight against COVID-19, with countries around the world rolling out vaccination programs to protect their populations. This project focuses on analyzing the trends in COVID-19 vaccinations to identify patterns and insights that can inform policy decisions and help control the spread of the virus.

Problem statement:

- In order to know how many people are full vaccinated by the initial protocol.
- To know the population which has received at least one dose of the vaccine.
- The different vaccines used and their availability to different countries.

Methodology:

Data Exploration:

- In order to take any necessary steps, we must understand the data we have, which is data exploration and based on our understanding we can go ahead with the appropriate data cleaning steps required.
- The Dataset about the vaccination reports for COVID-19. This Dataset contains 169 countries of vaccinations data and consists of total vaccinations per country, vaccination names, Total 1st dose of vaccinations done and fully vaccinated, percentage of people etc.

Data Cleaning:

- Data cleaning is performed by the help of Power BI desktop software. In power BI I have imported the data raw data in the power Query editor from Excel workbook.
- Imported the raw data and performed data cleaning operations like removing duplicates, Handling Null values and replacing with “0”.
- The Data was cleaned and modified and it was perfect for data analysis and Visualizations.

Data Visualizations:

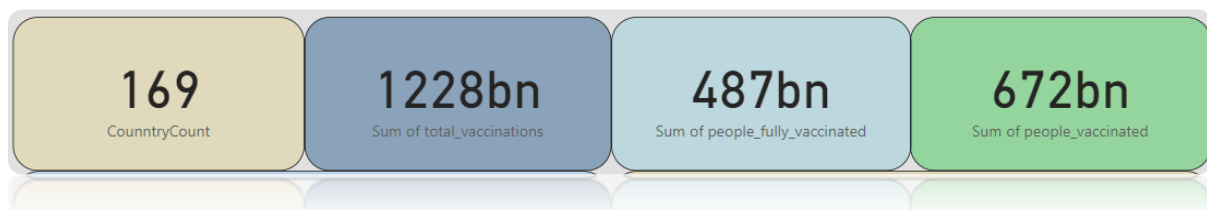
- I have used Power BI tool to visualize the data available to gain meaningful insights and better understand the dataset.
- I have used different visualizations like Line graphs, Guage, Donut chart, map visualizations and other cards which are available in the tool.

Analysis:

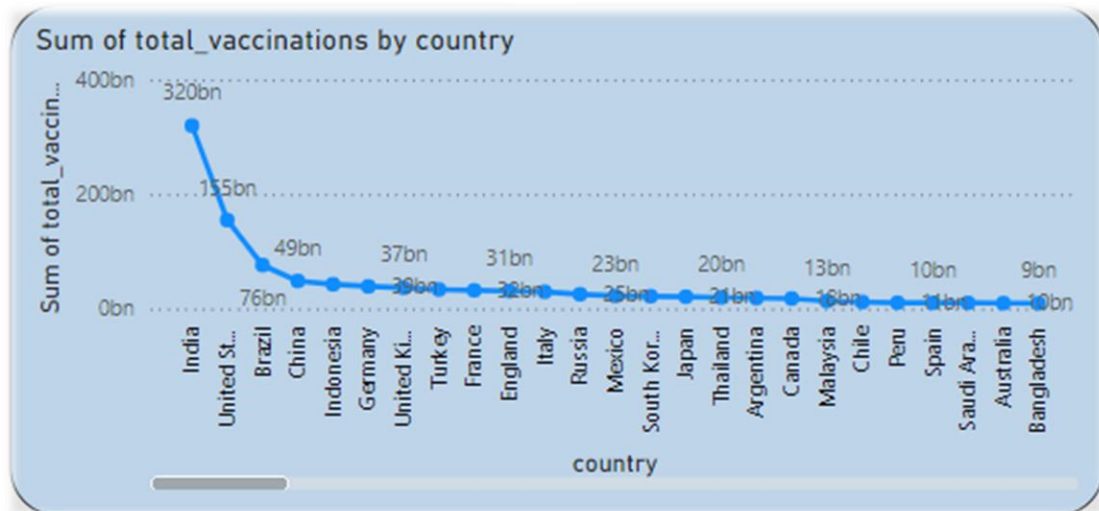
By analyzing the data, I came to know some interesting topics that are mentioned below.

- The Total of 169 Countries participated in Vaccination.
- Total 1228 billion vaccinations are successfully done over the world.
- 487 billion Peoples are Fully Vaccinated all over the world.
- 672 billion Peoples are Vaccinated 1st dose all over the world.
- Covaxin, Sputnik V, Johnson&Johnson and Moderna vaccines are used in the most of the countries.

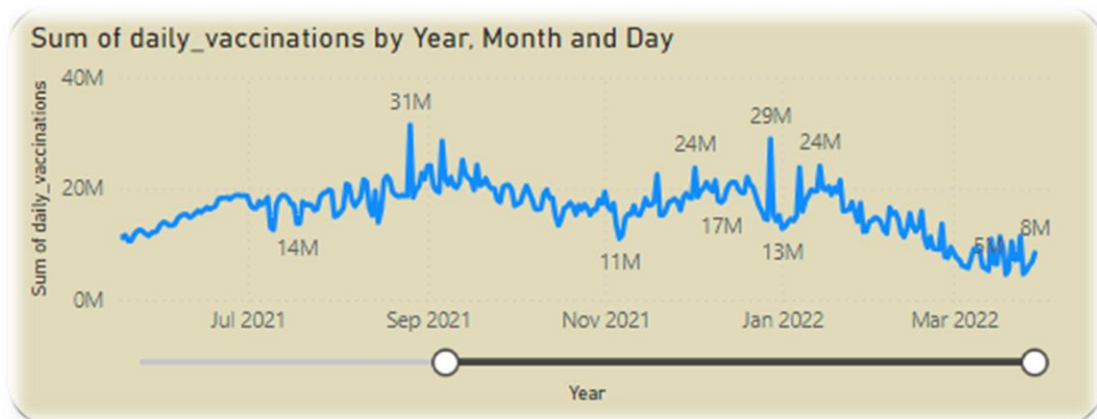
The card visualization has been used to show different numeric values like total countries, vaccination details and number of people vaccinated.



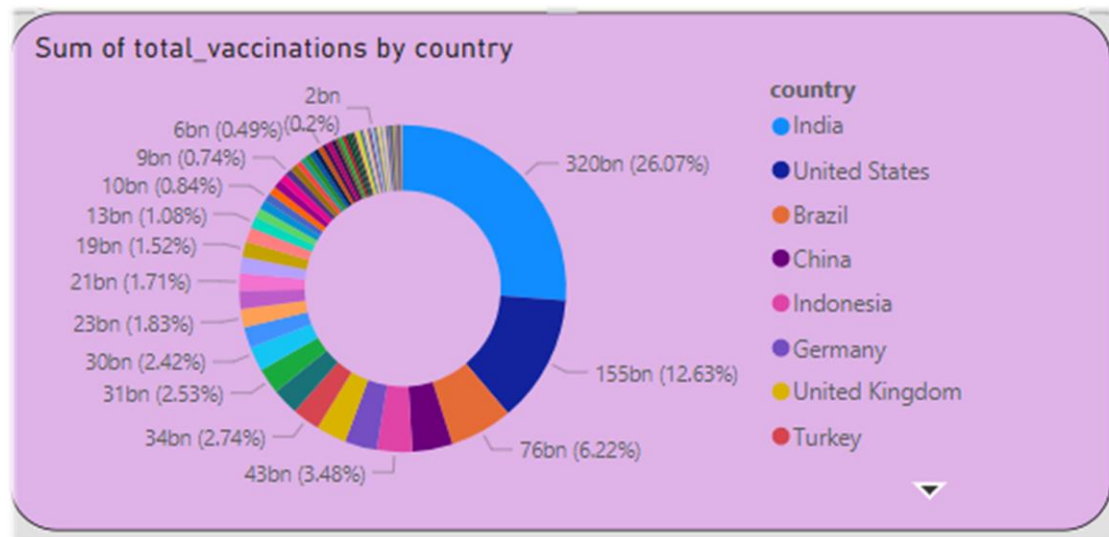
- In this line graph we can observe highly populated countries have higher vaccinations which are in top 10 position.
- India in the 1st place in total vaccinations by country wise with 320bn vaccinations.
- United States holds the next position with 155 billion vaccinations.



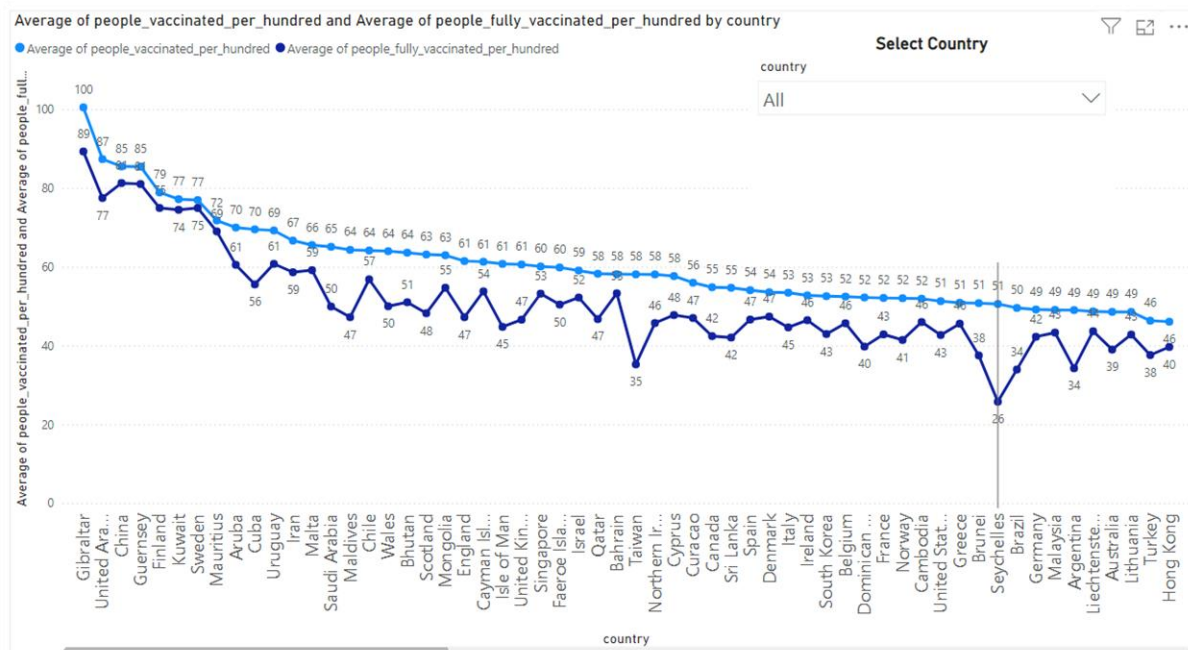
- In this line graph we can see the people vaccinated date based on date.
- In Aug 2021, It was recorded that Highest vaccinations are done in all over the year.
- Still around 8 million doses were administered at the end of March 2022.



- Also, by this Donut chart we can observe highly populated countries have higher vaccinations which are in top 10 position.
- India has 26% of total vaccinations around the world
- United states in the next place to hold 12.63% of total vaccinations including 1st and fully vaccinated people.

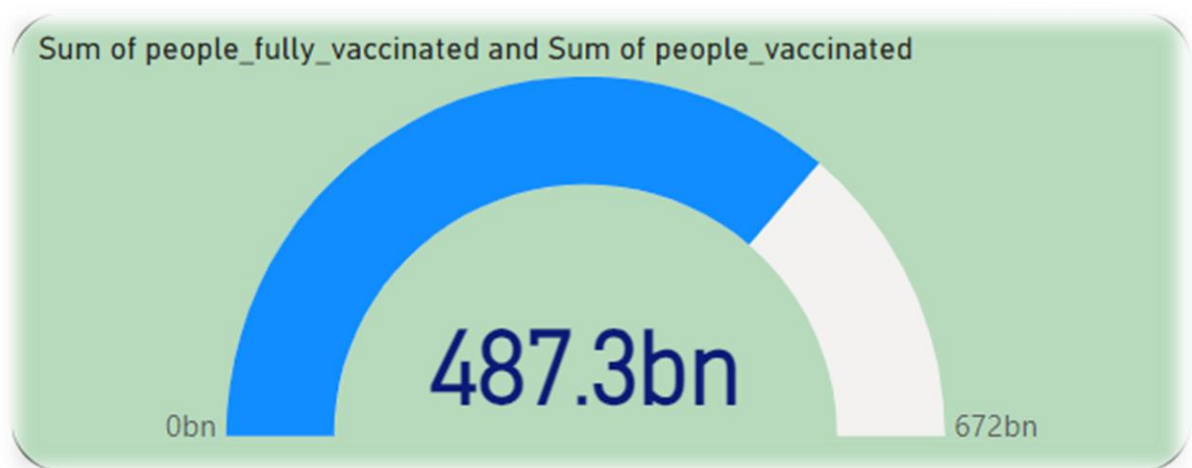


- Here, we can observe the graph of the percentage of 1st dose and 2nd dose with respective country.
- Gibraltar country was showed excellent performance responsibly with 89% of fully vaccinated people and 100% vaccinated people.
- UAE also participated in vaccination program well.

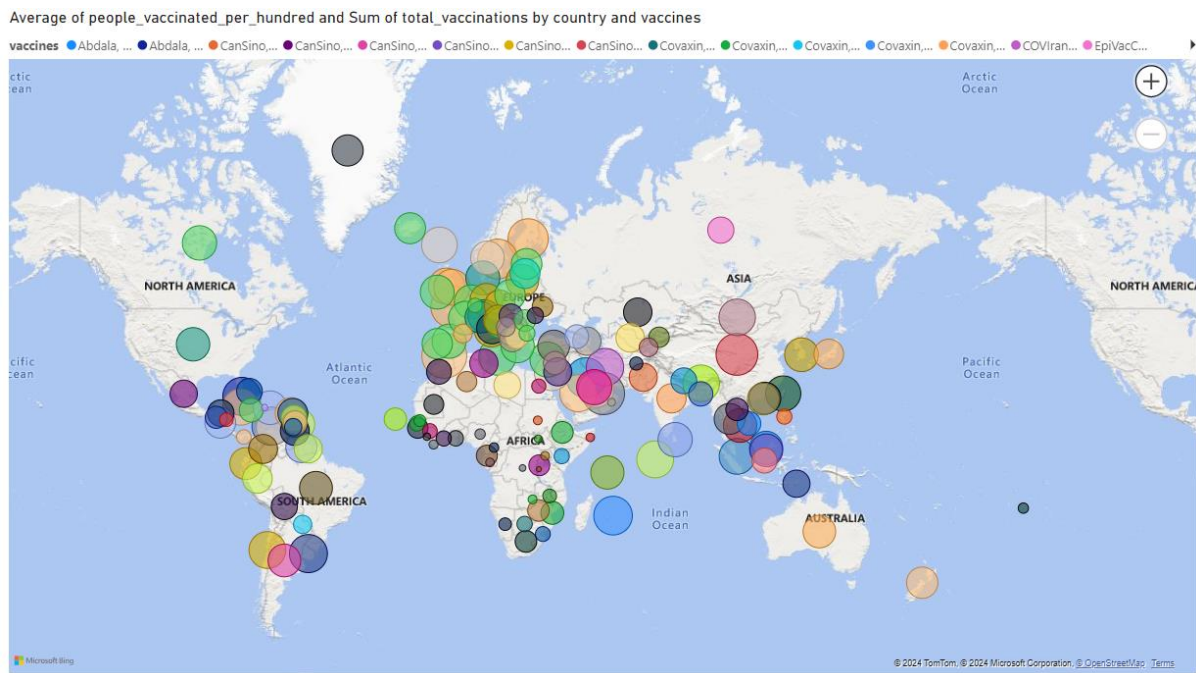


A Gauge chart has been plotted to represent the People Fully Vaccinated and the sum of total vaccinations.

Still there were around 200bn vaccinations to be done to achieve fully vaccinated people across all the countries.



A map visualization is also shown which gives the population fully vaccinated in different countries and are differentiated based on the color gradient.



Insights:

The final report provides valuable insights into the vaccination efforts around the world. By analyzing the data, it is possible to identify the top 10 countries with the highest rates of fully vaccinated individuals.

The high rate of fully vaccinated showing that people are interested to destroy the deadly virus from the world.

By using the insights gained from this analysis, it is possible to make informed decisions and take effective action to address the challenges posed by COVID-

19. So, we can conclude that the analysis of the data has been a valuable and informative process, and it is hoped that the insights gained will be useful in the ongoing efforts to combat the pandemic.

Recommendations:

Based on the insights gathered from the analysis, the following recommendations are made:

- Countries with lower vaccination rates should focus on improving their vaccine distribution strategies to ensure that vaccines are reaching all parts of their population.
- Governments and international organizations should work to address the underlying economic and social factors that are contributing to vaccine hesitancy in certain populations.
- Governments should prioritize the use of vaccines to maximize the effectiveness of their vaccination programs.
- At least 90% of the population should be vaccinated at least once to avoid further problems.

Conclusions:

The COVID-19 pandemic has had a significant impact on public health and the global economy. Vaccinations have emerged as a critical tool in controlling the spread of the virus and reducing its impact. This project has analyzed the trends in COVID-19 vaccinations worldwide to identify.