

# **Covid 19 Vaccine Analysis Project**

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## **Aim**

The aim of this project is to analyze the data in detail on vaccinated people and fully vaccinated people by country in 2021-2022

## **Introduction**

Since the start of the COVID-19 outbreak, WHO has worked with countries and areas in Different regions on public health measures to slow or stop the spread of the virus.

Safe and effective vaccines are an important tool, in combination with other measures, to protect people against COVID-19, save lives and reduce widescale social disruption.

The main objective of this project to analyze Covid – 19 Vaccination data and find out some important insights.

## **Problem Statement.**

In this project, we find out in Different Countries how many people are Vaccinated or fully Vaccinated in 2021 and 2022 and also find out how many people in different countries have completed Daily Vaccinations, Total Vaccination per hundred, People Vaccination per hundred, and Daily vaccinations per Million.

## **Methodology**

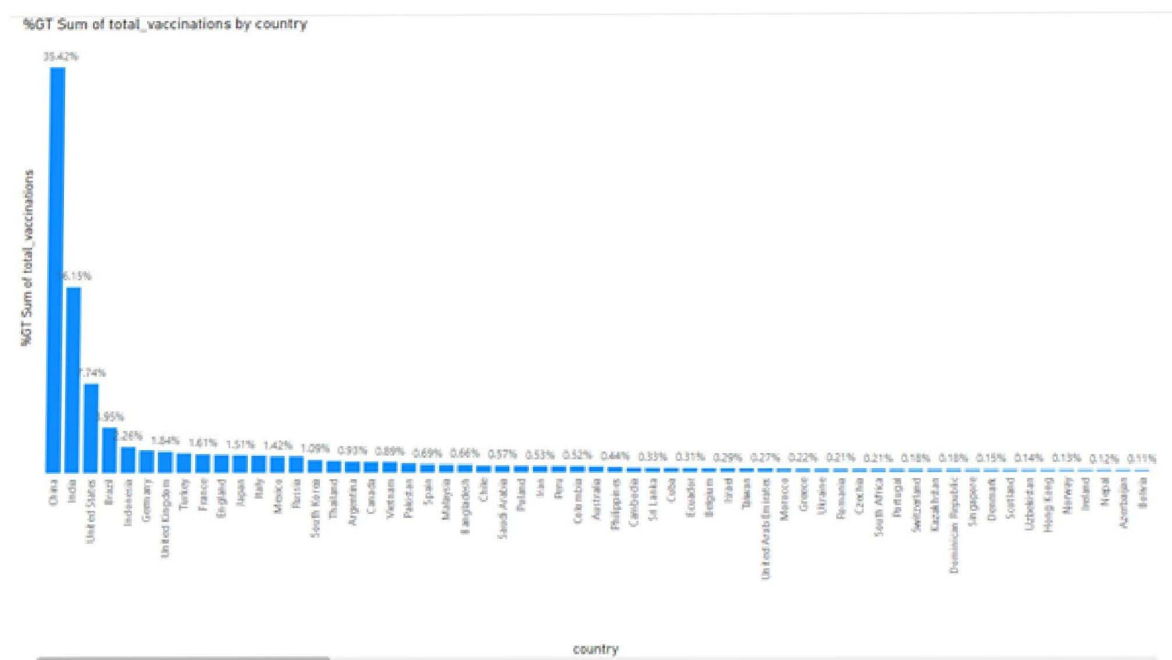
- In the Country, Vaccination data set the first column is that Country in country column presents different countries.
- In the iso code column containing the iso code for the country. and In the data set contain a date for Vaccination.
- Another column is total Vaccination, People Vaccination, People fully Vaccination, Daily Vaccinated raw, Daily Vaccinations, Total Vaccinations per hundred, people Vaccination

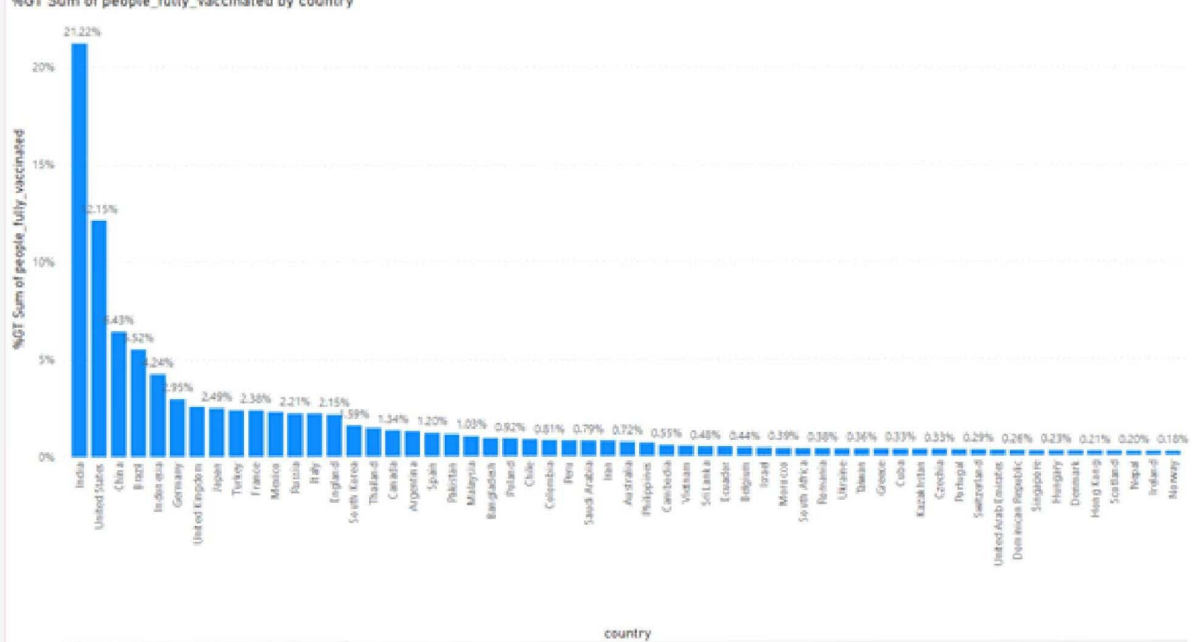
per hundred, People fully Vaccinated per Hundred, and Daily Vaccination per million in all columns Show how many people are Vaccinated in different criteria.

- The first step is cleaning the data. In data cleaning I cleaned the data with the transform data option present in Power BI because the dataset was not cleaned and included some missing values, so with the help of the duplicates function in Power BI, I cleaned the data and replace the null values with 0 and then started working on it.
- After Data cleaning performs the Data interpretation step. In Data interpretation found some important information.
- The data set was almost clean and completed.
- Replace the Null values with 0
- There is a total of 8513 rows and 15 columns is present.

## Visualization

In visualization, I took the help of Power BI Desktop software to make graphs and charts here some relevant graphs and charts are attached.

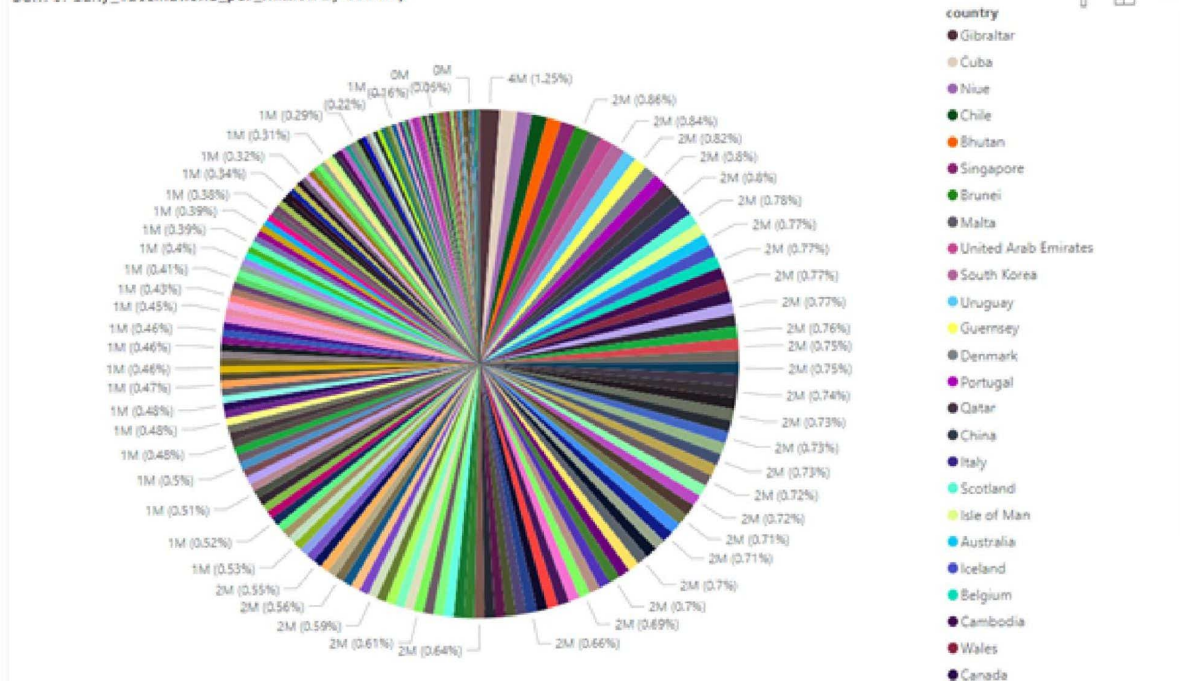




223

Count of country

Sum of daily\_vaccinations\_per\_million by country



`data.vaccines.value_counts()`

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```
Moderna, Oxford/AstraZeneca, Pfizer/BioNTech
2587
Oxford/AstraZeneca
1673
Pfizer/BioNTech
1416
Oxford/AstraZeneca, Pfizer/BioNTech
845
Pfizer/BioNTech, Sinovac
475
Moderna, Pfizer/BioNTech
407
Sputnik V
351
Oxford/AstraZeneca, Sinovac
301
Oxford/AstraZeneca, Sinopharm/Beijing
268
Oxford/AstraZeneca, Sinopharm/Beijing, Sputnik V
235
Pfizer/BioNTech, Sinopharm/Beijing
208
Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sputnik V
202
Sinopharm/Beijing
186
Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac
123
Sinopharm/Beijing, Sinopharm/Wuhan, Sinovac
117
EpiVacCorona, Sputnik V
117
Johnson&Johnson, Moderna, Pfizer/BioNTech
112
Oxford/AstraZeneca, Pfizer/BioNTech, Sinovac, Sputnik V
108
Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sputnik V
104
Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm/Beijing, Sinopharm/Wuhan, Sputnik V
96
Covaxin, Oxford/AstraZeneca
86
Sinovac
84
Moderna, Oxford/AstraZeneca
79
Oxford/AstraZeneca, Sinopharm/Beijing, Sinovac
61
Johnson&Johnson
54
Sinopharm/Beijing, Sputnik V
51
Pfizer/BioNTech, Sputnik V
42
```



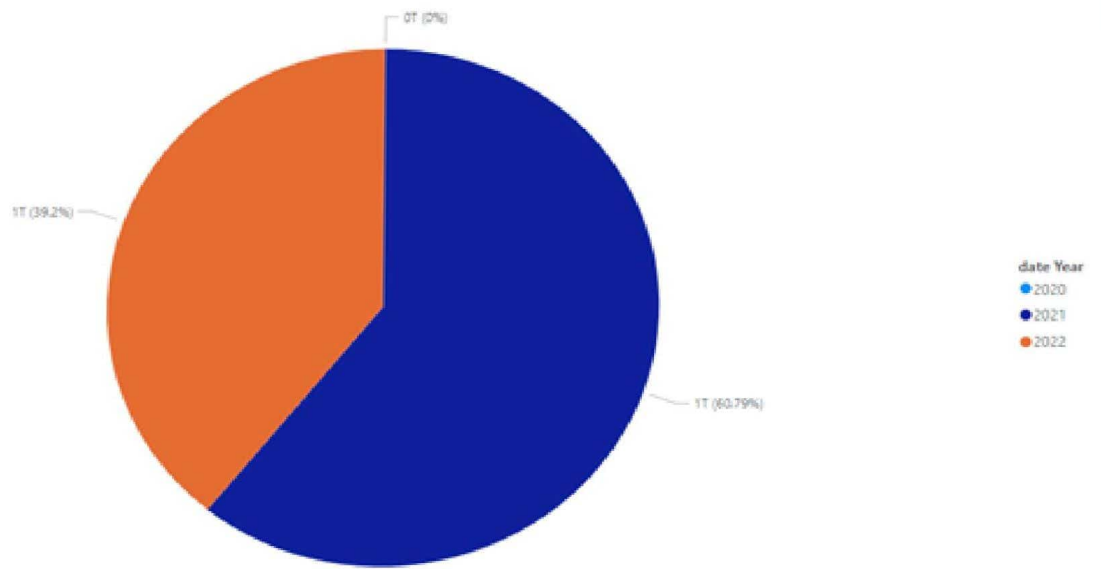
```
1 pd.to_datetime(data.date)
2 data.country.value_counts()
```

```
United Kingdom    118
Northern Ireland  118
Wales             118
England           118
Canada            118
...
Mali              4
Bahamas           2
Brunei            2
Laos              1
Armenia           1
Name: country, Length: 175, dtype: int64
```

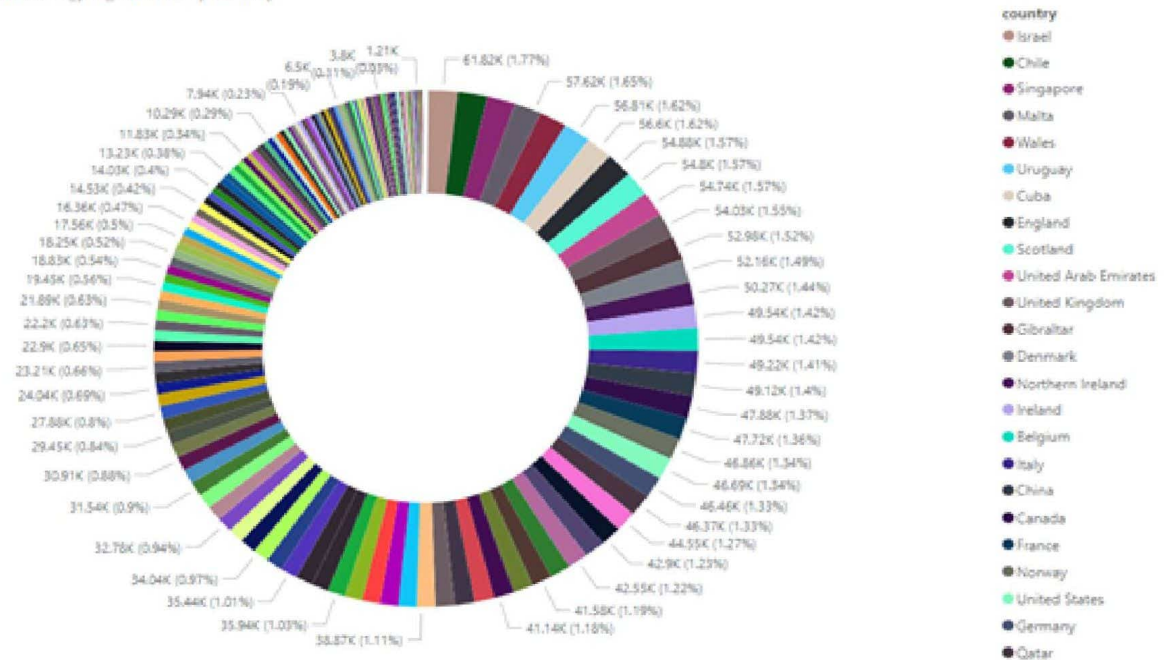
The United Kingdom is made up of England, Scotland, Wales, and Northern Ireland. But in the above data, these countries are mentioned separately with the same values as in the United Kingdom. So this may be an error while recording this data. So let's see how we can fix this error:

```
1 data = data[data.country.apply(lambda x: x not in ["England", "Sc
2 data.country.value_counts()
3
```

```
Canada           118
United Kingdom   118
China            117
Russia           117
Israel           113
...
Mali             4
Bahamas          2
Brunei           2
Laos             1
Armenia          1
Name: country, Length: 171, dtype: int64
```



Sum of total\_vaccinations\_per\_hundred by country



Sum of people\_fully\_vaccinated\_per\_hundred by country





## Analysis

From the above Visualization find some interesting points that are mentioned below

- China is the number 1 Total Vaccinated people are present
- The Dataset is available for 2021 and 2022.
- The Total of 223 Countries participated in Vaccination.
- IN 2021 Total Vaccination is 60.79% completed.
- In 2022 Total Vaccination is 39.2% is completed.
- China, India, the United States, Brazil, Indonesia, Germany, United States, Turkey, France, and England There are the top 10 countries is completed the full Vaccinations.

## Insights

- In conclusion, we can take a look at the final Dashboard for further Analysis.
- We can see the top 10 Sources

## Recommendations

- We can analyze the data of the overall world.
- Like this dataset, we can perform operations with various categories, city-wise, or Region wise.
- We can analyze the data with the proper format
- We can collect good datasets for more effective analysis by using charts.

## Conclusion

In Conclusion, we can take look at the Dashboard for further Analysis.

- In China and India in these two countries, most people are Vaccinated.
- In 2021 60.79% of people are fully Vaccinated and in 2020 only 39.2 % of people are fully Vaccinated.



- China, India, the United States, Brazil, Indonesia, Germany, the United States, Turkey, France, and England There are the top 10 countries is completed the full Vaccinations.