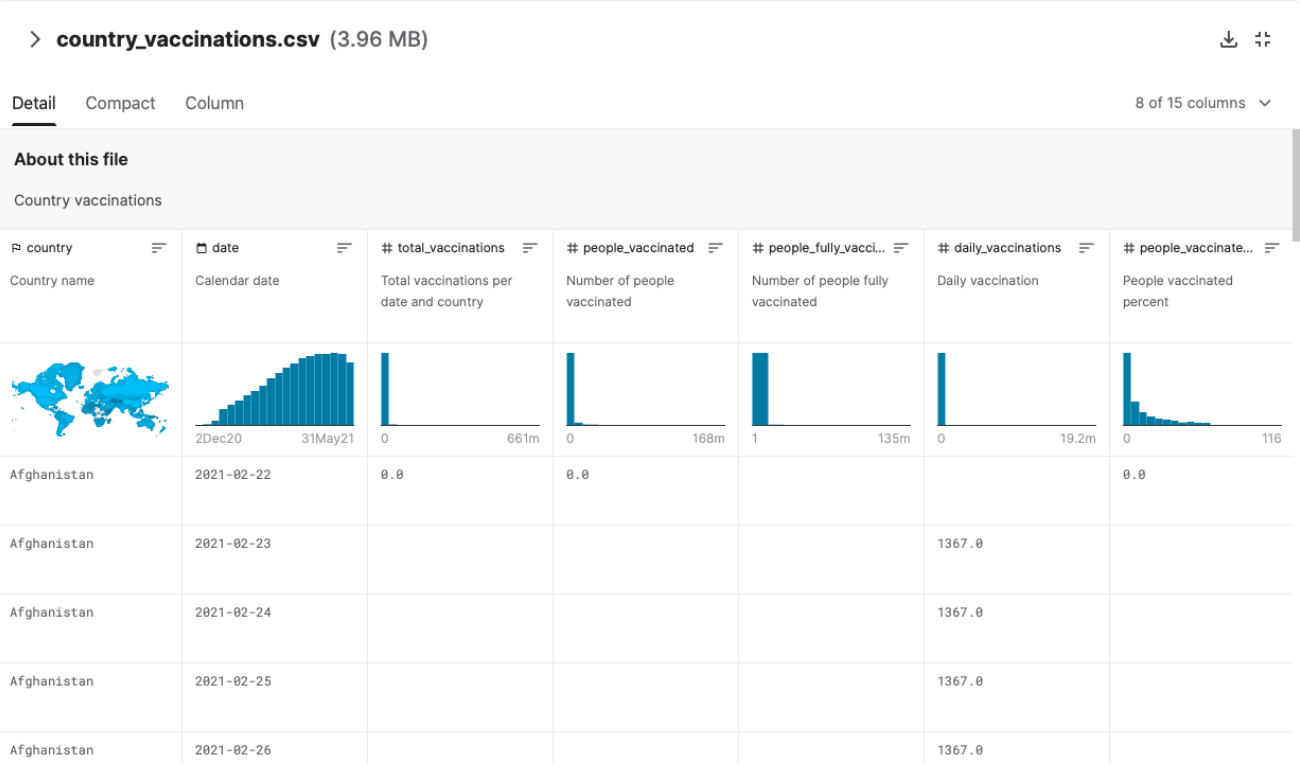


EDA of COVID and Vaccine Progression

“BigProject” - Data Story

In this analysis, I have focused on data cleaning, formatting and visualizing different aspects of the COVID situation globally.



#1: The Country_Vaccinations.csv dataset.

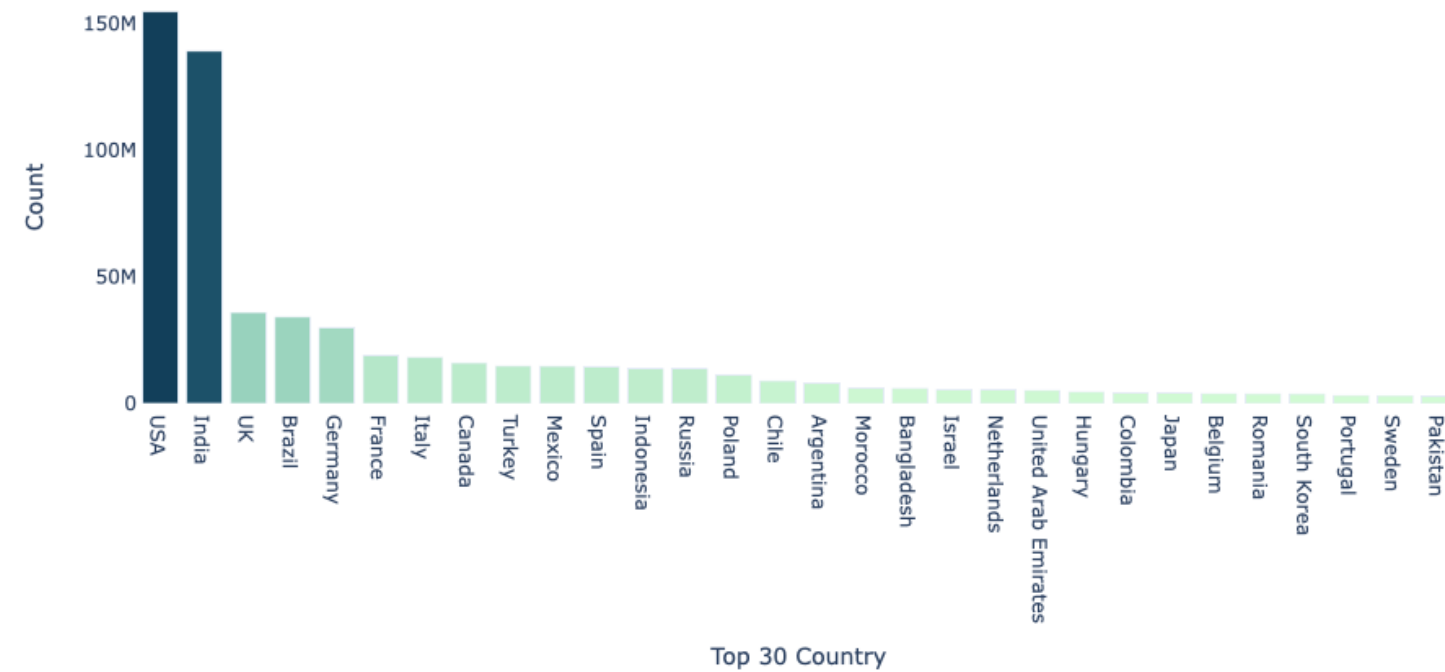
Provides the country vaccinations data of all countries if available and is fetched from “OurWorldInData” a highly reputable data source, working with researches and media such as CNN, BBC, New York Times, Washington Post, The Guardian and The Wall Street Journal. Additionally, their data is used in training at Harvard, Stanford, Oxford, Berkeley and MIT.

#2: The Summary Data set from the reputable “WorldOMeter” used by Oxford, W3C, Pearson and BBC, consists of a lot of aggregated data that assisted me in a statistical approach of determining the global state of the pandemic, and has provided me via. Visualizations of the procedures and approaches that different countries actively put in place. The summary data serves a big part to the overall picture of the pandemic status and lays a foundation of my analysis.

#3: I’ve used this daily cumulative dataset to compliment the other summary and daily data I have visualized to compare and analyse my hypothesis to see whether vaccination procedures have had an effect of reducing the spread of the virus. But also, to create an overview of currently vaccinated and both active and seriously ill individuals.

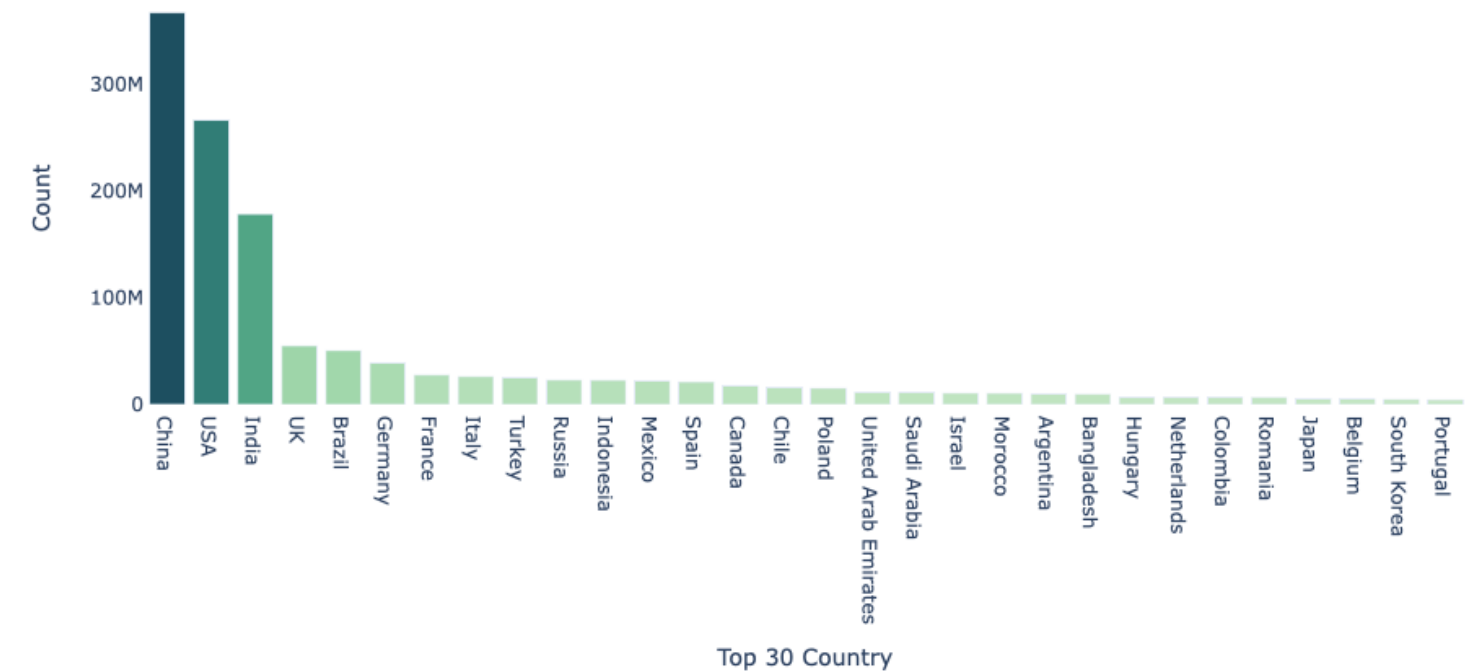
Fully Vaccinated Countries

Completely vaccinated individuals as of 17th of May 2021: Data version 117



Total Amount of Dosages (1st & 2nd) per Country

Total amount of one and two stage vaccination recipients as of 17th of May 2021: Data version 117



To develop a better picture of the global situation, I've assembled visualizations of precautions by the top 30 countries (for comprehension-sake) and vaccine campaigns that have been concluded and is already underway.

Being unbiased and critical in the approach to this data is crucial and understand that the results are all relative.

One has to administer that larger communities and powers can determine the outcome of others and their vaccination campaigns due to various factors such as State of Economy, Politics, Medical and Health Security resources.

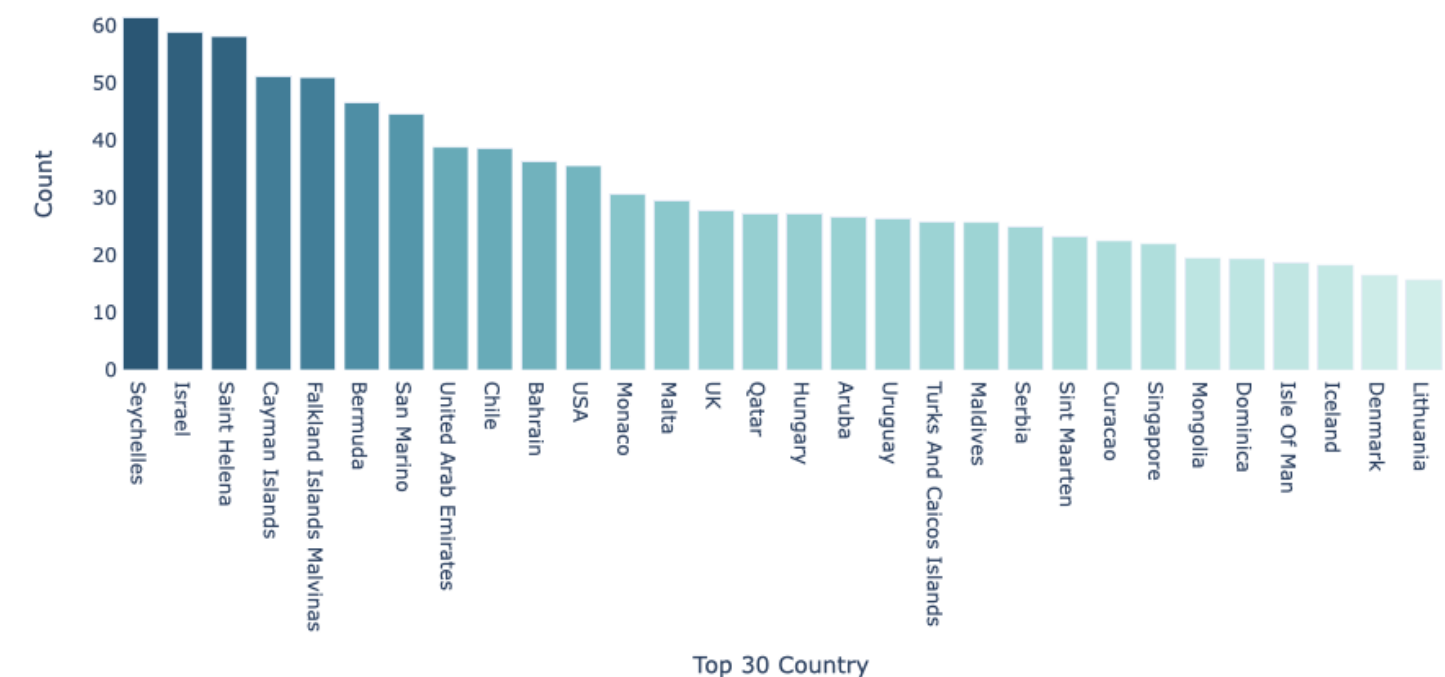
Human ideologies and interests also factor in, but in essence government regulations and recommendations also determine the severity of lockdown procedures and inevitably the process of vaccinations for the better or worse.

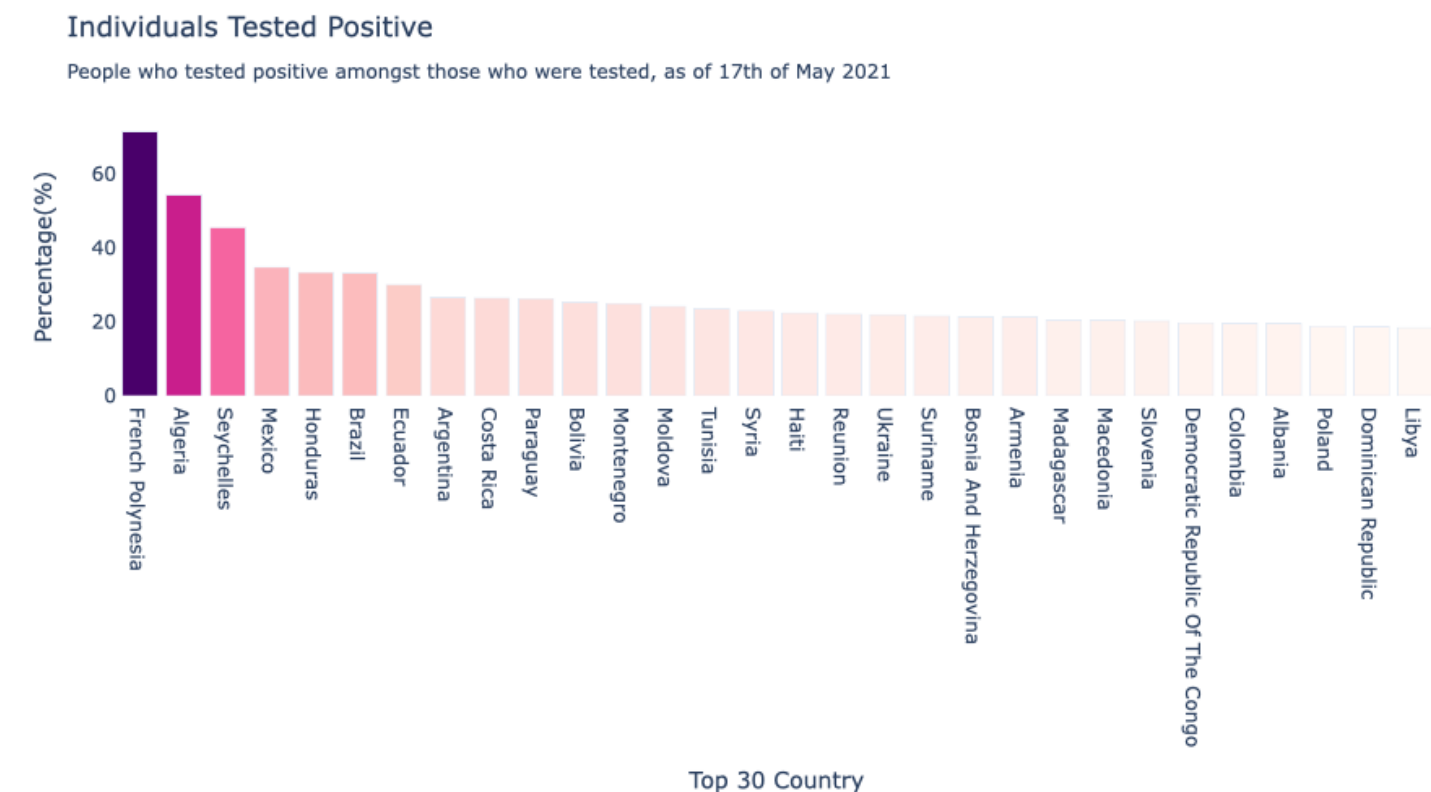
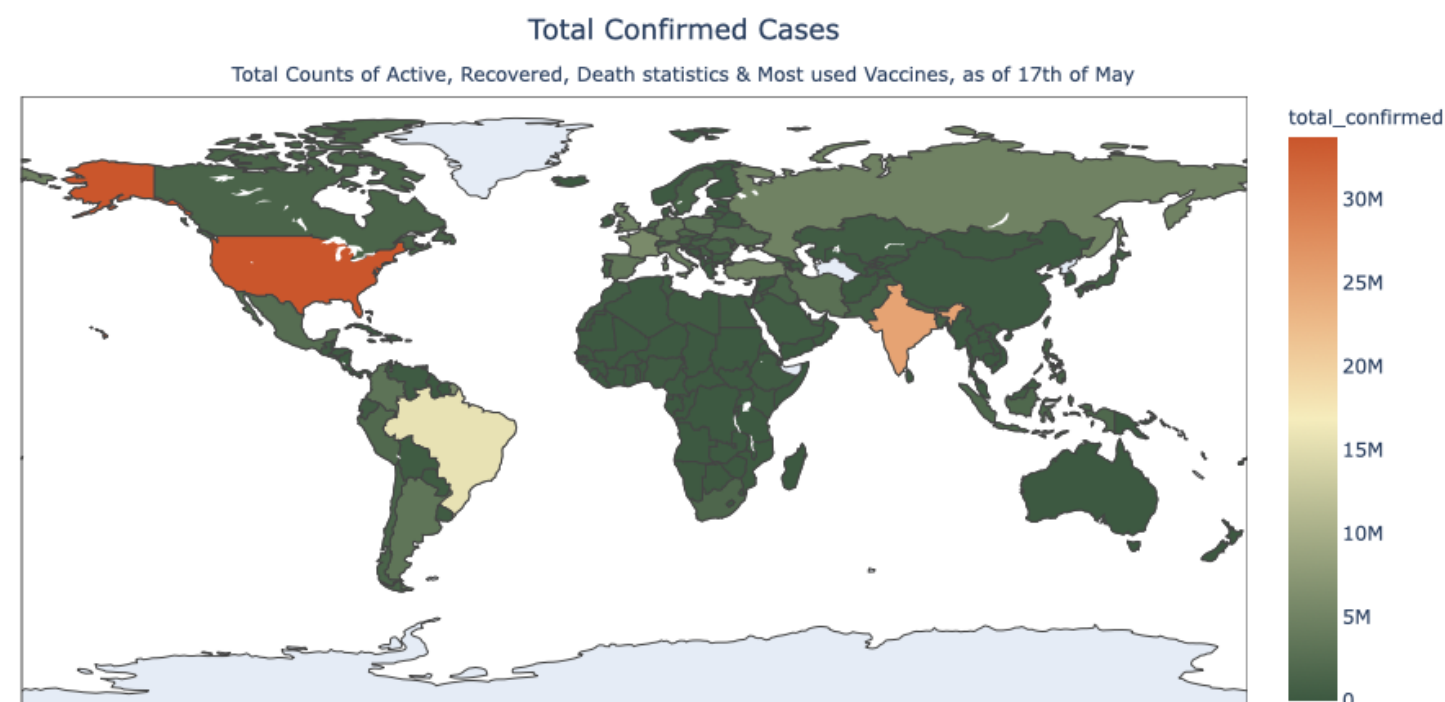
Points of interest:

- USA & India were in a state of crisis but are ultimately topping the vaccination and dosage count. Economy helped USA, but external country relations and health governors from other EU countries in India, led to India receiving valuable resources.
- China is not known at this point to report data regularly, but they claim to have taken strict procedures to vaccinate both dosages to the population as quickly as possible.
- Israel had a strict lockdown, with ex. not allowing any workplace to be operational before vaccination, ultimately forcing people to be vaccinated due to financial situations.

Fully Vaccinated Individuals per 100 capita

Individuals who has received both doses, as of 17th of May 2021: Data version 117

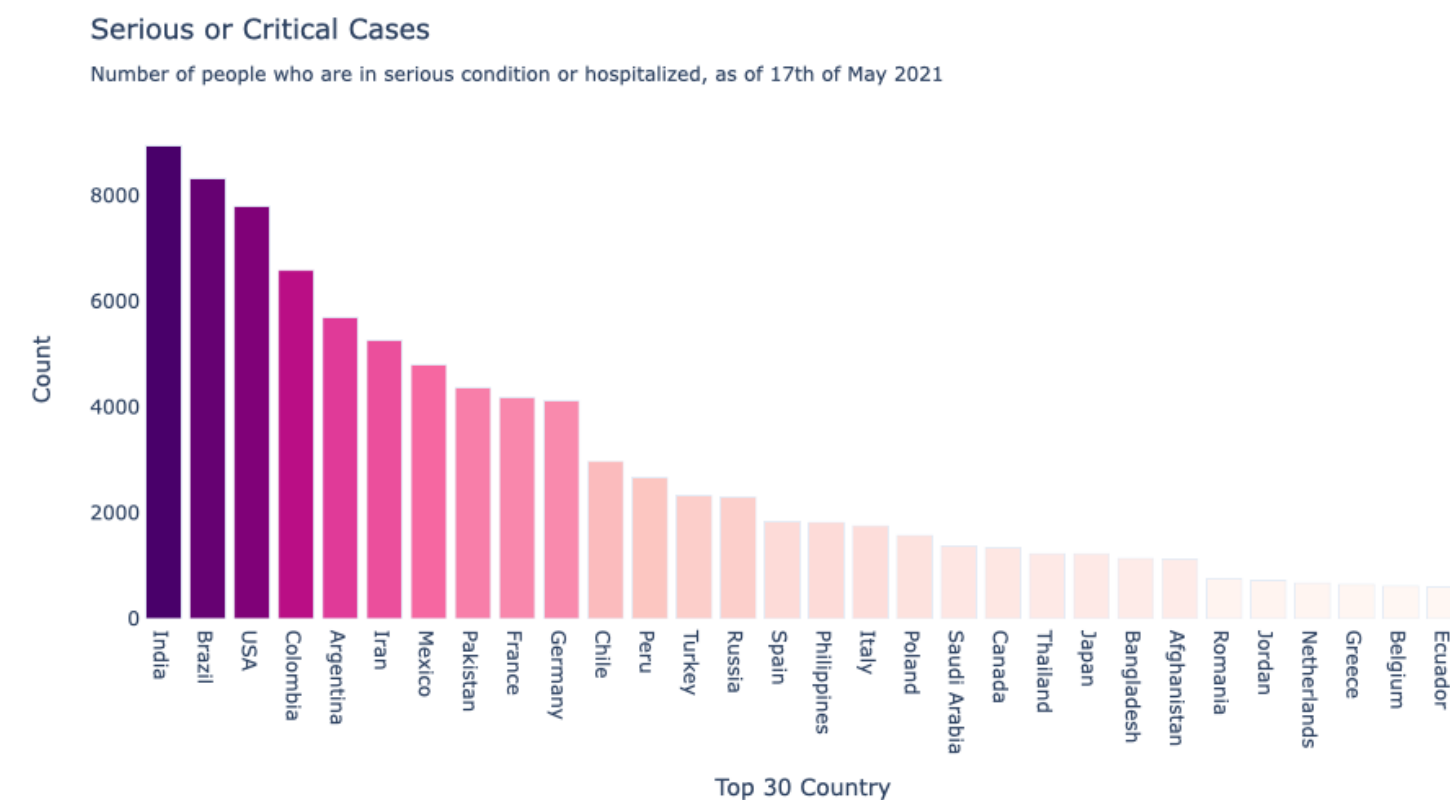




By beginning to aggregate the datasets we can utilize our tools of Numpy, Pandas and Plotly EX and GO, to visualize interactive data plots. However, the Total Confirmed Cases graph doesn't provide us with much information, as it's all relative to the severity of countries like India and the US, however we can hover and check for statistics regarding total counts of virus spread and the most used vaccines per country.

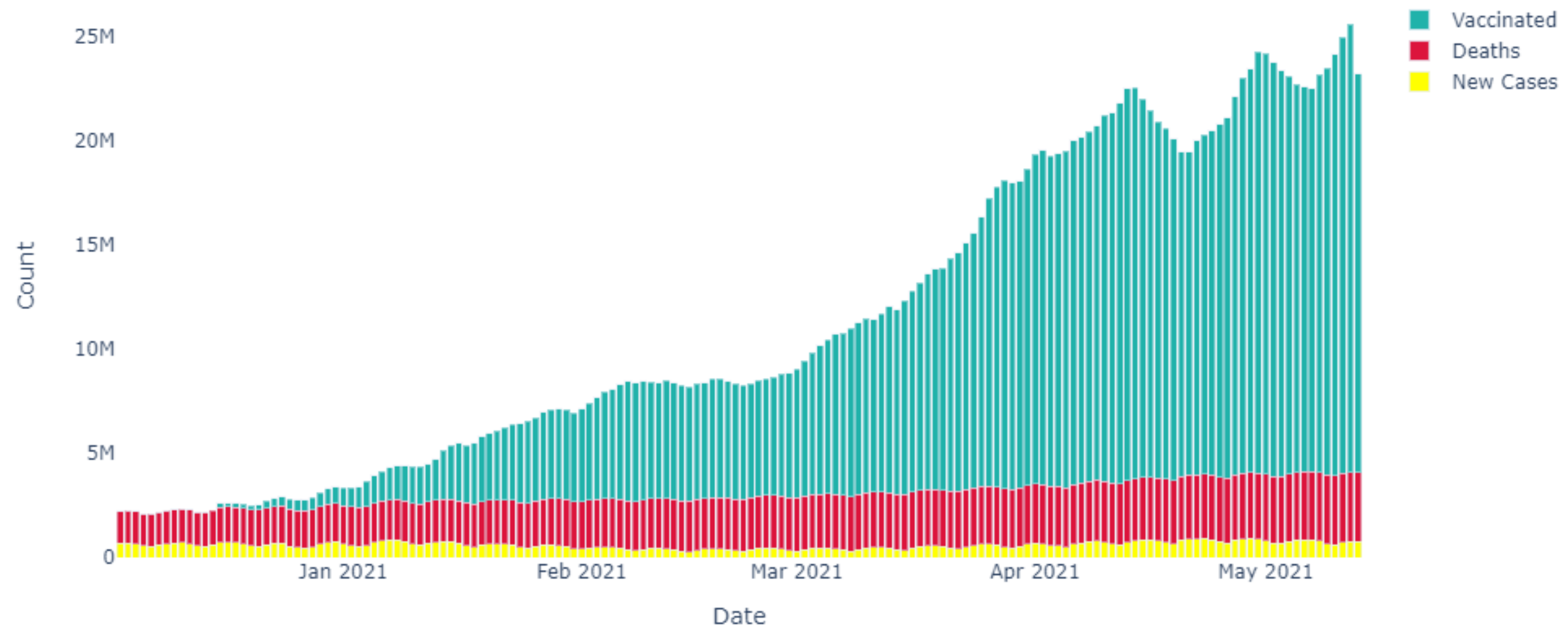
The Individuals and Serious/Critical cases plots, are also to be viewed critically. In the individual positive tests, it looks like French Polynesia was worse off by a large margin of those people tested, but the investigatory fact is that we have to consider the testing campaigns and recommendations in certain countries and areas, such as the top countries shown where active testing was not available. Only individuals experiencing serious illness or symptoms could be tested, which inevitably implode the statistics in the bar plot.

The Serious or Critical Cases show countries where factors such as the emergence of particularly infectious virus variants and a rise in unrestricted social interactions/events and in certain cases low vaccine coverage has resulted in a surge of seriously ill individuals bringing many societies to "its knees".



Daily Unfolding of Vaccine vs. Virus

Comparison of the total number of daily new cases, deaths and vaccinations globally



This last plot, shows the relative cumulative data of Vaccinated, Deaths and New Cases daily on a global scale.

As prior visualizations show; the broad picture is that we as mankind still have quite a way to go before the world sorts itself out. But very recently there has been a massive shift in vaccination campaigns globally, and it is close to a rapid exponential advancement in the right direction, but it is still too soon to conclude that the current vaccines and state of individuals has had a great effect on subduing new cases and deaths. Everyone is trying to move together towards brighter days by taking two steps forward and one step back, but necessarily so, since everyone is human and have to live and fight their own battles alongside the “devil’s advocate” that is the COVID-19 virus creeping around the corner.

Interestingly enough, the spikes we see in the yellow graph of daily new cases seems to happen leading up to the end of the week, and weekends. Which indicates societies allowing a less though still hair-fine line of restricted behavior under lockdown as infection numbers seem to drop, which might lead to another spike in the broad scale of things. Other factors such as necessary work-force is also a key factor of why spikes occur, certain people unfortunately need to put themselves at risk in certain job sectors.

Lastly it is down to pure arrogance, ignorance or simply impatience.