

DATA ANALYSIS OF COVID-19 GLOBAL VACCINATION RESULTS

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EVERYTHING IS DATA – DATA IS EVERYWHERE





DATA

is everything, everywhere. It's unit information

Often numeric. DATA are a set of values qualitative and quantitative Variable about one or more persons or objects.

We can be predicted something we are unknown in the future using DATA. benefits of DATA we can use for:

1. Researching and Science
2. Recommendation Engine
3. Greater Innovation
4. Price Optimization
5. Decision Making
6. Health Care
7. Education and SO ON.

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Restate the problem statement
Summarize overall finding
Suggest the key takeaways

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1. INTRODUCTION

PROBLEM STATEMENT

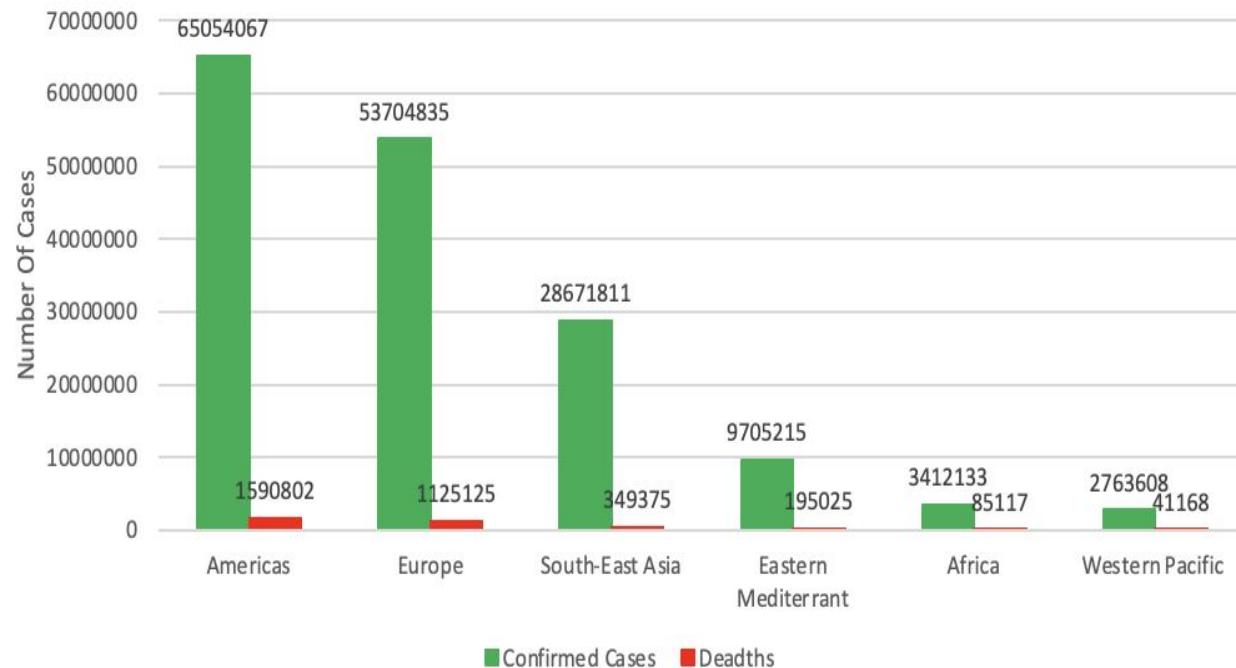
The Problem Statement will use the data set was provided by MIS Challenge coordinators and different sources to analyze to show the problems and find the key values by using data.

Currently, We are living in the Pandemic season that COVID-19 is spreading itself around the world. Therefore The Government Company, Private Company and so on are efforting to made the COVID-19 Vaccine for citizens in the world to use to prevent COVID-19 infection.

Finally, we will use this data set to analyze and find the key values of the **distribution of the vaccination provided to the people around the world in different countries.**



COVID-19 SITUATION IN EACH REGION



SOURCE: WHO, 19 MAY 2021

As we can see (figure 1), There are several regionals that were affected by COVID-19, as we can see, Americas has the highest number of confirmed cases with more than 65 millions followed by Europe, and South-East Asia with around 53 millions and 28 millions respectively.

Globally, there are **163,312,429** Confirmed Cases and **3,386,825** deaths.

(WHO, 19 May 2021)

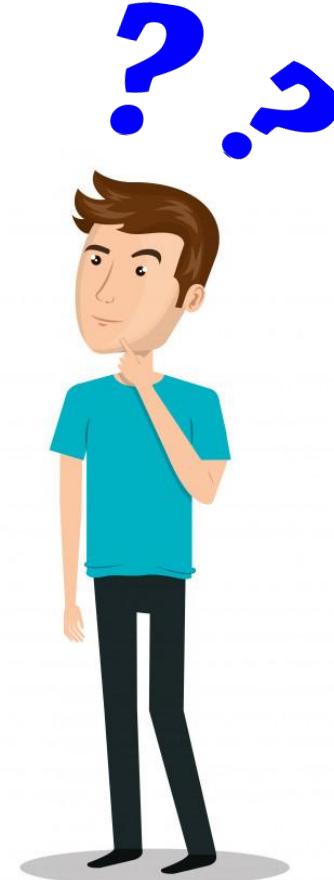
Figure 1

THE RESEARCH QUESTIONS

To initial this report, we will use the data provided
By MIS coordinators to analyze and data visualization.

We will mainly look to:

- What vaccines are used in each country?
- How many are vaccinated (Top 5) total number
And as percent from the population?
- How the vaccination progressed (Top 5)?
- How the Cambodia vaccination progressed?



2. DATA ANALYSIS

DATA MANIPULATION PROCESS

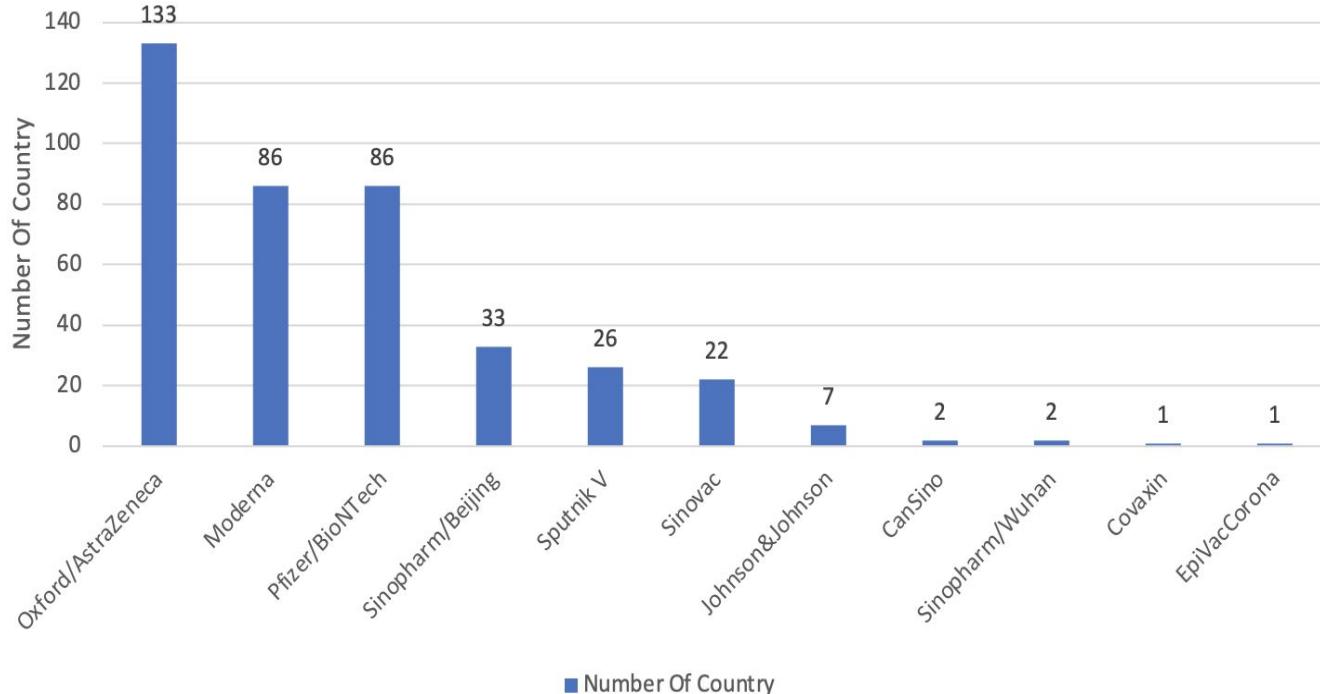


What vaccines are used in each country?

We will look at the vaccine types are using in each country:

- COVID-19 vaccine types in use per country
- COVID-19 vaccines in development
- COVID-19 vaccines efficacy

COVID-19 VACCINE TYPES IN USE PER COUNTRY



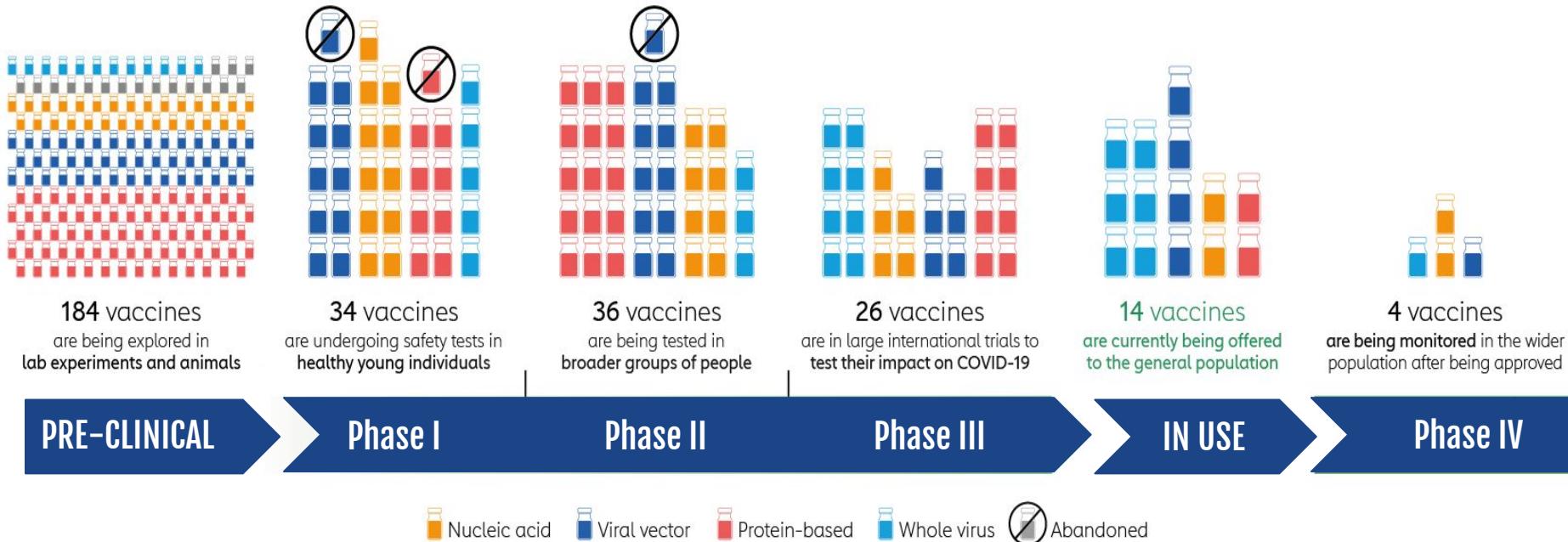
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 2

There are several the types of vaccine which have used around the world. Some countries are using 4-5 types of COVID-19 Vaccines. For Oxford/AstraZeneca 133 Countries, Pfizer/BioNTech and Moderna 86 Countries, Sinopharm/Beijing 33 Countries, Sinovac 22 Countries, Johnson&Jonson 7 countries, Sinopham/Wuhan and Cansino 2 countries, EpiVaCorona and Covexin 1 Country are using them.

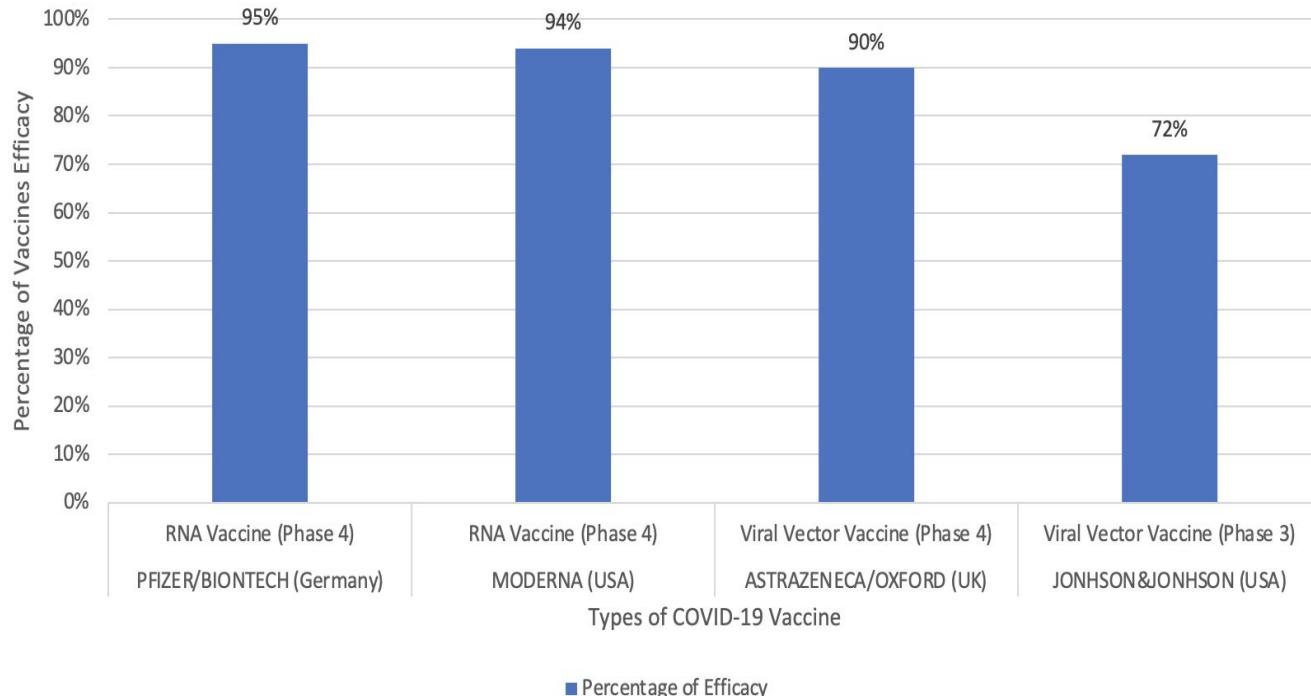
COVID-19 VACCINE IN DEVELOPMENT

Can vaccine clinical trials sped up safety for COVID-19?



SOURCE: GOVI, The Vaccine Alliance, 20 MARCH 2020

COVID-19 VACCINE EFFICACY



SOURCE: GAVI, The Vaccine Alliance, 24 March 2020

Figure 3

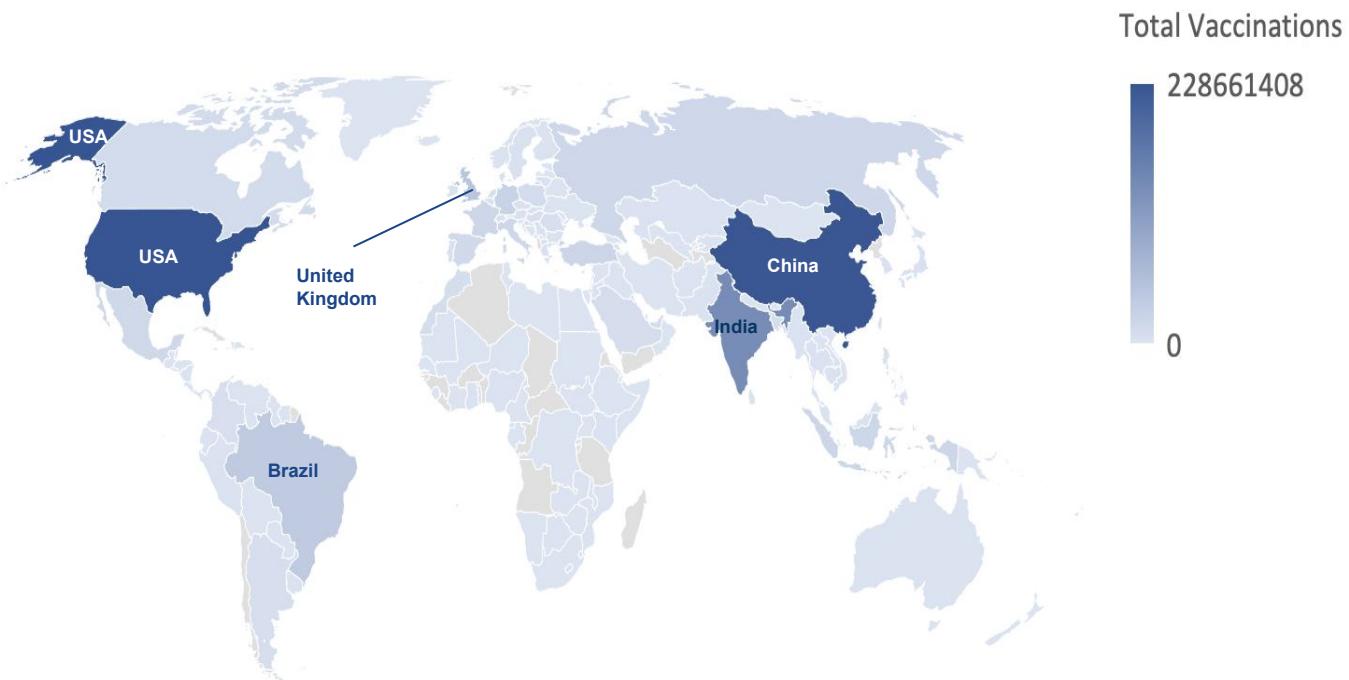
we can see several types of vaccines are in use around the world. It shows about Percentage of vaccine efficacy for human usage. These all vaccines in Phase 4 are being monitored in the winder population after being approved. it is indicated about the percentage of vaccines efficacy. For Pfizer/ BioNTech (Germany) 95%, Moderna (USA) 94%, AstraZeneca/ Oxford (UK) 90% and Jonhson&Jonhson (USA) 72%.

How many are vaccinated (total, percent)?

We will look at the vaccination in the Top 5 country(Total, Percent):

- Total of Vaccination per country
- Total of Vaccination percent per country
- Total of Daily vaccination per country
- Total of Daily vaccination per hundred
- Total of Daily vaccination per Million
- Total of Vaccinated per country
- Total of Vaccinated percent per country
- Total of Daily vaccinated per hundred
- Total of Fully vaccinated per country
- Total percent of Vaccination, Vaccinated, Fully vaccinated
- USA vaccination by vaccine types

VACCINATION PER COUNTRY

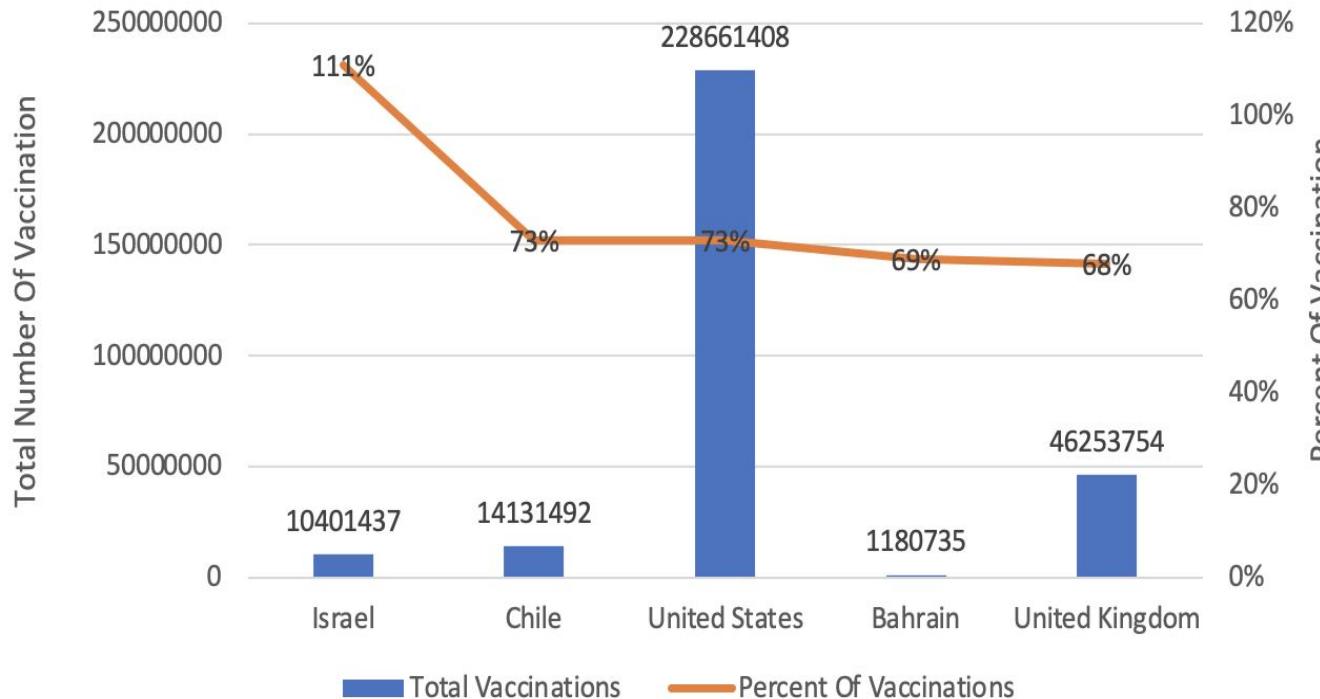


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 4

For total vaccination, there are several Countries are highly received vaccination In each country. For United States (228,661,408), China (224,901,000), India (139,185,173), United Kingdom (46,253,754), and Brazil (38,027,113).

VACCINATION PERCENT PER COUNTRY

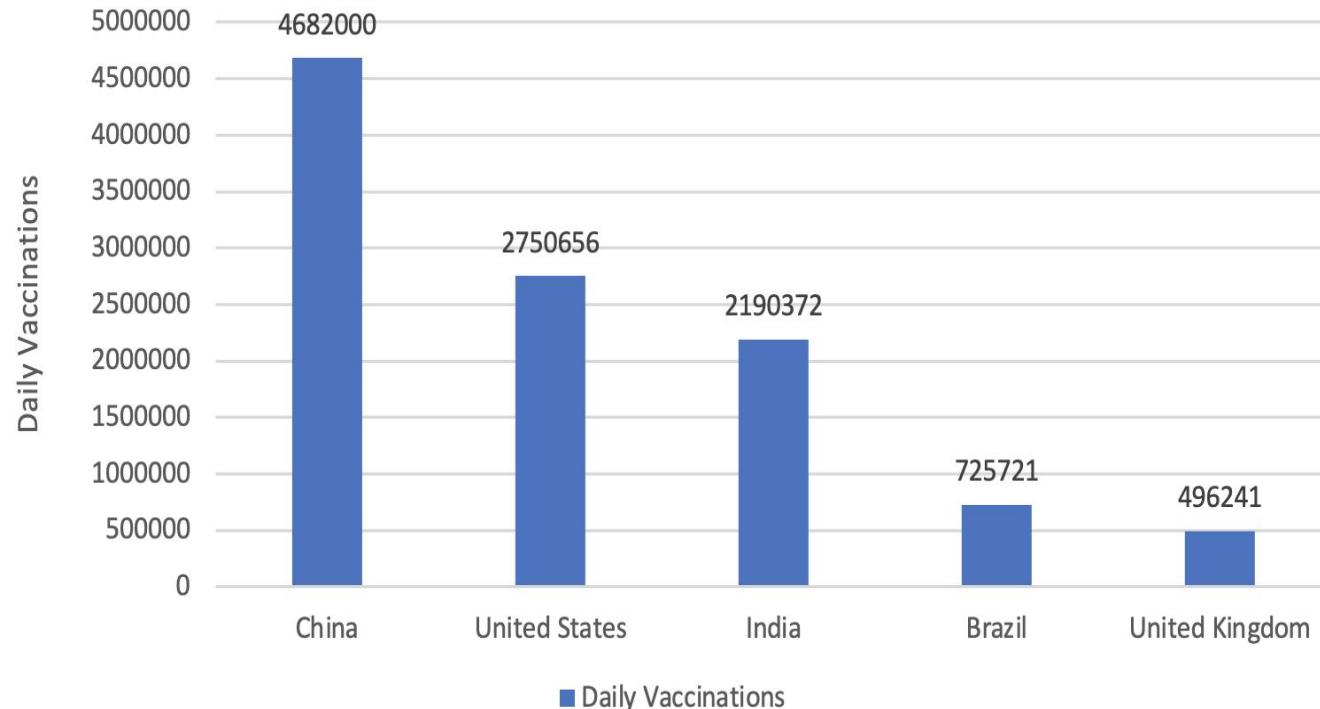


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Base on (Our world in data, 24 May 2021),
There are countries that have highly
Received vaccination percent. Such as
Israel 111%, Chile 73%, United States
73%, Bahrain 69%, The United Kingdom
68%.

Figure 5

DAILY VACCINATION PER COUNTRY

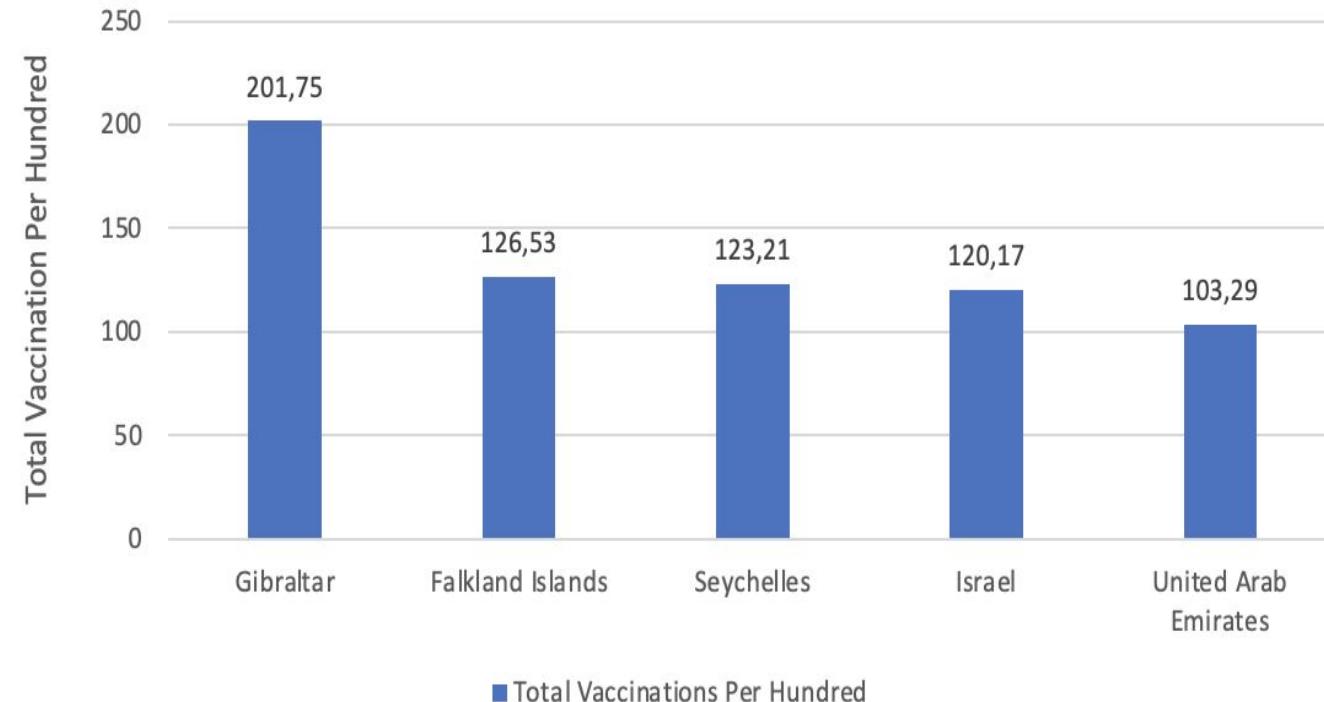


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 6

Here are the top 5 countries that are highly received vaccination. it shows the number of Daily vaccinations in these countries. For China (4,682,000), United States(2,750,656) India (2,190,372), Brazil (725,721), Canada (294,916) and United Kingdom (496,241) Per day.

DAILY VACCINATION PER HUNDRED

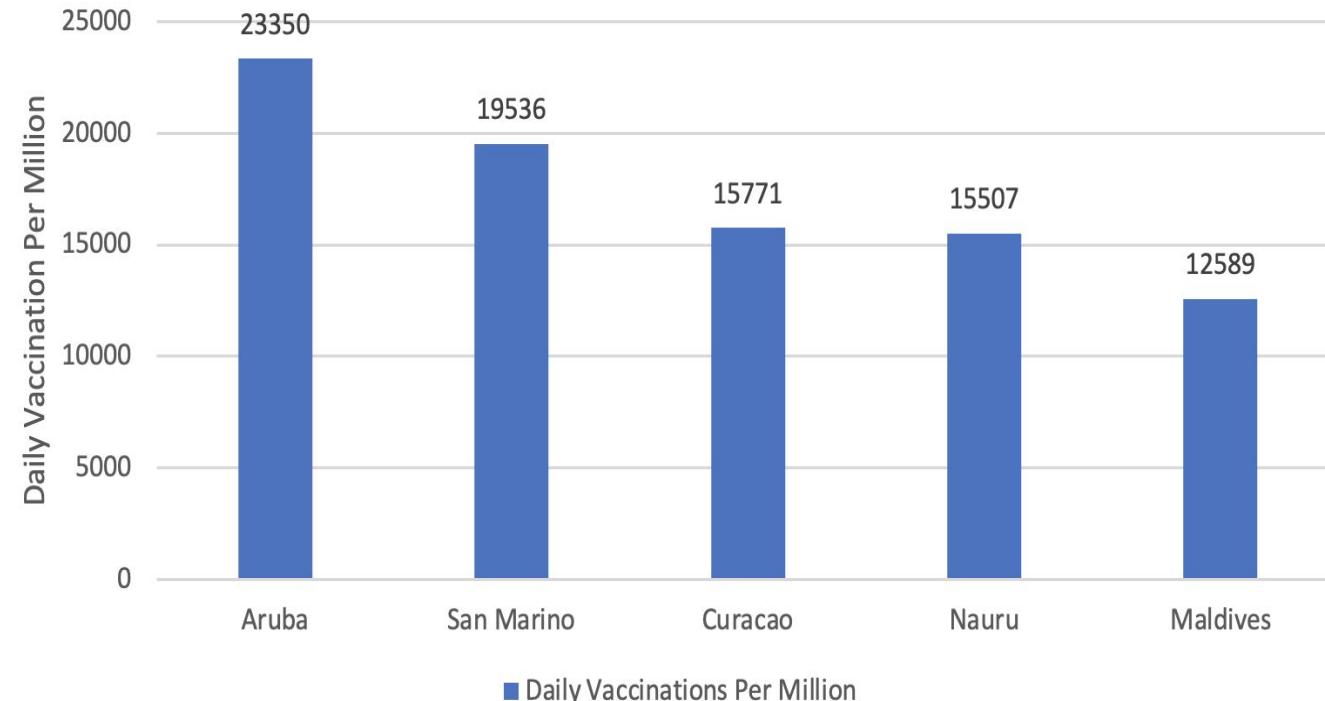


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 7

This is daily vaccination per hundred Of Top 5 countries. For Gibraltar (201.75), Falkland Islands (126.53), Seychelles (123.21), Israel (120.17), And United Arab Emirates (103.29) per hundred.

DAILY VACCINATION PER MILLION

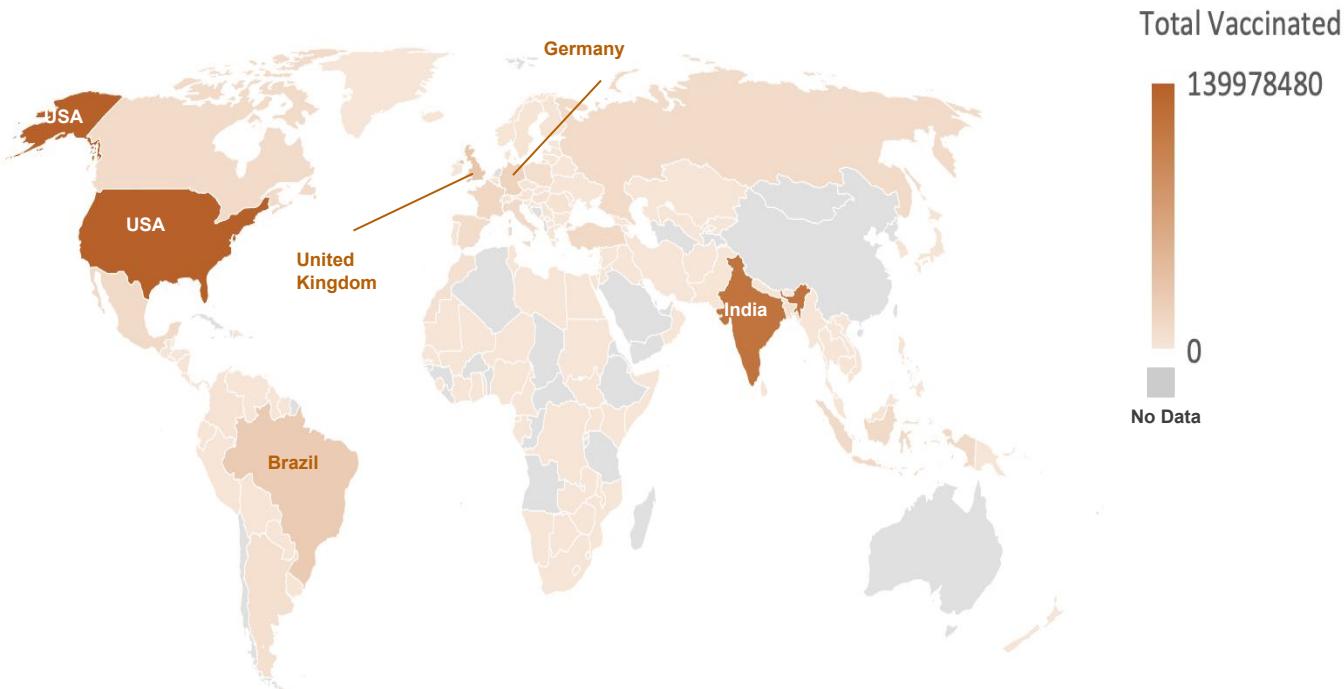


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 8

Every day, These countries are growing On vaccination campaign. Here are Aruba (23350), San Marino (19536), Curacao (15771), Nauru (15507), And Maldives (12589) per million.

VACCINATED PER COUNTRY

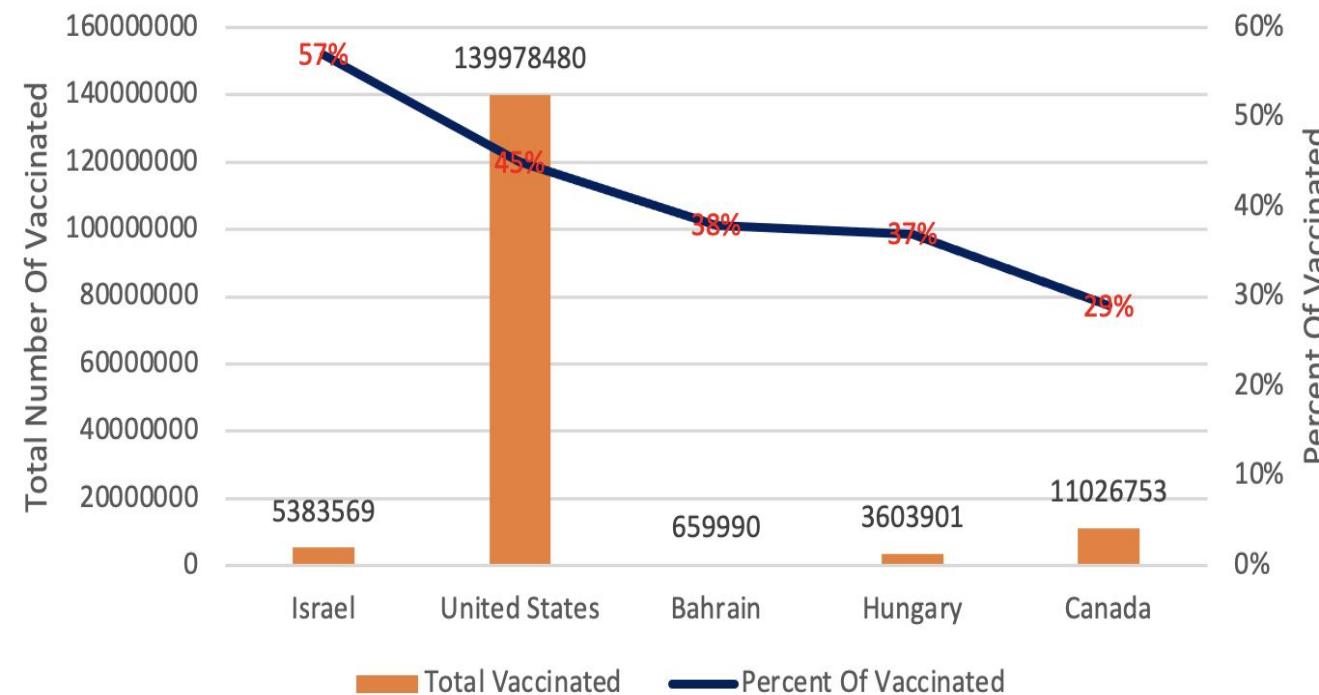


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

There are many countries are received at least one dose for the population. It's some highlight of countries are have highly vaccinated at least one dose for its citizen. Such as The USA (139,978,480), India (117,795,008), United Kingdom (33,666,638), Brazil (26,873,143), and Germany (19,486,698).

Figure 9

VACCINATED PERCENT PER COUNTRY

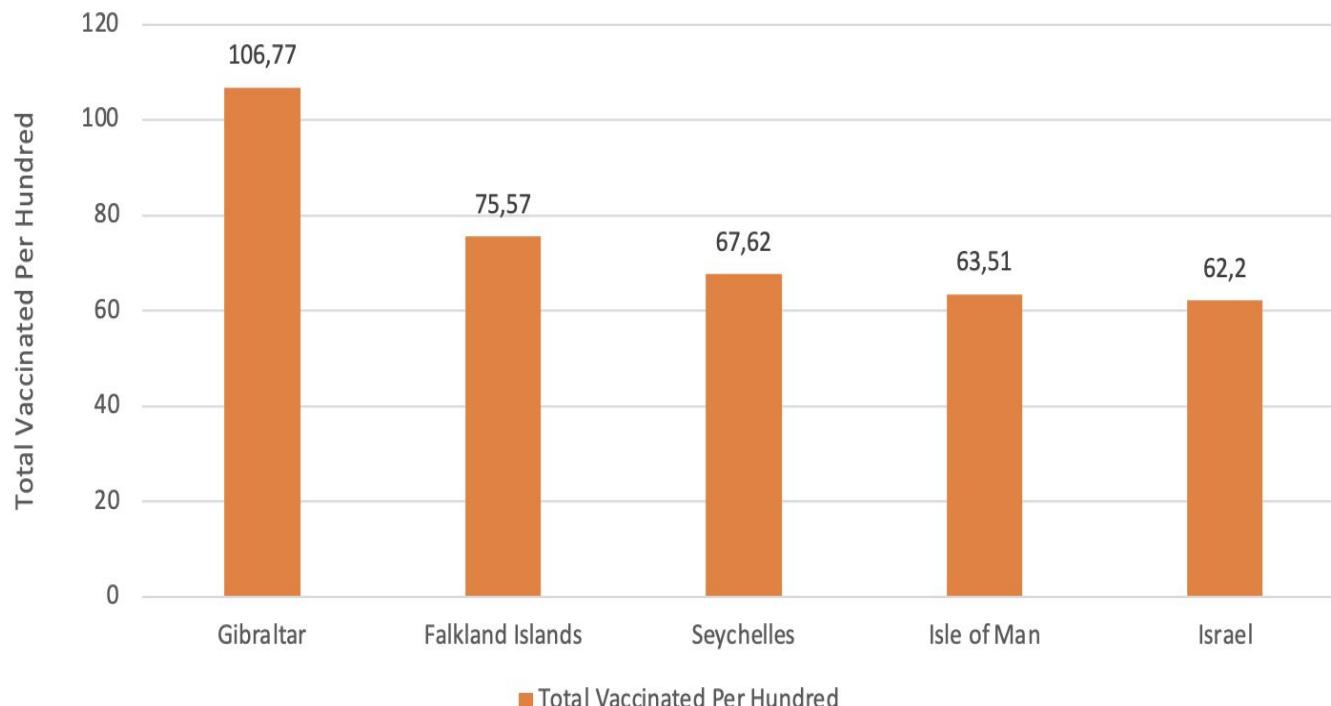


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 10

Base on (Our World In Data, 24 May 2021),
There are 5 countries that are highly
vaccinated around the world. we can take
a look at Israel 57%, United States 45%,
Bahrain 38%, Hungary 37%, Canada 29%.

DAILY VACCINATED PER HUNDRED



Now we can take a look at people vaccinated per hundred in the top 5 countries. there are Gibraltar (106.77), Falkland Islands (75.57), Seychelles (67.62), Isle of Man (63.51), and Israel (62.2) per hundred.

SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 11

FULLY VACCINATED PER COUNTRY

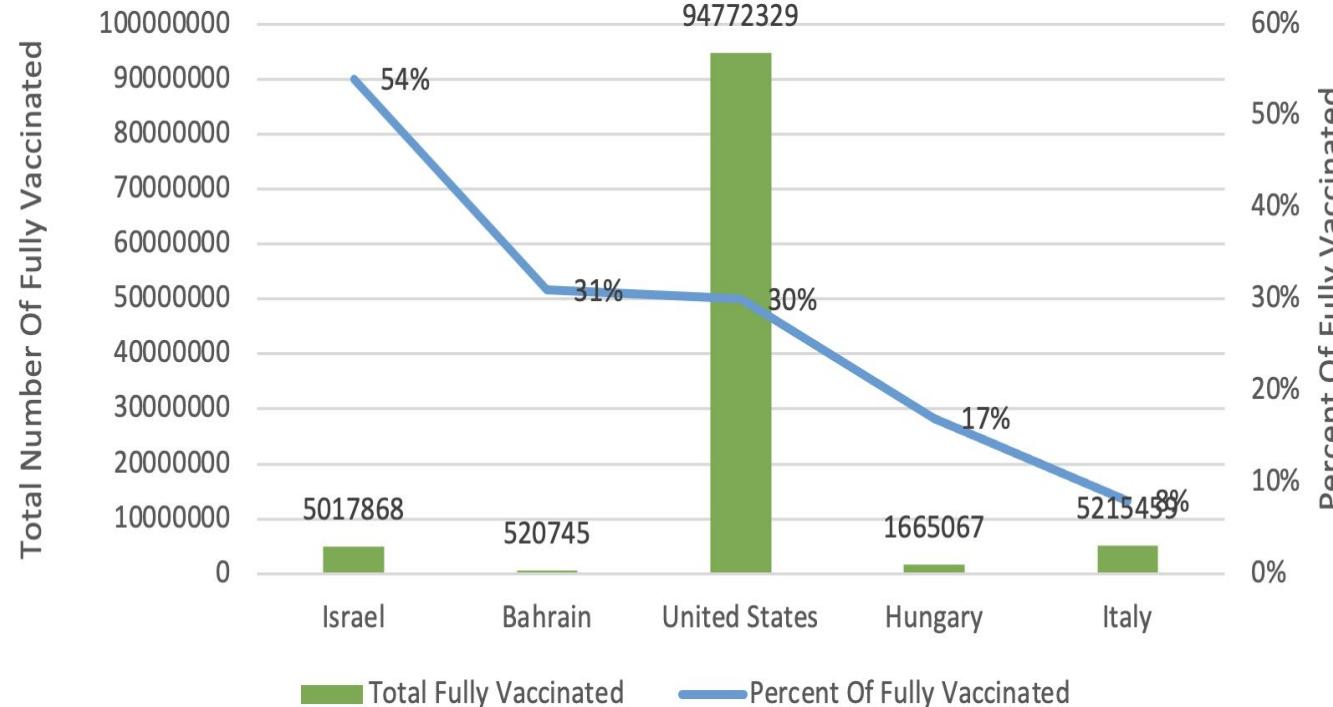


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 12

In this point, it shows about fully vaccinated per country in the top 5 Countries. Such as USA (94,772,329), India (21,390,165), United Kingdom(12,587,116), Brazil (11,153,970), and Turkey (7,958,979)

FULLY VACCINATED PERCENT PER COUNTRY

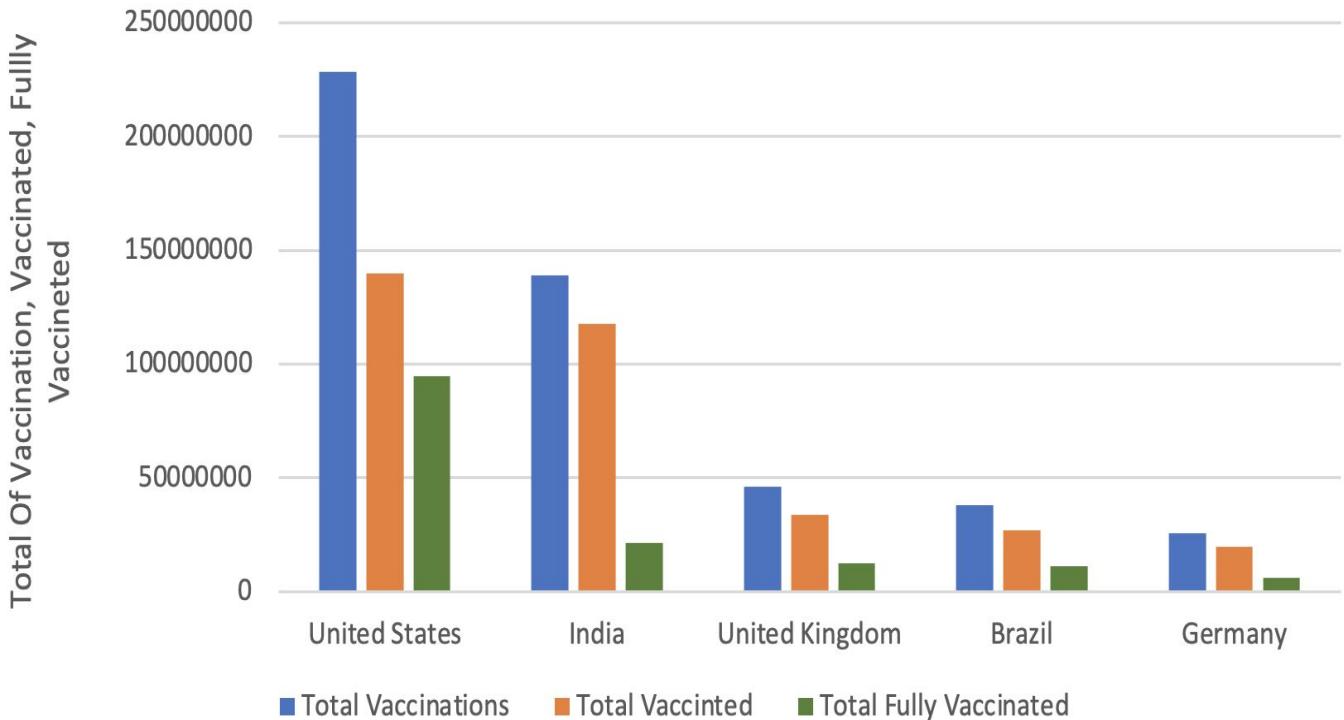


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 13

Base on (Our World In Data, 24 May 2021), There are many countries that are highly fully vaccinated. Here are the top 5 fully vaccinated (percent). Such as Israel 54%, Bahrain 31%, United States 30%, Hungary 17%, and Italy 8%.

TOTAL OF VACCINATION, VACCINATED, FULLY VACCINATED

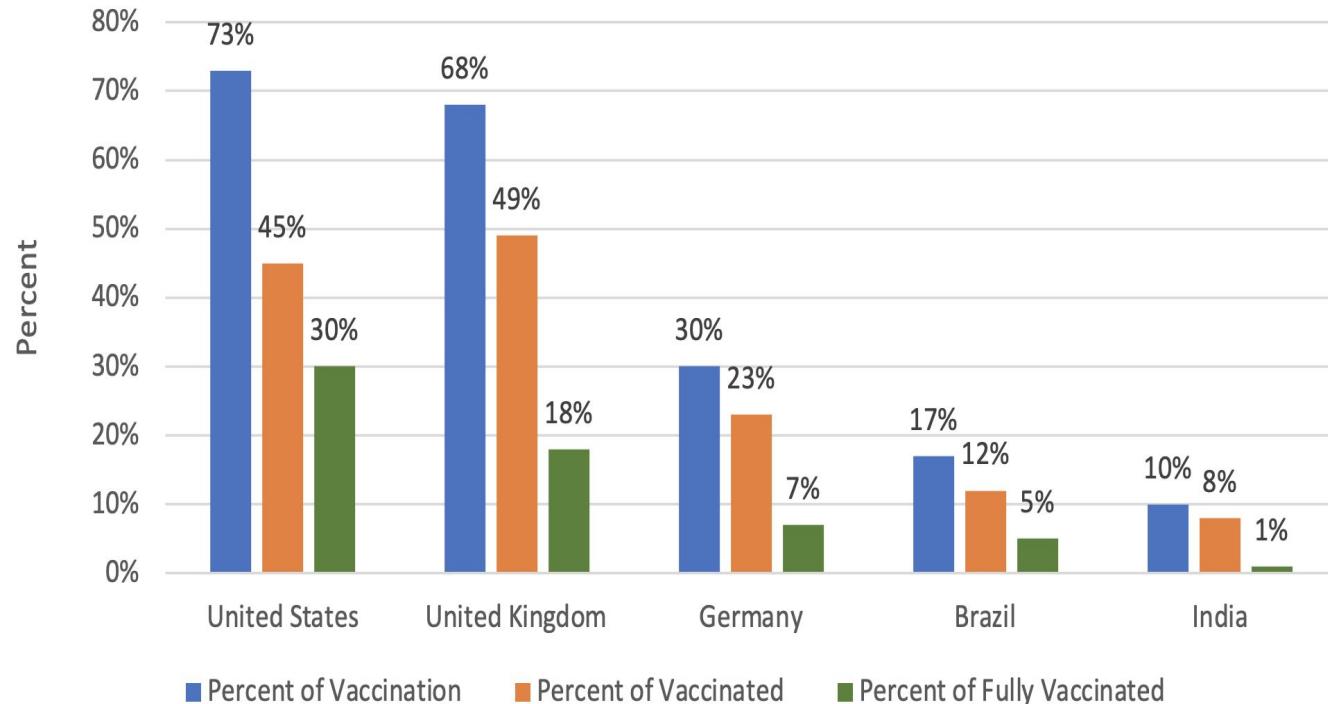


SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 14

We select to sort top 5 countries with Total number of vaccination, vaccinated, And fully vaccinated. For The United States Vaccination (228,661,408), Vaccinated (139,978,480), Fully vaccinated (94,772,329).

% OF VACCINATION, VACCINATED, FULLY VACCINATED

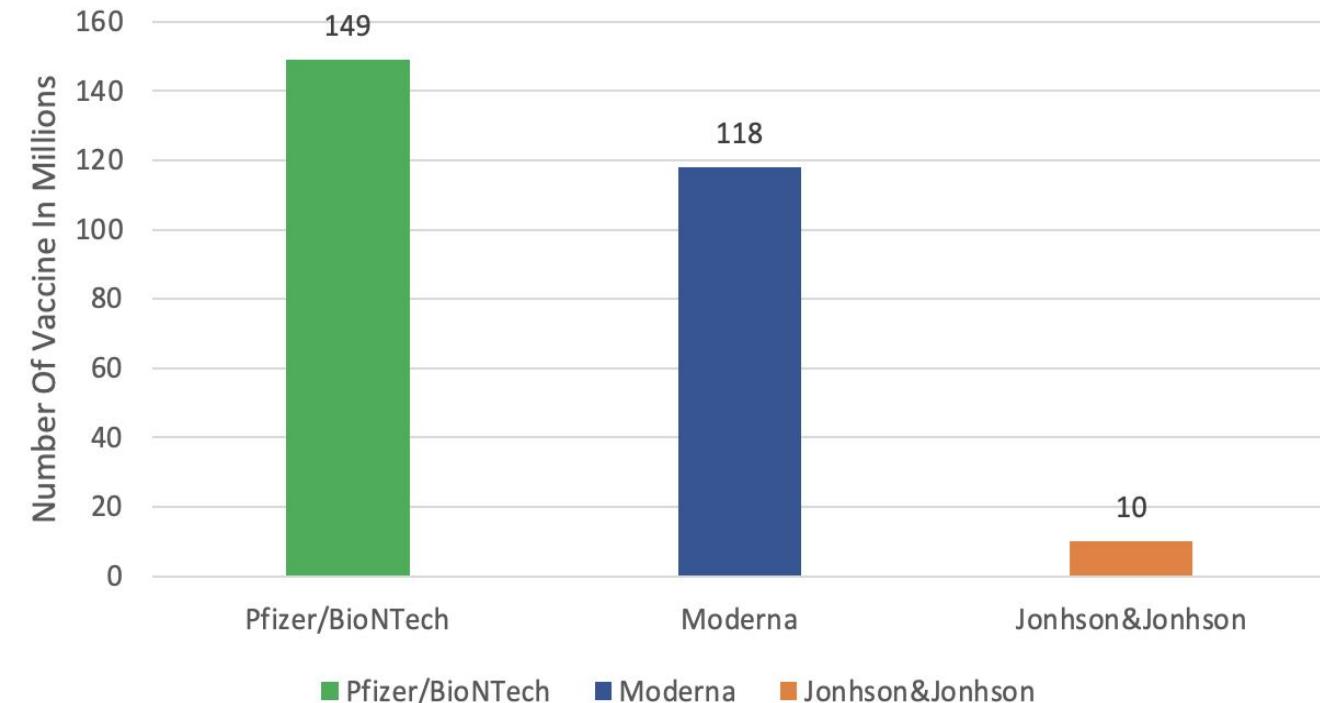


Now we can consider about percent of Vaccination, vaccinated, fully vaccinated In the top 5 countries. Most of the top 5 countries focus on 1st vaccinated more Then 2nd fully vaccinated. For The United States has total percent of vaccination 73%, Vaccinated 45%, Fully vaccinated 30%.

SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 15

USA VACCINATION BY VACCINE TYPES



SOURCE: Our World in Data, 19 MAY 2021

Figure 16

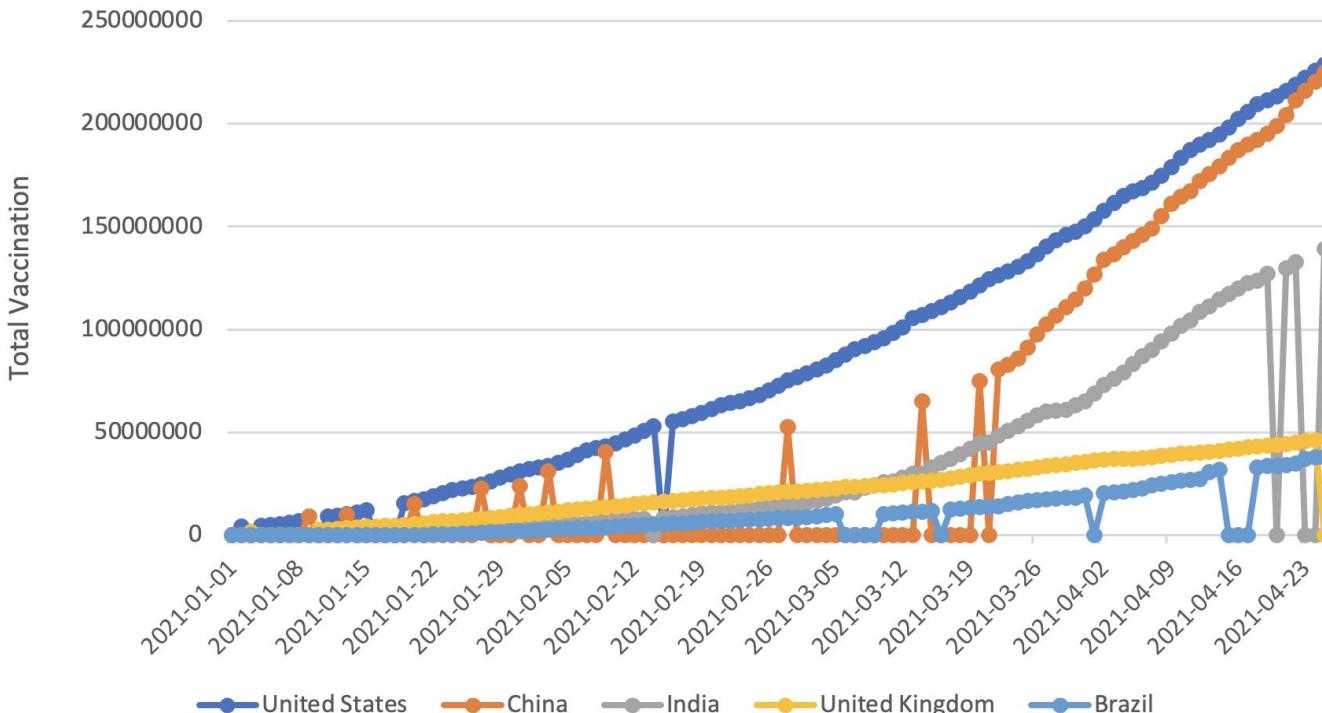
The United States is the highest population vaccination. There are three types of vaccines that The USA used for the population vaccination Campaign. Such as Pfizer/BioNTech 149,070,000 Doses, Moderna 118,180,000 Doses, Jonhson&Jonhson 9,840,000 Doses. And the total of USA's Vaccination 277,090,000 Doses.

How the vaccination progress?

We will look to the values of total vaccination of daily vaccination (Top 5):

- Total vaccination evaluation
- Total vaccination percent evaluation
- Total vaccinated evaluation
- Total vaccinated percent evaluation
- Total fully vaccinated evaluation
- Total fully vaccinated percent evaluation

TOTAL VACCINATION EVALUATION



SOURCE: THE MIS CHALLENGE, 19 MAY 2021

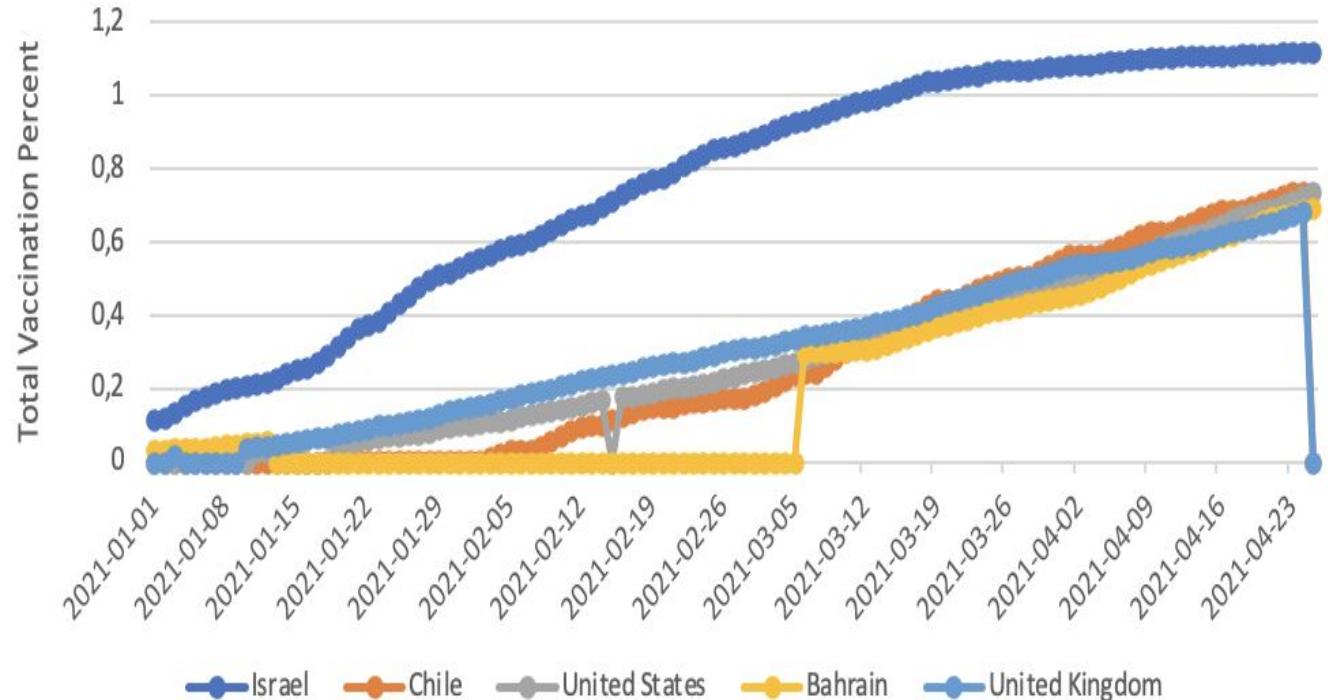
Figure 17

The United States has always been the top of the chart of the total number of vaccination with their active action on vaccination process at approximately 225,000,000.

From late March, China has pushed their vaccination process, rising from the bottom to slightly just below USA to date.

Despite United Kingdom's little increase on the number of vaccination, India has pushed theirs and become the 3rd most number of vaccination from the end of first week in March.

TOTAL VACCINATION PERCENT EVALUATION



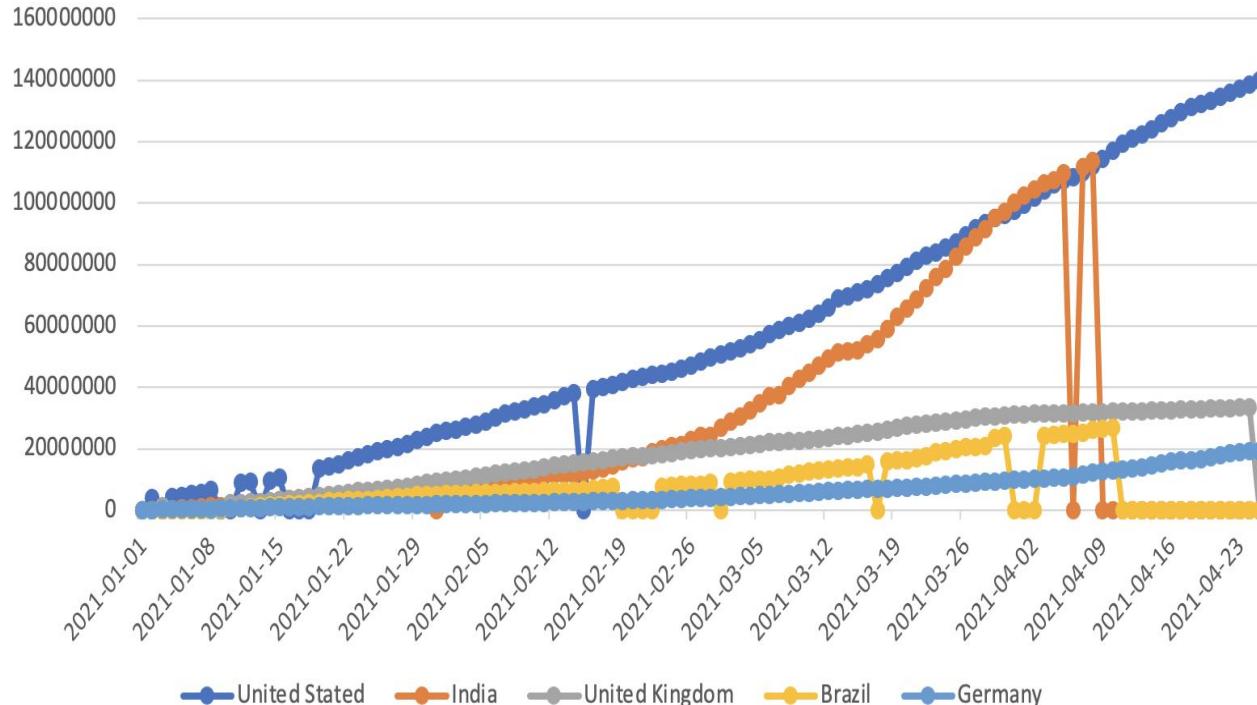
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 18

For vaccination percent, Israel's highest vaccination percent. The vaccination percent of Israel is increased day by day and topped the chart.

Israel received 111% of vaccination percent on 25 April 2021. Hence, we can see that the vaccination is not only provided to the local population, but also to the foreigners who work and live there.

TOTAL VACCINATED EVALUATION



SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 19

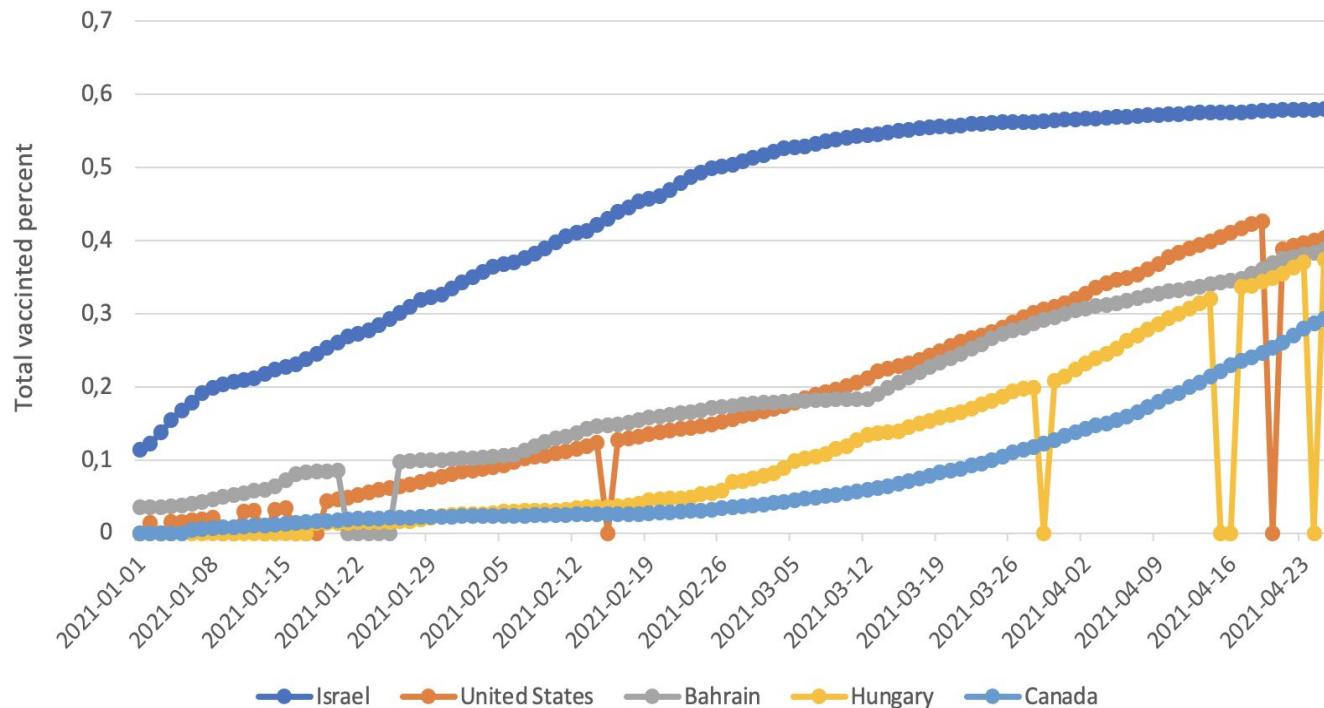
We can take a look at the progress of Total vaccinated in each country.

For the first half of the period, The United States and United Kingdom the top two most vaccinated countries. However, from the third week of March, India has accelerated their process quickly, making a rapid increase to nearly 120,000,000 in 08 April 2021 and no data onward.

On 25 April 2021, United States received **139,978,480** of total vaccinated.



TOTAL VACCINATED PERCENT EVALUATION



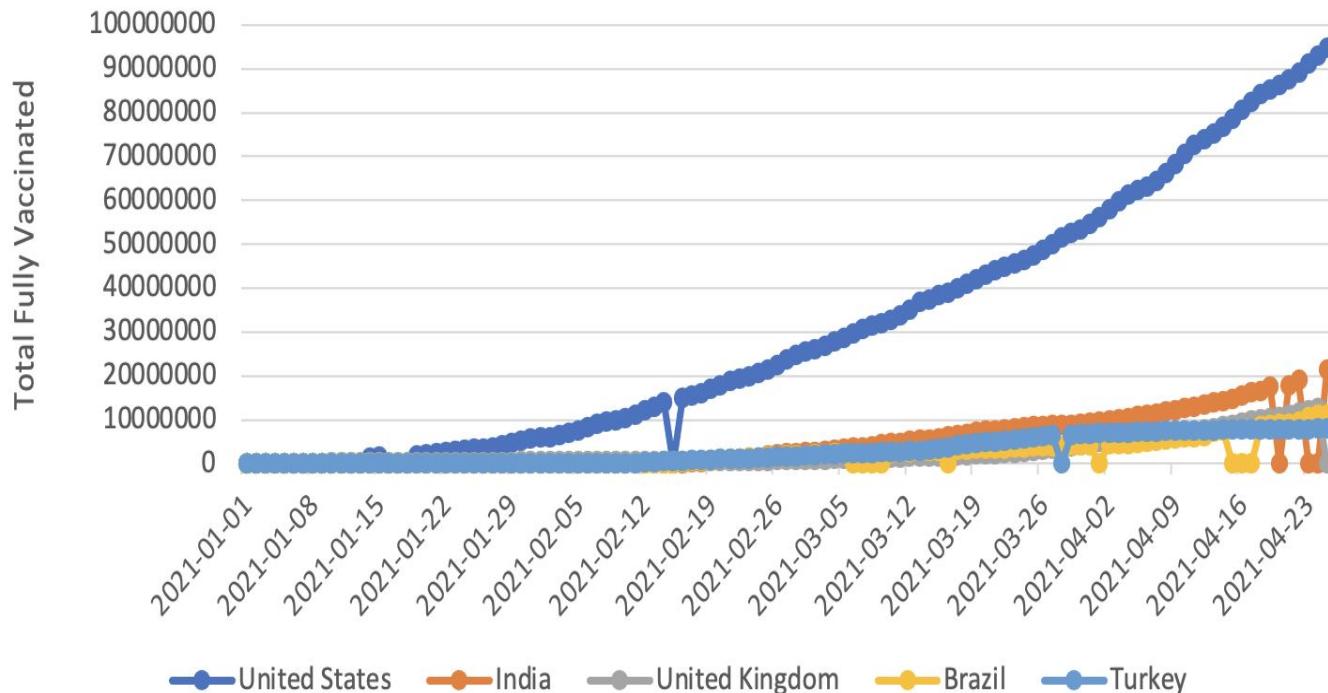
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 20

For vaccinated percent, from 1 January 2021, despite the huge population of USA that contributed to high number of vaccinations, it is noticeable that Israel and Bahrain have a high vaccinated percent, making them to the top 3 most vaccinated countries in percentage evaluation.

On 25 April 2021, Israel completed 57% of the total population while the United States and Bahrain has accomplished around 40%.

TOTAL FULLY VACCINATED EVALUATION



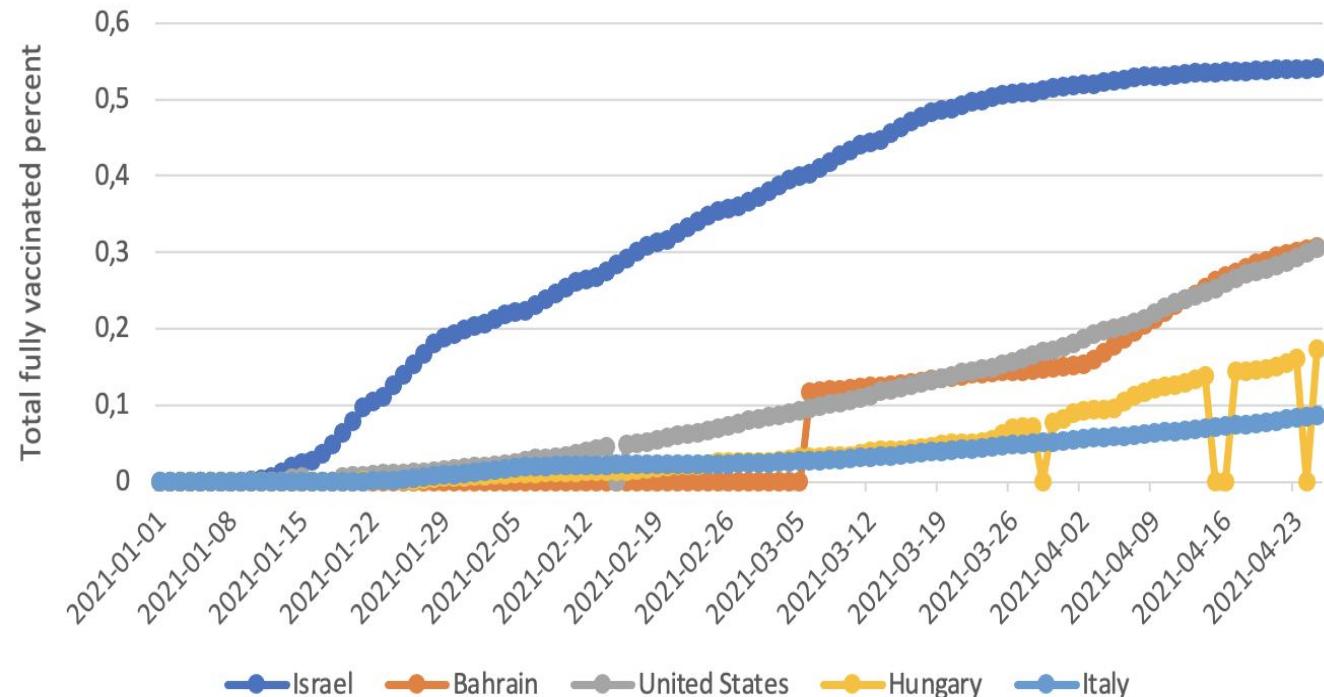
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 21

For fully vaccinated, it is remarkable that the United States paid attention to completing the full vaccination to their population, separating them from the rest of the world the number of fully vaccination with **94,772,329** fully vaccinated population.

The second one is India with around 20,000,000 people fully vaccinated followed by United Kingdom and Brazil.

TOTAL FULLY VACCINATED PERCENT EVALUATION



SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 22

For fully vaccinated percent, from 1 January 2021, Israel has maintained their top ranking of the fully vaccination program to their population with more than 50% of their total population.

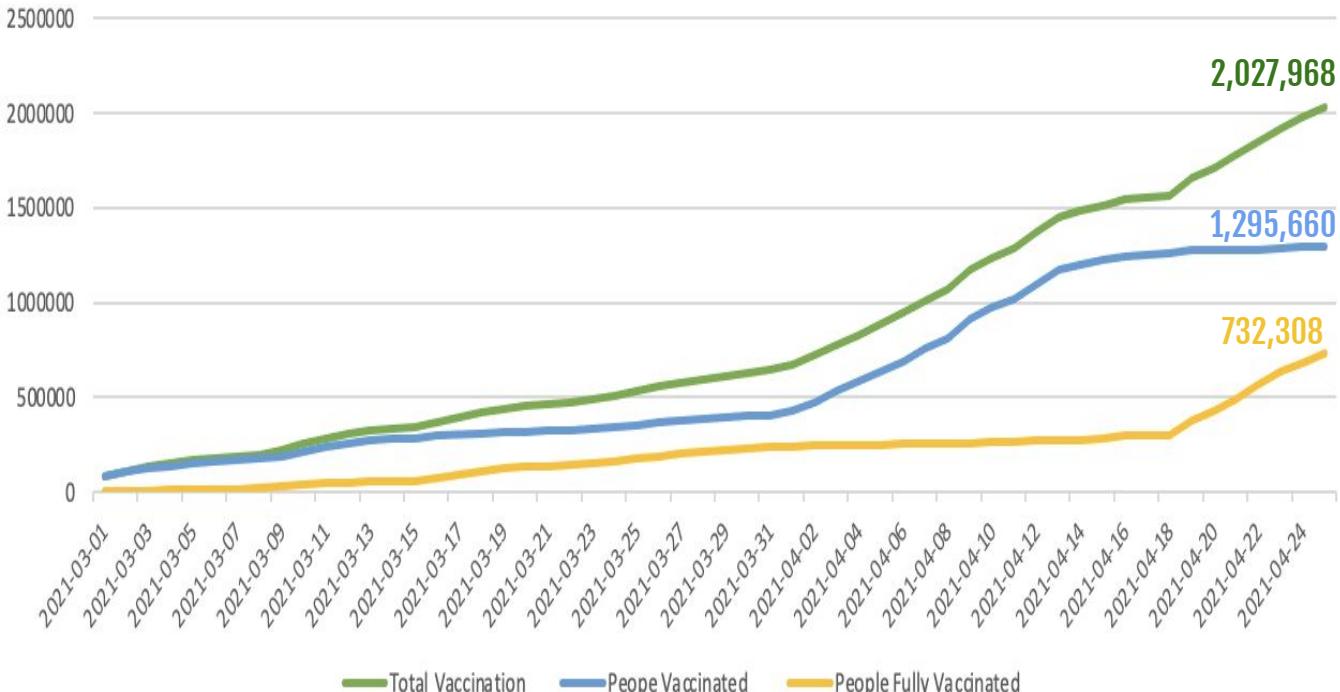
Despite their high number of population receiving full vaccination, the United States still in the low percentage due to the large number of total population with just above 30% at the third place, compared to the second place country, Bahrain, with 31%.

How the Cambodia vaccination progress?

We will look at the Cambodia vaccination progress:

- Cambodia vaccination (Vaccination, Vaccinated, Fully vaccinated)
- Cambodia vaccination percent (Vaccination, Vaccinated, Fully vaccinated)
- Cambodia daily vaccination

CAMBODIAN VACCINATION



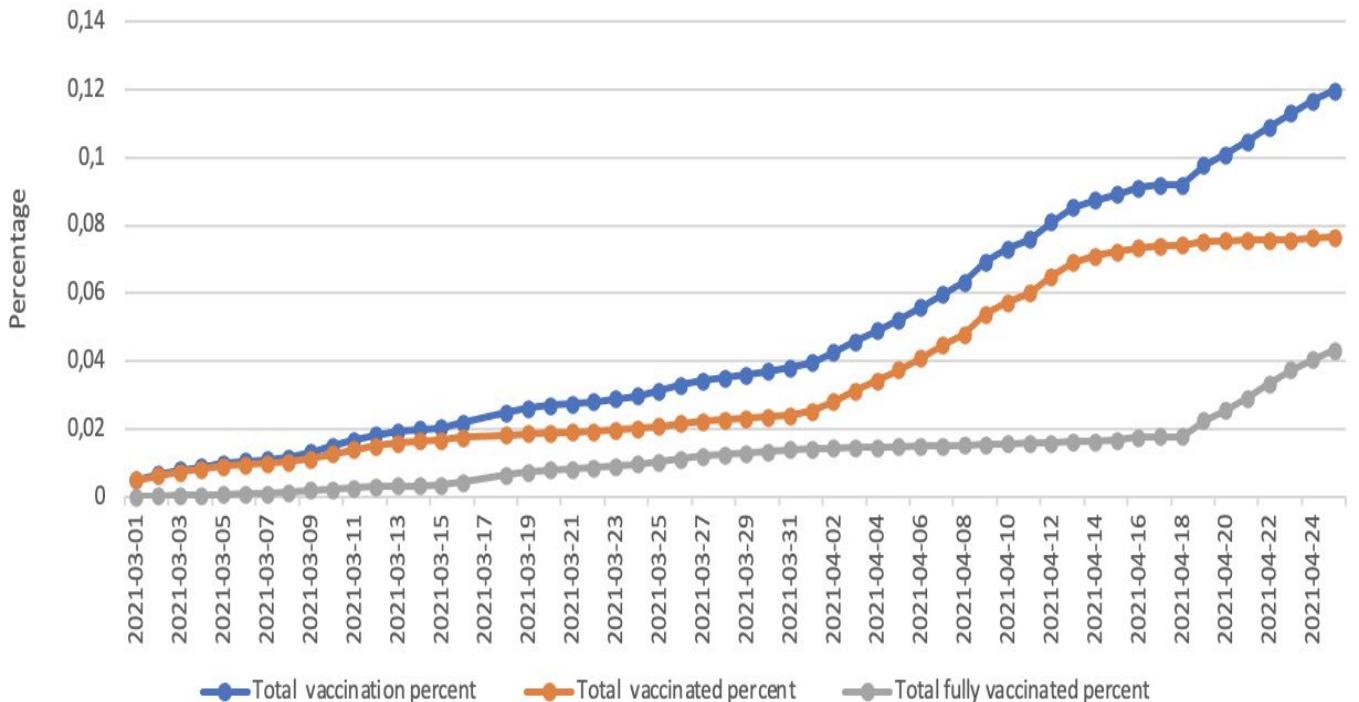
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

In Cambodia has a significant increase on the number of daily vaccination on the vaccination campaign.

On 24 April 2021, the number of Cambodia's total vaccination is 2,027,968 while there are 1,295,660 people were vaccinated and 732,308 people were fully vaccinated.

Figure 23

CAMBODIA VACCINATION PERCENT EVALUATION



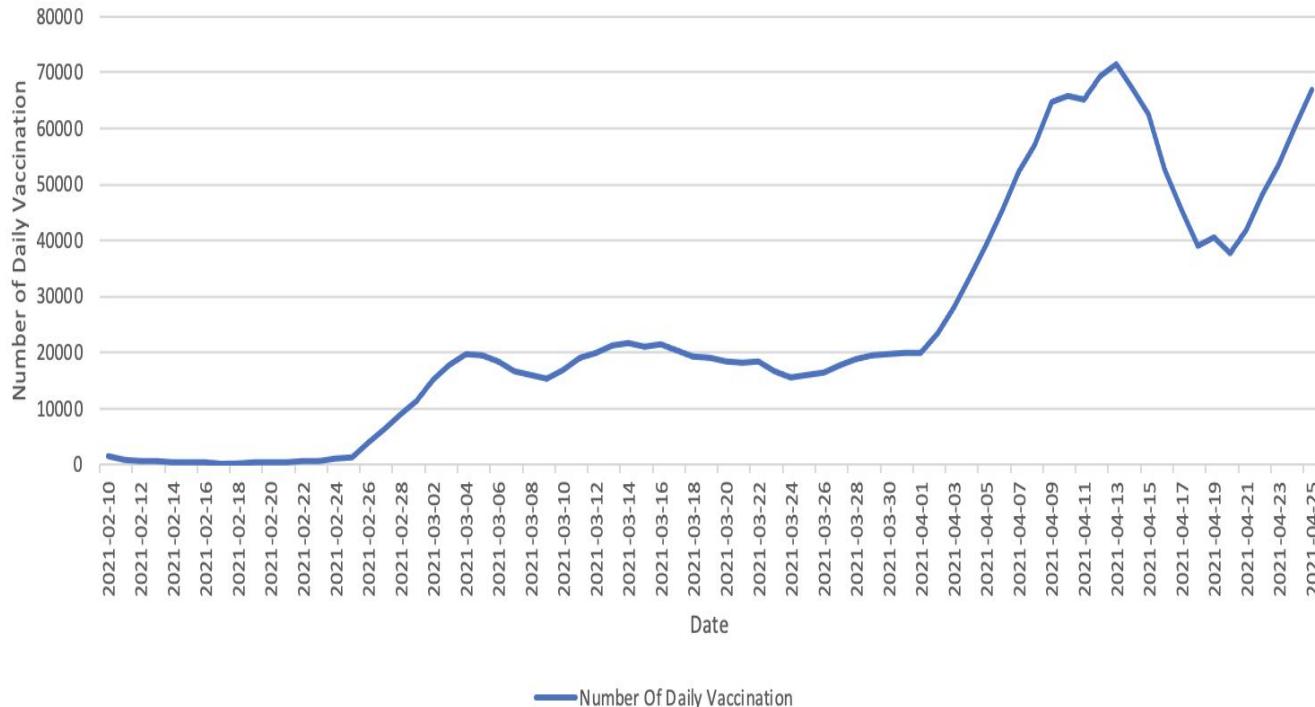
SOURCE: THE MIS CHALLENGE, 19 MAY 2021

Figure 24

For better understanding, we got the information as follows, by calculating in percentage:

On 25 April 2021, Cambodia received 12% total vaccination, nearly 7% for total vaccinated, just above 4% for total fully vaccination.

CAMBODIA'S DAILY VACCINATION



SOURCE: THE MIS CHALLENGE, 19 MAY 2021

From 10 February 2021 until 25 April 2021, Cambodia's increased the vaccination every day despite the significant downfall from 14 April to 19 April due to Khmer New Year Holiday.

Cambodia is using 3 vaccine types including Oxford/Astrazeneca, Sinopharm/Beijing and Sinovac.

Figure 25

3. CONCLUSION

RESTATE THE RESEARCH PROBLEM

There are several problems that happened in the COVID-19 Vaccination progress that we can found using data visualization. There are:

- 1st Vaccination is highly greater than 2nd vaccination.
- Some countries skip the date of the COVID-19 vaccination.
- Some countries have no COVID-19 vaccines enough for daily vaccination progress.



OVERALL FINDINGS

Here are summarize of the points above:

- The United States has both the highest number of confirmed cases and deaths while European has similar number of deaths despite their lower number of confirmed cases.
- Oxford/AstraZeneca, Moderna and Pfizers are the top three vaccines provided to people around the world.
- Despite The United States' high number of vaccinations, their vaccination percentage is still in the low percentage due to their large population. Israel and Bahrain were the two countries to achieve the top percentage of vaccination in their country.
- Cambodians have significantly increased the number of vaccinations in 2021 except only during Khmer New Year Holiday with three types of vaccines such as Oxford/Astrazeneca, Sinopharm/Beijing And Sinovac.



KEY TAKEAWAYS



COVID-19 vaccine types
In each country(Figure 2)



% of Vaccination, Vaccinated,
Fully vaccination (Figure 15)



COVID-19 vaccination progress
(Figure 17 to Figure 22)

4. REFERENCES

REFERENCES



The MIS Challenge (Google Classroom), 19 May 2021



World Healthy Organization (WHO), 19 May 2021



Ministry Of Health, 25 April 2021



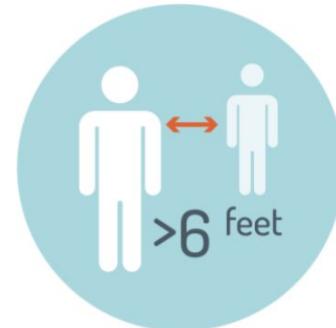
GOVI, The Vaccine Alliance, 20 March 2020



Our World in Data, 19 May 2021



SAY NO TO COVID-19 VIRUS





ទំព័ន្ធគុងបុស្សី
*A Bamboo shoot grows To
be a Bamboo*





THANK YOU
For your attention