



# BI: Tableau Project - Covid Data Exploration

June 23, 2022

Zhenning LI



# Most Important Question



**Decision maker: WHO Scientists & Directors**

**Decisions to make:**

- 1. Which countries should we aid in Covid Prevention and Covid Treatment?**
- 2. Which countries should we help against aging problem?**
- 3. Which vaccination should we use?**

**Note: All data are from Kaggle and Google DatasetSearch, it is apparently that the data is not reflecting the real scenario, but since the resource is trusted, all conclusions are made upon the data we have. Since there is almost no Data for Africa, this region is excluded.**

# Agenda



**01**



**Data Cleaning**

**02**



**Visualizations**

**03**

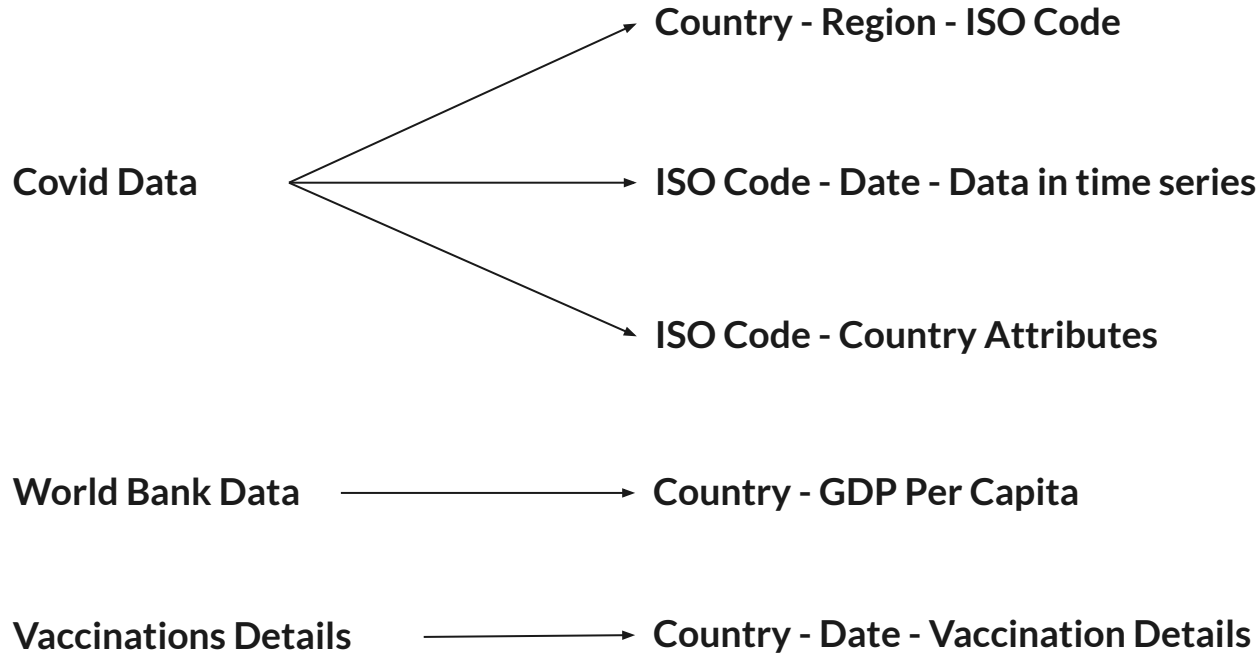


**Conclusions**



# 1. Data Cleaning

# Files



**Fill NaN Values**

**Handle Missing Values**



## 2. Visualizations

# 1. Death Rate

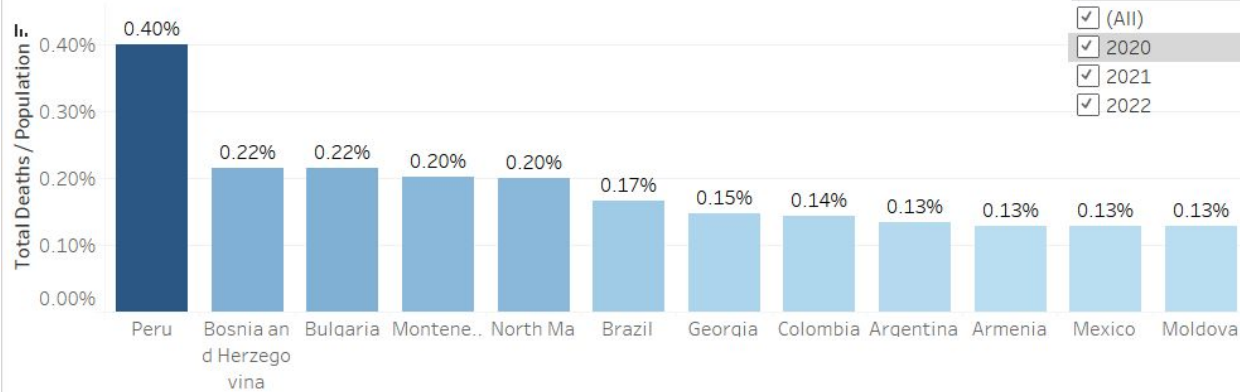


	High in Deaths / Total Cases	High in Deaths / Population
Meaning	Low level of Hospital Resource or Lacking Medical Supplies	Low level of Disease Prevention

# 1.1 Deaths / Population



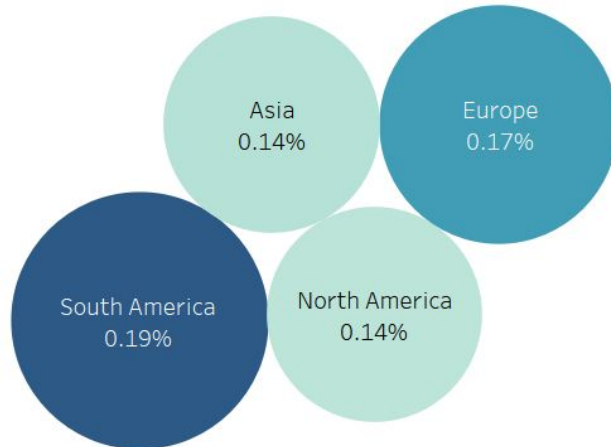
Deaths / Population > 0.12%



Number of Deaths / Population signifies the level of Covid Prevention.

1. GDP Per Capita lower than Poverty Line
2. Ratio over 0.12%.

WHO directors should promote better Covid Prevention methods for these countries.

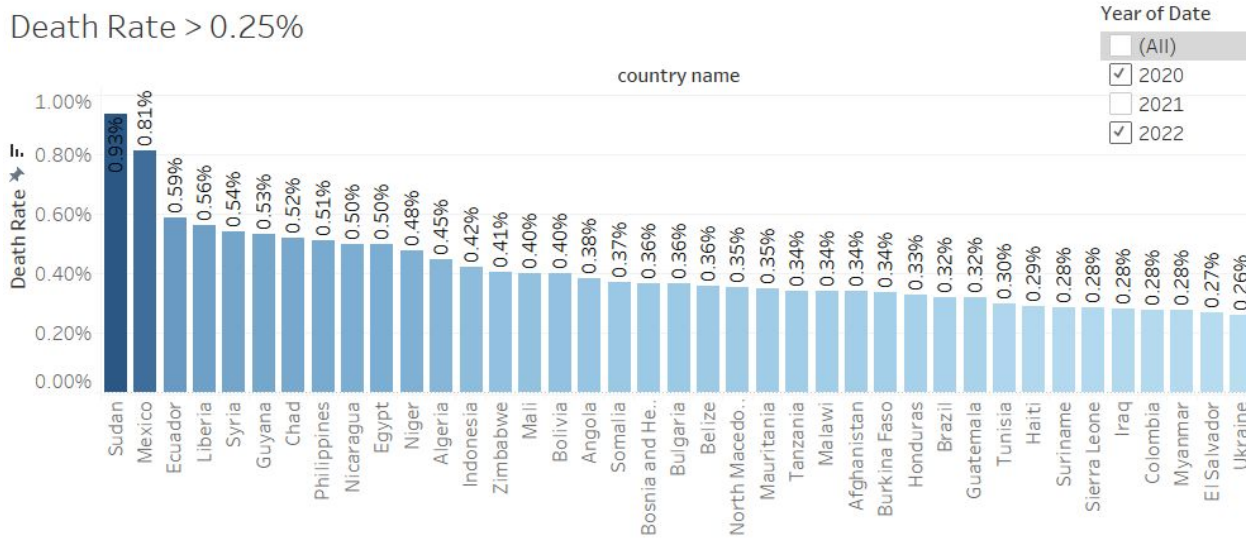




# 1.2 Deaths / Total Cases

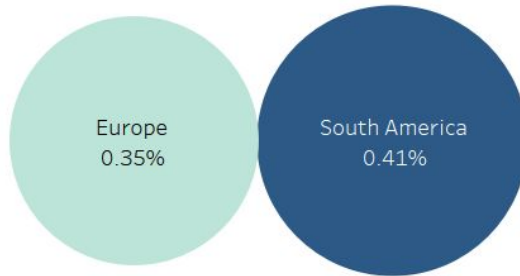


Death Rate > 0.25%



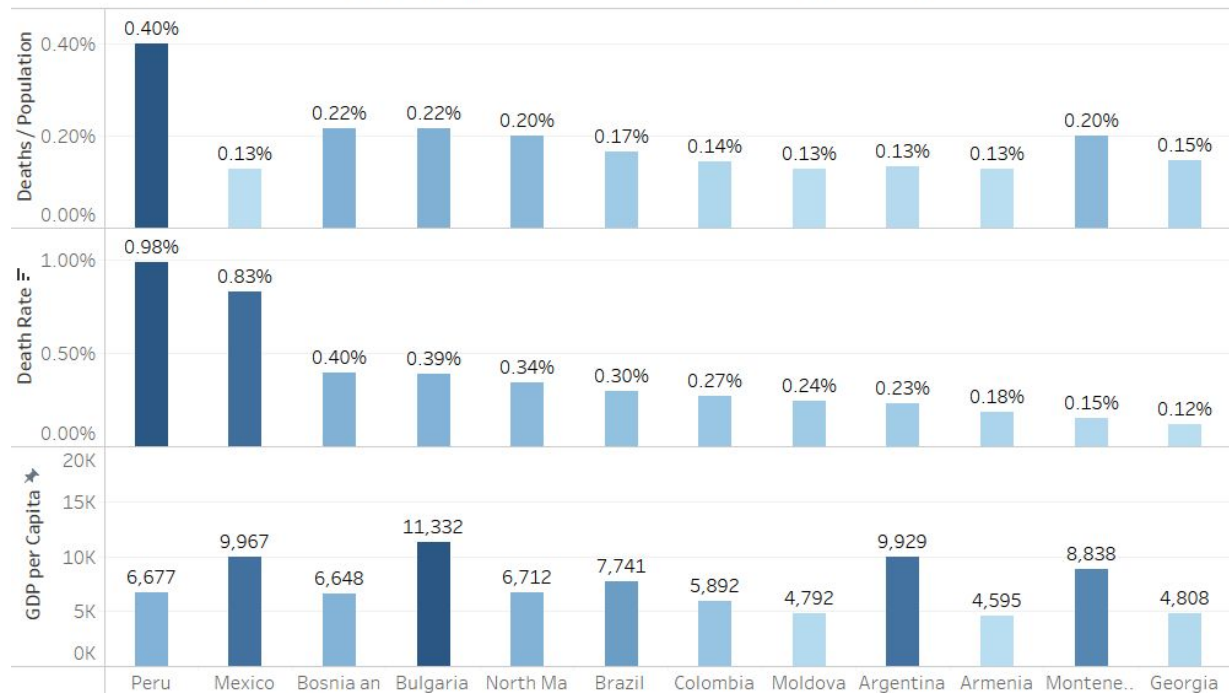
Number of Deaths / Total Cases signifies the level of Hospital Resources.

1. GDP Per Capita lower than Poverty Line
2. Ratio over 0.25%.



# 1.1 Death / Total Cases

Countries that need aid in both prevention and health resources.



This page shows the countries that we have to aid.

They have to satisfy the following requirements:

1. GDP per Capita lower then poverty line;
2. Death Rate is high: over 0.12%;
3. Infection Rate is high: Over 0.13%.

These 12 countries should be the first ones to help.

This page shows the countries that we have to aid.

They have to satisfy the following requirements:

1. GDP per Capita lower then poverty line;
2. Death Rate is high: over 0.12%;
3. Infection Rate is high: Over 0.13%.

Year of Date

x

☒ (All)

☒ 2020

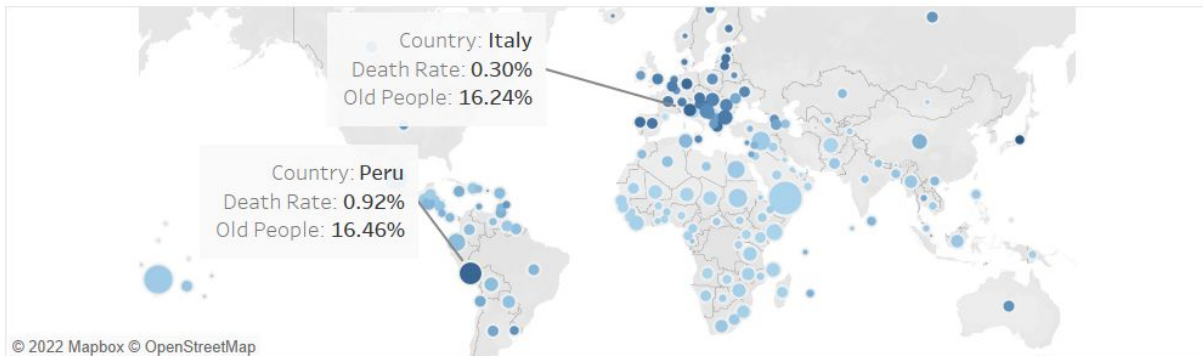
☒ 2021

☒ 2022

## 2. Aging Problem & Covid



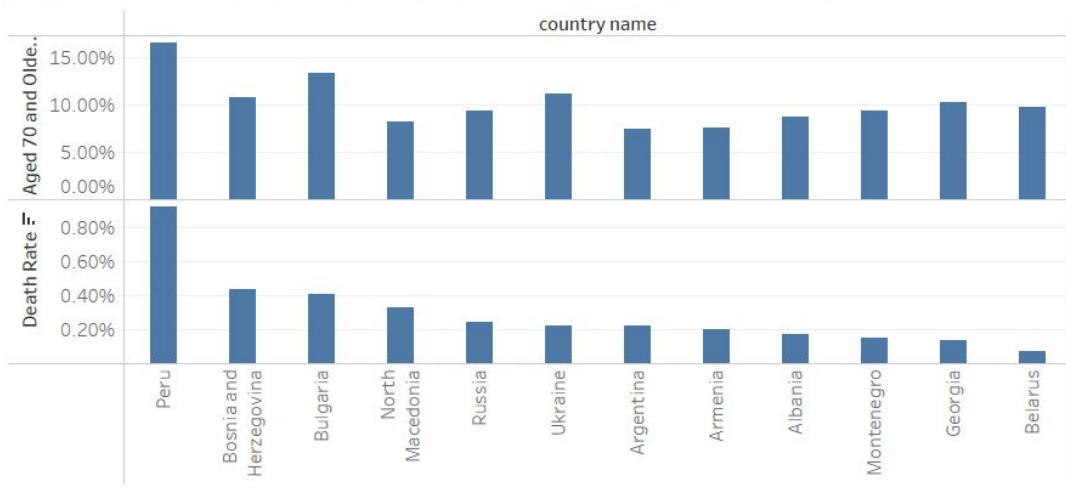
### Death Rate & Aging Problem Relationship



Year of Date

- ☐ (All)  
☐ 2020  
☒ 2021  
☐ 2022

Age 70 > 7% & Death Rate Top 20 & GDP Per Capita < 12000



This page shows the countries that has:

1. More than 7% of people over 70
2. Average GDP < poverty line

The graph below is ranked by Death Rate.

WHO should:

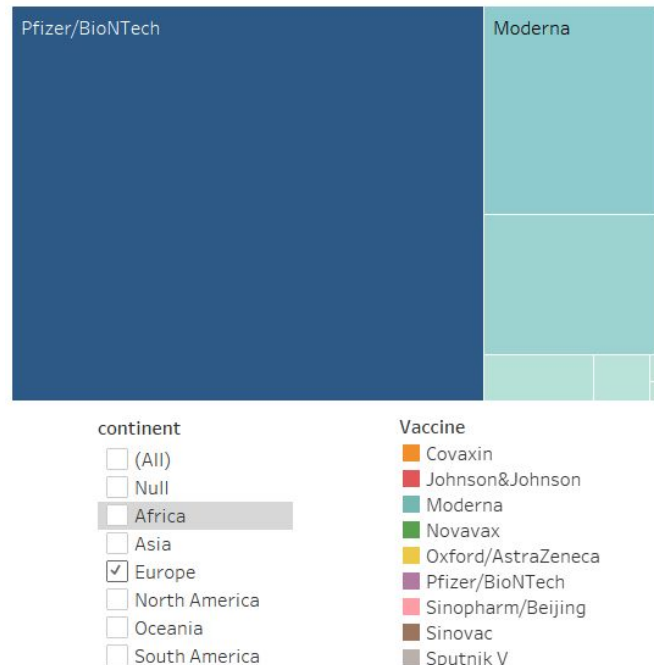
1. Aim to promote more prevention of chronic diseases;
2. Call for more access to age-friendly primary health care.

Reason: Many aged people died after getting Covid weren't directly killed by Covid, but by a combination of deadly chronic diseases and Covid (which will impede breathing).

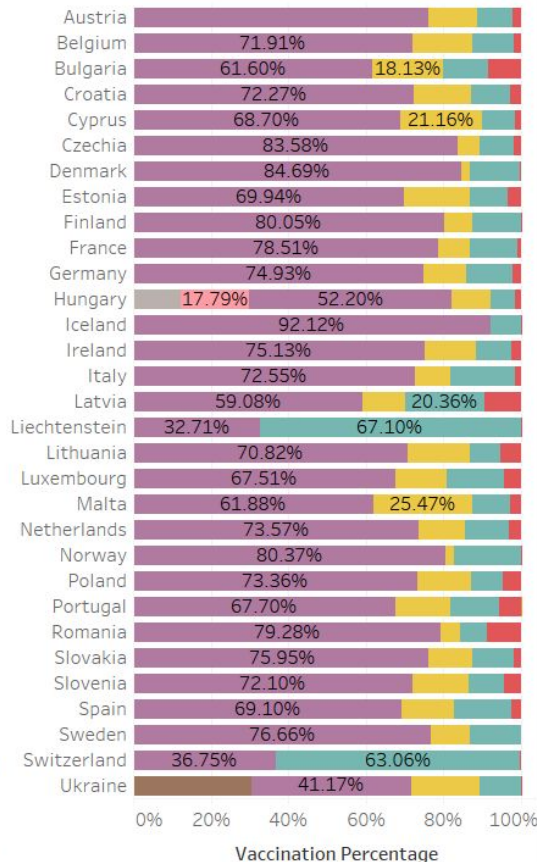
# 3.1 Vaccinations of Covid



## Vaccination Popularity



## European Vaccination Percentage



First graph shows vaccination popularity. Second graphs shows more details for each country.

Since the data by manufacturer is only available for Europe, let's analyze how the vaccines performed.

Special countries: Hungary and Ukraine. (For all others, Pfizer and Moderna take more than 85%)

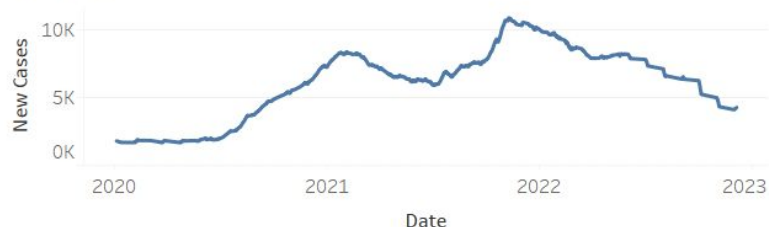
From the right stacked bar chart we can see that most European countries uses Pfizer the most, and the Moderna the second, but Hungary and Ukraine acted differently: one used Sputnik V and one used mainly Sinovac.

Here we will try to find if there is a relation between vaccine choice and total cases (in an extremely easy and not unscientific way).

## 3.2 Vaccinations of Covid



Ukraine



Number of new cases for these 2 Special Countries.

From the graph, we can't say Ukraine and Hungary's New Cases are the same as the other European countries.

Hungary



Meanwhile, Ukraine and Hungary were quite similar, indicating possibly other vaccinations are not as good as Pfizer and Moderna because they were not able to slow down spread of virus starting from Sep. 2020.

(Note: This conclusion is drawn not based on scientific evidence, but only from the graph.)

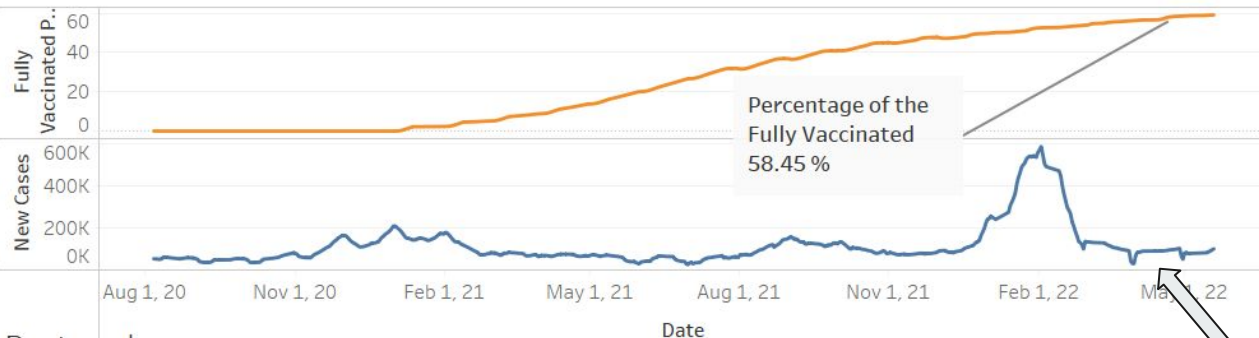
All Other European Countries



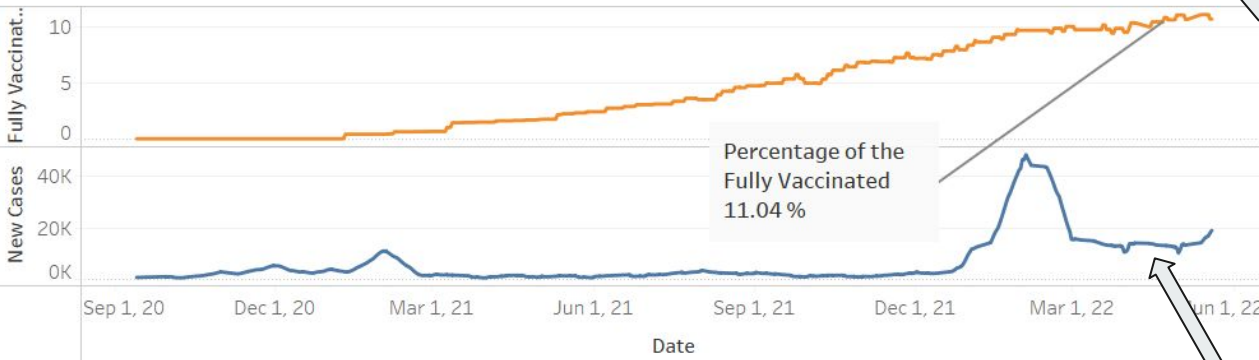
# 3.3 Vaccinations of Covid



## United States



## Portugal



A little finding about the relation between New Cases and the overall fully vaccinated percentage:

It takes less time for highly vaccinated country to recover from a surge in new cases to previous level.


These two countries are an example.

# 3. Conclusions



1. Help Peru, Moldova, Armenia, Bosnia, Bulgaria, Georgia etc. for Covid Prevention and Medical Resources;
2. Help Peru, Bosnia, Bulgaria, Ukraine, Albania etc. for promoting better chronic disease treatment methods and age-friendly health care;
3. Promote Pfizer or Moderna Vaccination.





# Thank you

