

Understanding the Data: [Data type = object]

All of these are in df_original with the exception of df_vaccine which was created to separate the vaccines. In the code I also created other vaccines as a means of creating each chart with easier understandability.

Country identity:

- 'COUNTRY' = country values are unique
- 'ISO3' = unique ISO3 values matching with corresponding COUNTRY name
- 'WHO_REGION' = corresponds the COUNTRY with which WHO region
 - Great for filtering the data for easier readability
- 'TOTAL Population' = total population of each country [dtype = object]

Time data:

- 'DATE_UPDATED' = date in which the data was uploaded; perhaps can be used as for time series data analyzing protection, and efficacy of vaccines over a period of time

Vaccine data:

- df_original:
 - 'VACCINES_USED' = in string format (e.g. "vaccine1, vaccine2, ..."; vaccines can be separated through commas
 - NOTE: There are spacing issues, to fix use
 - 'NUMBER_VACCINES_TYPES_USED'
- df_vaccine: all the vaccines are separated into 'Vaccine 1', 'Vaccine 2', etc., columns with their corresponding COUNTRY and ISO3 identity. Using this we can identify how many countries use the same vaccine by finding the length of the final dataframe.

Overall Vaccination Information:

- 'Population Vaccinated' = total population vaccinated; used to find % vaccinated and unvaccinated (can help with any NULL values in % vaccinated and unvaccinated)
- '% Population vaccinated'
- '% Population NOT VACCINATED'

Protection %: People who are vaccinated (protected) by each of the strain:

Original Variation Strain: considers all types of protection (vaccination and prior infection)

- 'Protection against ORIGINAL Var- SEVERE, % average'
- 'Protection against ORIGINAL Var- INFECTION, % average'

Variation BA1.n Strain: BA1.n is a sub-lineage of SARS-CoV-2 (variant of COVID)

- 'Protection against LATEST var BA1.n SEVERE, % average'
- 'Protection against LATEST var BA1.n INFECTION, % average'

Original Strain: considers overall protection, regardless of source

- '% People Protected for ORIGINAL SEVERE'

- '% People Protected for ORIGINAL INFECTION'

Omicron Strain:

- '% People Protected for OMICRON SEVERE'
- '% People Protected for OMICRON INFECTION'

Suceptible %: Also protected/vaccinated but are still at risk for each of the strains

*Note that the higher the susceptibility then the higher the risk of the person contracting COVID

Original Strain:

- '% SUCEPTIBLE for BREAKTHROUGH ORIGINAL SEVERE'
- '% SUCEPTIBLE for BREAKTHROUGH ORIGINAL INFECTION'

Omicron Strain:

- '% SUCEPTIBLE for BREAKTHROUGH OMICRON SEVERE'
- '% SUCEPTIBLE for BREAKTHROUGH OMICRON INFECTION'