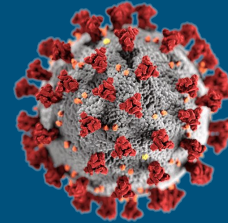


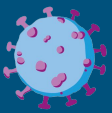
COVID-19 - An Analysis



Why was the pandemic so bad in
America?

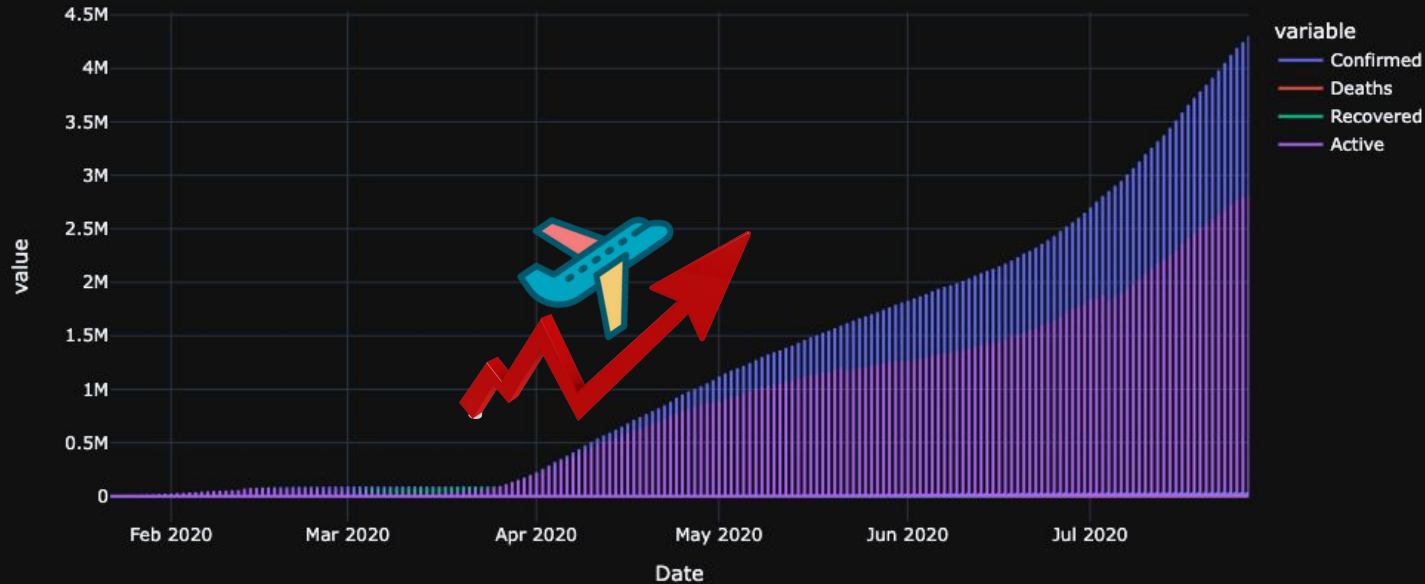
What was analyzed?

- Investigate cases in countries, in relation to America
- Establish relationships between types of vaccination and number of cases
- Understand how vaccination rate effects covid
- External influences (holidays, events)
- Reach an overall conclusion regarding how the spread could have been more efficiently controlled



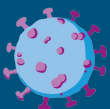
Part 1 - Understanding the initial spread

Covid Cases In Relation To Time



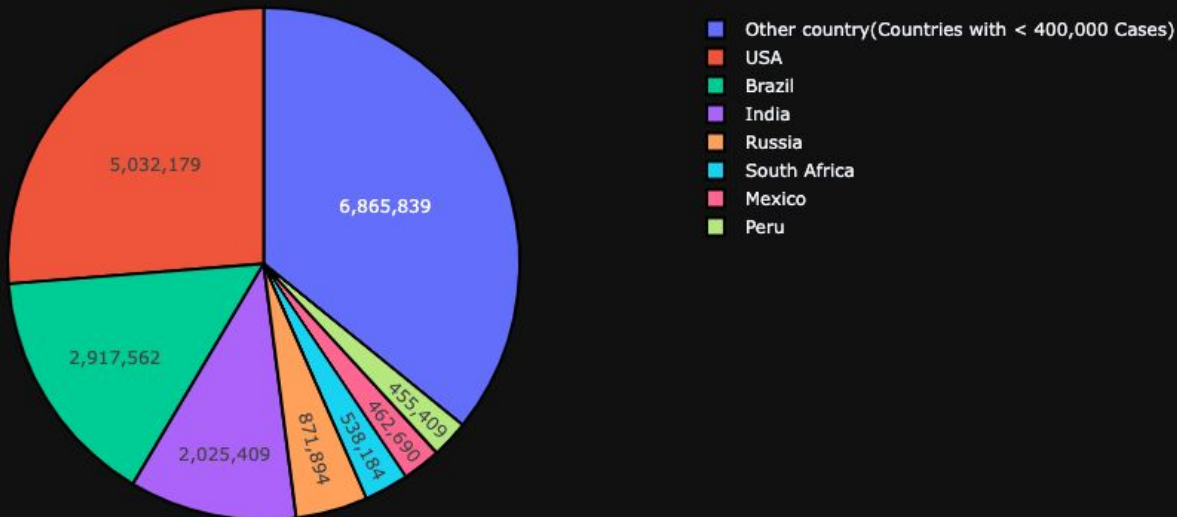
- Breakout point: April
- Steady rise until august
- Potential causes:

April, covid began spreading overseas (once it left China, it spread very easily)

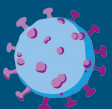


Part 1 - Understanding the initial spread

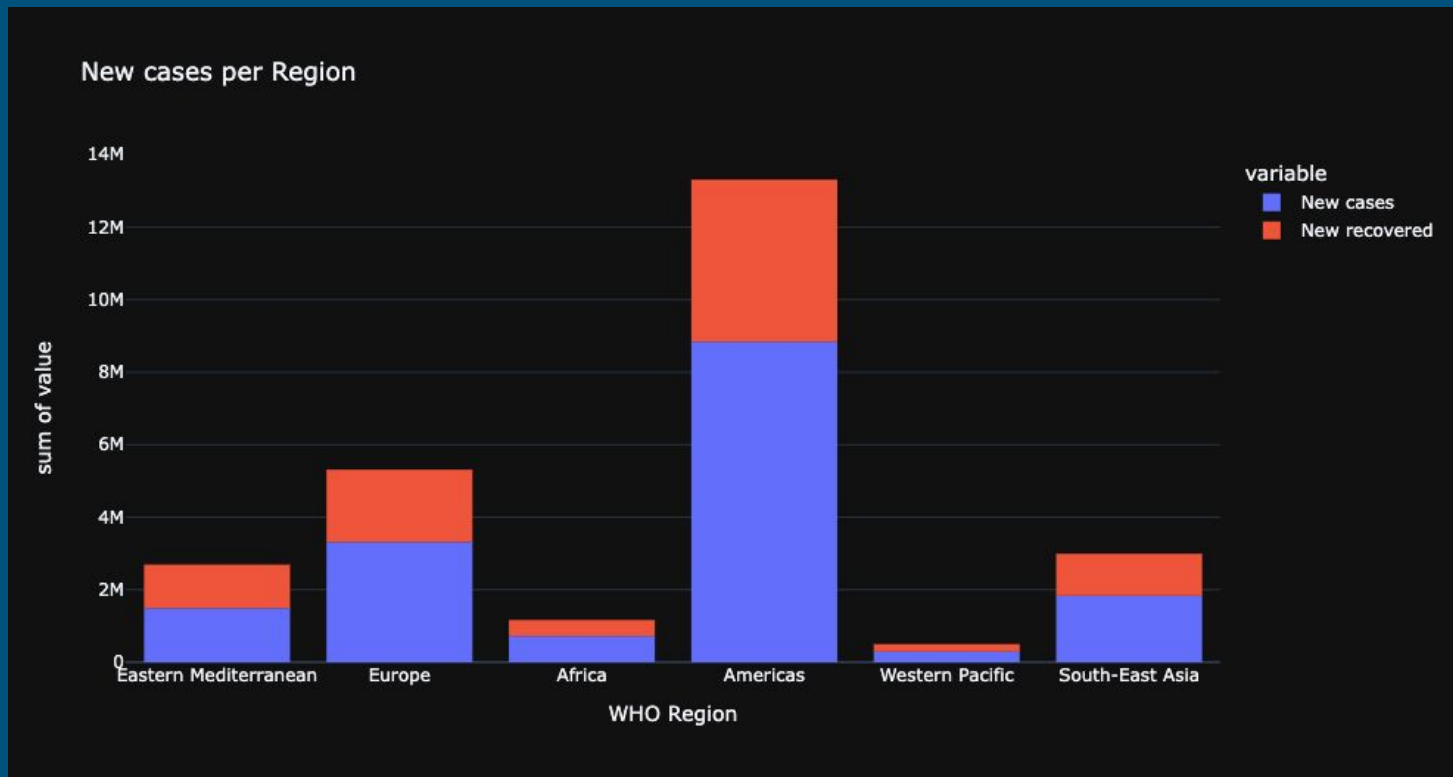
Total cases per country



- How were individual countries reacting to the spread?
- Mainly less-developed countries incurring cases
- Exception of America
- Of all countries, America was affected the most by Omicron (5.4x greater risk of infection)



Part 1 - Understanding the initial spread

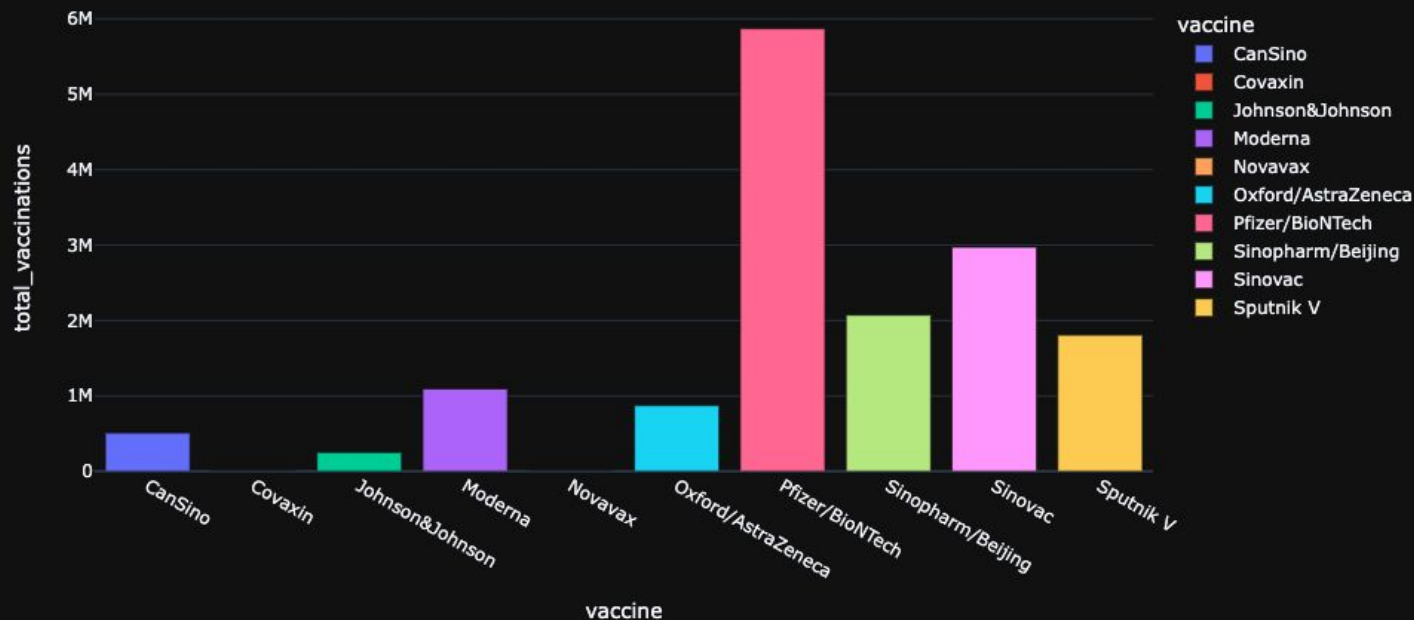


- How did new cases relate to recoveries?
- In all regions, same trend (new cases higher than recoveries)
- Indicates that virus spreads faster than people recover
- Americas by far leading in all categories
- America made up 62% of these cases



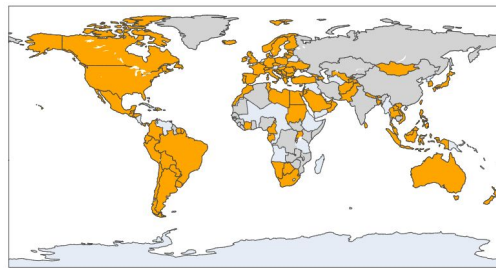
Part 2 - Understanding the vaccine rollout

Frequency of each vaccine type

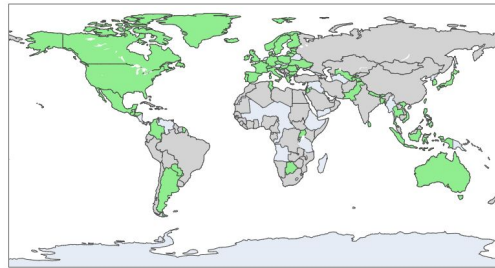


- Did type of vaccine affect the spread?
- Measured usage of each vaccine
- Pfizer and chinese vaccines most frequent
- Which vaccine is most effective against Omicron variants?

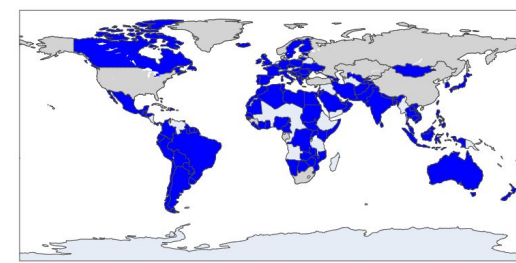
Part 2 - Understanding the vaccine rollout



Pfizer/BioNTech
True
False

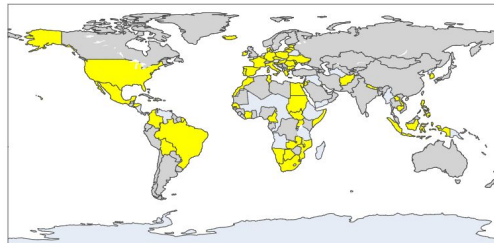


Moderna
True
False

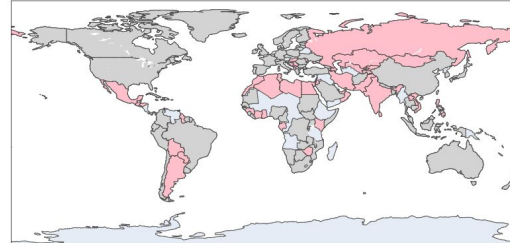


Oxford/AstraZeneca
True
False

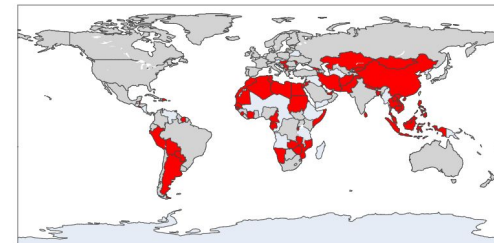
- Each country elected certain vaccines
- Determine link between type of vaccine and subsequent cases (optimum vaccine)
- America chose multiple different vaccines to use, as well as U.K.
- Difference: poor allocation of resources (mix and match inoculation)
- Mix and match inoculation very polarising in scientific community
- Found that Americas use of J&J = less effective against the Omicron virus (produced virtually no antibodies against omicron)
- Pfizer vaccine was 71% effective against reinfection, Moderna 47% (Imperial College London)
- Sole use of Pfizer vaccine, much more effective (America)



Johnson&Johnson
True
False



Sputnik V
True
False



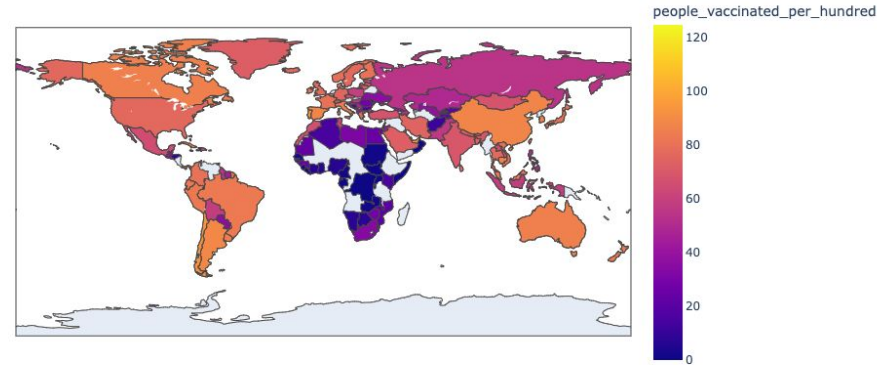
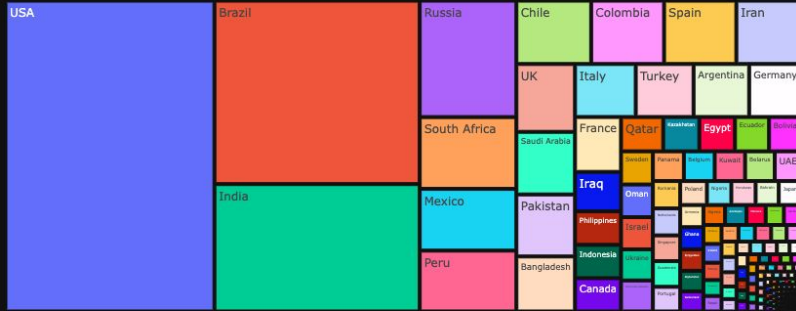
Sinopharm/Beijing
True
False



Part 3 - Understanding how effective the vaccines are

How do vaccines affect total cases?

Total Cases per country



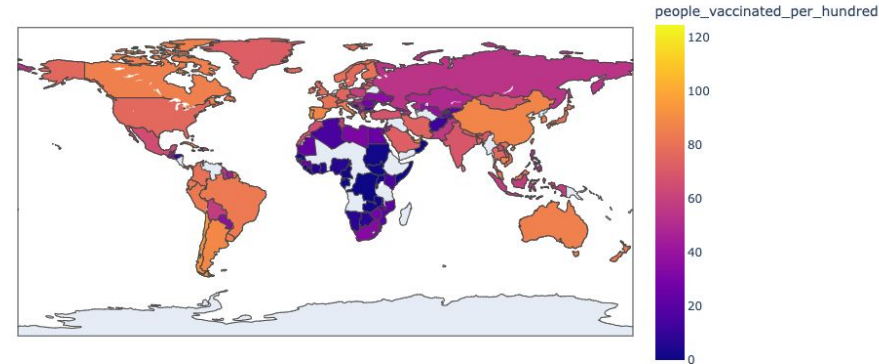
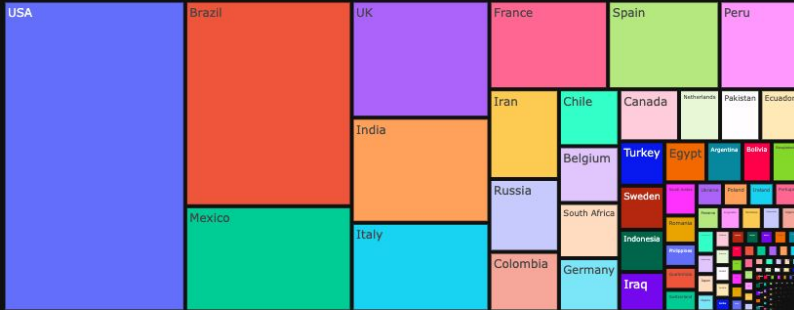
- America has relatively high vaccination rates (per 100) - so why the high number of cases?
- Didn't target their vaccinations (43% of people over 65 have not received booster)
- Other developed countries have targeted vulnerable populations (In U.K. only 4% of over 65's have not received booster)



Part 3 - Understanding how effective the vaccines are

How do vaccines affect death rate?

Deaths per country



- The poor targeting of vulnerable groups also affected death rates
- Although developed infrastructure, still falling behind due to poor allocation
- In this scenario, similar to 3rd world countries (lack of free healthcare)

How could America have contained the virus better?

- Optimized use of the Pfizer vaccine (most effective against Omicron)
- Impose stricter travel bans
- Abolish current healthcare system and remodel to be public
- Key element of downfall: very poor distribution of vaccines to older age groups, so high vaccination rate was essentially ineffective

THE GLOBE