Global COVID Trends

CHINYERE ELIZABETH KALU

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Data extracted from WHO COVID Dashboard (2022)

Task:

❖ Review the data and demonstrate how you would go about analyzing it.

❖ Outline:

- comments on the data including any data quality issues
- your chosen approach to the analysis including tools you might use
- some key insights through any form of visualization
- ideas on how you could take the analysis further

Overall review

- Datasets extracted:

    - vaccination data

    - vaccination metadata

    - global COVID data

    and merged using Country as the primary key on MySQL.

- Microsoft PowerBI to prepare visualizations.

Questions

1.a. What countries had the highest and lowest COVID cases globally ?

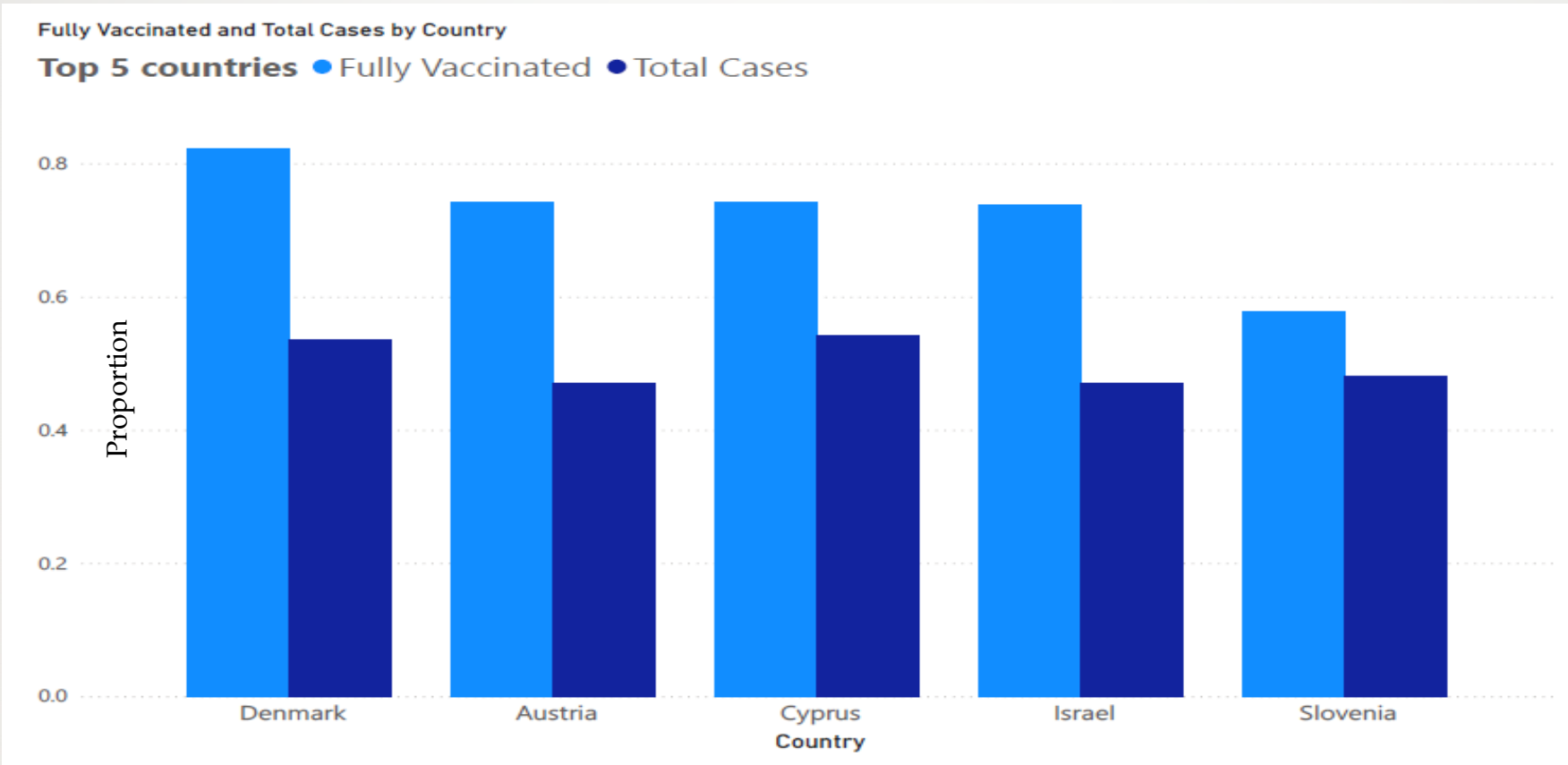b. How was the vaccine delivery rates in these countries?

c. What countries had the highest and lowest Death cases?

2. What region had the highest and lowest or earliest and latest

a. vaccination delivery

b. earliest vaccine launch dates

What countries had the highest COVID cases globally; and how was the vaccine delivery rates in these countries?

Fully Vaccinated and Total Cases by Country

Top 5 countries ● Fully Vaccinated ● Total Cases

What countries had the lowest COVID cases globally; and how was the vaccine delivery rates in these countries?

Fully Vaccinated and Total Cases by Country

Bottom 5 countries ● Fully Vaccinated ● Total Cases
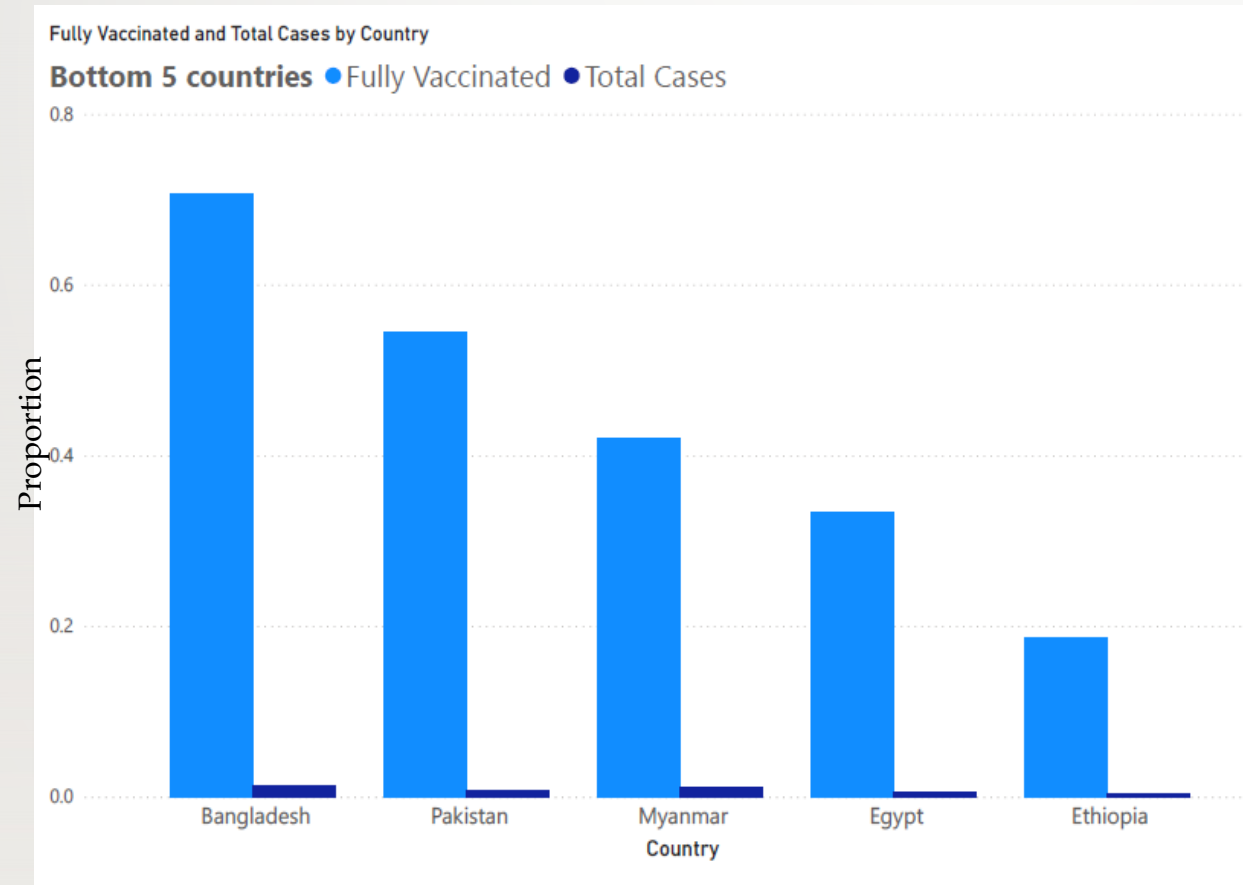
• **Majority of these countries are under-developed countries which have a poorer reporting and record collection system. Therefore, the numbers of total COVID-19 cases reported will not be anywhere close to the actual cases.**

# What region had the highest and lowest vaccination delivery ?

- I tried to analyze this by creating a pivot table on Excel to aggregate country level figures for persons fully vaccinated up to region level. Population numbers for each country was unavailable so this was not possible.

- Using population data, I would have been able to get insights on the percentage of fully vaccinated persons according to region.

What region had the earliest and latest vaccine launch dates?

Region	First Vaccine (Month & Year)
Africa	February 2021
South-East Asia	January 2021
Americas	December 2020
Europe	December 2020
Western Pacific	December 2020
Eastern Mediterranean	November 2020

What regions had the highest and lowest Death cases?

Deaths – cumulative total per 100000 population by WHO Region
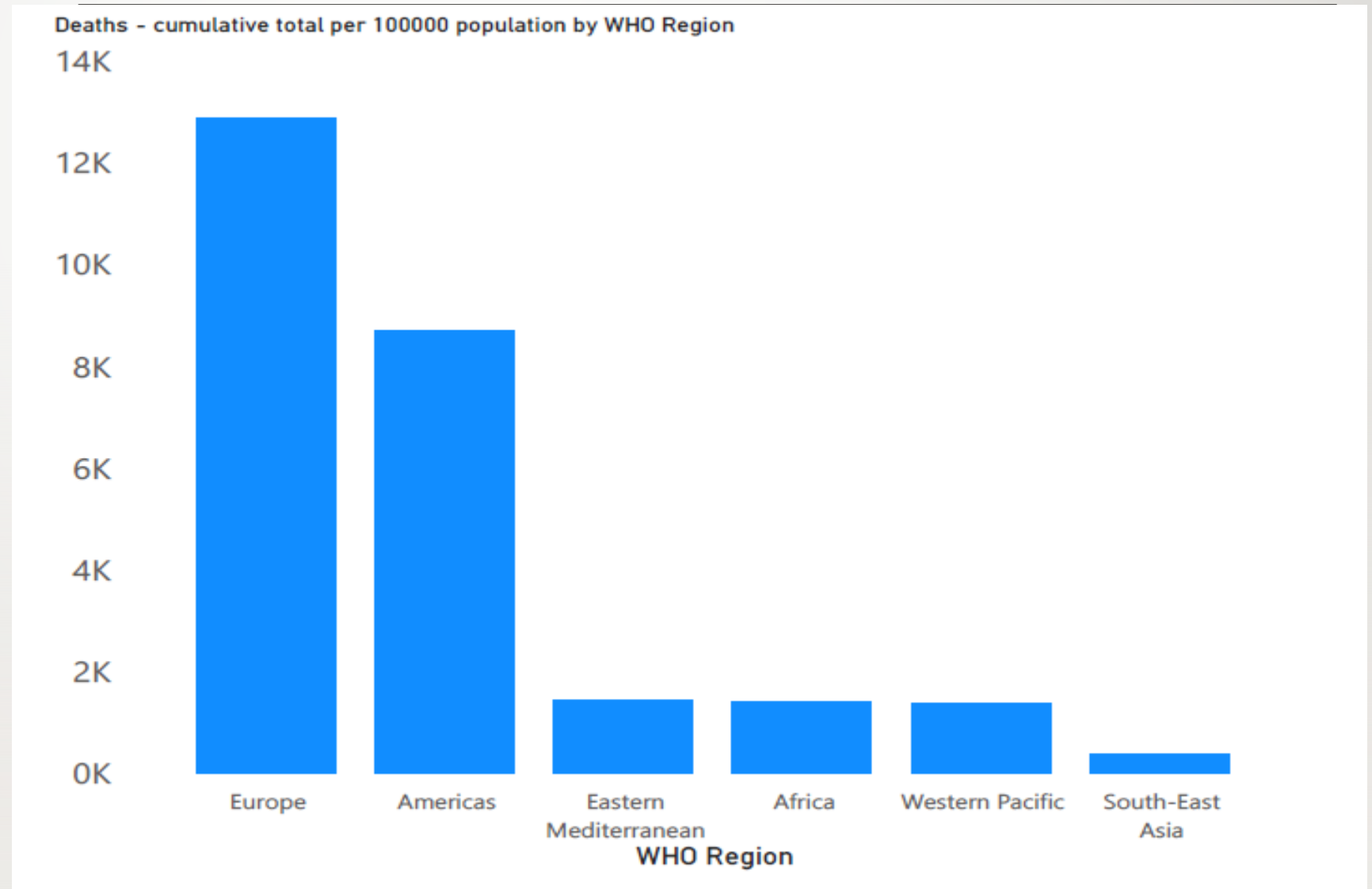
I used the figures for total per 100,000 population because it would be a standardized value for comparison across countries.

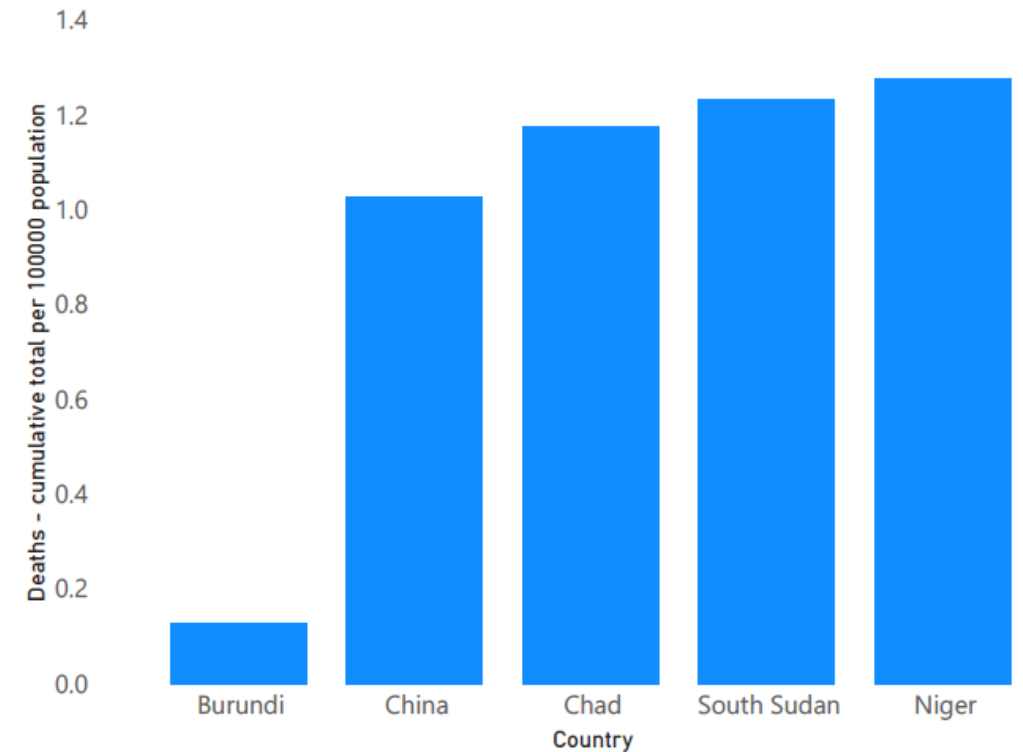# What countries had the highest and lowest death cases?
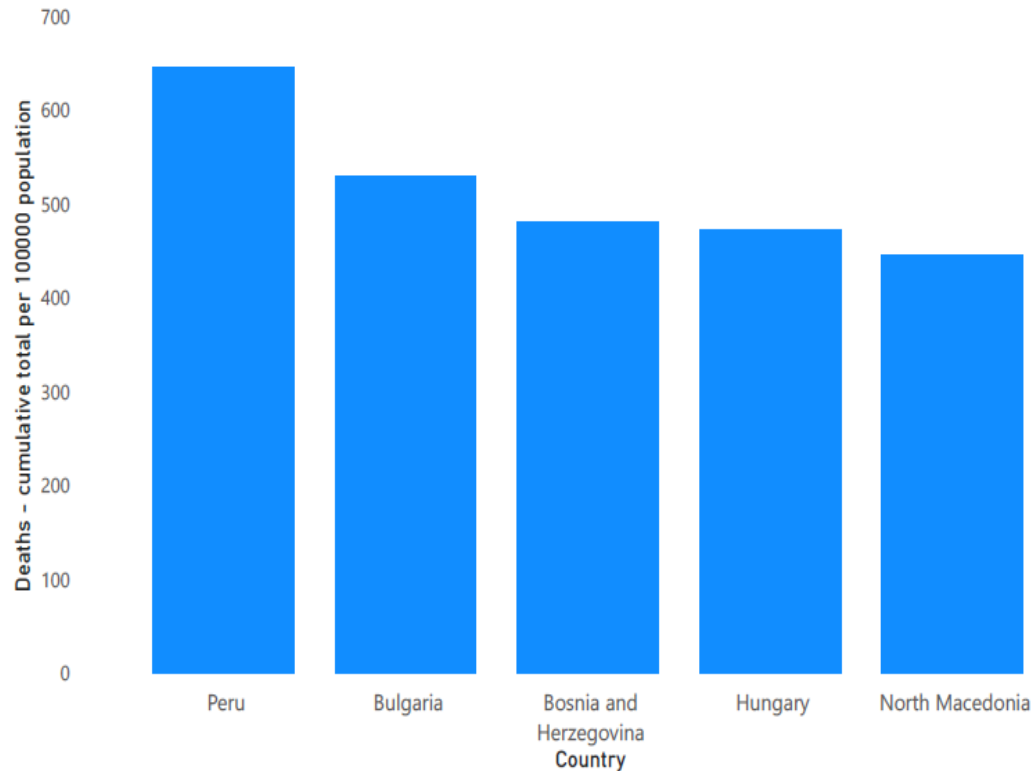
Top 5 countries reporting the highest death cases

Bottom 5 countries reporting the lowest death case

Data Quality Issues encountered

1. Some of the datasets did not have a standard / common identifier eg the vaccination metadata did not contain country names; the global data did not contain country codes or any other primary key identifier. It made it difficult to fully capture all the data in one merge.

2. There were several data missing for certain countries

Further Analysis

- What vaccines were used the most in certain countries or regions and check for a relationship with vaccination numbers and cases. The vaccines delivered were recorded in "String" format and did not give a count of the amount of each delivered within the countries.

- Predictions – Using time series analysis to predict the number of cases in the coming days. We would need a weekly record of newly reported cases going back about a year for this.