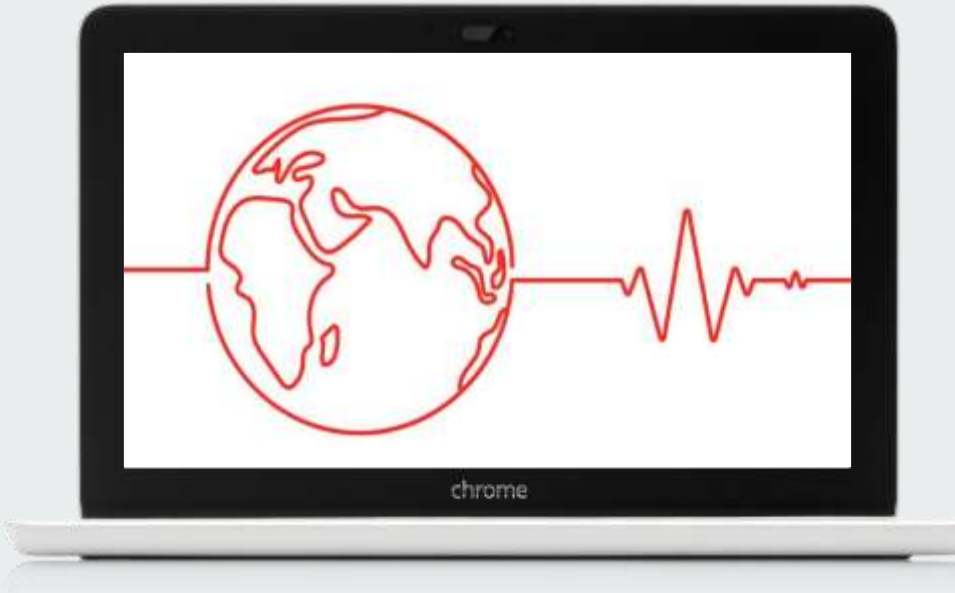
Analysis of Overall Healthcare Worldwide



By Rahul Singh Dhakad

The Big Question?

Based on comprehensive analysis of general health data, **which areas of the world are in greatest need of assistance** or aid from the World Health Organization (WHO) and other organizations, and **which countries demonstrate exemplary health outcomes** and practices that can serve as valuable lessons for global health improvement efforts?

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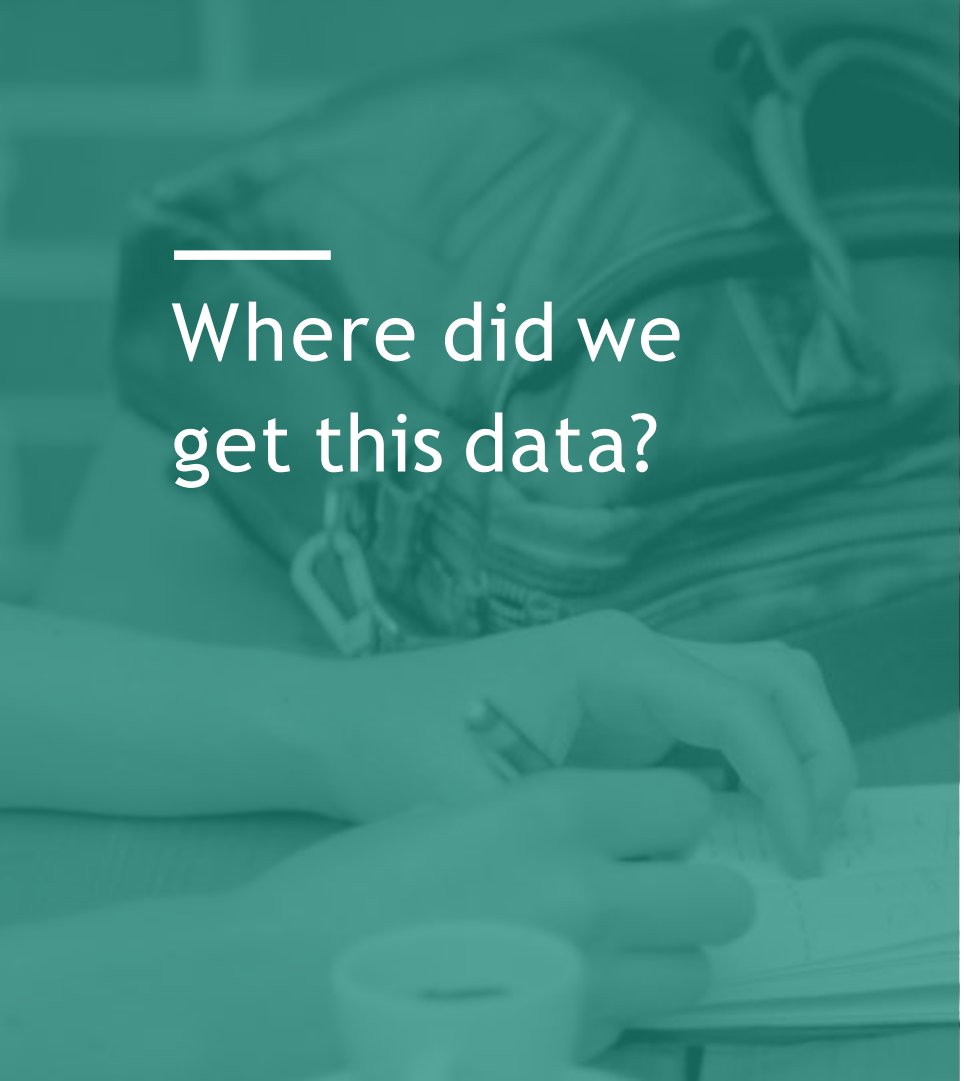


Where did we get this data?

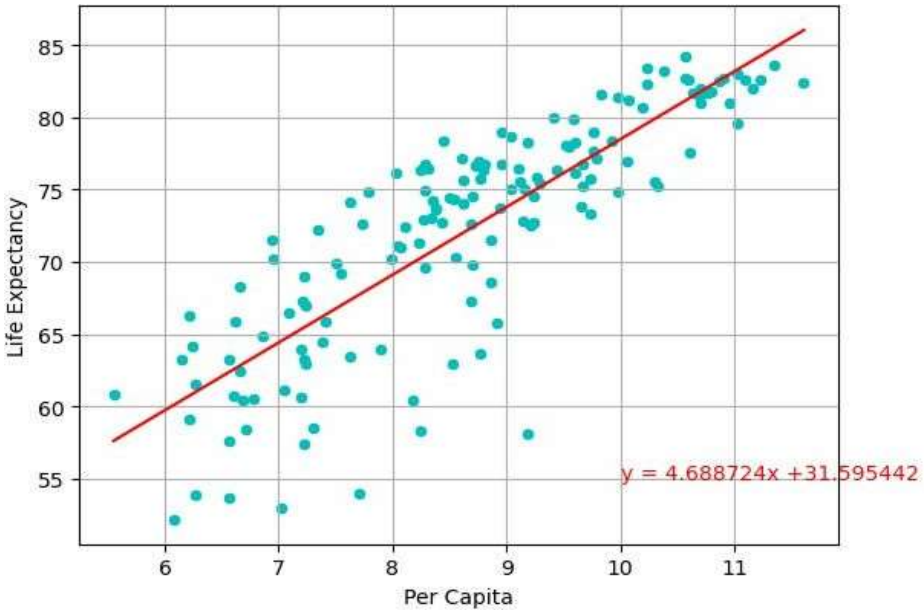
- Kaggle
- World Health Organization (WHO)
- World Development Indicator (WDI)
- Google Developers
- GDP, Life Expectancy, Medical Doctor Numbers

Data Cleaning and Preparation

Data Limitation

- Years: 2015 to 2019.
- COVID-19 Mortality Rates Analysis: 2019 to 2021.
- Life Expectancy for the entire population was calculated as weighted average between Male Life Expectancy and Female Life Expectancy.
- Countries that did not have Male/Female ratio to calculate Life Expectancy for the entire population were assigned 50%:
    - Czech Republic,
    - Turkey.
- For the number of Medical Doctors, 60.98% of the countries were filtered out from the original data set because of the missing values, bringing dataset to the size of 150 countries.

GDP Per Capita vs. Life Expectancy

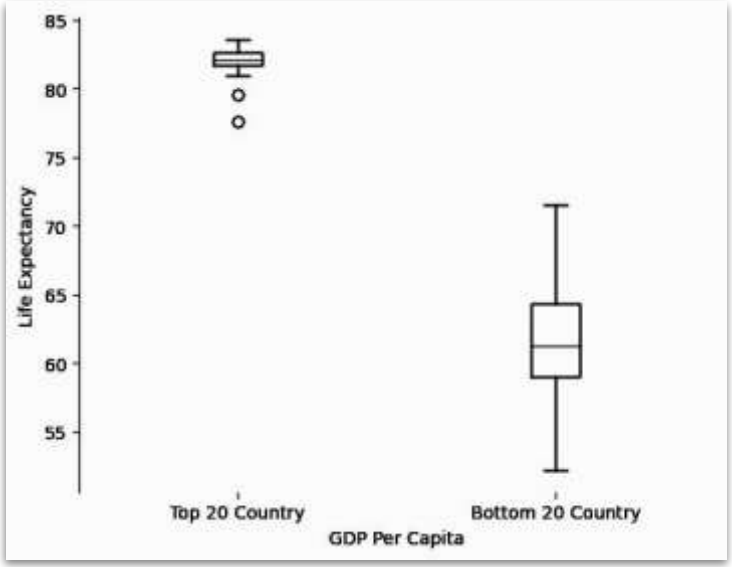


There is a **strong positive** correlation between GDP Per Capita and Life Expectancy

Correlation coefficient = 0.84
R square = 0.70

GDP Per Capita vs. Life Expectancy

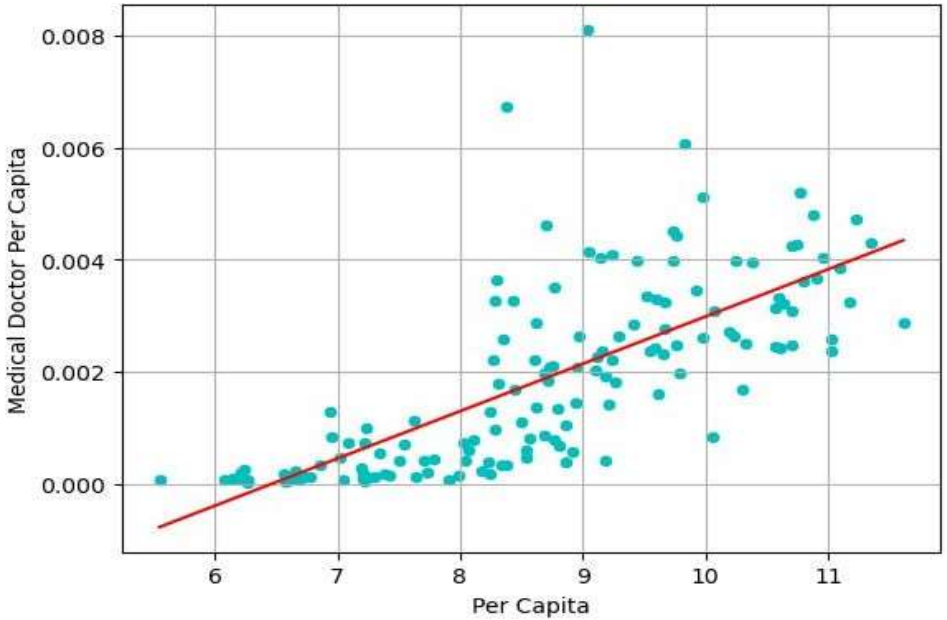
-Top 20 GDP Per Capita Countries vs. Bottom 20



Average Life Expectancy of Top 20 GDP countries : **82**

Average Life Expectancy of Bottom 20 GDP countries : **62**

GDP Per Capita vs. No.of Doctors Per Capita

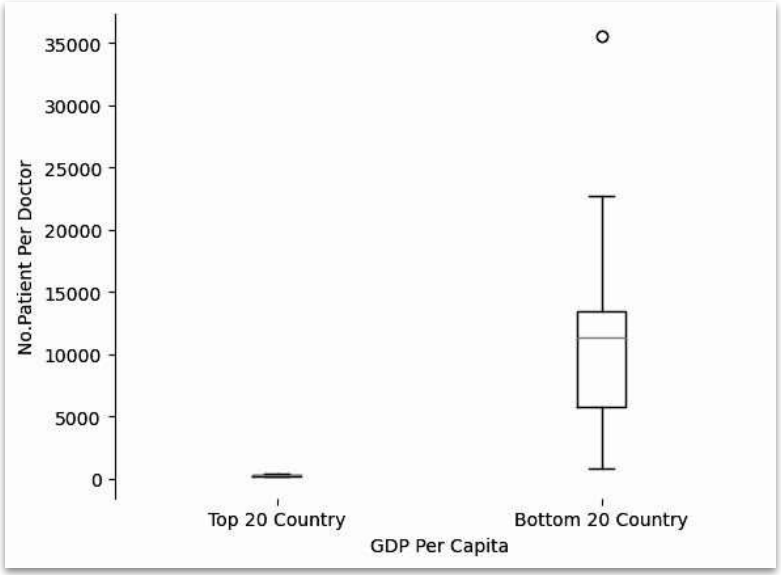


Correlation coefficient = 0.73
R squared = 0.52

There is a **moderate** correlation between GDP Per Capita and Medical Doctors Per Capita

GDP Per Capita vs. No.of patients Per Doctor

-Top 20 GDP Per Capita Countries vs. Bottom 20



Average Patients per Doctor of Top 20 GDP Per Capita Countries: **295**

Average Patients Per Doctor of Bottom 20 GDP Per Capita Countries: **11462**

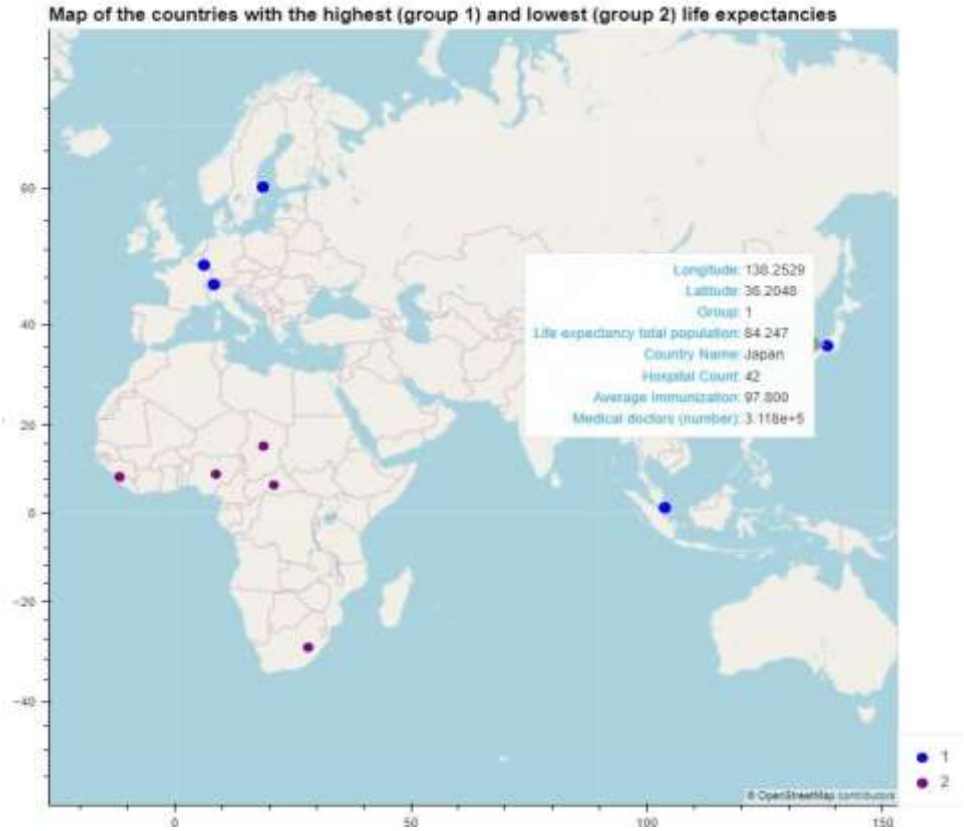
There is over **3800%** in difference

Overall Analysis of Top 5 and Bottom 5 Countries based on life expectancy

	Country Name	Hospital Count	Group
0	Japan	42	1
1	Switzerland	10	1
2	Singapore	133	1
3	Sweden	0	1
4	Luxembourg	15	1
5	Nigeria	0	2
6	Sierra Leone	14	2
7	Chad	0	2
8	Lesotho	4	2
9	Central African Republic	4	2

Hospital Count within a 500 km radius of the Capital City of each Country

Group 1 = Highest Life Expectancy Countries
Group 2 = Lowest Life Expectancy Countries



Conclusion

- Countries in Africa may need more aid from the WHO.
- Overall, countries with a higher urban population generally have a higher life expectancy.
- There is statistically significance to show that countries with higher immunization rates, have a higher life expectancy.
- Generally speaking, countries with higher GDP per capita will anticipate to have a higher life expectancy as well as better medical resources(doctors) distributed.

Questions?

References

https://data.worldbank.org/indicator/SP.DYN.AMRT.FE
https://data.worldbank.org/indicator/SP.DYN.AMRT.MA
https://www.kaggle.com/datasets/paultimothymooney/latitude-and-longitude-for-every-country-and-state
https://data.worldbank.org/indicator/SP.POP.TOTL.FE.ZS
https://www.kaggle.com/datasets/kiranshahi/life-expectancy-dataset?datasetId=1980580&sortBy=dateRun&tab=profile
https://www.kaggle.com/datasets/iamsouravbanerjee/world-population-dataset