

UCSanDiegoX DSE200x

Mini Project

The relationship between health expenditure and child mortality

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Dataset

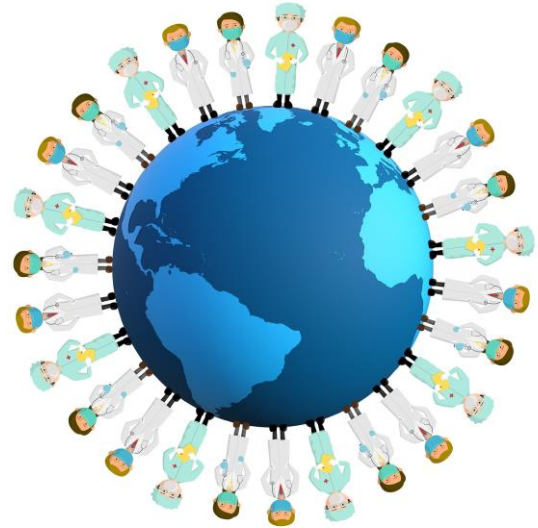
- The [2020 World Development Indicators \(WDI\) Dataset](https://www.kaggle.com/manchunhui/wdi-dataset-preliminary-ed) was used for this analysis
- <https://www.kaggle.com/manchunhui/wdi-dataset-preliminary-ed>
- The dataset compiles global development indicator data sourced by the World Bank
- The WDI indicators of interest for this analysis were the national health expenditure per capita and under-five mortality rate



Motivation

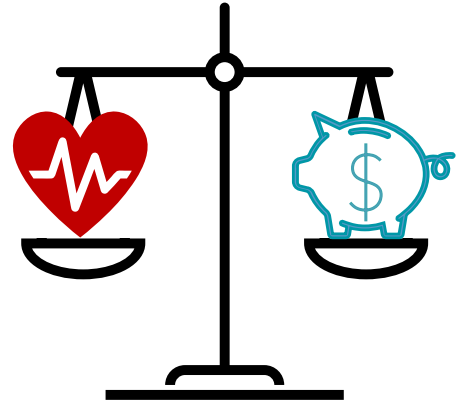
- In 2021, over 5 million children under the age of five died.
- Leading causes of death included infectious diseases and birth complications.
- Many child deaths could be prevented with access to proper preventative measures and healthcare.
- The health expenditure of a country provides a measure of the extent to which healthcare services are provided to a country's citizens.

The aim of this analysis is to explore the relationship between regional health care expenditure and under-five childhood mortality



Research question

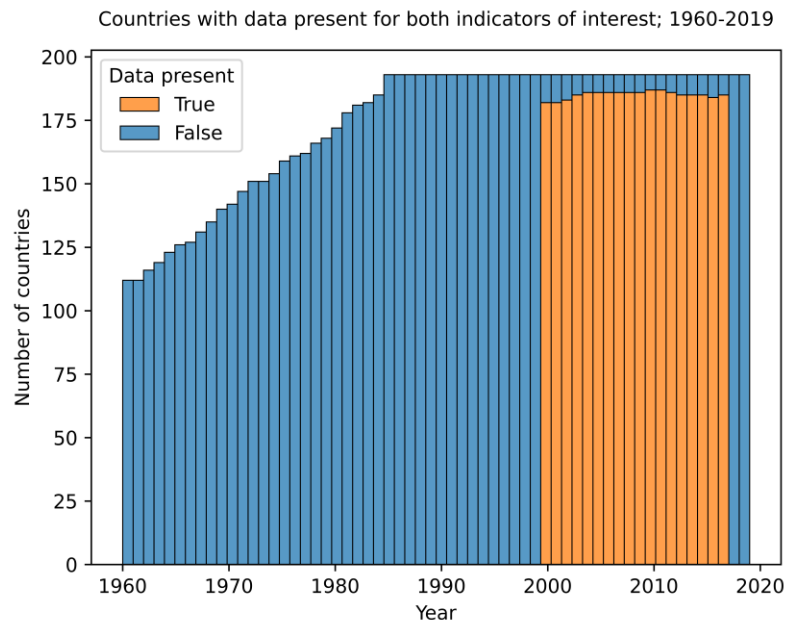
What is the relationship between regional health expenditure and the mortality rate of children below five years of age?



Findings

Regional data was present for both indicators of interest for the 2000-2017 period

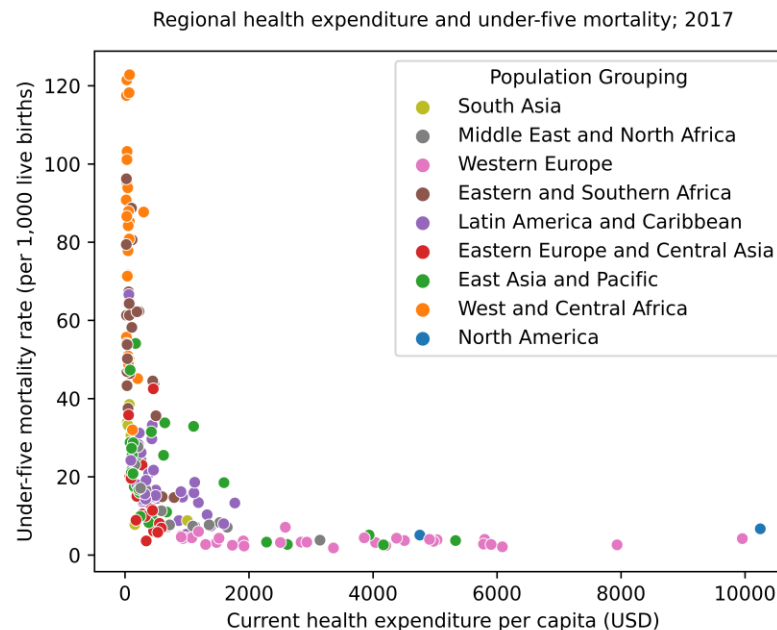
- Indicators of interest: health expenditure per capita and under-five mortality rate
- 2017 was the most recent year with regional data for both indicators
- 185 countries had data present for both indicators in 2017



Findings

Increased health expenditure per capita was moderately associated with decreased under-five mortality in 2017

- Regional health expenditure and under-five mortality had a moderate negative relationship (correlation coefficient = -0.45)
- Countries with the highest health expenditure per capita and the lowest under-five mortality were predominantly within Western Europe and North America



Limitations

- It is important to consider the impact of potential confounding factors, such as environmental conditions, on the mortality rate.
- The correlation analysis was performed for the year 2017. It would be important to perform the analysis over a period of several years, to acquire more accurate results.

Acknowledgements

I wish to acknowledge the lecturers of the UCSanDiego DSE200x Python for Data Science course for their guidance and instruction.

References

- The dataset used for this analysis was obtained at: <https://www.kaggle.com/manchunhui/wdi-dataset-preliminary-eda>
- Under-five child mortality statistics were obtained at: <https://data.unicef.org/topic/child-survival/under-five-mortality/>
- Regional classification data was obtained at: <https://data.unicef.org/regionalclassifications/>