

INFSCI 2415: Analysis of Global Life Expectancy

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Data Set Title

Life Expectancy (World Health Organization)

Brief Description

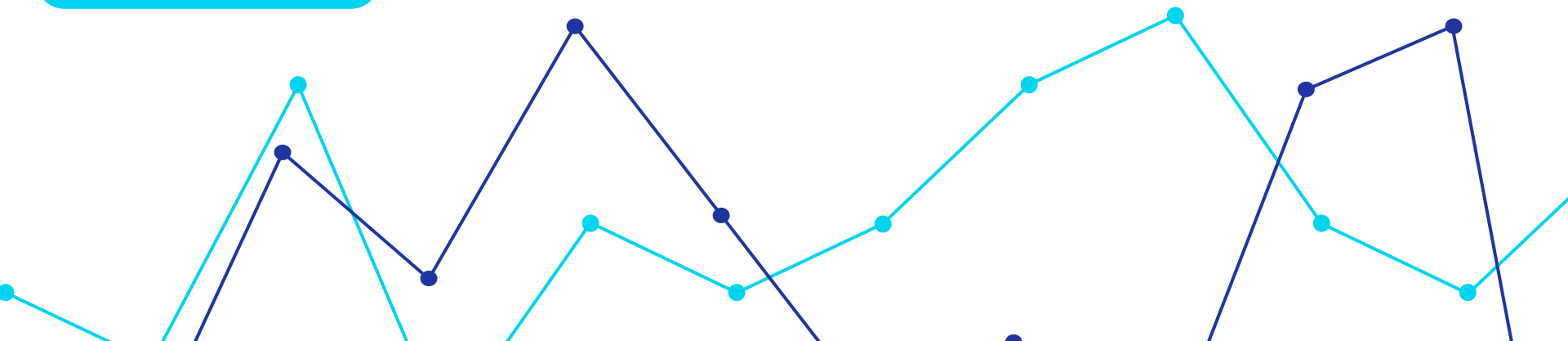
Data from 2000-2015 encompasses 9 regions (179 countries), featuring information on life expectancy, health, immunization, and economic/demographic indicators

Link (Data Set)

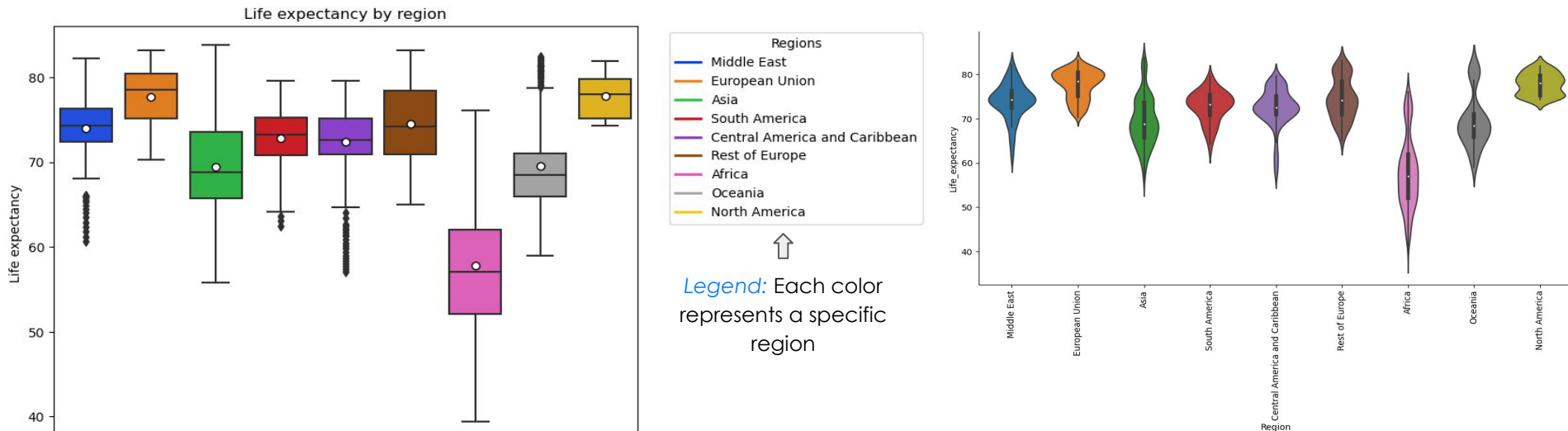
<https://www.kaggle.com/datasets/lashagoch/life-expectancy-who-updated>

Link (GitHub)

<https://github.com/vishruthreddy18/Global-Life-Expectancy-Analysis>



Box Plot & Violin Plot showing the visual summary of Life Expectancy over Various Regions across the Globe

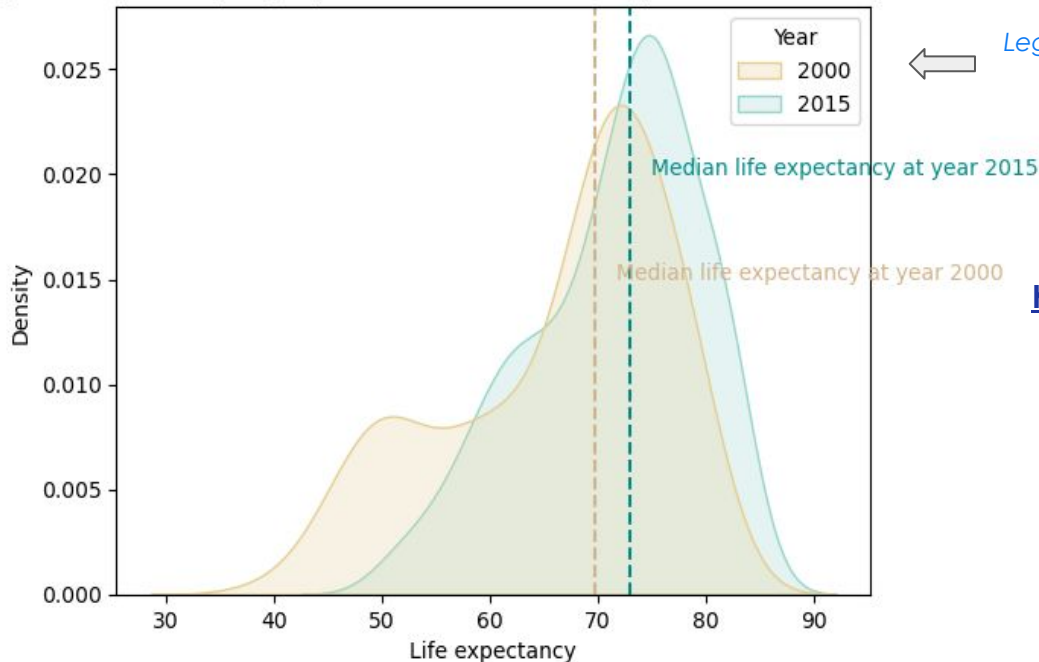


KEY OBSERVATIONS

- **Life Expectancy varies significantly by Region:** lowest in Africa and highest European Union
 - **Possible Explanation:** healthcare, sanitation, education
- **Outliers in all regions:** shows that individuals present in all regions that live significantly shorter or longer than typical
 - **Possible Explanation:** individual factors like genetics or lifestyle choices
- **Asymmetrical and uneven distribution of life expectancy:** Varying box sizes (regions)

KDE Plot showing the Life Expectancy Density of Individuals across the Globe (years 2000 & 2015)

Average life expectancy of people around the world comparison between 2000 and 2015.

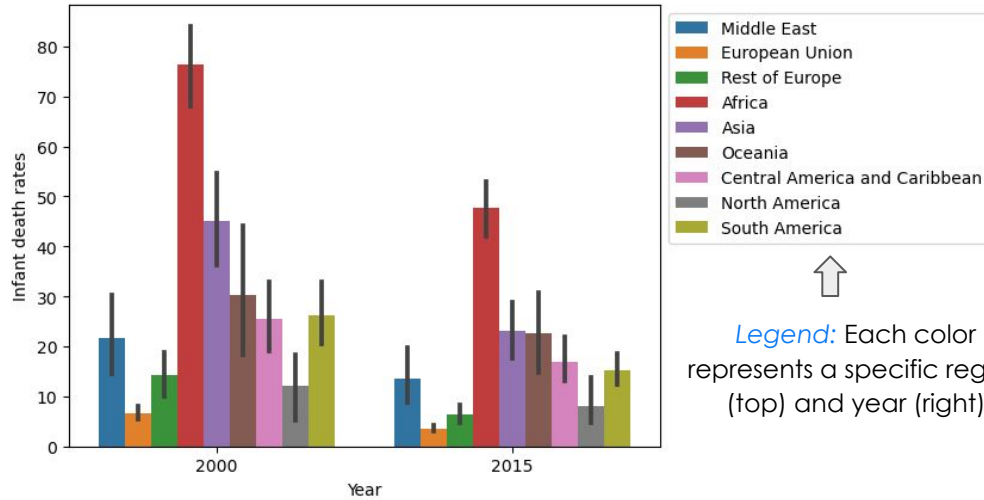


Legend: Each color represents a specific year

KEY OBSERVATIONS

- **Global Life Expectancy Soared:**
observable increases in mean and median life expectancy from 2000 to 2015
 - **Possible Explanation:** healthcare, sanitation etc.
- **Number of individuals with higher life expectancy has increased**
 - Skewness reduced from 2000 to 2015
 - Plot getting narrower in 2015

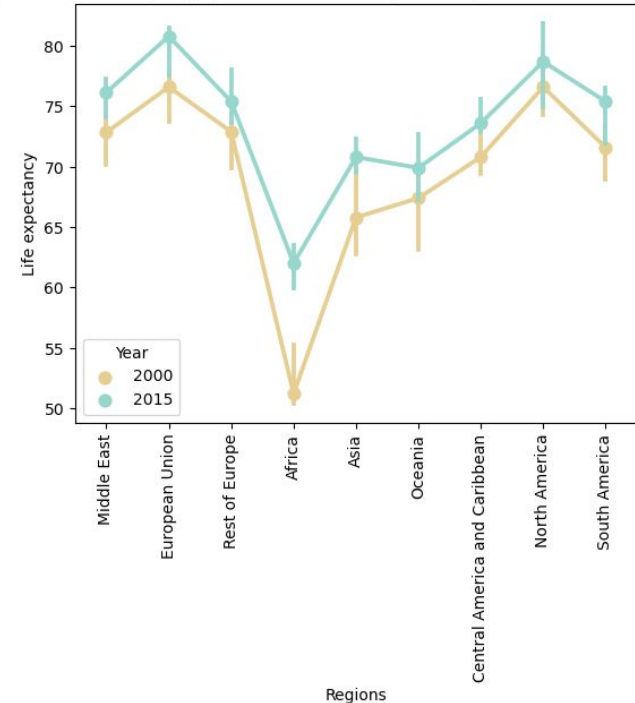
Bar Plot showing Infant Death Rates by Year (per region)



Legend: Each color represents a specific region (top) and year (right)

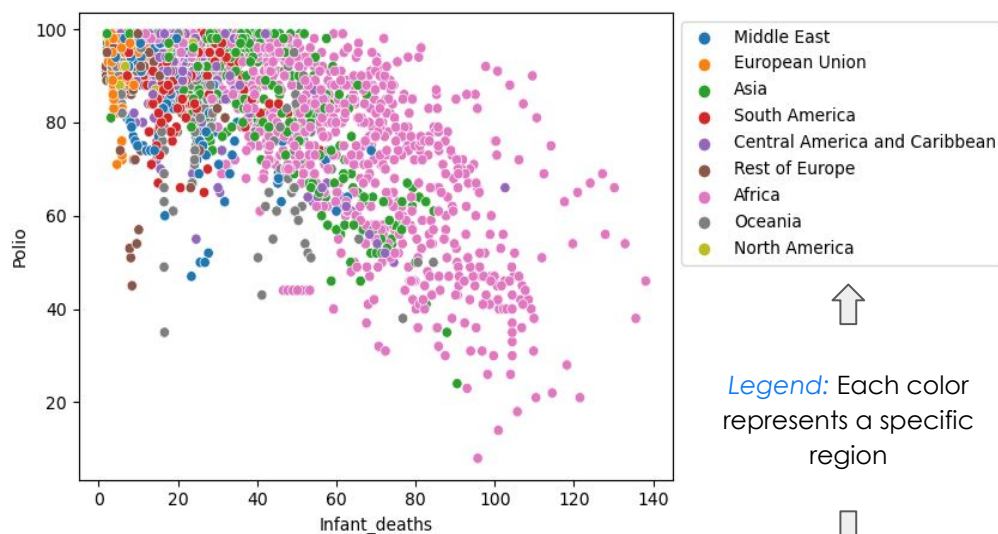
Point Plot showing Life Expectancy by Region (years 2000 & 2015)

Average life expectancy of population in each region comparison between 2000 and 2015

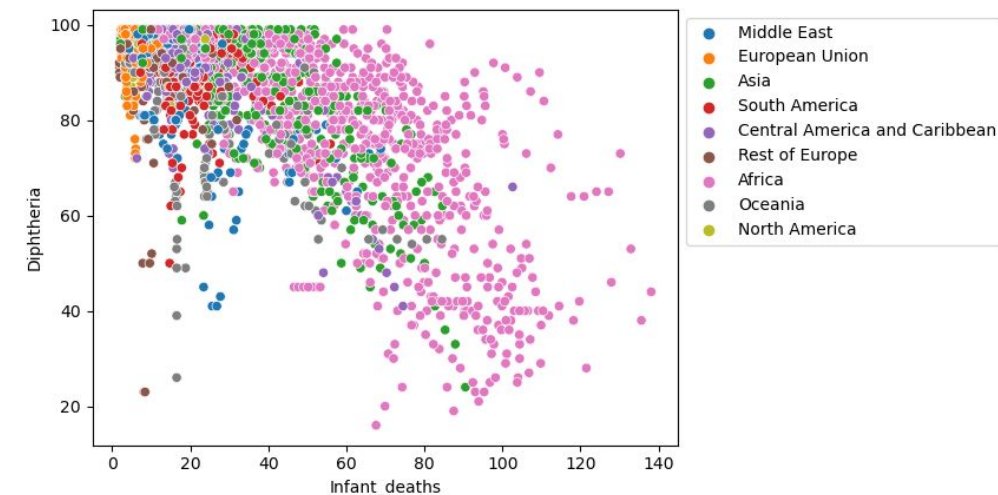


KEY OBSERVATIONS

- Regardless of Region, from years 2000 to 2015:
 - Infant death rate have decreased
 - Life Expectancy has increased
- Life Expectancy and Infant Death Rate are inversely proportional
 - E.g., Africa has highest infant death rates but lowest life expectancy)



Legend: Each color represents a specific region



Scatter Plot showing distribution of % population vaccinated (Polio or DTP) vs Infant Death Rate (by Region)

KEY OBSERVATIONS

- Disparities in the distribution of healthcare observed across different regions
 - E.g., Vaccine coverage lower in Africa and Asia compared to EU and North America
- Infant Death Rates are inversely proportional to vaccination coverage in the population
 - Regions with lower vaccination coverage have a higher infant death rate (e.g., Africa and Asia)
 - Regions with higher vaccination coverage have a lower infant death rate (e.g., EU and North America)

THANK YOU!