**Introduction**

This data analysis project explores life expectancy trends across various countries using data sourced from the World Health Organization (WHO). This report summarizes key findings derived from the analysis. By utilizing tools like Power BI and Power Query, I examined global life expectancy trends and the key factors influencing these figures.

**Data Sources**

**Life Expectancy Data:** The primary dataset for this analysis is the “Life Expectancy data.csv” file, which contains detailed information about various causes of mortality across countries from 2000 to 2015.

**Tools Used**

* **Power BI:** A powerful analytics tool that facilitated the creation of interactive visualizations and dashboards for a comprehensive understanding of the data.
* **Power Query:** Used for data transformation, enabling efficient cleaning, formatting, and analysis of the dataset.

**Procedure**

1. **Data Loading:** The dataset was imported and opened in Power Query Editor for transformation.
2. **Adding Tables:** A table was created from the life expectancy data, including Country ID, Region, and Continent information.
3. **Handling Null Values:** All null values were replaced with 0.
4. **Data Cleaning:** The cleaned and formatted data was then loaded into Power BI.
5. **Exploratory Data Analysis:** Conducted exploratory analysis and created visualizations using an interactive dashboard.

**Problems Analysed**

The analyses aimed to answer the following questions:

* What is the average life expectancy worldwide?
* Which region and country boast the highest life expectancy?
* How has life expectancy changed over the years?
* Which country has the highest infant mortality rate?

**Findings**

The analysis yielded the following insights:

* **Average Life Expectancy:** The average life expectancy across various countries is **69 years**.
* **Highest Life Expectancy:** Japan, in the East Asia region, holds the highest life expectancy at around **84 years**. This is largely attributed to its advanced healthcare system, healthy diet, and active lifestyle. Other countries with high life expectancies include Sweden, Switzerland, and Iceland, averaging between **82 and 83 years**.
* **Lowest Life Expectancy:** Sub-Saharan African countries such as Sierra Leone, Chad, and Nigeria report the lowest life expectancies, averaging around **54 to 57 years**. Contributing factors include limited healthcare access, high infant mortality rates, and the prevalence of infectious diseases.
* **Trend Analysis:** Overall life expectancy has generally risen from **2000 to 2015**, despite a notable decline in **2013**, likely due to health crises and regional conflicts. While regions like Sub-Saharan Africa are showing gradual improvements, significant challenges remain.
* **Mortality Rate:** Countries with higher life expectancies tend to have lower infant mortality rates. For example, Japan’s infant mortality rate is significantly lower than India’s, which has the highest at **24.56%**. In contrast, Sub-Saharan Africa experiences high adult mortality, averaging **218,000 deaths** across the region. Reducing infant mortality is critical for enhancing overall life expectancy.

**Conclusion**

This analysis sheds light on global health trends and highlights areas requiring targeted health interventions. It emphasizes the importance of improving healthcare access, disease prevention, and addressing socio-economic factors to enhance life expectancy globally. Countries with higher life expectancies serve as models for effective health interventions, and ongoing efforts are essential to reduce disparities between nations.

**Recommendations**

* **Strengthen Healthcare Systems:** Invest in healthcare infrastructure, especially in low-income countries, to ensure equitable access to medical services.
* **Promote Preventative Care:** Implement vaccination programs and health education initiatives to reduce disease prevalence and improve overall health outcomes.
* **Address Socio-Economic Disparities:** Tackle underlying socio-economic issues contributing to health disparities, including poverty, education, and nutrition.