Overview of Child Mortality and Life Expectancy at birth

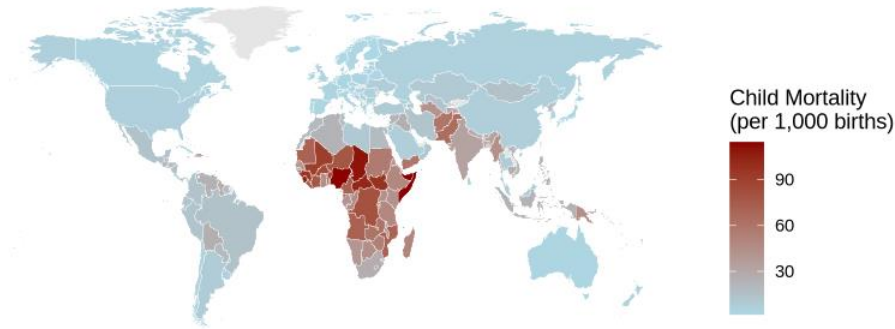**By: Nadir Sahak**

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Both datasets contain information for 194 countries spanning from 1800 to 2100. I successfully extracted the 2020 data for both indicators.

World Maps for 2020

Child Mortality Map:

This map shows child mortality rates (deaths per 1,000 live births) across countries in 2020. Darker red indicates higher child mortality, with Sub-Saharan Africa showing the highest rates.

Life Expectancy Map:
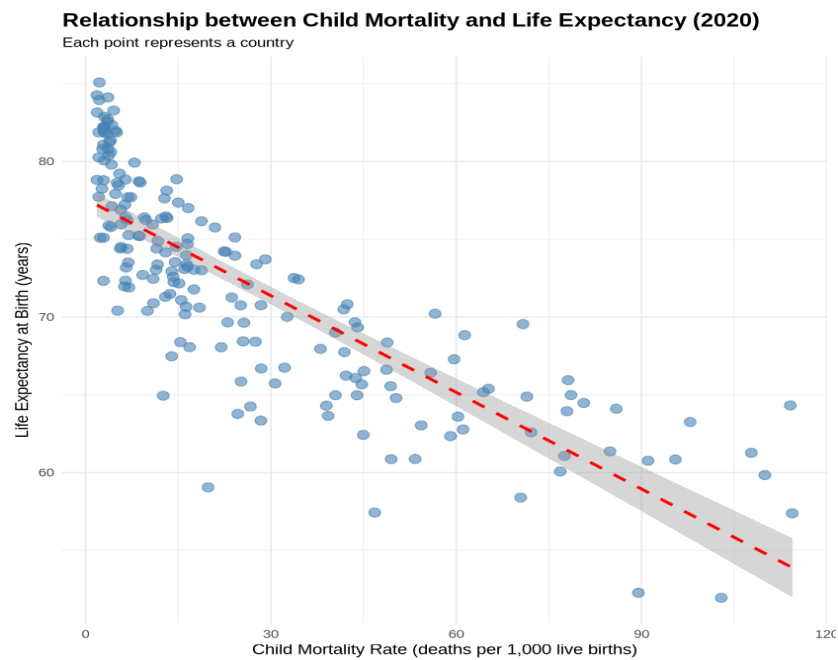
Life Expectancy at Birth by Country (2020)

Years

This map displays life expectancy at birth in years for 2020. Darker green indicates higher life expectancy, with developed nations in Europe, North America, and parts of Asia showing the highest values.

Relationship Between the Two Indicators

Scatterplot:

Interpretation

The analysis reveals a **strong negative relationship** between child mortality and life expectancy in 2020:

- **Correlation coefficient: -0.82** - This indicates a strong inverse relationship

- **R-squared: 0.67** - Child mortality explains about 67% of the variation in life expectancy

- **P-value: 5.6×10^{-48}** - This relationship is highly statistically significant

Key findings:

- Countries with higher child mortality rates tend to have significantly lower life expectancy

- The relationship is nearly linear, as shown by the red trend line

- This makes intuitive sense: child mortality is both a component of overall life expectancy calculations and an indicator of broader healthcare system quality, disease burden, and socioeconomic conditions

- Countries with child mortality rates below 10 per 1,000 births generally have life expectancies above 75 years

- Countries with child mortality rates above 50 per 1,000 births typically have life expectancies below 70 years

This strong relationship underscores how child survival is a critical indicator of overall population health and development.

My reflections:

Writing the prompt felt easy at first, but I quickly realized that getting a strong result required much more context and specific details. The quality of the output really depended on how clearly I described what I wanted. I was especially surprised by how good the maps and scatterplots turned out. They were clear, well structured, and immediately useful for interpreting patterns and communicating the finding