Preliminary Report: A Study on Child Mortality Rates

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Introduction:

According to UNICEF, "An estimated 5.3 million children under age five died in 2018–roughly half of those deaths occurred in sub-Saharan Africa". Even though there has been a remarkable progress in reducing the mortality rates globally, the major causes of death vary widely across countries. Despite the challenges in understanding and addressing infant mortality, it is crucial to study this to improve the collective health of a nation.

Thus, the objective of the project is to analyze the factors affecting child mortality rate across the world by analyzing the data from all the countries under UNICEF surveillance. The following report is a brief overview of the proposed analysis and milestones for the project.

Data Description and Proposed Analysis:

The aggregated data warehouse on child mortalities provided by UNICEF is chosen for the analysis. It provides data from 202 countries and areas monitored by UNICEF organization. Statistics on child survival, development and protection for the world's countries, areas and regions collected since 1950s have been provided by UNICEF and can be used to study the trends across nations.

Multiple datasets have been chosen to collectively identify and analyze the different causal factors across various geographical locations in the world.

The trends in child mortality over past decades is chosen as a secondary objective. An extension of this project is to identify and propose possible areas of improvement to reduce mortality rates. Finally, a comparative analysis across various nations to see possible differences in controlling mortality rates is proposed as a tertiary analysis.

Milestones:

- Pre-processing and merging datasets using SQL, *pandas, numpy*
- Visualizations on normalized data using *matplotlib, seaborn, plotly*
- Identifying key factors effecting child mortality using regression-based models using *scipy* and *scikit learn*
- Identifying trends in nations of interest using basic time series plots using *scipy* and *scikit learn*

Data Source:

"Child Mortality Data." *UNICEF*, Retrieved from https://data.unicef.org/resources/dataset/child-mortality/