UNSW DATA5002 – Assignment 2: Project Report

Maternal health care statistics serve as a crucial metric for assessing global health equity, gender equality, healthcare accessibility, and social well being of a country. In this project we developed an interactive dashboard that explores global patterns in maternal mortality, life expectancy, fertility, population growth, and under five mortality using United Nations public health dataset spanning over 2010-2024. The purpose of the dashboard is more than just to present raw statistics,to allow users to explore relationships, identify disparities, and extract insights from global health indicators.

The dashboard is structured into four interactive views: Maternal Mortality vs Life Expectancy, Time Series Analysis, Regional Comparison, and a Choropleth Map. Each view allows customisable user driven exploration using filters such as region, year, and indicator selection.

The Overview page introduces key health indicators and KPIs: global average maternal mortality(2020), change in maternal mortality since 2010, median life expectancy, and correlation between maternal mortality and life expectancy. These indicators help picture the global progress and remaining challenges at first glance. For example, the negative correlation suggests that improved life expectancy is strongly associated with reduced maternal mortality, an obvious but meaningful confirmation of broader health trends.

The scatterplot view further explores this relationship, reinforcing the inverse trend between maternal mortality and life expectancy. Also allowing comparisons across selected countries or regions. Here,outliers suggest areas where improvements in healthcare quality or accessibility may lag global averages and need improvement.

The time series analysis helps in exploring maternal mortality, under-five mortality, and female life expectancy through the years. Users can observe regions which are improving, stagnating, or declining. This feature is particularly useful for policy assessment and understanding demographics shifts in health care .

The regional comparison chart depicts variations in life expectancy across countries in a year and shows a clear picture of consistent inequality. This chart provides a tool to compare and identify the highest and lowest performing regions.

The interactive choropleth map provides a geographic global view. Users can hover over countries to observe exact values, allowing both macro level and country specific interpretation. This helps in identifying regions where similar health challenges remain concentrated.

The final dashboard is similar to the original proposal, few challenges led to minor deviations during implementation. One key challenge was data quality and missing values, which required additional cleaning and restructuring. Given more time and resources, improvements could include expanding the dataset across additional years and using additional indicators, incorporating forecasting features, and enhancing interface design to improve user experience.

Overall, the dashboard provides a simple interface for understanding global healthcare . It transforms complex datasets into simple visuals that support exploration and analysis. By enabling interactive filtering the dashboard supports user-based customization aiding in better understanding of health trends worldwide according to their requirements. This tool can be used by policymakers, researchers, and educators to evaluate progress, highlight disparities, and implement policies to improve healthcare outcomes globally.