**Aditi Singh (202318005)**
**Kruti Patel (202318032)**
**Hani Soni (202318044)**
**Garvika Singh Rajawat (202318061)**

# Global Child Mortality

### An Analytical Approach Using UNICEF's Multidimensional Dataset

## Dataset

Institute of Health Metrics and Evaluation - https://vizhub.healthdata.org/gbd-results/
UNICEF Data - unicef_data

## Hypothesis

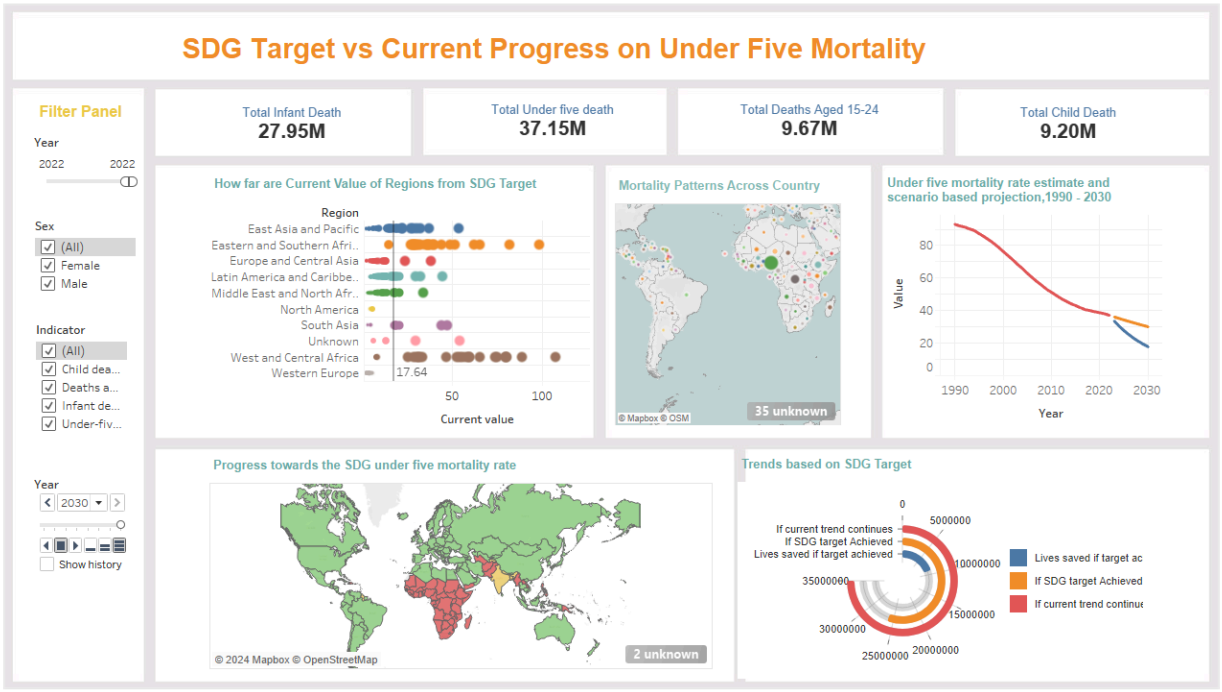
- Conflict-affected regions experience higher child mortality rates.
- Increased government spending on healthcare, education, and social protection can lower mortality rates.
- A mother's socioeconomic status significantly impacts child survival.
- Prioritizing immunization for young children and enhancing mental health, education, and economic support for teens can further reduce under-five mortality and teen mortality..

## Problem Statement

Analyze global child mortality trends, highlighting disparities across income levels, regions, and socio-economic factors to evaluate progress toward SDG targets and identify key drivers of mortality reduction.

# Dashboards

## SDG Target vs Current Progress on Under Five Mortality




From the graph Mortality Pattern Across Countries we can infer country wise Under Five Deaths. Countries like India, Nigeria, Pakistan have a considerably high number of deaths as compared to the rest of the world.

Sustainable development goals have been formed for the world to achieve targets on various levels, such targets have been formed for under five mortality,child mortality as well.

From the graph Scenario Based Projections we can answer the question: Will the world meet SDG targets if they continue with the current Trends? The answer is No! The blue lines indicate the under five mortality rate target to be achieved. Whereas the current trend is indicated in yellow and projected trend 2022-2030 which does not overlap with SDG Target.

From the graphs How far are regions from achieving SDG target we can infer a year wise analysis of How different regions progressed over time to achieve the SDG target avg of 17.64?
Countries like India, Pakistan have comparatively moved at a faster pace as compared to others.

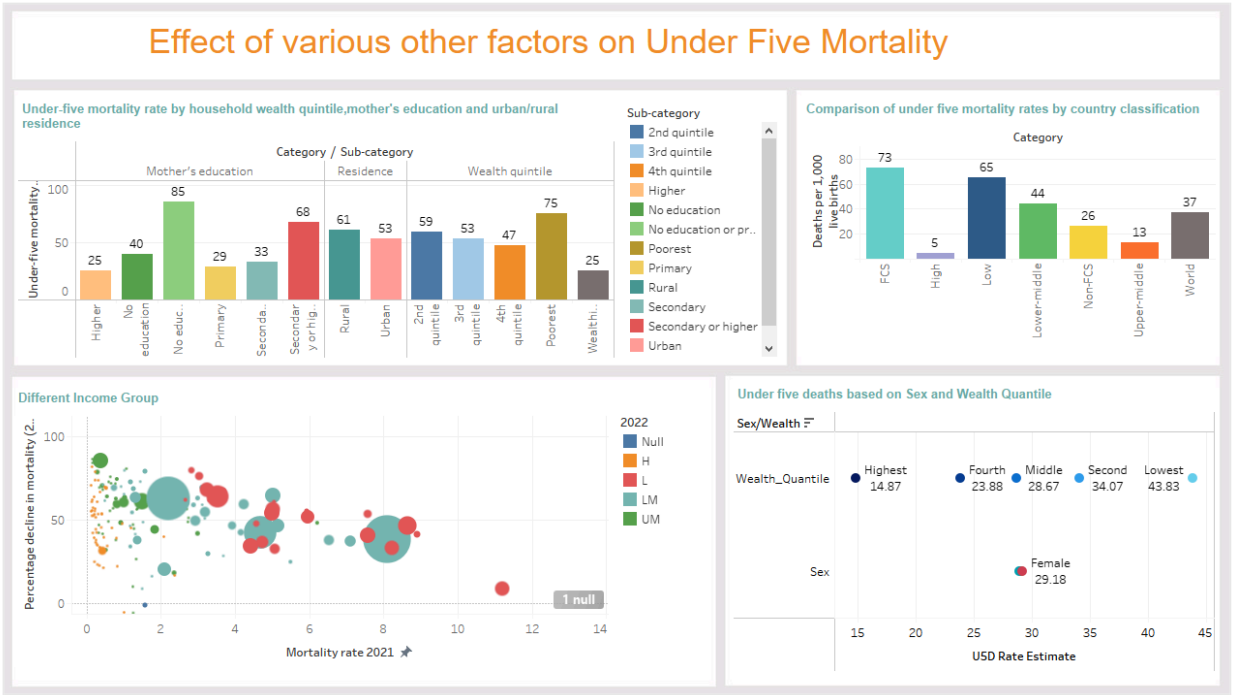
So What Countries have or have not achieved the SDG Target?
Now the countries on the right side of the average line are the ones in green on the map below it, the countries close to the avg are the ones in yellow, and countries far behind the map are the ones in red.

From the graph Progress towards SDG goals we can notice the countries that have already achieved the SDG target for under five mortality rate , on track to achieve and need acceleration. India is right on track on achieving it, while countries like Nigeria require acceleration.

Trends Based on SDG Target show that if the countries succeed to stay on track set by SDG, 9 million lives can be saved.

Now Questions we can ask from the dashboard- How can countries speed up the acceleration process to achieve SDG Targets?

# Effect of various other factors on Under Five Mortality

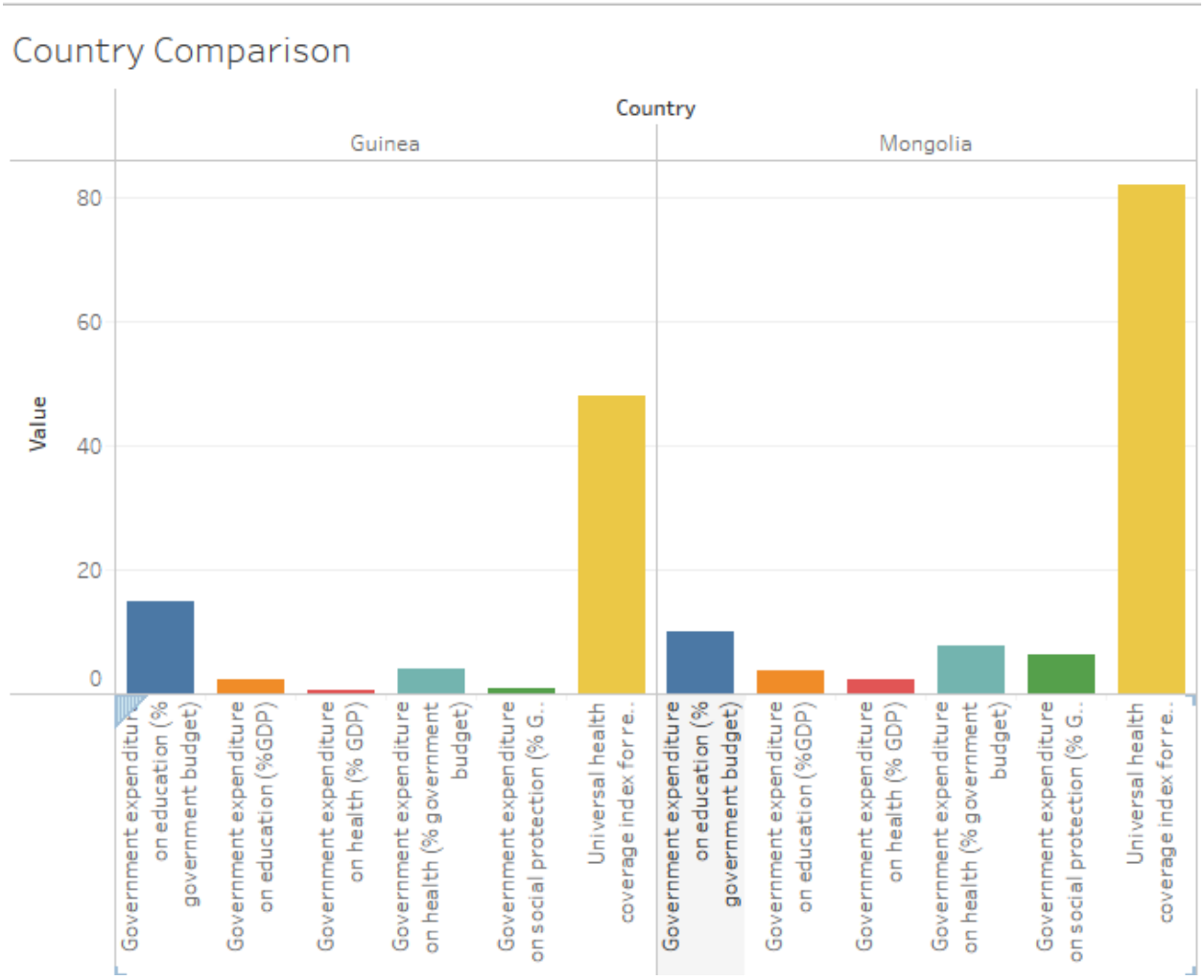



The graph Under-five mortality rate by household wealth quintile,mother's education and urban/rural residence shows that mothers with a higher education are almost 1/4th times less likely to lose their children as compared to mothers with No education. More children are likely to die in a rural setting, More children are likely to die in poor income countries.

The graph Comparison of under five mortality rates by country classification shows that children born in countries that are classified as Fragile and conflict-affected situations (FCS) and Low income groups are more likely to die as compared to other classified regions.

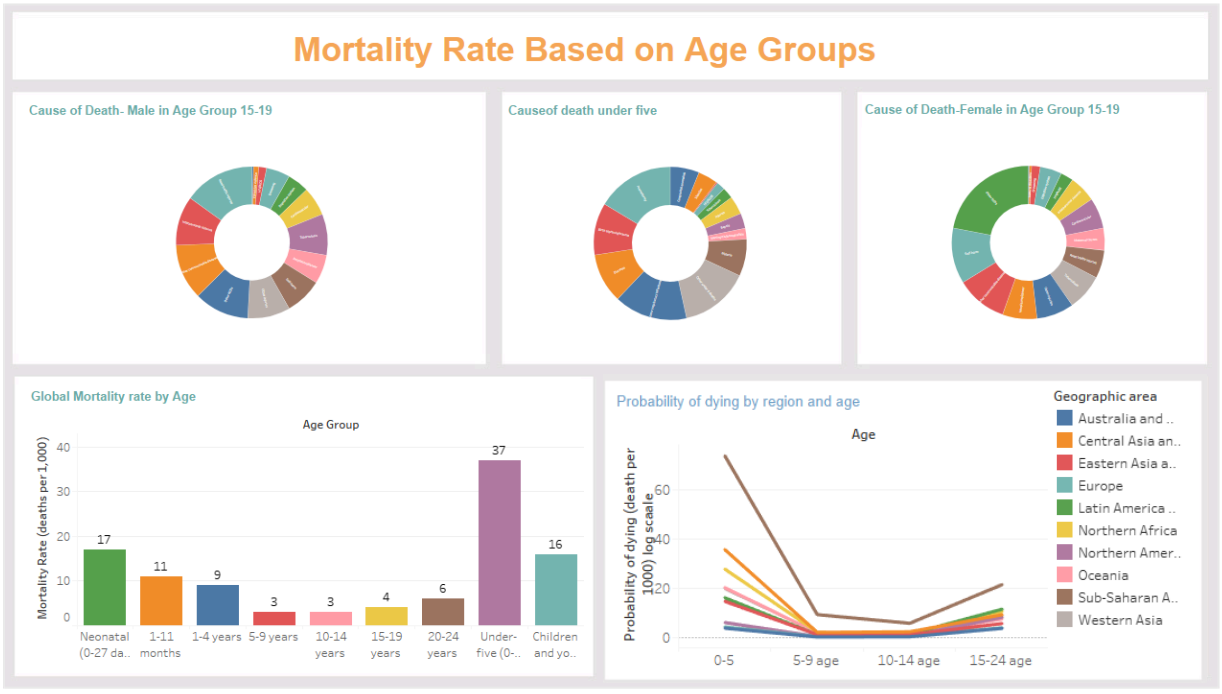
Similarly in the Different income groups graph , the circle size represents the total number of deaths in the country, color represents the income group, the graph represents how different income group countries perform in terms of decreasing their mortality rate over the years. We can notice some lower and lower middle income countries perform better than counterparts at lower middle and upper middle income groups. This shows that even the countries with lower income can perform better than their counterparts, the Question arises: How do the countries with lower income perform better than their counterparts?

We have done comparisons between two such countries Mongolia ( Lower Middle ) and Indonesia ( Upper Middle ) in terms of their expenditure on healthcare, education, social protection, maternity services.



Mongolia, even though a lower middle income country, has a better share of expenditure in health, education and social protection than indonesia. Therefore countries at various income spectrum can still perform better with a better government spending despite their income group.

## Mortality Rate Based on Age Groups

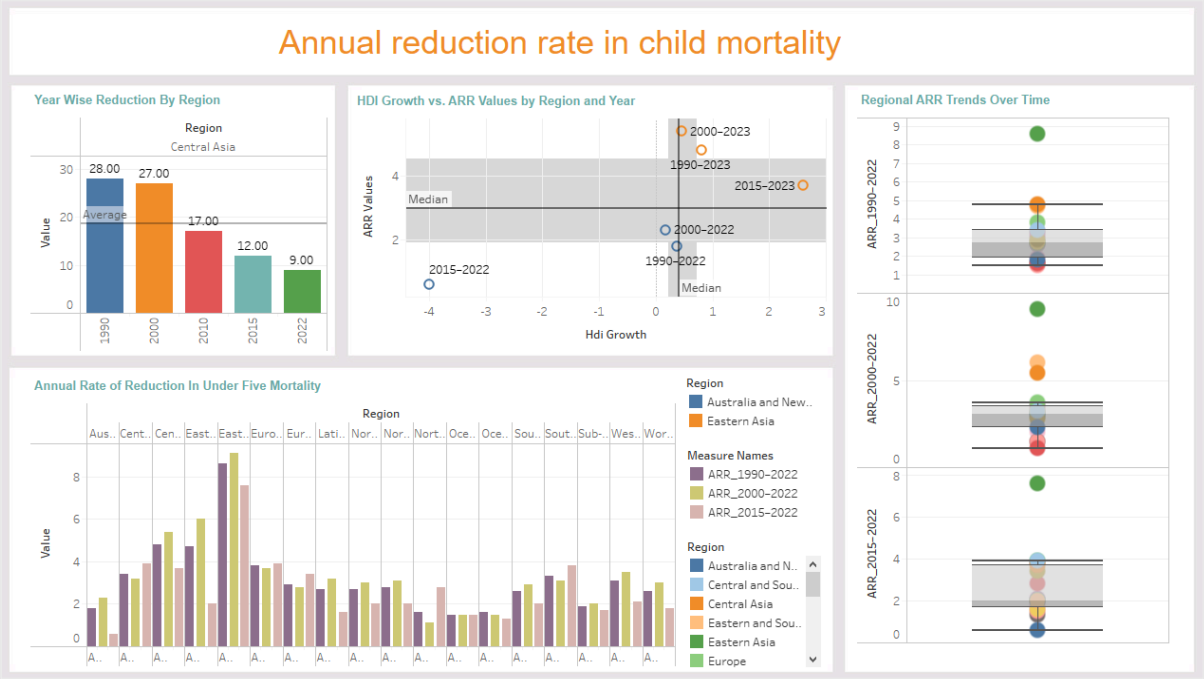



Questions:
Which Age Group is at high risk
What are the major reasons for deaths in each age group?

In the graph Global Mortality rate by Age we can see that most deaths are under the 5 age group.
In the graph Probability of dying by region we can see that the worst performing region has been the Sub-Saharan African region.

Now in the graph that shows Cause of Death Under Five most of the deaths have been through diseases, but in graph Cause of Death in Age Group 15-29 are mostly due to the reasons not associated with diseases.

# Annual reduction rate in child mortality




Questions:

How has the annual rate of reduction in under-five mortality changed over time across regions?

How does the Human Development Index affect Annual rate of reduction in mortality rate?

From the graph Annual rate of reduction under five mortality we notice , amongst all the timelines , the best performing region has been East Asia. Most of the regions have performed better in 1990-2000,2000-2015 and significantly dropped ARR in 2015-2022.