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Climate change and perinatal health: using the data for better health of mothers and newborns



Background



The Intergovernmental Panel on Climate Change report on climate change consequences for the globe shows, the impact of a rapidly warming earth and the devastation it brings to human health

- rising sea levels to more extreme weather hazards, the planet is changing faster than humans can adapt to the change
- Certain populations, such as the elderly, children and those with existing health conditions, are particularly vulnerable to these impacts



We need substantial planning and better understanding of causal pathways that trigger specific health ailments



Substantial improvement has been achieved in Maternal and Neonatal health, it is important that we are able to protect these gains from the climatic factors of the future.

Objective: Improved understanding of impact of climate change on perinatal health in LMICs through use of data science and predictive analytics



Vector spread

Emerging/changing spread of vector borne diseases among pregnant women and children under 5 years age with increasing temperature in LMICs



Nutrition

Impact of climate change factors on reducing dietary diversity and increasing malnutrition among under 5 children



Air quality

Increasing poor air quality and its impact on hypertension among pregnant women, pre-term delivery and prevalence of low birthweight babies in urban and semi-urban slums

Success measure

Success matrix is founded upon a comprehensive approach which will enable us to:

Better understand the complex relationship between climate change and perinatal health indicators (such as pre-term labor, pre-eclampsia, low birth weights, etc.) in LMICs.

Inform decision making through evidence-based visualizations, predictive analysis, and strategic recommendations to contribute to the development of effective strategies to mitigate the adverse effects of climate change on perinatal health.

Project roadmap

First step



Fetch the data from different sources



Ingest the Data



Find correlations between different variables

Second step



Try different ML models



Select the most effective models



Generate Forecasts



Visualizations for decision making

The goal is to ingest the data and find the most relevant variables during **Data Exploration phase**.

Once there is a deep understanding of the model it would be good to test different ML algorithms. The challenge **will need support to identify ML methods** that work well with climatic data and public health specific features.



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Thanks

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