



FINAL DISSERTATION PRESENTATION

MBA-HOSPITAL AND HEALTH
MANAGEMENT

STUDENT DETAILS

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PROJECT DETAILS

Title of the Dissertation:

Bridging the Gap: Addressing Child Mortality in
Rural India

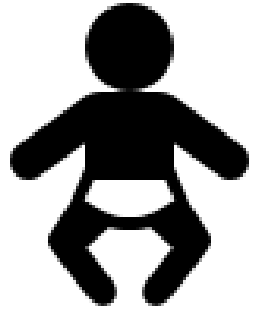
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Bridging the Gap: Addressing Child Mortality in Rural India

India has made remarkable progress in reducing child mortality rates in recent years, with the under-five mortality rate (U5MR) decreasing from 45 per 1,000 live births in 2015 to 29.1 in 2022, and the infant mortality rate (IMR) dropping from 36.2 in 2015 to 25.7 in 2024. However, substantial disparities persist, particularly between rural and urban areas. This dissertation explores the persistent child mortality gaps in India and evaluates the impact of social determinants, healthcare accessibility, and nutrition on these outcomes.





Infant Mortality Rate (IMR): Infant deaths (<1 year) per 1,000 live births.

Indicates- health care, nutrition, and sanitation quality.



Under-5 Mortality Rate(U5MR): Child deaths (<5 years) per 1,000 live births.

Indicates- survival rates and living conditions.



Neonatal Mortality Rate(NMR): Deaths within the first 28 days per 1,000 live births.

Indicates- newborn care quality.

Assessing the Rural-Urban Divide

Rural India

Child mortality rates remain significantly higher in rural areas, with the under-five mortality rate nearly double that of urban areas. Factors such as limited access to quality healthcare services, poor sanitation, and low levels of maternal education contribute to this disparity.

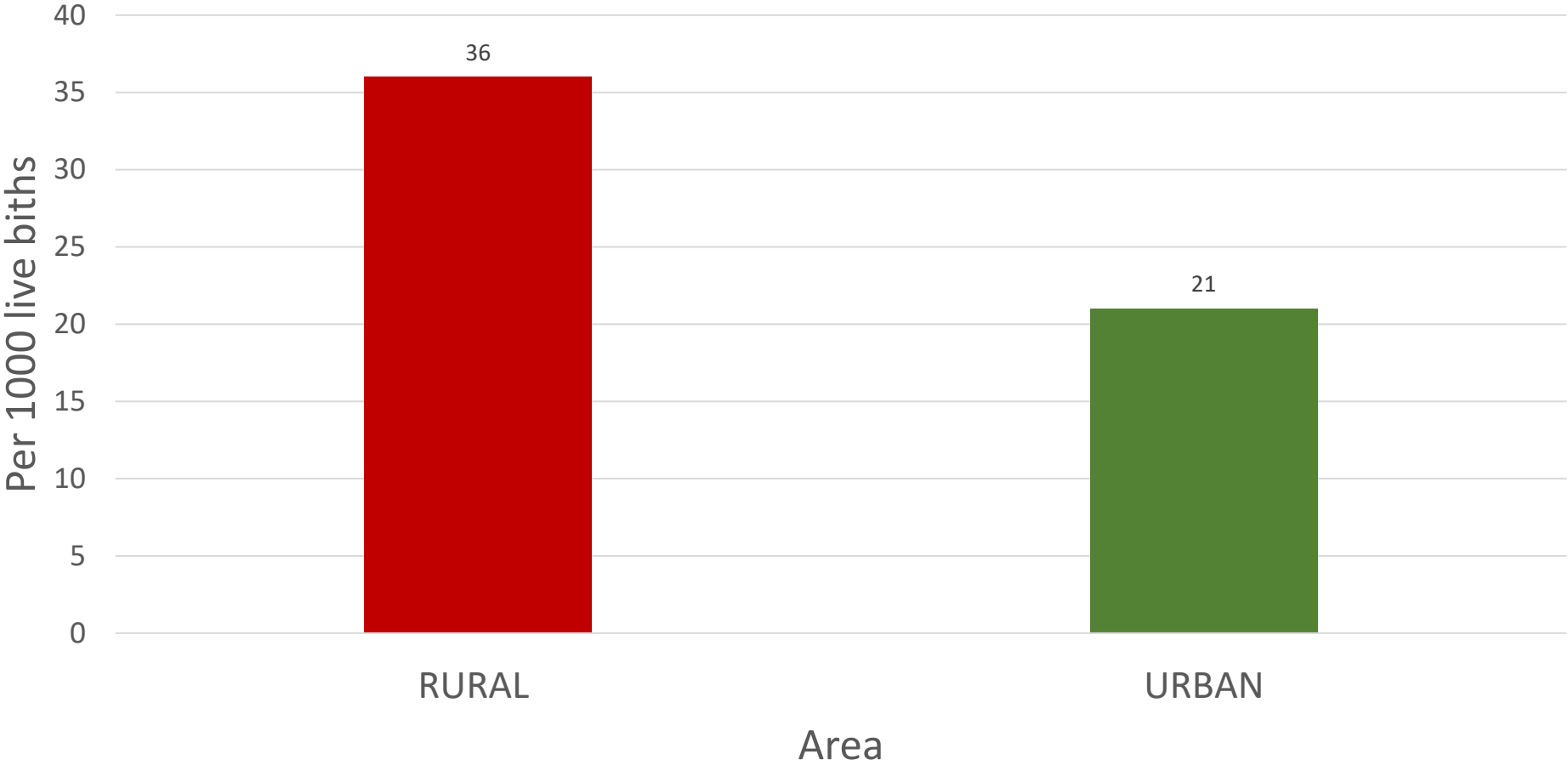
Urban India

In contrast, urban areas have seen more progress in reducing child mortality rates, with better healthcare infrastructure, higher levels of education, and improved living conditions. However, pockets of poverty and inequality within cities continue to impact child health outcomes.

Bridging the Gap

Addressing the rural-urban divide in child mortality is crucial for achieving equitable health outcomes across India. Targeted interventions and policies are needed to improve access to quality healthcare, address social determinants, and support the nutritional needs of children in rural communities.

India Under 5 Mortality Rate in Urban vs Rural areas(2020)



Graph Data-Ministry of Health and Family Welfare SRS 2020

From 1992-93 to 2019-21, under-five mortality declined annually by 1.6% in rural areas and 2.7% in urban areas, with the national U5MR dropping by 3 points (8.6% annual decrease) from 35 per 1000 live births in 2019 to 32 per 1000 live births in 2020, though rural areas still report higher rates (36) compared to urban areas (21).

Research Question

What is the impact of the accessibility of healthcare services and nutrition on child mortality indicators, particularly the infant mortality rate, in rural India?



Research Objectives



1 To Assess current status of IMR and U5MR in rural India

Evaluate the current state of infant mortality rate and under-five mortality rate in rural India to identify areas of concern and prioritize interventions.

2 To Evaluate impact of nutritional status on child mortality rates

Determine the relationship between the nutritional status of children and child mortality rates to understand the role of malnutrition in driving these outcomes.

3 To Determine correlation between rural healthcare infrastructure and child mortality rates

Assess the extent to which the availability and quality of healthcare services in rural areas influence child mortality indicators, including the infant mortality rate.



Methodology

1

Data Sources

The study utilizes data from the Sample Registration System (SRS) 2020, the National Family Health Survey (NFHS-5) 2019–2021, and the Rural Health Statistics 2022 to analyze the impact of healthcare infrastructure and nutrition on child mortality.

2

Quantitative Analysis

The research employs regression analysis to examine the relationship between healthcare infrastructure, such as the availability of healthcare workers and facilities, and child mortality indicators, including the infant mortality rate and under-five mortality rate.

3

Literature Review

The study also includes a comprehensive literature review to assess the current understanding of the impact of nutrition and healthcare accessibility on mitigating child mortality in rural India.

Key Parameters Analyzed

1

Auxiliary Nurse Midwives

The availability of Auxiliary Nurse Midwives (ANMs) at sub-centers will be a key parameter, as these healthcare workers play a crucial role in providing maternal and child and child healthcare services in rural areas.

2

Medical Specialists

The study will also examine the number of obstetricians, gynecologists, and pediatricians available at Community Health Centers (CHCs), as the presence of specialized medical professionals can significantly impact child mortality outcomes.

3

Primary Health Centers

The analysis will focus on the number of Primary Health Centers (PHCs) with labor rooms, functioning 24x7, and equipped with newborn stabilization units, as these facilities are vital for providing essential maternal and child healthcare services in rural communities.



Assessing the Rural Landscape

1

Current Status

The research aims to assess the current status of IMR and U5MR in rural India, identifying the states with the highest rates, such as Madhya Pradesh, Chhattisgarh, Bihar, Uttar Pradesh, Assam, Uttarakhand, Jharkhand, and Odisha.

2

Nutrition Challenges

The study also evaluates the impact of nutritional status on child mortality rates, finding a finding a high prevalence of stunting and wasting in the high-burden states.

3

Healthcare Infrastructure

The research determines the correlation between rural healthcare infrastructure and child and child mortality rates, focusing on factors such as the availability of Auxiliary Nurse Nurse Midwives (ANMs), obstetricians/gynecologists, labor rooms, pediatricians, and and newborn stabilization units.



Literature Review

Sl. No	Study Name	Year	Author	Location	Methodology	Salient Features
1.	India achieves significant landmarks in reduction of child mortality	2023 Mar 23		Press Information Bureau		Highlights achievements in reducing child mortality rates in India.
2.	Rural Health Statics Report	2022-23	Govt. of India	All States of India		Provides comprehensive health data from rural areas across India
3.	An update on explaining the rural-urban gap in under-five mortality in India.	2022 Nov 16	Kumar C. India Piyasa, Saikia N	India	Binary logistic Regression analysis	The existing rural-urban gap in under-regression five mortality suggests that the social and health policies need to be needed to reach rural children from poor families and uneducated mothers.
4.	A study to assess undernutrition and its sociodemographic correlates in under-five children in urban and rural area of Rishikesh, Uttarakhand	2020	Singh M, Rehan A, Kishore S, Jain B, Reddy NK, Kumar D, et al.	Rishikesh, Uttarakhand	T test, Chi Square test	Sociodemographic factors such as religion, caste, parental education, father's occupation, and family size emerged as Significant predictors of under nutrition.
5.	Factors Affecting Infant Mortality Rate in India: An Analysis of Indian States. Advances in Intelligent Systems and Computing	2016; 707 -19	Suriyakala V, Deepika MG, Amalendu J, Deepa G.	All India	Regression analysis	This study Uses data from the year 2001 to 2011 from all states and UTs and then compared the performance and growth rate of IMR to classify the states as good performers and laggards

Addressing Disparities

1

Identify High-Burden States

The research has identified the states with the highest IMR and U5MR, including including Madhya Pradesh, Chhattisgarh, Bihar, Uttar Pradesh, Assam, Uttarakhand, Uttarakhand, Jharkhand, and Odisha.

2

Prioritize Resource Allocation

By prioritizing resource allocation and targeted interventions in these high-burden burden states, policymakers can address the disparities in healthcare access and and nutrition, ultimately reducing child mortality rates.

3

Achieve Equitable Progress

Through this comprehensive approach, India can work towards achieving more equitable progress in child health and well-being across all regions, ensuring that no child is left behind.

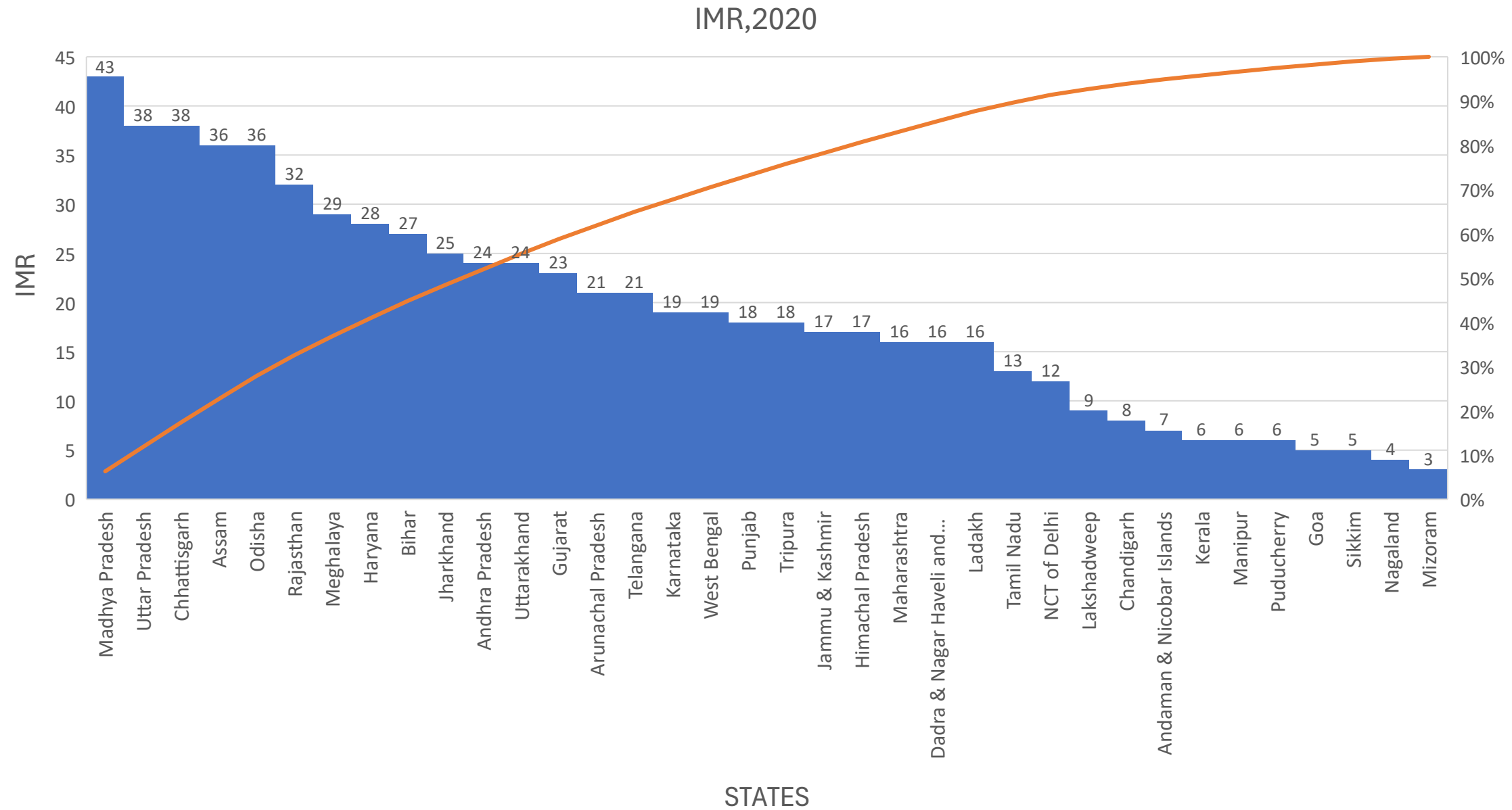


Results

Infant Mortality Rate - Data Analysis

- ❑ Infant mortality rates for each state in the year 2020 were extracted from the Sample Registration System (SRS) 2020 Volume 55-1 and analyzed using a Pareto chart.

Paretochart



- ❑ The chart revealed that five states account for 80% of the total infant mortality rate in India.
- ❑ Specifically, Madhya Pradesh, Chhattisgarh, Uttar Pradesh, Assam, and Odisha were found to have the highest infant mortality rates

- The chart illustrates the trends in infant mortality rate, under-5 mortality rate, and neonatal mortality rate from the year 1992 to 2022.

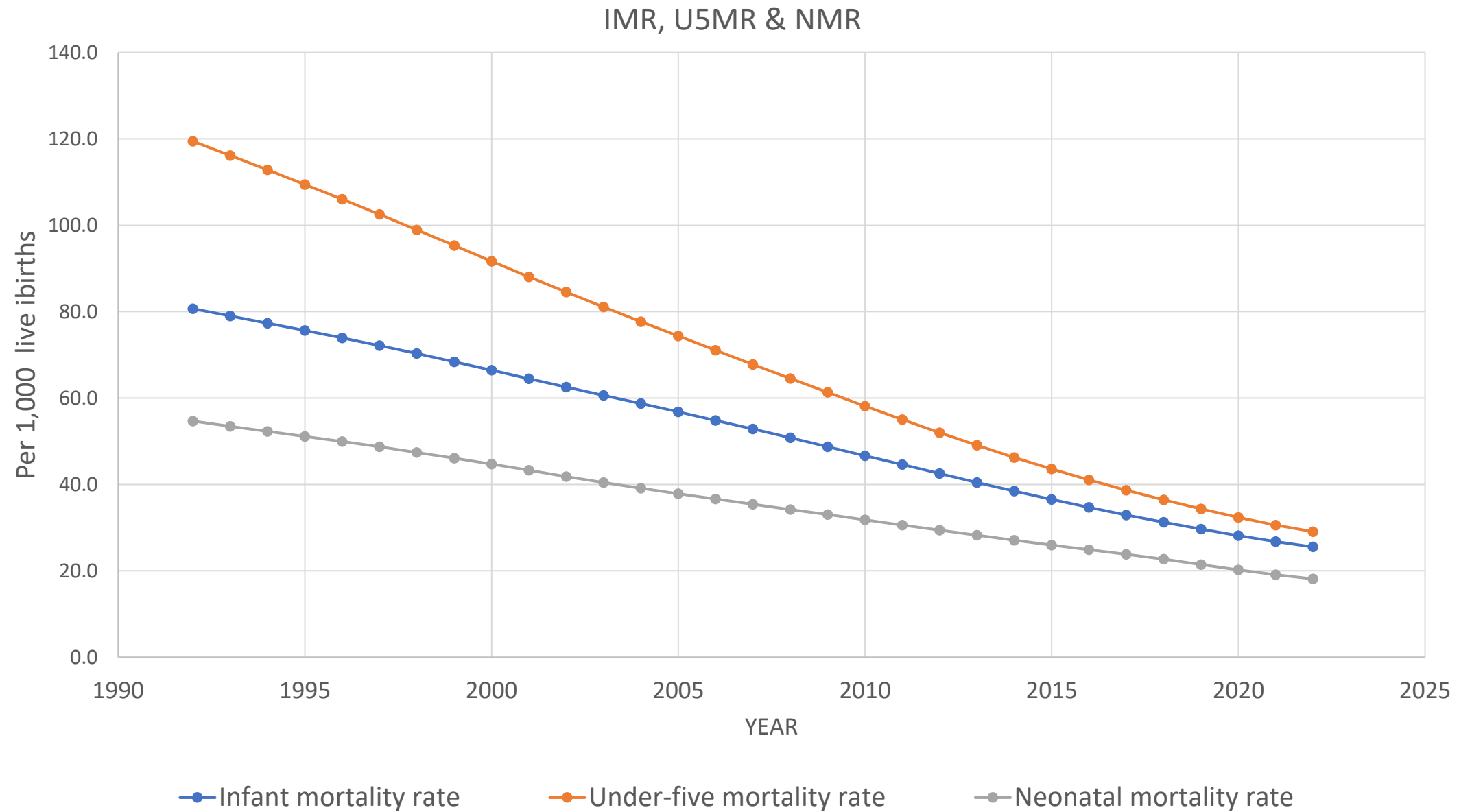
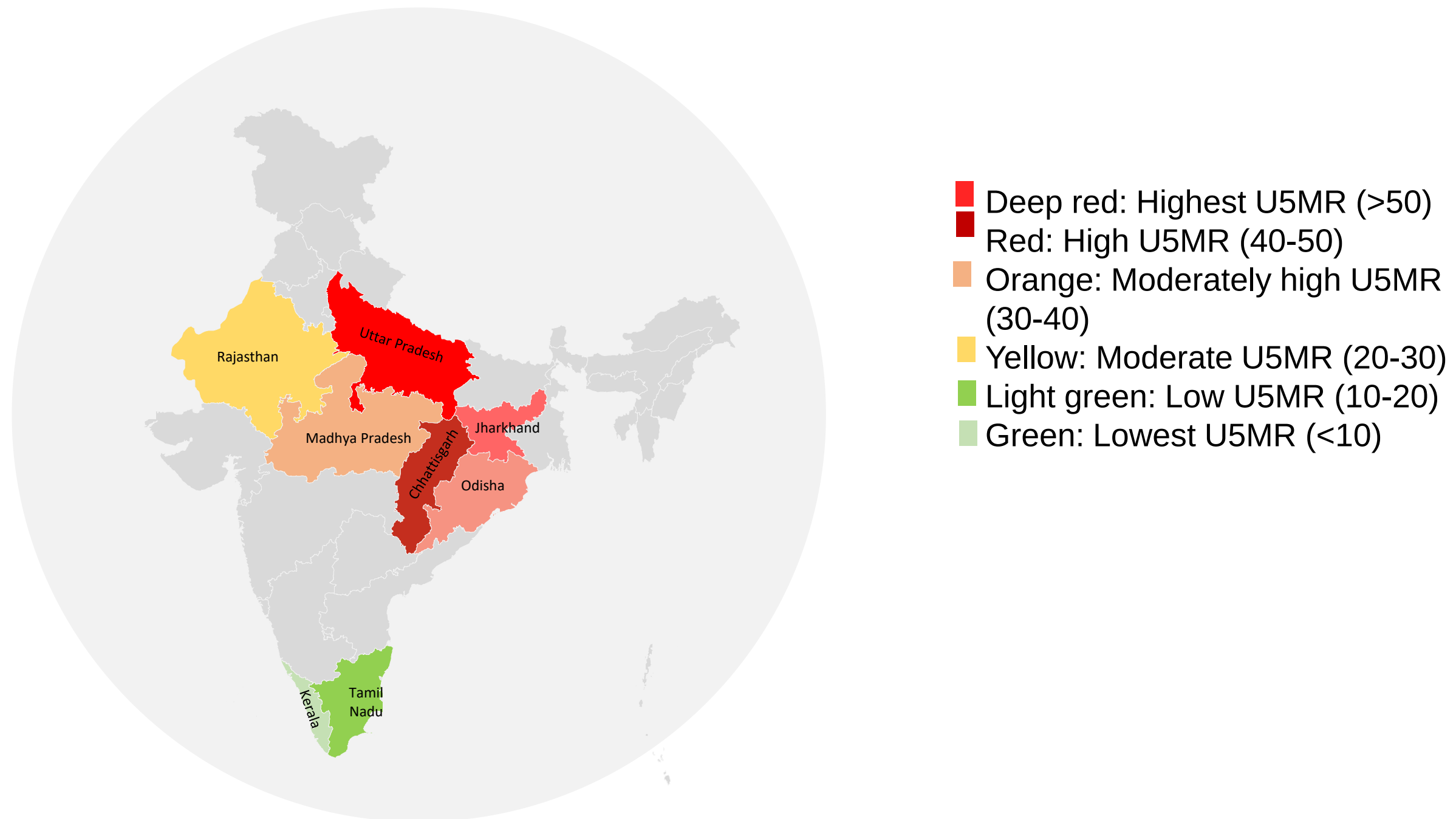


Figure -unicef.org

Highest Under-Five Mortality Rate (per 1000 births) States NFHS-5 (2019–2021)



Key Findings

High-Burden States

The study identified the states with the highest infant mortality rate (IMR) and under-five mortality rate (U5MR) as Madhya Pradesh, Chhattisgarh, Bihar, Uttar Pradesh, Assam, Uttarakhand, Jharkhand, and Odisha. These states also exhibited a high prevalence of stunting and wasting among children, indicating the significant impact of malnutrition on child mortality.

Healthcare Infrastructure Correlations

The analysis revealed strong positive correlations between various healthcare infrastructure indicators and child mortality rates:

- ANMs at sub-centers and IMR
- Obstetricians/gynecologists at CHCs and IMR
- PHCs with labor rooms and IMR
- Pediatricians at CHCs and U5MR
- 24x7 PHCs and U5MR
- Newborn stabilization units at PHCs and U5MR

Discussion

Prioritizing High-Burden States

The study identified several states with the highest IMR and U5MR, including Madhya Pradesh, Chhattisgarh, Bihar, Uttar Pradesh, Assam, Uttarakhand, Jharkhand, and Odisha. These states require targeted interventions to address the persistent child mortality challenges.

Investing in Rural Healthcare

Policymakers should prioritize increasing the availability of healthcare professionals, such as ANMs, obstetricians/gynecologists, and pediatricians, in these high-burden states. This will help improve access to quality healthcare services and ultimately reduce child mortality rates.

Strengthening Nutrition Programs

Given the high prevalence of stunting and wasting in these states, expanding the coverage and effectiveness of nutrition programs like POSHAN Abhiyaan is crucial for improving the nutritional status of children and reducing child mortality.

Addressing Social Determinants

Alongside healthcare and nutrition interventions, addressing the underlying social determinants of health, such as access to clean water, sanitation, and maternal education, can also have a significant impact on child mortality outcomes.



Recommendations

1

Increase ANMs at Sub-Centers

Prioritize the deployment of more Auxiliary Nurse Midwives (ANMs) at sub-centers in high-burden states to improve access to essential maternal and child healthcare services.

2

Strengthen CHC Staffing

Ensure adequate numbers of obstetricians, gynecologists, and pediatricians at rural Community Health Centers (CHCs) to provide specialized care for mothers and children.

3

Expand PHC Capabilities

Prioritize the establishment of labor rooms in Primary Health Centers (PHCs) in high-mortality districts and incentivize doctors and nurses to operate 24x7 PHCs with functional newborn stabilization units.

4

Address Malnutrition

Intensify efforts to reduce stunting and wasting in high-burden states through the expansion of nutrition programs like POSHAN Abhiyaan.

Strengthening Rural Healthcare

Newborn Stabilization Units

Provide training for PHC staff to operate newborn stabilization units, enhancing the capacity to manage critical neonatal conditions and reduce infant mortality.

Nutrition Programs

Expand the coverage and effectiveness of nutrition programs like POSHAN Abhiyaan to address the high address the high prevalence of stunting and wasting in high-burden states.

Targeted Interventions

Implement targeted interventions in the high-burden states to address the specific challenges and challenges and disparities in healthcare access and nutrition, ultimately reducing child mortality rates. mortality rates.

Collaborative Approach

Foster a collaborative approach between policymakers, healthcare providers, and community community stakeholders to ensure the effective implementation and sustainability of these recommendations.



Empowering Rural Communities



Healthcare Workforce

Strengthen the rural healthcare workforce by recruiting and retaining qualified medical professionals, including professionals, including doctors, nurses, and Auxiliary Nurse Midwives (ANMs).



Nutrition Interventions

Implement comprehensive nutrition programs and education initiatives to address the high prevalence of prevalence of stunting and wasting among children in rural areas.



Community Engagement

Foster strong community engagement and participation to ensure the effective implementation and and sustainability of healthcare and nutrition initiatives in rural India.



A Brighter Future for Children

Reduced Infant Mortality	Improved Nutritional Status Status	Strengthened Healthcare Infrastructure
The study's recommendations aim to further decrease the infant infant mortality rate (IMR) in in rural India, building on the the significant progress made made in recent years.	By addressing the high prevalence of stunting and wasting, the proposed interventions will enhance the overall nutritional well-being of children in rural communities.	Targeted investments in rural rural healthcare, including the the availability of medical professionals and essential essential services, will ensure ensure equitable access to to quality care for all children. children.

By implementing these comprehensive strategies, India can continue its journey towards a future where every child has the opportunity to thrive and reach their full potential, contributing to the overall health and prosperity of the nation.





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GRACE *GK* KELLY
PHOTOGRAPHY