

# Review of Racial Disparities in Human Health Systems Across the U.S.

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# Research Question/Focus

- Research Question
  - Do racial disparities seen in human health systems such as infant mortality rates correlate with racial disparities seen in Part C of early intervention services across the US?
- Topic
  - A Review of Racial Disparities in Human Health Systems Across the U.S. including Infant Mortality Rates, Part C of Early Intervention, and Childhood Education Systems

# Background

- Racial disparities persist in various aspects of American society, notably affecting health outcomes and educational opportunities
- Infant mortality rates serve as a crucial indicator of societal health
  - Minority populations experience disproportionately higher rates
- Early intervention (EI) services under Part C of the Individuals with Disabilities Education Act (IDEA) aims to address developmental delays
  - Previous research indicates that racial disparities persist
- Educational systems also play a significant role, reflecting disparities in academic achievement along racial lines

# Study Purpose

- Explore the correlation between racial disparities in infant mortality rates, Part C EI services, and educational system rankings across all 50 states
  - Aiming to inform evidence-based interventions to mitigate disparities and promote equitable access to healthcare and education for all children

# Methodology

- Infant Mortality Rates
  - CDC's Database on number of infant mortality rates for every state in the U.S.
- Educational Systems
  - National Educational Association
    - Ranked each state's educational success by comparing all 50 states on education quality and safety
- Part C of EI
  - US Department of Education (Section 618 of IDEA)
    - Total Number of children enrolled in EI categorized by race/ethnicity

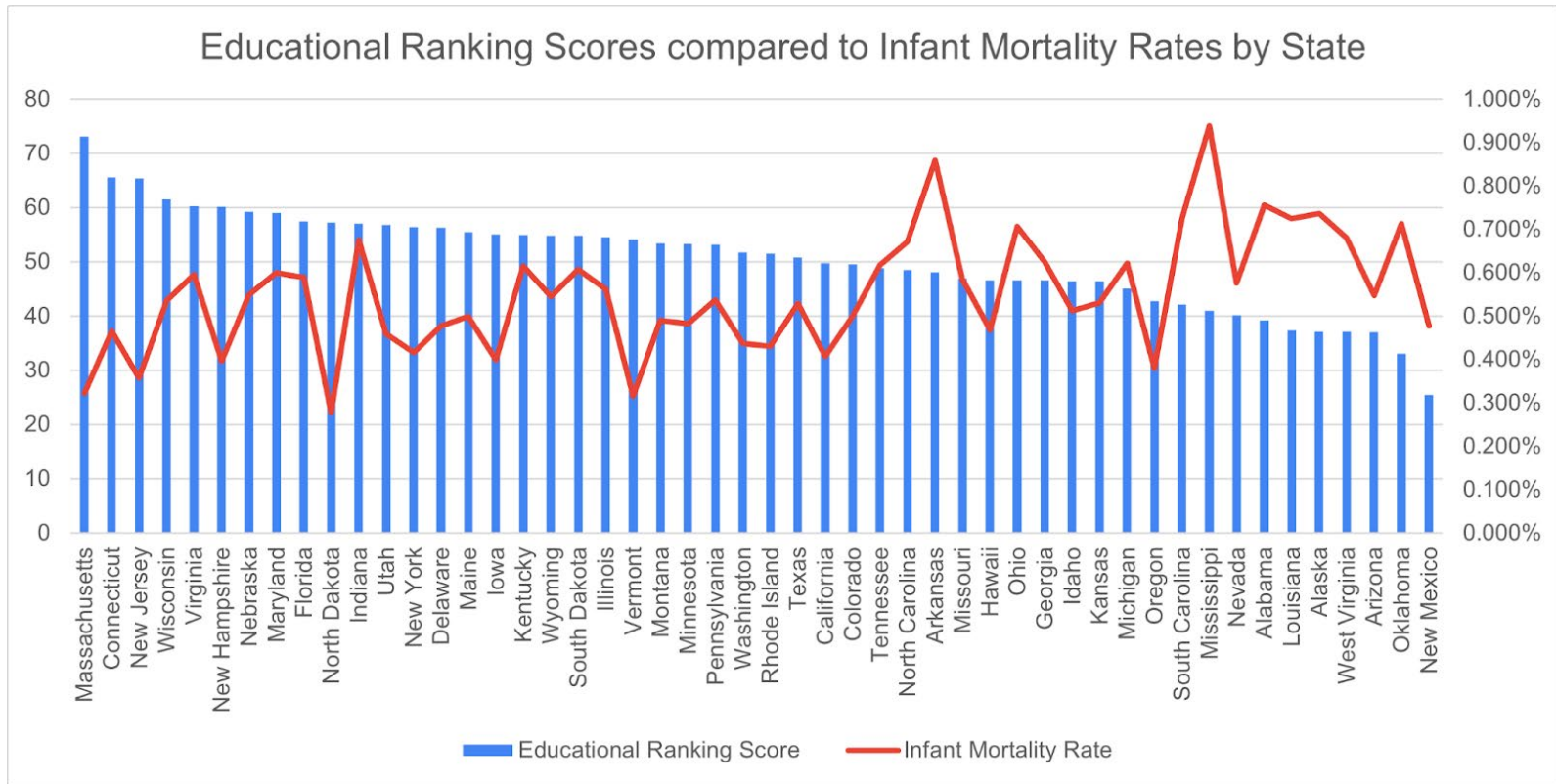
# Correlation Analysis

- Infant mortality rates were determined by totaling infant deaths over the total infant births (this was done per state)
  - A regression on infant mortality rates and the educational ranking scores
- Analysis of all children ages B-3 based on their race/ethnicity per state
- Assessed the representation of each racial group within the EI population
  - Done by comparing the respective percentages to the census figures
- Regression run to determine correlation between infant mortality rates and racial disparities seen in EI

# Results

- Initial Regression Analysis (Infant Mortality Rates & Educational Systems)
  - Negative correlation found ( $p=0.0002$  using 95% confidence interval)
    - As school rankings decreased, infant mortality rates increased
- Analysis of Part C of EI
  - Strongest racial disparity seen in Native American/Alaskan Native groups
    - Underrepresented by 237%
  - All other populations showed no significant disparities
- Analysis of Infant Mortality Rates & Racial Disparities in EI
  - Significant correlation of 0.3
  - Weak positive correlation, still statistically significant ( $p=0.046$ )
    - Indicates that as the percentage of non-white participants in EI increases, the infant mortality rates also increase per state
- Analysis of Racial Disparities in EI and Educational Systems
  - No statistic correlation found between the racial disparities in EI and the ranking of educational systems in the US

# Results





# Discussion

- This research sheds light on the critical intersection of health and education disparities, highlighting the need for targeted interventions to address systemic inequities
- The negative correlation between educational rankings and infant mortality rates emphasizes the importance of investing in educational resources to improve public health outcomes
- The underrepresentation of Native American/Alaskan Natives in EI services underscores the necessity of culturally responsive and equitable healthcare policies

# Limitations & Future Studies

- Limitations

- Ranking of educational systems
  - Specific ranking system were used, many other exist based on different metrics
- Only used data from 2021
  - To get a more accurate portrayal of demographic landscape, a multi year analysis would have been better

- Future Studies

- Analyze multi-year data for racial disparities across the health systems
- Future research should explore how disparities in early childhood interventions impact educational trajectories and long-term health outcomes, informing comprehensive strategies for health and educational equity

# Conclusion

- This study highlights the intricate and interconnected nature of racial disparities in health and educational system ranking correlate with higher infant mortality rates, racial disparities in EI services persist, posing challenges for equitable access to developmental support for marginalized populations.
- Targeted interventions aimed at addressing disparities in both health and education systems are crucial for promoting health equity and improving outcomes for all children.
- Addressing the root cause of disparities and implementing evidence-based interventions, policymakers and stakeholders can work towards creating a more equitable society where all children have the opportunity to thrive.

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