Background and significance: Despite significant improvements in overall health status, India is lagging behind in terms of overall health status of children. In India, approximately 1.72 million children die each year before reaching their first birthday. Due to relatively low socioeconomic development of the country, child health indicators have remained quite poor for India. Moreover, the interregional disparity in child health has remained high and may have become even worse over the last few years. India needs to tackle not only the overall poor child health status but also the wide regional and socio-economic disparity that exists.

Purpose of this research: The purpose of the proposed research is to compare the effect of various factors in determining child health among relatively efficient and relatively inefficient states. The proposed research will address the following research questions: - (1) How does the major states of India rank in terms of degree of efficiency in the production of child health? (2) How different are the determinants of nutritional status among groups of efficient and inefficient states?

Data and Methodology: The proposed study is conducted at two levels. At the first level, efficiency of 25 major Indian states in the production of “child health” is measured. Efficiency scores for 25 Indian states were estimated from state-level data for the years 1998-2001. Child health status was measured by infant mortality rate. Various socioeconomic variables were used as explanatory variables. Fixed effect coefficients for the states were used to rank states in terms of their efficiency in producing child health. Infant mortality rate is used as the outcome variable – thus lower the intercept, greater is the efficiency. The state with the lowest value of intercept is the most efficient in production of child health.

The focus of second level (individual level) of analysis is to study (1) determinants of child health among groups of relatively efficient and relatively inefficient states. The Demographic and Health Survey (DHS) (1998-99) for India is used for the in-depth analysis.

‘Child’ is the unit of analysis for research at second level. Nutritional status an important measure of health and well-being of children was used as the outcome variable. Z-scores for nutritional indices (weight-for-age, height-for-age and weight-for-height) serve as dependent variables. Potential socio-economic, demographic, maternal, and health care variables serve as input variables for this analysis. Ordinary least squares (OLS) models are used to estimate potential factors affecting child health among relatively efficient and relatively inefficient states (identified from level one of this research exercise). Separate models were estimated for each of the outcome variables (stunting, under-weight, and wasting) for group of efficient and inefficient states (a total of six models were estimated).

Results and conclusions: Indian states are not equally efficient in producing child health. Kerala and Manipur are relatively efficient states and Madhya Pradesh and Orissa are relatively inefficient states in India in terms producing child health. Significant determinants of child health
at state level are female literacy, economic status and fertility rate. At the household level, significant determinants of nutritional status of children include mother’s education, age of child, recent episode of illness in children, and women’s autonomy across groups of relatively efficient and inefficient states.

**Implications:** With changing economic situation, countries around the world are faced with a challenge to efficiently use the available health care resources thus improving the health status of the population. This research is easily replicable to countries across the world, thus helping them understand issues related to efficiency of health systems, reducing health disparities and improving health status. Evidence of replicating this study for United States is discussed.