

## GIS based study on Rural Healthcare Infrastructure: Evidences from three sites located in northern India

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### Abstract:

#### Introduction

Health condition of people living in rural parts of India where majority of the population reside is dismal. People have high morbidity, poor healthcare availability besides less financial means to approach the qualified healthcare services located at the distant places. This paper attempts to present the existing rural healthcare delivery system in northern India utilising the datasets captured from three Cluster Randomised Control Trials (CRCTs) under ECFP7 CBHI project.

#### Aims / Objectives

This research paper attempts to study the components of rural healthcare delivery system in northern India and how the existing healthcare delivery system is responding to the healthcare needs of the community?

#### Material & Methods

Healthcare supply configuration and physical accessibility in the study area had been captured using spatial research methodology. GPS mapping of Rasulabad (district Kanpur dehat, Uttar Pradesh), Shivgarh (district Pratapgarh, Uttar Pradesh) and Mahua (district Vaishali, Bihar) blocks had captured the location of 3092 different types of health practitioners. Spatial analysis was conducted using ESRI ArcGIS desktop 9.3 software. Integrated spatial datasets relating to target community, healthcare practitioners and physical accessibility helped in conducting in-depth study on the health facility location, allocation and treatment pathways.

#### Results/Discussion

Study revealed acute shortage of qualified providers and abundance of unqualified providers. Government facilities were found to be irrationally located and were overburdened in terms of population catchment. There is a scarcity of qualified private hospitals/ nursing homes and healthcare supply gaps had been filled by the locally evolved system of private unqualified practitioners.

#### Conclusion

The paper provides robust empirical evidences on the existing healthcare system in the study area.

### About the Author:



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Dr. Shikha holds a PhD degree in Medical Geography, a post-graduation in Geography and a PG diploma in Geo-informatics for Disaster Management and Environmental Assessment from Indian Institute of Remote Sensing, Dehradun. She has 10 years of extensive experience in application of GIS/ Remote Sensing techniques in the field of public health management. Dr. Shikha joined MIA as a Researcher (Spatial Analysis) and leads the spatial research activities (using innovative techniques of GIS and Remote Sensing) for the FP7-EC funded project.

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