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## A Geospatial Analysis of Access to the Community Health Service in Jinan City, China

Background: Access to health services is an essential concept in a healthcare system, especially for community-based primary care. Developing a Community Health Service (CHS) system (through establishing CHS centres) in order to provide primary care services for all urban populations was positioned as a key component in the Chinese government's national health reform plan launched in 2008. This study carries out a comprehensive analysis of access to the CHS in Jinan City, one of the first cities to launch CHS in China. Methods: The study examines access to CHS from both the service providers' perspective (potential accessibility) and the service users' perspective (revealed accessibility). Based on GIS techniques, we map and analyze the spatial provisions of the CHS across Jinan City. By conducting 2,200 household questionnaire surveys, we explore local residents' actual need, awareness, utilization and perception of the CHS. Results: We find that there is significant inequality in the spatial provision of CHS across Jinan. People living in inner urban areas and wealthy residential areas have better potential accessibility to CHS than those living in suburban areas and deprived residential areas. However, we also find that residents living in deprived areas have significantly higher need, awareness and utilization of CHS than those living in wealthy areas. Age, income level, health insurance type and distance to healthcare facilities are significant associated with people's awareness and utilization of CHS. Conclusion: The findings present the inequality and inequity of CHS provision in Jinan. Related policy recommendations are brought forward from this research for local government, contributing strategies for improving the effectiveness of CHS system. This study is the first research which comprehensively investigates the issue of access to CHS in China. The research framework, findings and policy implications may provide lessons for other cities in China as well as other developing countries.