

Geographic disparity in access to healthcare in Nepal

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Purpose: Since the 1970s, it has become increasingly clear that geography plays a significant role in determining individuals' access to needed health services. However, this work has been conducted on population served by private sectors in developed countries. The extent to which geographic disparities exist among the poor in developing countries constrained by economic decline, and the factors that contribute to such disparities are currently unknown. The purpose of this study is to quantify the magnitude and predictors of geographic disparities in health service use among a national sample of women in Nepal.

Methods: We used data from the Nepal Demographic and Health Survey 2006 (DHS Nepal 2006), the national study of population and health containing information on PSU (N =260) level geographic variables. These PSUs represent the local communities in which the women in our sample reside. We aggregated women (sample N=10,793) up to their communities of residence, and used weights to obtain weighted mean unadjusted probabilities of health service use separately for each community. By employing varying intercept varying slope Multilevel Modeling technique, we estimated weighted logistic regression models using poverty and urbanization variables. We then added individual characteristics (health needs and sociodemographic characteristics) and empowerment variables (education, social attitudes, media exposure). From each model we obtained the weighted mean adjusted probabilities of health service use. We used these probabilities to construct a GIS map to graphically represent changes in, and the statistical significance of, probability of service use conditional upon women characteristics, and the geographic characteristics.

Results: Controlling for need and other covariates, women in our sample displayed statistically significant variation in probabilities of health service use, ranging between 14% in geographic areas in which majority of the residents are indigenous and 76% in geographic areas where the majority of the residents are non-indigenous. Women in indigenous communities had only 1 in 7 probabilities of health service use compared to the national average of 1 in 2. The more than 5-fold

variations in probabilities of health services use between Indigenous communities and Brahmin/Mixed communities were not solely due to the mean differences in women characteristics such as poverty, health needs, education, social attitudes, and media exposure.

Implications: This is the first study reporting community (260 neighborhoods or Toles) level variations in health service use among a national sample of women in Nepal. Women in Nepal display over 5-fold variations in probabilities of health service use between indigenous communities and other communities. Such variations can be explained neither by health needs nor by individual characteristics. The findings indicate that the policies that seek to improve health access at individual level will not bridge the gap that exists at geographic community level. Attention to the intrinsic development practice and institutions is necessary to determine if these variations are reflective of variations in quality of care available to these women.