



Explaining Areal Variations in Reproductive Health in East and West Africa

Background

Many developing countries contain substantial geographic (areal) variations in reproductive health outcomes. The application of statistical modelling techniques has often found that areal variations in outcomes remain after accounting for individual, household and community factors. These variations could be attributed to a number of contextual factors, such as cultural beliefs, reproductive health service provision, the physical characteristics of the area, macro-economic factors, and the presence of transport routes. However, there is a lack of detailed research examining the possible impact of such factors.



The main sources of reproductive health data for developing countries are Demographic and Health Surveys (DHS). Recently these surveys, especially in sub-Saharan Africa, have collected data on the precise location of the

communities sampled in the survey. This now allows for the linking of other contextual data sources to the DHS data to further explain areal variations in reproductive health outcomes.

Hence, this research proposes to build upon previous knowledge by explaining areal variations in reproductive health outcomes in two regions of sub-Saharan Africa (East & West Africa) using a combination of DHS data and contextual data sources. Two reproductive health outcomes are investigated: use of a modern contraceptive method and use of a health facility for childbirth. Furthermore, detailed maps of the results and contextual data can be plotted in order to better inform researchers and local policymakers, by highlighting the characteristics of those areas with unusually high or low reproductive health outcomes. There are eight study countries: Burkina Faso, Ghana, Ivory Coast, Kenya, Malawi, Tanzania, Togo and Uganda.

Methodology

Statistical modelling of DHS data will estimate the determinants of the two outcome measures. Models will be estimated separately for each of eight countries, to allow a comparison of determinants between countries. Communities will be identified in which women have unusually high or low

contraceptive use or childbirth in medical institutions, after accounting for a range of bio-demographic and socio-economic variables. These communities will be plotted using a Geographic Information System. Separate maps will be created to display the outlying communities for contraceptive use and childbirth in a medical institution.

Some of the remaining areal variation could be explained by the contextual characteristics of the areas analysed. Thus, contextual data will be collected and linked to the DHS data using the community location data, and where necessary a Geographic Information System, to enable further analysis. The statistical models will be updated to estimate the contextual determinants of contraceptive use and childbirth in a medical institution in each of the eight countries. This will allow for the updating of the maps of outlying communities.

Outputs

The expected project outputs include academic papers (for publication and presentation at conferences), plus maps, executive summaries for policymakers and dissemination to potential research users in study countries.

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For details about this project contact: Rosemary Lawrence, Opportunities and Choices Programme, Department of Social Statistics, University of Southampton, Southampton, SO17 1BJ, UK.

Tel: +44 (0)23 8059 5763, Fax: +44 (0)23 8059 3846, E-mail: rl@socsci.soton.ac.uk