Extended Abstract

Quality of care will be measured using the framework outlined by Bruce (1990). Variables measuring quality of care will be constructed through inventorying the choice of oral contraceptive methods available in a service delivery point (SDP), observing interpersonal relations, the client-provider information exchange, the technical competence of the provider, and mechanisms to encourage continuity and follow up.

The clinic-level data on quality of care is taken from the 1989 Kenya Situation Analysis Study (KSAS) and the 1999 Kenya Service Provision Assessment Survey (KSPA). The first variable constructed from the clinic-level data measures oral contraceptive method choice. Each district will have an oral contraceptive method choice score calculated from inventory items regarding available oral contraceptive methods available at the SDP in 1989 and 1999. The next variable constructed at the clinic level will be the information given to client. The score measures the topics the provider and client discussed as well as whether or not family planning posters were in the clinic and whether or not informational brochures were available to the clients in 1989 and 1999. The technical competence score will measure the technical competence of the provider in exam and provision of service to the client in 1989 and 1999. The interpersonal relations score will be calculated from items regarding record-keeping and the discussion of family planning goals in 1989 and 1999. The score measuring continuity is the last score created from the clinic-level data. This variable measures whether or not measures were taken to ensure the continuity of service for the client. There are items on how the record system is utilized to maintain client records as well as how it helps maintain a continuous supply

of methods for the clients. There are also items with regard to whether or not the client was told when and where to return for a follow up visit.

The variables to measure the impact of the individual characteristics of a woman will be constructed from the 1993 and 1998 Kenya Demographic and Health Surveys (KDHS). The individual variables will include her age at her first birth, her age at her first marriage, the tribal group to which she belongs, the type of contraceptive she has ever used, her type of employment and her completed level of education.

Hierarchical linear modeling will be utilized to examine how quality of care affects individual outcomes in the number of children ever born to a woman. A hierarchy "consists of lower-level observations nested within higher level(s)" (Kreft and DeLeeuw, 1999:1). In this study, the program factors and the community development factors are the higher-level variables and the individual characteristics are the lower level variables.

> The lowest level measurements are said to be at the *micro level*; all higher–level measurements at the *macro level*. Macro levels are often referred to as *groups*, or more officially as *contexts*. Hence the name *contextual models* for analyzing data obtained at micro and macro levels. (Kreft and DeLeeuw, 1994:1)

Kreft and DeLeeuw (1999) further define contextual models as "regression models containing two types of variables: individual level variables and aggregated context variables, such as group means or medians" (8). A contextual model can be considered any "linear regression model that contains lower-level variables and higher-level characteristics that are aggregated or globally measured"[1] (Kreft and DeLeeuw, 1999: 8-9).

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[1] According to Kreft and DeLeeuw (1999) "Global characteristics are defined as variables that measure characteristics of the context directly, instead of using aggregates of

Sources

Bruce, Judith. 1990. "Fundamental Elements of the Quality of Care: A Simple Framework." *Studies in Family Planning*, Vol. 21, No. 2 (Mar. – Apr., 1990), 61 - 91.

Kreft, Ita and Jan DeLeeuw. 1999. Introducing Mulitlevel Modeling. London: Sage Publications.

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variables that are measured over individuals. Any type of regression model with individual and context-level characteristics is referred to as a contextual model." (9). The community development factors will be aggregated from individual measures in the KDHS, while the OR/TA provides direct context measures of clinics in the district.