Assessing contraceptive security in six African countries: Does supply determine use?

Introduction Contraceptive security exists "when people are able to choose, obtain, and use quality contraceptives and condoms whenever they want them for family planning and for the prevention of HIV/AIDS and sexually transmitted infections"[1.] Measuring a country's level of contraceptive security is important for policy makers, program managers and international donors to plan effective programs and help meet the contraceptive needs of women and men.

Guided by the framework at the core of the Strategic Pathway to Reproductive Health Commodity Security (SPARHCS), a tool used to assess and plan for reproductive health commodity security, contraceptive security can be measured in terms of the following components: supply, access, utilization, finance, health and social environment[2.] This study aims to link data from Demographic and Health Surveys (DHS) and Service Provision Assessment (SPA) surveys to measure the level of contraceptive security in selected countries. The study focuses on three elements of contraceptive security, namely supply, access, and utilization. Specially, the study addresses two research questions: 1) what is the contraceptive security situation in the countries selected? 2) To what extent is the use of contraceptives correlated with the supply of contraceptives?

Methodology Six African countries are included in the study: Egypt, Kenya, Ghana, Rwanda, Tanzania and Uganda. These countries are selected because they are the only African countries where DHS and SPA surveys were conducted within a year of each other. SPA data for facilities offering family planning (FP) services and women's individual level data from DHS are analyzed.

Table 1: DHS and SPA surveys included in the analysis

Country	DHS (year)	SPA (year)
Egypt	2003	2002
	2005	2004
Ghana	2003	2002
Kenya	1998	1999
	2003	2004
Rwanda	2000	2001
	2007/08	2007
Tanzania	2004/05	2006
Uganda	2006	2007

Both descriptive analyses and multivariate modeling are conducted. Descriptive analysis is performed to examine the contraceptive security in each country in terms of supply, access and utilization. Differences by area of residence (urban/rural), regions, and facility types will be presented when appropriate.

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[1] USAID, Contraceptive Security Ready Lessons. January 2004

[2] John Snow, Inc./DELIVER and Futures Group/POLICY Project. 2004. Contraceptive Security Index 2003: Technical Manual. Arlington, Va.: John Snow, Inc./DELIVER

Supply is assessed using SPA survey data. Three dimensions of contraceptive supply are examined: FP service availability, infrastructure, and management practices to support FP services. Illustrative indicators examined for each dimension of supply include:

Service availability: 1) Proportion of facilities that provide specific contraceptive methods; 2) Proportion of facilities that have each contraceptive method offered available on the day of the survey; and 3) Proportion of facilities that offer family planning services five or more days per week.

Infrastructure to support FP services: 1) Proportion of facilities with equipment/supply to support specific contraceptive methods, i.e., IUD, sterilization, vasectomy, etc.; 2) Proportion of facilities having service related items (i.e. private room, written FP guidelines, etc.) to support quality FP counseling.

Management/funding practices to support FP services: 1) Proportion of facilities that provide routine staff development activities (at least half of the FP providers interviewed have received structured FP-related training in the past year); 2) proportion of facilities that have routine staff supervision (at least half of FP providers interviewed have been supervised in past six months); and 3) proportion of facilities with routine user-fee or charges for FP services.

To reflect the overall level of contraceptive supply by region within country, a composite supply score combining the various indicators of the three dimensions of supply is estimated.

Access and utilization of contraceptives are assessed using DHS data collected from women age 15-49. Access is measured using data from both non-users and users of FP. Among non-users, access is investigated by examining knowledge of methods and of source of contraceptives and contacts with family planning providers (i.e. reached by FP outreach programs or visited a health facility and discussed FP issues). Among FP users, variations in FP use by educational attainment and wealth status are examined. Contraceptive utilization is evaluated by examining contraceptive prevalence rates, contraceptive method mix, sources of methods, cost for users, as well as the quality of the FP services received by users such as informed choice.

Multivariate, multilevel modeling is used to assess the association between contraceptive use at the individual level and contraceptive supply in the region. The multilevel logistic models use both DHS and SPA data.

Two sets of models are obtained. First, we investigate the relationship between any modern contraceptive use and the overall supply score in each region of the country. We expect that women who reside in a region with a higher supply score are more likely to use contraceptives compared with those in regions with lower supply scores. The outcome variable is the individual use of any modern contraceptive method and the key independent variables of interest include the average score of individual supply components as well as the combined supply score of health facilities in the region where the woman resides.

To further understand the use of specific methods, we also examine to what extent the use of a specific contraceptive method is correlated with the availability of that method. The outcome variable is a

woman's use of a specific method and the key independent variable of interest is the proportion of facilities in the region that provide that contraceptive method. This analysis is performed for each country and restricted to the most common contraceptive method used in that country. For countries that share common major methods (e.g., injection is the major method in Kenya, Tanzania and Uganda), pooled analyses are performed. Individual and regional variables that may influence women's contraceptive use, including women's perception of quality of FP services, are controlled for in the models.

Results:

To be completed when the analysis is done

Discussion:

Interventions to improve contraceptive security need a better understanding of the role of supply in determining contraceptive use. This study takes advantage of both facility survey data and individual data and links supply at the regional level to use at the individual level. Findings could inform family planning programs in addressing supply-based unmet need.