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CLIENT SATISFACTION AND THE QUALITY OF FAMILY PLANNING SERVICES: A COMPARATIVE ANALYSIS OF PUBLIC AND PRIVATE HEALTH FACILITIES IN GHANA, KENYA, AND TANZANIA

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CLIENT SATISFACTION AND THE QUALITY OF FAMILY PLANNING SERVICES: A COMPARATIVE ANALYSIS OF PUBLIC AND PRIVATE HEALTH FACILITIES IN GHANA, KENYA, AND TANZANIA

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
FP	Family Planning
HIV	Human Immunodeficiency Virus
NGO	Nongovernmental Organization
PSP-*One*	Private Sector Partnerships-*One*
RH	Reproductive Health
SPA	Service Provision Assessment
STI	Sexually Transmitted Infection
USAID	United States Agency for International Development

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EXECUTIVE SUMMARY

OBJECTIVES

To measure the extent of quality differentials in family planning (FP) services at public and private hospitals and clinics in three countries (Ghana, Kenya, and Tanzania) and to determine how these differentials affect FP clients' satisfaction with those services.

METHODS

The analyses make use of data from the 2002 Ghana Service Provision Assessment, 2004 Kenya Service Provision Assessment, and 2006 Tanzania Service Provision Assessment. Multivariate regression assesses the association and relative importance of different measures of structural and process quality on client satisfaction.

RESULTS

Private health facilities appear to be of higher process but not necessarily technical quality in the three countries as measured by several quality attributes, though these differentials are considerably larger at lower-level facilities (clinics, health centers, dispensaries) than at hospitals. FP client satisfaction, however, appears considerably higher at private facilities – both hospitals and clinics – most likely attributable to better factors such as shorter waiting times and fewer stockouts of methods and supplies.

CONCLUSIONS

Private providers appear to be fulfilling an important gap in the provision of FP services in the study countries, providing FP services that are at least as good in technical quality on average as their public sector counterparts while also achieving higher levels of client satisfaction. Continued support and favorable – though not permissive – regulatory environments can ensure that the private sector maintains this important role in women's health.

1. INTRODUCTION

The limitations of public sector health facilities in developing countries are well documented – low staff morale, attendance, and performance, often related to poor or infrequent pay, at least relative to the private sector (Bitran and Block 1992); poor quality of care and treatment (Wouters 1993); shortages of workers, medicine, supplies, and functioning equipment; and waste and inefficiency (World Bank 1993; Wouters 1993; Gilson et al. 1994; Mills 1997).

Private for-profit facilities have greater incentives to be efficient providers of health care, fulfilling important gaps in the supply of high-quality family planning (FP) services (World Health Organization [WHO] 2000, Bennett 1992), but have been shown to be of varying quality, often due to the inability of government regulatory bodies to adequately monitor and enforce standards (Brugha and Zwi 1998, Zwi et al. 2001, Mills et al. 2002, Bhat 1996). A study in Vietnam, for example, found that 11 percent of private health care providers had no professional qualifications (Tuan et al. 2007). A separate study, in Thailand, found inadequacies in treatments of sexually transmitted infections (STIs) for men at private facilities (Benjarattanaporn et al. 1997).

Private providers may also take advantage of informational asymmetries to sell unnecessary – or poor quality – services to unsuspecting consumers (Mills et al. 2002). As noted by one set of researchers, "Consumers are usually unable to assess the technical quality of services, with the result that they place more weight on aspects of perceived quality, such as the interpersonal skills of providers and the comfort of the environment in which treatment occurs, both of which may be unrelated to technical competence. They may, therefore, be more exposed to inadequately qualified practitioners providing care of very poor quality" (Mills et al. 2002, p. 326). Nongovernmental facilities, often not-for-profit and affiliated with religious organizations, have been touted as being more likely to provide higher-quality services because of their social mission, but evidence to support this has been mixed (Bitran 1995, Mills 1994).

As calls for privatization and performance-based incentive schemes have become an increasing part of the dialogue surrounding health sector reform in developing countries (WHO 2001, Bennett 1992), the need for evidence-based assessments of quality differentials has also increased. Responding to this need, this study examines differences in technical, structural and process measures of FP quality between public and private health facilities, both in hospitals and primary care facilities in three countries – Ghana, Kenya, and Tanzania. It then links these measures of FP quality to measures of client satisfaction. The presumption is that higher levels of quality will yield higher levels of client satisfaction. But fundamental to the evaluation of this hypothesis is the need to determine the magnitude of quality differentials, if any, between public and private sector health facilities and to identify which measures of quality are most important for achieving higher client satisfaction.

In each of these countries, private sector provision of FP services has been well-documented. Data from Demographic and Health Surveys indicate that the percentage of women receiving contraceptive supplies from private FP providers varies considerably, from 12.7 percent in Tanzania (private medical 5.0 percent; religious/voluntary 7.7 percent), to 40.5 percent in Kenya (24.2 percent private medical; 6.3 percent mission hospital/clinic), and to 53.7 percent in Ghana (Ghana Statistical Service et al. 2003; National Bureau of Statistics et al. 2007; National Coordinating Agency for Population and Development et al. 2004).

It is important to note that this is not an analysis of facility choice or contraceptive method choice. Rather, it uses a sample of female clients who have already made the decision about which facility to use and examines those structural and process factors that are associated with higher client satisfaction.

The next section describes the data, the quality measures, and analytical methods utilized in this study. Following that are discussions of the bivariate and multivariate analyses. The last section summarizes the results and discusses policy implications.

2. METHODS

This study makes use of Service Provision Assessments (SPAs) conducted in Ghana, Kenya, and Tanzania. In each of the countries under review, SPAs were utilized to collect detailed information on the supply environment of health services at nationally representative samples of public and private health facilities.

2.1 SAMPLING

2.1.1 FACILITIES

In Kenya and Tanzania, health facilities (Table 1) were chosen at random from among the population of public, private, and faith-based facilities that offered services for maternal, child, and reproductive health (RH), as well as for STIs and HIV/AIDS. In Ghana, the sample excluded private pharmacies, doctor's offices and private clinics because "no credible frame was available to ensure representativeness of the sample" (Ghana Statistical Service et al. 2003). Sample sizes were determined based on funding, logistical considerations, and minimum sample sizes required when regional estimates were desired. Facilities were stratified by operating authority (public vs. private) and by facility type (hospital and other) and a systematic sample was drawn after a random start. In some cases, over-sampling was done to permit analysis by region and facility type, and weights were created to adjust for unequal probabilities of selection.

TABLE 1. SAMPLE OF HEALTH FACILITIES BY COUNTRY

	Ghana	Kenya	Tanzania
Number of facilities nationwide providing all services	1,444	4,742	5,663
Number selected for survey	428	440	611
Number offering FP services	386	323	482

The final sample of health facilities used in this study – restricted to those that offer FP services – included 386 in Ghana, 323 in Kenya, and 482 in Tanzania. In each country, the majority of the health facilities were publicly operated. The weighted sample of hospitals made up 10 percent of facilities in Ghana, 7 percent of facilities in Kenya, and 4 percent of facilities in Tanzania (Table 2). Similarly, private sector providers made up 35 percent of facilities in Ghana and Kenya and 17 percent of facilities in Tanzania. It should be noted that in Kenya and Tanzania, it was not possible to distinguish between private for-profit and private not-for-profit facilities due to data restrictions imposed by the survey organizations. As noted above, the Ghana sample excluded most private for-profit health facilities.

TABLE 2. SAMPLE DISTRIBUTION OF FACILITIES, PROVIDER INTERVIEWS, AND CLIENT EXIT INTERVIEWS

	Ghana			Kenya			Tanzania		
Facilities	**Pct. Distribution (weighted)**	**Weighted**	**Unweighted**	**Pct. Distribution (weighted)**	**Weighted**	**Unweighted**	**Pct. Distribution (weighted)**	**Weighted**	**Unweighted**
Public									
Hospital	6.6	28	43	3.7	12	87	2.2	11	87
Health centers, clinics, dispensaries	58.0	248	200	61.2	198	72	80.4	388	315
Private									
Hospital	3.3	14	20	3.6	12	60	2.0	9.5	24
Health centers, clinics, dispensaries	32.1	138	165	31.5	102	104	15.4	74	56
Total	100.0	428	428	100.0	323	323	100.0	482	482
Provider Interviews									
Public									
Hospital	31.1	262	140	26.0	223	310	9.1	113	393
Health centers, clinics, dispensaries	44.6	376	390	40.2	345	161	70.3	874	624
Private									
Hospital	5.6	47	40	13.1	113	192	6.5	81	109
Health centers, clinics, dispensaries	18.7	157	275	20.7	178	197	14.1	175	118
Total	100.0	842	845	100.0	859	859	100.0	1244	1244
Exit Interviews									
Public									
Hospital	19.8	121	172	8.9	56	346	6.6	66	411
Health centers, clinics, dispensaries	53.7	328	242	66.7	419	130	83.2	836	493
Private									
Hospital	3.1	19	32	2.9	18	67	2.7	27	58
Health centers, clinics, dispensaries	23.5	143	165	21.5	135	85	7.5	76	43
Total	100.0	611	611	100.0	628	628	100.0	1005	1005

2.1.2 PROVIDERS

In all three countries, a sample of health providers was selected from those who were present in the facility on the day of the survey and who provided services in the four areas assessed by the SPA. If a facility had fewer than eight health providers, all providers present were interviewed. In facilities with more than eight providers, at least one provider from each service was interviewed to obtain a minimum of eight providers. The samples of providers of FP included 845 providers in Ghana, 859 providers in Kenya, and 1,244 providers in Tanzania (Table 2).

2.2 OBSERVATIONS AND EXIT INTERVIEWS

Observations were conducted of clients who came for maternal, child, or RH or STI services. This sample was opportunistic because it was not possible to know how many eligible clients would come to the facility on the day of the observation. Following the observation of client-provider interaction, exit interviews were conducted to determine client satisfaction with services provided. In total, 611 interviews were conducted in Ghana, 628 interviews in Kenya, and 1,005 interviews in Tanzania (Table 2).

2.3 INSTRUMENTS

To provide a broad and detailed picture of the quality and availability of health services and perceptions of quality, the SPAs consist of four standardized data collection components:

1. The *Facility Inventory Questionnaire* was used to obtain information on staffing, training, infrastructure, medicines, supplies, and services offered. The focus was on ascertaining the functional ability of facilities to provide services of acceptable standards.
2. A *provider interview* helped determine provider qualifications, experience, and perceptions of the service delivery environment.
3. *Observations of FP* service provision were conducted to assess providers' adherence to accepted standards of quality and service delivery.
4. *Exit interviews* were conducted with clients who received FP services to determine the clients' experience of the client-provider interaction, recollection of instructions and FP-related information, and perceptions of the service delivery environment.

2.4 OPERATIONAL DEFINITIONS OF QUALITY OF CARE

Because of its emphasis on causal linkages between structural aspects of health care settings, the processes of care, and outcomes, the framework described by Donabedian (1988), and previously utilized (Agha and Do, 2007 and 2009), serves as the key analytical framework for this study. This framework emphasizes identifying and measuring several categories of quality measures, as described in detail in Table 3. Structural attributes of quality were assessed by physical infrastructure, examination equipment, management systems, availability of services, and the counseling environment. Interpersonal and technical aspects of process attributes were considered separately. Interpersonal aspects of quality included maintenance of privacy, confidentiality, and provider's handling of client concerns. Prescription of an injectable method by the provider was used as a measure of provider responsiveness to client needs, since the demand for injectables was extremely high among clients who visited these facilities. Technical aspects included elements such as taking a reproductive history, conducting a physical

examination, and a provider's observation of the correct procedure for administering the injectable contraceptive. The duration of consultation was used as a measure of the technical quality of care.

TABLE 3. ATTRIBUTES AND INDICATORS USED FOR THE ASSESSMENT OF QUALITY OF CARE IN THIS STUDY

	Definition of indicators
STRUCTURE	
Infrastructure & equipment	
Physical infrastructure	Number of amenities available at facility: electricity, water, working toilet, telephone, waiting area for clients (out of 5)
Examination room equipment	Number of following items present: table and stool for gynecological exam, source of light, speculum, soap, single-use towel, water for hand-washing, clean gloves, decontamination solution, sharps box, privacy in exam room (out of 10)
Management	
Review of management	Whether there is a system for reviewing management/administrative issues
System to collect client opinion	Whether there is a system to obtain clients' opinions regarding services
Quality assurance program	Whether the facility has a routine program for quality monitoring
Supervision	Whether the last supervisory visit to the facility was in the last 6 months
Stock inventory, organization, and quality	Number of following items present at facility: inventory for contraceptive supplies, stock organized by expiry date, contraceptives protected from water, sun, and pests
Availability of services	
Number of days services provided	Number of days per week that FP services are provided
Availability of provider	Whether a trained provider is always available at the facility
FP methods offered	Number of methods offered: combined oral pill, progesterone only pill, IUD, 2 or 3 month injectable, 1 month injectable, Norplant, male condom, female condom, spermicide, diaphragm, emergency contraception, counseling about natural methods, tubectomy, vasectomy (out of 14)
Other reproductive health services offered	Number of RH services besides FP offered: STI services, immunization, antenatal care, postnatal care, postabortion care, and delivery (out of 6)
Waiting time	Number of minutes client had to wait before being examined by a provider
Counseling	
Guidelines	Number of guidelines or protocols for counseling at the facility (out of 5)
Visual aids	Number of visual aids for demonstrating use of FP methods at facility (out of 9)
Privacy	Whether facility has private room for FP counseling
Individual client card	Whether there is an individual client card/record for FP
FP experience of providers	Number of years of experience of providers in providing FP services
Providers trained in FP	Number of providers who received any in-service training in FP in last 5 years
PROCESS	
Interpersonal	
Privacy ensured	Whether provider ensured visual and auditory privacy during examination
Client concerns noted	Whether provider asked client about concerns with methods or with currently used method
Confidentiality assured	Whether provider assured client of confidentiality
Method use explained	Whether provider explained to the client how to use the method
Injectable prescription	Whether provider prescribed an injectable to the client

	Definition of indicators
Technical	
Reproductive history	Provider asked the client about the following: age, number of living children, last delivery date, history of complications, pregnancy status, desire for more children, desired timing of birth of next child, breastfeeding status, regularity of menstrual cycle (out of 9)
Physical examination	Provider took/asked about the following during the physical exam: blood pressure, weight, asked about smoking, asked about STI symptoms, asked about chronic illness (out of 5)
Injectable procedure	Provider did the following when giving FP injection: check client card, wash hands with soap before giving injection, use single-use towel for drying, use newly sterilized needle, stir bottle before drawing dose, clean and air-dry injection site before injection, draw back plunger before injection, allow dose to self-disperse instead of massaging, dispose of needle in puncture resistant container (out of 9)
Duration of consultation	Number of minutes provider spent on the consultation
OUTCOME	
Client satisfaction	Clients reported that they had no problem with ALL of the following: waiting time, ability to discuss concerns with provider, amount of explanation given, quality of examination and treatment provided, visual privacy during examination, auditory privacy during examination, availability of medicines at facility, hours of service provision, cleanliness of facility, staff treatment of client

Client satisfaction was measured using clients' responses to questions about service quality, rated as both an index and a discrete measure of problems encountered during the FP visit (none versus any). Specifically, clients reported on 12 aspects of their visit. These 12 aspects (Table 4) were used in the construction of an index using the "polychoricpca" principal components command for discrete variables using the Stata 10.1 statistical software program (Kolenikov and Angeles 2004; Stata Corp, College Station, Texas). The first principal component was used as the index for client satisfaction. Alternatively, a discrete measure of client satisfaction was constructed with a value of 1 given for respondents who reported "no problem" with all of the 12 aspects of quality and a value of 0 given for respondents who reported a "large" or "small" problem with any of the 12 aspects.

TABLE 4. MEASURES OF CLIENT SATISFACTION

Clients were told, "Now I am going to ask you some questions about some common problems clients have at health facilities. As I mention each one, please tell me whether any of these were problems for you today, and if so, whether they were large or small problems for you."
Time you waited
Ability to discuss problems or concerns about your health with the provider
Amount of explanation you received about any problem or method of FP
Quality of the examination and treatment provided
Privacy from having others see the examination
Privacy from having others hear your consultation discussion
Availability of medicines or methods at this facility
Hours of service at this facility
Number of days services are available to you
Cleanliness of the facility
How the staff treated you
Cost for services or treatment
Any problem you had today that I did not mention

2.5 DATA ANALYSIS

At the bivariate level, differences in quality of care between private and public sector facilities were assessed. Because hospitals tend to be larger and offer a wider range of services than clinics, the analysis was stratified into hospitals and all other facilities (clinics, health centers, dispensaries, maternity units, and stand-alone voluntary counseling and testing centers). T-tests were conducted for continuous variables and chi-squared tests of independence were conducted for categorical variables. To examine the magnitude of the relationship between quality measures and client satisfaction, multiple regression analyses were employed. For the binary satisfaction outcome (i.e., reporting of no problems), a probit model was specified and estimated by maximum likelihood. For the index of satisfaction (e.g., the score of the first principal component of the "problem" index), linear regression was used. In both cases, because clients and providers were nested within facilities, Huber-White standard errors were used to control for the non-independence of client observations clustered at the facility level.

3. RESULTS

3.1 DIFFERENCES IN QUALITY OF CARE: BIVARIATE ANALYSIS

Tables 5A-5C compare mean values of indicators representing structural and process attributes of quality by operating authority (private vs. public sector) stratified by facility type for each of the countries. Overall, quality varies more considerably at lower-level facilities than at hospitals, and lower-level public facilities appear to be of a slightly lower quality on average than similar-sized private facilities.

TABLE 5A. DIFFERENCES IN ATTRIBUTES OF QUALITY (BIVARIATE ANALYSIS) – GHANA

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Signific. Level p-value	Mean Value		Signifc. Level p-value
	Public (n=43)	NGO (n=20)		Public (n=200)	NGO (n=165)	
BASIC						
Catchment area population	64,751	132,784	0.297	23,213	25,286	0.432
STRUCTURE						
Infrastructure and equipment						
Physical infrastructure (# of amenities)	4.8	4.7	0.471	3.4	4.2	0.000
Examination room (# of items present)	8.2	4.9	0.000	5.8	7.4	0.000
Management						
System for review of management (%)	98.0	100.0	0.590	65.5	39.8	0.000
System for collecting client opinion (%)	83.1	85.8	0.470	49.9	58.7	0.027
Routine quality assurance program (%)	73.0	49.8	0.389	21.2	8.2	0.002
Last supervisory visit within 6 months (%)	88.8	83.1	0.260	76.9	58.2	0.002
Availability of services						
Number of days FP services provided	5.7	4.8	0.018	6.1	6.4	0.048
Trained provider always present (%)	98.0	100.0	0.590	37.4	53.6	0.006
# of FP methods offered (out of 14)	10.5	5.7	0.000	6.5	6.4	0.836
# of other reproductive health services offered (out of 6)	5.5	4.8	0.035	4.0	4.2	0.268
Counseling						
# of protocols on FP counseling (out of 5)	2.4	1.1	0.002	1.2	2.4	0.000
# of visual aids for demonstrating use of FP (out of 9)	5.0	3.8	0.081	3.7	3.9	0.397
Facility has private room for FP counseling (%)	77.4	78.7	0.600	76.8	84.4	0.119
Whether there is an individual client card for FP (%)	100.0	76.9	0.001	90.5	82.6	0.072
Number of years of FP experience of providers						
PROCESS						
Waiting time (minutes)	30.8	38.0	0.612	24.5	33.2	0.149

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Signific. Level p-value	Mean Value		Signifc. Level p-value
	Public (n=43)	NGO (n=20)		Public (n=200)	NGO (n=165)	
Interpersonal						
Privacy ensured during examination (%)	73.8	71.6	0.096	83.1	90.5	0.008
Asked clients about concerns with methods or currently used method (%)	78.3	84.9	0.270	73.5	83.4	0.089
Confidentiality assured (%)	37.0	40.8	0.355	46.5	36.1	0.311
Provider explained method use (%)	70.1	70.1	0.856	75.7	73.3	0.248
Provider prescribed injectable (%)	68.3	68.8	0.761	71.9	81.1	0.555
Technical						
Reproductive history (out of 11)	3.0	2.6	0.438	2.2	2.2	0.822
Physical examination (out of 5)	2.4	2.4	0.883	2.2	2.2	0.529
Injectable procedure (out of 9)	6.6	6.3	0.337	6.1	6.6	0.007
Duration of consultation (minutes)	28.3	24.1	0.466	25.9	22.8	0.251

TABLE 5B. DIFFERENCES IN ATTRIBUTES OF QUALITY (BIVARIATE ANALYSIS) – KENYA

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Significant. Level p-value	Mean Value		Significant. Level p-value
	Public (n=87)	NGO (n=60)		Public (n=72)	NGO (n=104)	
BASIC						
Catchment area population	264,646	296,768	0.858	26,374	29,653	0.507
STRUCTURE						
Infrastructure and equipment						
Physical infrastructure (# of amenities)	4.56	4.87	0.103	3.37	3.78	0.076
Examination room (# of items present)	7.32	7.57	0.406	6.68	7.06	0.099
Management						
System for review of management (%)	91.5	92.5	0.342	82.2	69.6	0.010
System for collecting client opinion (%)	74.3	78.2	0.555	58.4	65.9	0.203
Routine quality assurance program (%)	62.5	72.0	0.154	44.1	49.7	0.779
Last supervisory visit within 6 months (%)	91.2	80.4	0.147	95.6	92.6	0.022
Facility has stock inventory and stock is organized and protected (%)	79.6	53.4	0.000	57.6	29.1	0.000
Stock inventory, quality (%)	60.5	40.9	0.007	49.41	24.0	0.008
Availability of services						
Number of days FP services provided	5.1	5.2	0.342	5.1	5.5	0.043
Trained provider always present (%)	93.7	100.0	0.059	37.2	56.6	0.018
# of FP methods offered (out of 14)	6.8	5.8	0.026	4.9	3.9	0.001
# of other reproductive health services offered (out of 6)	4.4	4.2	0.296	3.6	3.5	0.301
Counseling						
# of protocols on FP counseling (out of 5)	1.0	0.8	0.310	1.1	0.9	0.179

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Significance Level p-value	Mean Value		Significance Level p-value
	Public (n=87)	NGO (n=60)		Public (n=72)	NGO (n=104)	
# of visual aids for demonstrating use of FP (out of 9)	3.0	2.1	0.001	2.4	1.8	0.000
Facility has private room for FP counseling (%)	75.8	81.0	0.753	75.8	81.0	0.725
Whether there is an individual client card for FP (%)	92.0	59.1	0.000	74.4	49.4	0.037
Number of years of FP experience of providers	6.3	5.6	0.026	8.1	7.5	0.306
PROCESS						
Waiting time (minutes)	69.2	67.8	0.954	65.2	21.9	*0.000*
Interpersonal						
Privacy ensured during examination (%)	79.3	73.0	0.039	81.1	84.7	0.004
Asked clients about concerns with methods or currently used method (%)	74.9	70.5	0.937	61.0	90.2	0.003
Confidentiality assured (%)	53.4	51.9	0.893	35.7	52.7	0.004
Provider explained method use (%)	73.0	79.0	0.965	72.0	64.3	0.273
Provider prescribed injectable (%)						
Technical						
Reproductive history (out of 11)	3.0	2.1	0.008	2.3	2.7	0.322
Physical examination (out of 5)	3.2	3.2	0.827	2.9	3.0	0.618
Injectable procedure (out of 9)	3.8	3.8	0.971	3.6	3.9	0.137
Duration of consultation (minutes)	16.2	15.7	0.796	13.8	18.5	0.106

TABLE 5C. DIFFERENCES IN ATTRIBUTES OF QUALITY (BIVARIATE ANALYSIS) – TANZANIA

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Significance Level p-value	Mean Value		Significance Level p-value
	Public (n=87)	NGO (n=24)		Public (n=315)	NGO (n=56)	
BASIC						
Catchment area population	226,392	106,242	0.204	8,590	7,255	0.401
STRUCTURE						
Infrastructure and equipment						
Physical infrastructure (# of amenities)	3.72	3.85	0.308	2.51	3.65	0.000
Examination room (# of items present)	6.93	6.48	0.227	6.53	7.14	0.022
Management						
System for review of management (%)	100.0	89.1	0.056	79.2	85.9	0.440
System for collecting client opinion (%)	95.9	89.6	0.928	82.1	39.7	0.000
Routine quality assurance program (%)	92.6	86.5	0.211	45.6	40.5	0.586
Last supervisory visit within 6 months (%)						
Facility has stock inventory and stock is organized and protected (out of 3)	79.8	60.1	0.004	64.0	44.6	0.001

	Hospitals			Health Centers, Clinics & Other Facilities		
	Mean Value		Signific. Level p-value	Mean Value		Signific. Level p-value
	Public (n=87)	NGO (n=24)		Public (n=315)	NGO (n=56)	
Availability of services						
Number of days FP services provided	5.0	5.2	0.000	4.9	4.6	0.000
Trained provider always present (%)	96.9	89.6	0.867	53.4	72.8	0.003
# of FP methods offered (out of 14)	6.8	6.1	0.029	4.5	4.0	0.004
# of other reproductive health services offered (out of 6)	4.8	4.8	0.270	4.7	4.0	0.000
Counseling						
# of protocols on FP counseling (out of 5)	1.5	1.0	0.004	1.2	0.8	0.007
# of visual aids for demonstrating use of FP (out of 9)	4.3	2.1	0.000	2.9	2.3	0.011
Facility has private room for FP counseling (%)	81.0	64.6	0.650	80.9	71.8	0.089
Whether there is an individual client card for FP (%)	97.8	82.3	0.000	81.6	60.1	0.000
PROCESS						
Waiting time (minutes)	81.2	81.4	0.988	69.5	25.4	0.000
Interpersonal						
Privacy ensured during examination (%)	91.9	100.0	0.025	79.4	74.4	0.644
Asked clients about concerns with methods or currently used method (%)	84.1	84.0	0.352	75.0	81.8	0.149
Confidentiality assured (%)	77.3	88.5	0.733	58.5	66.5	0.251
Provider explained method use (%)	87.4	98.2	0.104	86.2	76.9	0.173
Provider prescribed injectable (%)	60.3	52.7	0.492	58.5	49.9	0.398
Technical						
Reproductive history (out of 11)	2.9	2.8	0.927	2.2	2.3	0.850
Physical examination (out of 5)	2.7	2.8	0.180	2.0	2.6	0.003
Injectable procedure (out of 9)	3.5	3.6	0.699	3.0	3.1	0.701
Duration of consultation (minutes)	16.7	16.5	0.887	13.0	13.0	0.986

3.1.1 STRUCTURAL ATTRIBUTES

In general, there do not appear to be systematic differences in infrastructure and equipment at the hospital level, with the exception of hospitals in Ghana (where exam rooms in public hospitals are better stocked than in nongovernmental organization [NGO] hospitals). At the health center level and below, private facilities in all three countries score higher on measures of physical infrastructure and necessary equipment in examination rooms.

On the other hand, public facilities – both hospitals and lower – tend to offer more FP methods than private facilities. In Ghana, public hospitals offer 10.5 FP methods on average, considerably more than private not-for-profit hospitals, which offer 5.7 methods on average. No statistically significant differences in FP availability were apparent at lower-level facilities. Further, public facilities fairly consistently had more FP guidelines and protocols available, more visual aids, and were more likely to have individual client cards than private facilities.

Only in Tanzania were measures of management systems significantly better at both public hospitals and health centers relative to private facilities. For example, nearly 80 percent of public hospitals in Tanzania had a stock inventory that was organized and protected as compared with only 60 percent of private/NGO hospitals. Similarly, 64 percent of public health centers had similar stock inventory systems as compared with less than half of private facilities.

3.1.2 PROCESS ATTRIBUTES

While the picture surrounding structural quality at public and private facilities was mixed, process quality was clearly better at private facilities. In no country and at neither hospitals nor health centers were process measures of quality significantly better at public relative to private facilities. For example, over 90 percent of clients at NGO health centers in Kenya reported that providers asked about client concerns regarding methods or method use as compared to only 61 percent of providers at public health centers. The probability that confidentiality would be assured also appeared higher at private relative to public facilities.

Further, waiting times were nearly always considerably longer at public facilities than NGO facilities, at least at lower-level facilities. In both Kenya and Tanzania, FP clients waited over 40 minutes longer on average at public sector health centers than at private health centers and clinics. No statistically significant differences in waiting times were found at hospitals in any of the three countries, and the duration of the FP consultation was roughly the same across public and providers in all three countries as well.

Regardless of perceived quality, there appeared to be few differences in technical aspects of quality between private/NGO facilities and public facilities. Only in Kenyan hospitals were there statistically significant differences in the taking of reproductive histories between public and private facilities (with public hospitals faring better). Physical exams also appeared to be similar, as were injectable procedures.

3.2 DIFFERENCES IN SATISFACTION: BIVARIATE ANALYSIS

At all levels and in all three countries, respondents reported higher satisfaction with the quality of the examination and treatment at private facilities (Tables 6A-6C). In some cases, these differences were not large though they were statistically significant. For example, in Tanzania 96.8 percent of respondents reported "no problem" with the quality of treatment in public hospitals versus 99.4 percent of respondents at NGO hospitals. While this differential appears small (and clearly nearly all respondents even at public hospitals appear very satisfied with the quality), it was statistically significant at the 5 percent level.

Significant differentials in perceptions of quality appeared to be strongly associated with longer waiting times. For example, roughly 40 percent of clients reported problems with waiting times at public clinics in Kenya versus only 5 percent of clients at private clinics.

A second area of clear differences between public and private facilities was with the availability of medicines or contraceptive methods. For example, only two-thirds of respondents reported "no problem" for availability at public clinics in Kenya, versus 91 percent for private clinics. A similar result was found in Tanzania though not in Ghana.

In general in Ghana, perceptions of quality were high at both public and private facilities. The highest levels of dissatisfaction were with the cleanliness of public health centers, for which 12 percent of respondents reported a problem.

TABLE 6A. DIFFERENCES IN RATINGS OF SATISFACTION (PERCENT SAYING "NO PROBLEM") – GHANA

	Hospitals			Health Centers, Clinics, & Other Facilities		
	Mean Value		Signific. Level p-value	Mean Value		Signific. Level p-value
	Public (n=172)	NGO (n=32)		Public (n=242)	NGO (n=165)	
PROBLEMS						
Time you waited	90.6	96.0	0.220	90.1	93.1	0.300
Ability to discuss problems or concerns about your health with the provider	97.2	100.0	0.046	93.9	97.0	0.245
Amount of explanation you received about any problem or method of FP	96.3	100.0	0.008	92.0	96.1	0.172
Quality of the examination and treatment provided	96.2	96.5	0.952	93.2	97.1	0.122
Privacy from having others see the examination	97.1	100.0	0.047	95.5	95.7	0.926
Privacy from having others hear your consultation discussion	96.7	100.0	0.046	94.8	96.5	0.469
Availability of medicines or methods at this facility	94.9	98.2	0.208	96.4	97.6	0.537
Hours of service at this facility	94.8	96.0	0.762	93.0	97.7	0.032
Cleanliness of the facility	96.3	92.5	0.394	88.7	94.0	0.168
How the staff treated you	97.9	100.0	0.096	96.4	98.4	0.280
Other	88.8	89.6	0.928	84.3	96.1	0.009
Total "yes"	10.5	10.7	0.194	10.2	10.6	0.046
OUTCOME						
Client satisfaction (%)	71.1	76.3	0.341	59.2	81.2	0.000

TABLE 6B. DIFFERENCES IN RATINGS OF SATISFACTION (PERCENT SAYING "NO PROBLEM") – KENYA

	Hospitals			Health Centers, Clinics, & Other Facilities		
	Mean Value		Signific. Level p-value	Mean Value		Signific. Level p-value
	Public (n=346)	NGO (n=67)		Public (n=130)	NGO (n=85)	
PROBLEMS						
Time you waited	59.4	69.0	0.262	60.3	95.2	0.000
Ability to discuss problems or concerns about your health with the provider	86.5	83.4	0.605	89.9	94.8	0.256

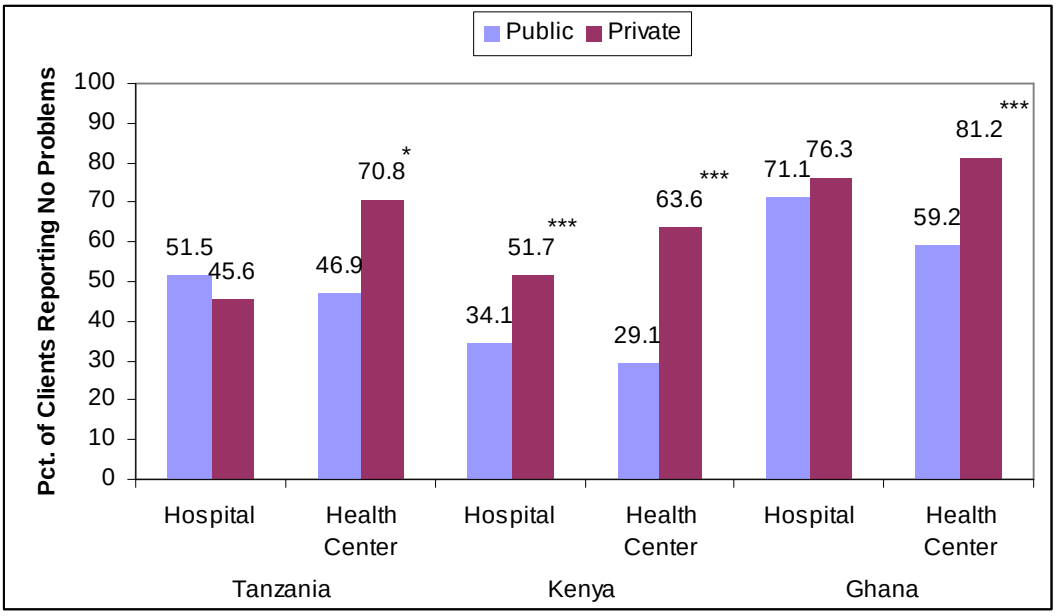
Amount of explanation you received about any problem or method of FP	88.3	88.4	0.991	85.9	93.2	0.119
Quality of the examination and treatment provided	88.3	93.9	0.196	89.0	99.0	0.001
Privacy from having others see the examination	90.5	82.8	0.238	87.6	87.2	0.961
Privacy from having others hear your consultation discussion	88.5	83.4	0.444	87.6	93.8	0.364
Availability of medicines or methods at this facility	73.8	82.8	0.108	67.6	90.6	0.014
Hours of service at this facility	83.1	88.0	0.294	86.8	99.0	0.001
Number of days services are available to you	88.0	90.4	0.532	89.2	98.1	0.009
Cleanliness of the facility	84.6	93.6	0.042	89.4	99.5	0.006
How the staff treated you	87.1	93.6	0.131	90.0	99.7	0.001
Cost for services or treatment	93.8	84.0	0.404	90.5	96.9	0.133
Total "yes"	10.1	10.3	0.669	10.1	11.5	0.000
OUTCOME						
Client satisfaction (%)	34.1	51.7	0.000	29.1	63.6	0.000

TABLE 6C. DIFFERENCES IN RATINGS OF SATISFACTION (PERCENT SAYING "NO PROBLEM") – TANZANIA

	Hospitals			**Health Centers, Clinics, & Other Facilities**		
	Mean Value		**Signific. Level p-value**	**Mean Value**		**Signific. Level p-value**
	Public (n=87)	**NGO (n=24)**		**Public (n=314)**	**NGO (n=55)**	
PROBLEMS						
Time you waited	69.8	70.4	0.914	74.1	85.8	0.062
Ability to discuss problems or concerns about your health with the provider	94.8	98.8	0.022	96.7	100.0	0.002
Amount of explanation you received about any problem or method of FP	94.8	98.8	0.011	95.5	94.8	0.846
Quality of the examination and treatment provided	96.8	99.4	0.023	95.9	100.0	0.000
Privacy from having others see the examination	94.8	90.2	0.586	96.0	92.7	0.630
Privacy from having others hear your consultation discussion	95.2	100.0	0.001	95.9	90.1	0.391
Availability of medicines or methods at this facility	83.6	92.2	0.095	79.5	94.9	0.000
Hours of service at this facility	91.6	87.9	0.432	88.7	97.6	0.002
Number of days services are available to you	94.9	85.3	0.210	92.1	92.4	0.932
Cleanliness of the facility	87.0	94.0	0.131	87.0	97.4	0.003
How the staff treated you	93.8	99.4	0.000	92.4	100.0	0.000
Cost for services or treatment	93.8	95.1	0.762	96.0	92.4	0.395
Total "yes"	10.9	11.1	0.389	10.9	11.4	0.045
OUTCOME						
Client satisfaction (%)	51.5	45.6	0.608	46.9	70.8	0.016

Using the discrete measure of quality – the absence of any problems during an FP consultation – the differences are more stark, as shown by Figure 1. In four out of six cases, satisfaction was higher at private facilities relative to public facilities. In Kenya, nearly two-thirds of FP clients at private health centers reported no problem as compared with just under one-third of FP clients at public health centers. There tended to be greater parity in satisfaction at hospitals relative to health centers, and in fact satisfaction at public hospitals was higher in Tanzania – but not at a statistically significant level – than at private hospitals, though in both cases only about half of clients reported no problems.

FIGURE 1. PERCEPTIONS OF QUALITY AT PUBLIC AND PRIVATE HOSPITALS AND HEALTH CENTERS



*p<0.05, **p<0.01, *** p<0.001

3.3 CORRELATES OF CLIENT SATISFACTION: MULTIVARIATE ANALYSIS

We examined the correlates of client satisfaction among clients of NGO and public sector clinics in each of the countries. Overall, even when controlling for specific attributes of quality, private facilities seem to have higher levels of client satisfaction than public facilities (Table 7). This was true at the clinic level in all three countries. Further, the measures of quality that most impacted upon client perceptions of quality were those that were most directly observable by them, namely process attributes of quality, for which private facilities tended to score better.

TABLE 7. FACTORS ASSOCIATED WITH CLIENT SATISFACTION (COEFFICIENTS FROM MULTIVARIATE ANALYSIS)

	Ghana				Kenya				Tanzania			
	Hospital		Clinic		Hospital		Clinic		Hospital		Clinic	
Independent Variables	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**
NGO	0.4178 (0.231)	0.3034* (0.014)	0.7329** (0.002)	0.2128 (0.149)	0.4955 (0.178)	0.2300 (0.099)	0.4952 (0.119)	0.6930*** (0.000)	-0.4634 (0.108)	0.0566 (0.760)	2.4378* (0.029)	1.1462* (0.014)
Urban					0.027 (0.967)	0.0382 (0.91)	-0.8547 (0.19)	-0.8163* (0.013)				
Log (catchment pop)	0.4741 (0.051)	0.1487 (0.194)	0.1633 (0.534)	-0.1145 (0.369)	-0.0402 (0.675)	-0.0439 (0.48)	-0.0101 (0.952)	-0.0563 (0.561)	0.0933 (0.268)	-0.0037 (0.95)	-0.1155 (0.265)	-0.0689 (0.278)
Facility inventory	-0.0166 (0.865)	-0.0337 (0.429)	0.0993 (0.053)	0.0345 (0.199)	-0.0956 (0.117)	-0.0549 (0.117)	0.1234 (0.125)	0.1243** (0.005)	0.1091* (0.022)	0.0628* (0.048)	-0.0587 (0.11)	-0.0129 (0.577)
Trained provider present 24 hours		-0.219 (0.262)	-0.0696 (0.703)	-0.0488 (0.703)	0.2186 (0.518)	-0.1617 (0.548)	0.7691* (0.038)	0.0377 (0.841)	0.034 (0.967)	0.176 (0.74)	0.1819 (0.309)	0.1041 (0.373)
Supervisory visit in last 6 months	-1.1562* (0.028)	-0.3568 (0.057)	-0.1475 (0.580)	-0.0381 (0.789)	-0.3477 (0.260)	-0.3453* (0.033)	-1.4670* (0.042)	-0.1202 (0.736)				
Number of staff					0.0018 (0.070)	0.0011 (0.179)	0.0015 (0.611)	0.0018 (0.18)	-0.0004 (0.742)	0.0001 (0.911)	0.0171 (0.178)	0.0077 (0.213)
Number of days FP offered	0.4559* (0.049)	-0.0724 (0.629)	0.0512 (0.380)	-0.0475 (0.126)	0.0479 (0.841)	-0.0531 (0.606)	0.0267 (0.885)	-0.1272 (0.219)	-0.4142 (0.124)	0.0081 (0.957)	0.0953 (0.295)	0.0085 (0.886)
System of quality assurance	-0.0946 (0.751)	0.0541 (0.696)	0.0457 (0.834)	-0.0835 (0.517)	-0.049 (0.83)	0.0566 (0.700)	0.0415 (0.874)	-0.1356 (0.331)	0.0086 (0.979)	0.3349 (0.225)	0.1257 (0.424)	0.0177 (0.84)
Total FP methods offered	0.016 (0.861)	0.0255 (0.486)	-0.0587 (0.289)	-0.0011 (0.977)	-0.0413 (0.478)	-0.0839* (0.023)	-0.2152 (0.079)	0.0606 (0.294)	0.0781 (0.248)	0.0239 (0.582)	0.095 (0.222)	0.1195 (0.085)
Protocols on FP followed	-0.069 (0.563)	0.0495 (0.489)	-0.0117 (0.885)	-0.0297 (0.623)	0.0839 (0.418)	0.1239 (0.067)	-0.2139 (0.154)	-0.0046 (0.955)	0.0531 (0.641)	0.0086 (0.900)	0.1396 (0.055)	0.1376** (0.001)
FP client record maintained		0.0612 (0.936)	0.2400 (0.511)	0.0341 (0.831)	-0.2400 (0.455)	-0.3421* (0.022)	1.1700** (0.002)	0.3688 (0.064)	0.1208 (0.756)	-0.0803 (0.619)	-0.1319 (0.611)	-0.1831 (0.187)
Quality stock inventory	0.4317* (0.014)	-0.0026 (0.970)	-0.0481 (0.655)	0.121 (0.115)	-0.0622 (0.800)	-0.0477 (0.716)	0.2252 (0.447)	0.1147 (0.572)	0.0298 (0.88)	0.0753 (0.656)	0.0288 (0.862)	-0.0095 (0.926)
Number trained					-0.0589 (0.352)	-0.1385** (0.004)	0.2183 (0.099)	-0.0317 (0.648)				

	Ghana				Kenya				Tanzania			
	Hospital		Clinic		Hospital		Clinic		Hospital		Clinic	
Independent Variables	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**	**No problems**	**Index of satisfaction**
Visual & auditory privacy ensured	0.0516 (0.891)	-0.1216 (0.603)	-0.176 (0.437)	0.0373 (0.824)	-0.1143 (0.61)	-0.0926 (0.626)	0.3986 (0.286)	0.0989 (0.656)	-0.0104 (0.984)	0.3347 (0.433)	0.0693 (0.727)	0.1567 (0.255)
No. of RH and physical exam elements performed	0.0279 (0.310)	0.013 (0.23)	0.0203 (0.366)	0.0308* (0.05)	0.0273 (0.247)	0.0431* (0.012)	0.1418** (0.003)	0.0268 (0.307)	-0.0251 (0.352)	-0.0227 (0.234)	0.0133 (0.565)	0.0222 (0.117)
Client concerns noted	0.4387 (0.082)	0.0519 (0.604)	-0.0547 (0.764)	-0.1181 (0.369)	-0.0791 (0.716)	0.0142 (0.917)	0.2557 (0.511)	0.0177 (0.932)	-0.1051 (0.647)	-0.1891 (0.166)	-0.2422 (0.175)	-0.0059 (0.961)
Confidentiality assured	-0.0883 (0.773)	0.1231 (0.385)	0.0516 (0.785)	-0.1013 (0.466)	0.373 (0.063)	0.4389** (0.002)	0.4255 (0.133)	-0.0138 (0.926)	0.4644 (0.094)	0.2149 (0.139)	-0.1702 (0.310)	-0.071 (0.505)
Client told about side effects	-0.0864 (0.773)	0.0104 (0.945)	0.442 (0.055)	0.5430** (0.005)	-0.1149 (0.512)	-0.072 (0.48)	-0.2877 (0.502)	-0.0759 (0.71)				
Injectable method prescribed	0.1259 (0.618)	0.149 (0.264)	0.2749 (0.135)	0.3884* (0.032)	0.0921 (0.668)	-0.113 (0.271)	0.0998 (0.785)	-0.2611 (0.174)	0.5246** (0.002)	0.3512* (0.036)	0.0821 (0.560)	0.1483 (0.142)
Waiting time	-0.0048* (0.019)	-0.0021* (0.042)	-0.009*** (0.000)	-0.0037** (0.001)	-0.008*** (0.000)	-0.004*** (0.000)	0.011*** (0.000)	-0.003 (0.090)	-0.007*** (0.000)	-0.0030*** (0.000)	0.0406 (0.096)	0.0237** (0.008)
Age	0.0003 (0.988)	0.0134 (0.294)	0.0029 (0.788)	0.0036 (0.446)	0.0027 (0.839)	-0.0058 (0.468)	-0.0188 (0.402)	-0.0219 (0.159)	-0.0358 (0.074)	-0.0002 (0.987)	-0.0048 (0.604)	-0.0019 (0.732)
Primary school education	0.5967* (0.019)	0.0369 (0.798)	-0.1207 (0.563)	0.3034* (0.033)	-0.1155 (0.293)	-0.0878 (0.186)	-0.2297 (0.263)	-0.1586 (0.237)	-0.0238 (0.820)	-0.0342 (0.695)	-0.0602 (0.463)	0.0201 (0.726)
Secondary school education	0.8252** (0.002)	0.0824 (0.587)	-0.1366 (0.380)	0.2054 (0.086)								
Intercept	-4.5372* (0.042)	-0.3599 (0.597)	-1.6069 (0.204)	-0.7146 (0.260)	1.8286 (0.288)	3.1225*** (0.001)	-0.675 (0.755)	0.5066 (0.710)	0.2395 (0.913)	-1.4728 (0.314)	-2.2200 (0.272)	-1.9172 (0.059)
N	197	204	407	407	390	390	208	208	322	322	450	450
r^2		0.1158		0.1735		0.2579		0.2372		0.1653		0.0825
F	2.1151	.	2.879	1.2948	6.3419	14.0259	3.9912	2.7142	2.1756	4.4956	1.3143	1.1052

p-values in parentheses: * p<0.05, ** p<0.01, *** p<0.001

3.3.1 STRUCTURE

Few measures of structural quality appeared to affect client satisfaction. Service availability – as measured by the number of FP methods offered and the number of days per week that FP services were offered – had little impact on client satisfaction. Whereas public facilities appeared in bivariate analyses to have better management systems (e.g., having a system of quality assurance, having appropriate stock management procedures in place), these did not show a statistically significant association with client satisfaction in the multivariate analyses – perhaps because competitive mechanisms were less prevalent as a measure of accountability. Having a supervisory visit in the last six months was actually negatively associated with client satisfaction in two cases, possibly because more troubled facilities are likely to require closer supervision. Other structural factors that had little influence were the presence of FP protocols and guidelines, staff training, number of staff, and ensuring privacy.

3.3.2 PROCESS

Longer waiting times were consistently negatively associated with client satisfaction at all facilities and countries. Conversely, the performance of more physical and RH exam elements increased satisfaction, as did prescribing an injectable method. Each of these aspects of quality are easily discernible, even to an untrained client, and are therefore likely to perceptibly influence satisfaction, though they may bear little relationship with technical quality. Other process factors had little influence, including maintaining confidentiality, informing clients of potential side effects, and noting client concerns.

4. DISCUSSION

This study has focused on client satisfaction as it relates to clients' perceptions of the quality of FP services. As expected, there is little evidence that client satisfaction bears much relationship with technical aspects of quality, as perception of adherence to appropriate FP procedures requires a higher level of knowledge and awareness than is likely to be possessed by the typical FP client. What can be perceived, however, are more direct aspects, such as whether or not the client is treated respectfully, whether or not the client receives the services needed or desired, or whether or not the client has to wait for a long time to be seen and treated. For each of these aspects, client satisfaction is demonstrably better when these elements are present. These aspects also tended to be better at private facilities relative to public facilities, at least at the clinic level.

Higher process quality at private facilities represents a potentially important finding for the design and implementation of FP service delivery programs. To the extent that higher client satisfaction increases the likelihood that clients will continue the use of methods, and thus have their contraceptive needs met, the private sector may provide an important means for improving RH in developing countries. This study, however, did not measure outcomes such as contraceptive discontinuation rates or method failure rates, thereby leaving open an important area for further study.

One key limitation of this analysis, however, is that it relies upon exit interviews, which by definition involve a sample of clients who have already made a choice to appear at a specific facility and are therefore likely to believe that the facility will be minimally satisfactory. Non-users may have chosen to go elsewhere or to do nothing, simply because they do not believe that quality will be satisfactory. To eliminate this potential over-estimate of client satisfaction would require a considerably larger sample size and a more complex research design. Information on RH choices and satisfaction would need to be collected from a random sample of reproductive age women – not just FP clients – linked to their supply environment as measured with a SPA. Depending upon contraceptive prevalence and researcher preferences for estimates by type of facility and operating authority, such a study may be cost-prohibitive.

Finally, and perhaps most importantly, this analysis was not able to distinguish between for-profit and not-for-profit private facilities, which are likely to face very different incentive structures that affect tradeoffs between cost savings and different aspects of quality. Nonetheless, despite the inability to distinguish between for-profit and not-for-profit facilities, this study makes an important contribution, in that it highlights differences in quality between public and private facilities according to three aspects of quality and fills a gap in knowledge on this topic by linking process quality to client satisfaction. Future large-scale studies, such as the SPAs, should make a point to distinguish between different types of private facilities, and to make this data available to researchers. Further, as the private sector appears to be an important provider of RH services in the three countries studied, care should be taken to prevent the implementation of policies or regulations that significantly burden or hamper the functioning of the private sector lest national-level RH indicators suffer as a result.

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