Integrating Family Planning Services into Voluntary Counseling and Testing Centers in Kenya

Operations Research Results

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List of Acronyms

CDC	Centers for Disease Control and Prevention
CPI	Client Provider Interaction
DRH	Division of Reproductive Health
FP	Family Planning
IUCD	Intrauterine contraceptive device
MOH	Ministry of Health
NASCOP	National AIDS and STD Control Programme
OR	Operations Research
RA	Research Assistant
STI	Sexually Transmitted Infection
TOT	Training of Trainers
VCT	Voluntary Counseling and Testing

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Introduction

Current investments by the international HIV/AIDS sector to expand health services offer unprecedented opportunities to reinforce health care infrastructures. Strengthened reproductive health services, and contraceptive services in particular, are imperative (WHO, 2004; UNFPA, 2004), since their benefits are highly complementary to and synergistic with HIV/AIDS control objectives. Evidence is accumulating that contraception is a potentially powerful and cost-effective HIV prevention strategy (Reynolds et al., 2006; Reynolds et al., 2005; Stover et al., 2004; Sweat et al., 2004), enabling HIV-infected women to prevent undesired pregnancies, thereby averting mother-to-child HIV transmission.

One strategy for extending the benefits of contraceptive services to people affected by HIV is to integrate these services into HIV/AIDS services. Contraceptive services are integral components of HIV services, as opposed to mere complements, since they lead to the same outcome, namely a decrease in HIV infections. For both individuals who are HIV infected and those who are not, contraception offers a variety of established benefits to the mother, her family, and her community (Singh et al., 2003; WHO, 1995).

Despite the potential contribution of contraception to HIV prevention, HIV resources are not available for family planning programs. Moreover, funding for family planning programs has at best plateaued and is not sufficient to meet the needs of the growing number of women who desire to delay or limit childbearing. A number of factors hinder buy-in to contraceptive services by HIV/AIDS stakeholders, such as territoriality issues, as HIV/AIDS services and family planning services are funded and administered separately. Further, there are concerns of potential negative effects on HIV/AIDS services. Adding family planning to VCT may result in longer client contact times, which may in turn result in longer client waiting times, diluted HIV prevention messages, and increased responsibilities for already over-burdened providers. Fueling these concerns, however, is the lack of real-world evidence of program effectiveness despite multiple studies modeling the potential benefit.

Advocates of family planning and HIV service integration require evidence of service delivery strategies that comprehensively and effectively respond to the contraceptive needs of HIV/AIDS clients without detracting from HIV/AIDS services. To help generate such evidence, FHI has undertaken a study of the costs and effectiveness of integrating contraceptive services into voluntary HIV counseling and testing (VCT) services.

Rationale for integrating contraception into VCT

FHI has prioritized the integration of contraceptive services into VCT because this strategy has the potential to extend contraceptive services to those, such as men and adolescents, who do not typically attend vertical family planning services. Integration augments the prevention potential offered in VCT, providing benefits to the majority of VCT clients who will be HIV negative.

There exists a high level of unmet need for contraception in both Africa as a whole (25%) and in Kenya specifically (24.5%) (Alan Guttmacher Institute, 1999; ORC Macro, 2005). Firm estimates of unmet need among VCT clients, however, are not available. An assessment of VCT centers in Kenya in 2002 demonstrated that over one-half of sexually active VCT clients reported that they either did not use contraceptive methods or used traditional methods (Reynolds et al., 2003). If the level of unmet need for contraception in VCT is the same as it is among currently married women age 15-49, then incorporating contraceptive services into VCT has the potential to substantially increase contraceptive use, given that 110,000 people received VCT services in Kenya in 2002 (The Policy Project, 2004).

Integration in Kenya

Kenya is an ideal country in which to investigate the effectiveness of an integrated family planning-VCT (FP-VCT) strategy. HIV prevalence is relatively high (4.6% male, 8.7% female), and there is a high level of unmet need for contraception (ORC Macro, 2005). A major concern of the Kenyan government, program implementers, and donors is that the VCT program has been evolving parallel to other efforts, especially those of the Ministry of Health (MOH), that are aimed at integrating services. The MOH, with program implementers and donors, has engaged in efforts to integrate and coordinate policy, strategy development, and program implementation. One such step has been to include family planning in the MOH VCT service provision guidelines (MOH, 2001).

It is in this context that FHI undertook an operations research (OR) study informed by a June 2002 assessment of the potential demand, acceptability, and feasibility of integration of family planning services into VCT centers (Reynolds et al., 2003). Findings from that assessment helped subsequent efforts to develop and implement a strategy for integration of these two services.

After being presented with the integration assessment's positive results, NASCOP's Main VCT Committee immediately formed an FP-VCT subcommittee and charged it with developing an integration strategy. This subcommittee was composed of VCT and family planning experts from NASCOP (subcommittee co-chair), the DRH (co-chair), FHI (facilitator), JHPIEGO, AMKENI, Centers for Disease Control (CDC), Kenyatta National Hospital, KICOSHEP, and the National Leprosy and Tuberculosis Program.

The resulting Kenyan FP-VCT integration strategy addresses integration in both directions and defines integration as the "incorporation of some or all of family planning services into VCT or vice versa." Current efforts focus on integration of family planning into VCT, and the strategy has organized the family planning components into different 'recommended levels' of integration.

- At the first level of integration, VCT providers conduct a risk assessment for pregnancy, sexually transmitted infections (STIs), and HIV; provide counseling and information and education on family planning and STIs and HIV; and provide pills and condoms to the clients.
- A second level of integration includes all of the elements in the first level and the provision of injectable contraceptives.
- The third level of integration includes components from the first two levels and adds the provision of intrauterine contraceptive devices (IUCDs).
- The fourth level includes provision of the full range of family planning methods.

At the core, providers working at all levels should be able to assess for pregnancy and STI/HIV infection risks, provide information and counseling on FP methods, and refer clients for services not available. The expectation is that all VCT centers will at least practice Level 1 integration. Implementation of Level 2 and above will depend on the specific characteristics of the facility and its providers. Further, it is possible that within facilities the level of integration offered by providers may vary by provider, depending on their qualifications. In general, the strategy recommends that VCT centers identify what is currently feasible and practical given the existing infrastructure and then choose to what extent family planning can be integrated into VCT in their centers.

Study objectives

The objectives of this study are to:

1. Determine the effectiveness and costs of adding selected levels of family planning services to VCT centers.

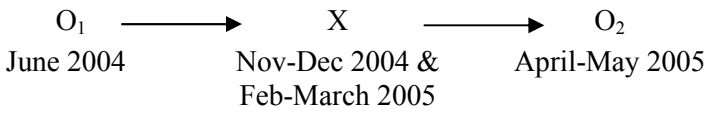
2. Determine the effect of adding family planning services on VCT quality of care.

Methods

Study design

This study used a one-group, pre- and post-test design from a sample of VCT centers (Figure 1.1). Data were collected at baseline during June 2004, the intervention was implemented in November-December 2004 and February-March 2005, and post-test data collection occurred in April-May 2005.

Figure 1.1. One-group, pre- and post-test design.



Symbols O_{1-2} represent the pre- and post-test observations, and X represents the intervention.

This study excluded a control group because resources were limited and there were essentially no family planning services offered in VCT settings prior to the intervention. This design is appropriate to compare VCT service delivery before and after family planning services are introduced.

Study intervention

The intervention included integration of at least the first level of family planning services into VCT as outlined in the draft MOH integration strategy. The intervention was implemented in more sites than were originally included in the OR study because funding was obtained to scale up integration after the OR was initiated. The following activities were needed to put the strategy into practice:

Development of a training curricula: EngenderHealth/AMKENI and JHPIEGO had both developed materials to orient and train providers in FP-VCT integration. The content of these materials was approved in June 2004 by the Main VCT Committee and subsequently merged into one training manual in February 2005.

Advocacy and sensitization: In August 2004, provincial-level sensitization meetings sponsored by the FP-VCT subcommittee and FHI were held to raise awareness of findings of the 2002 assessment and of the benefits of contraception to VCT clients. There were nine meetings with provincial health management teams (PHMTs) and district health management teams (DHMTs) attended by about 330 people. A brochure to explain the benefits of family planning to VCT clients was developed.

Training of trainers and providers and supportive supervision: Before selecting sites at which to hold FP-VCT integration training, the MOH conducted pre-training site assessments were to identify appropriate sites and staff to be trained. In total, 38 reproductive health and VCT trainers of trainers from all eight provinces, and 101 providers from 62 centers, were trained. Approximately two VCT providers from each facility, including the study facilities, were trained in FP-VCT integration. After the training, the MOH team and JHPIEGO provided supportive supervision visits to more than two-thirds of the trainees.

Study sites

This study was conducted in 14[1] VCT centers. The MOH used the following criteria for choosing sites:

1. The provincial health teams agreed to integrate at least Level 1 family planning services into MOH VCT centers in the province.
2. VCT centers were selected to obtain a diverse sample based on type of facility (district hospital, health center, or stand-alone facility).
3. VCT centers had to have at least two VCT providers.
4. Sites were to be located in Western and Coast provinces, where AMKENI is mandated to integrate services.

For a list of study sites, see Appendix A.

Study participants and data collection

At both data collection points, interviews were conducted with VCT supervisors in-charge, VCT providers, and clients. Research assistants (RAs) also conducted observations of client-provider interactions (CPIs).[2]

Supervisors: We interviewed those supervisors directly in-charge of the VCT clinic. Supervisors were asked about the basic VCT functioning in terms of family planning provision, availability of family planning guidelines, community outreach activities, service statistics, family planning services and VCT in the facility, adequacy of supplies and commodities, adequacy of providers' time, their perspectives on the advantages and disadvantages of family planning provision in VCT, and the effect of family planning on VCT quality. During the supervisor interview, research assistants also made independent observations of certain facility characteristics such as the availability of a waiting room and the presence of condoms in the VCT room.

Providers: All VCT providers interviewed were in study facilities and currently providing VCT, but not all of these VCT providers had been trained in FP-VCT integration. The interview collected information on providers' backgrounds, training backgrounds, family planning skills learned, information needed to distribute family planning commodities, client load, pregnancy and HIV prevention messages provided to clients, family planning referral mechanisms, VCT service charges, family planning information and services offered, supplies of commodities, family planning record keeping, and family planning knowledge and attitudes.

Client-provider interaction (CPI) observations: Research assistants observed CPI during the VCT sessions. The research assistants observed providers counseling on HIV and pregnancy prevention and noted what services were offered. The length of the session was also documented.

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[1] The study originally included 20 VCT sites, which was determined based on budget constraints. At baseline, 20 sites met the criteria for inclusion and were selected in consultation with the MOH. The MOH conducted site assessments after baseline data collection and determined that six of the 20 sites were no longer eligible to receive trainings hosted by the MOH (based on MOH criteria). Although baseline data were collected in all 20 sites, this report focuses only on the 14 sites included in baseline and post-test data collection and in the FP-VCT integration training.

[2] Research assistants (RAs) who conducted interviews were typically at least college-educated with degrees in sociology. RAs who conducted observations of CPIs were trained VCT providers. All RAs received training specifically for this study.

Client exit interviews: VCT clients at least 15 years old were interviewed after their VCT session with the providers. Attempts were made to interview the same clients who participated in the CPI observations. The interview covered clients' background characteristics, perspectives about waiting time, satisfaction with services, reports of payment, reports of counseling messages and services from provider, reports of condom use and use of other methods, and fertility desires.

Costs: The economic component of this study assessed the costs of FP-VCT integration activities by measuring the costs of the five primary intervention components, including integration of the training manuals or "harmonization," VCT pre-training site surveys, advocacy activities, training of trainer and provider trainings, as well as the supportive supervision visits conducted in the field.

An Excel-based costing instrument was developed by FHI to track the economic costs during all five components of the intervention. Cost data were collected and recorded by the Kenya Ministry of Health and its development partners (JHPIEGO, AMKENI, and local FHI staff in Kenya) using this Excel-based instrument. During an initial data cleaning, FHI research staff followed up to clarify data inconsistencies. Subsequently, FHI research staff further analyzed the collected data for reliability and made adjustments as necessary.

Ethical considerations

VCT providers served as 'gatekeepers' to clients. Providers determined clients' interest in participating in the study before the RAs were permitted to approach the clients to obtain their consent to participate. In addition to adults aged 18 and older, adolescents aged 15-17 who were considered 'mature minors' by the VCT providers were also asked to participate in the study. For any adolescent (aged 15-17) attending VCT services with his/her parents or guardians, RAs first sought consent from the parent/guardian and then from the adolescent, although the adolescent was interviewed in private.

Kenyatta National Hospital Ethical Review Committee and FHI's Protection of Human Subjects Committee reviewed and approved the study protocol and informed consent process.

Study size

Because we were constrained by the number of study facilities, power calculations were conducted to determine the adequacy of the estimated sample size. Power calculations estimated the number of CPIs needed to measure changes over time in two key indicators—the proportion of providers who screened clients for reproductive intentions and the proportion of providers who made referrals to family planning services or provided methods. Power calculations took into account a stratification variable—whether or not the VCT provider was trained in FP-VCT integration—so that we could evaluate separately the effectiveness for each group (post-test only). Details about the power calculations are available in the study protocol. RAs interviewed all supervisors and VCT providers working on the days RAs were scheduled for data collection at the respective facilities.

Data analysis

The first study objective is to assess the effectiveness and costs of adding selected levels of family planning services to VCT centers. First, we show whether providers attended the training and the factors that affected participation. In order for the training to increase family planning service provision, it must first improve providers' knowledge and attitudes and reduce potential barriers to use. We then examine

whether provision of family planning services in VCT centers changed. Because messages may vary for clients with different characteristics, we also examine whether messages did indeed vary by the characteristics of clients (sex and by HIV status). We also address other aspects of service organization associated with integration. We highlight referral mechanisms, family planning record keeping, and family planning and VCT commodities.

Next we turn to the demand side of the equation. Family planning services in VCT are only useful if there are clients who will benefit from these services. In this section, we show the potential demand for contraception by VCT clients and whether providers identified those clients.

To measure the second objective of the study, VCT quality, we rely on independent assessments of quality and perceptions of quality. First, we present the results of the general VCT quality as measured by independent assessments of VCT providers' interactions with clients, including the content of counseling. Because adding family planning services may affect how providers spend time with clients, (another element of quality), we examine clients' reported waiting time and VCT session length. Next we present the results of how VCT quality was perceived to change with the introduction of family planning services, and finally, we focus on the preferred timing of family planning messages and services in VCT.

In the last section we present the findings from the cost analysis. Although assessing the cost of the intervention is part of the first objective, we present it last because this information can be best interpreted when it is weighed against the effect of the intervention.

All results are presented stratified by time—baseline and post-test. Univariate analyses are conducted on the background characteristics of facilities, providers, and clients participating in the interviews and of clients participating in the CPIs. Bivariable analyses and other cross tabulations of certain (non-cost) variables are conducted in specific situations when more insight is needed. Most importantly, we examine how providers trained in the FP-VCT integration training preformed relative to those VCT providers who did not participate in the training (post-test measures only). Providers were considered trained in FP-VCT integration if they attended the FP-VCT training by NASCOP/DRH/FHI/JHPEIGO/AMKENI (i.e., the intervention for the study). We also examine some variables by risk of unintended pregnancy, sex, and HIV status. HIV status was not collected for clients participating in the exit interviews but was obtained from CPI observations. Risk of unintended pregnancy was measured based on clients' responses during the exit interview.

These different data collection instruments allow us to examine similar indicators from different points of view and present different perspectives on the same integration aspects. This allows us to take advantage of the triangulation and to gain insight into the effect of the FP-VCT integration intervention.

We conducted statistical tests with main variables that were important to achieving the study objectives to assess whether changes over time, i.e., from baseline to post-intervention, or post-test differences between FP-VCT integration trained and not-trained providers were statistically significant. When the analysis was at the level of the clinic or supervisor, the test was either a t-test for dependent samples [continuous] or McNemar Chi2 [categorical]. For providers, clients, and CPIs, analyses were run using SUDAAN using chi2 and t-test methods that take clustering (at the facility level) into account. All tests are one sided with a probability of type-I error of α=0.05.

The analysis of costs included the cost of personnel (salary and time of staff spent in various activities) as well as non-labor resources (including per diems, transportation, venue, accommodations, materials, and supplies). We exclude research costs. Finally, we also calculate the average annual cost per person trained. Costs were annualized over a two-year period, under the assumption that this was the amount of time that would elapse between original efforts and the need to provide updates or to train new staff.

Results

Data were collected from supervisors, providers, and clients in 14 VCT centers at two points in time, June 2004 and April/May 2005. Twelve of the 14 VCT centers were co-located with other health services and two were considered 'stand-alone' VCT centers. All eligible VCT supervisors and providers participated and almost all clients approached for CPI observations and VCT exit interviews participated (Table 1.1).

Table 1.1. Number of participants eligible, read consent, and participating in baseline and post-test data collection.

	Pre-test			Post-test		
	N eligible	N read consent	N participated	N eligible	N read consent	N participated
Supervisors	14	14	14	14	14	14
Providers	70	59	59	63	63	60
Client-provider interaction (CPI) (individuals)	821	360	354	901	395	392
Client exit interviews	821	378	372	901	377	369
Clients who participated in both exit interviews and CPIs			329			367

1) Participant characteristics

The typical provider interviewed was female (71% baseline, 70% post-test), married (78% vs. 68%), age 38, with three children (both groups) (results not shown). Providers were more likely to be clinical providers (defined as doctor, nurse/midwife, or clinical officer); more than half attended HIV counseling and testing refresher trainings; and 40 to 50%said that they provided other services on the same day they provided VCT (Table 1.1). On average, providers worked in the VCT center for 20 months at baseline and 22 months at post-test (results not shown). About one-fifth of providers interviewed were also considered the VCT supervisors (20% vs. 23%).

Providers who participated in the CPI observations were similar to those who participated in the interview with one exception. Providers who participated in the CPI at baseline were more likely to be professional nurses/midwives than at post-test (Table 1.2), although the majority of providers were professional nurse/midwives at both time points.

Table 1.2. VCT providers' job characteristics and training background by time and data collection method.

	Interview		CPI	
	Pre-test (N = 59)	Post-test (N = 60)	Pre-test (N = 326)	Post-test (N = 363)
	%	%	%	%
Designation:				
VCT counselor	9	18	9	22
Professional nurse / midwife	56	53	72	58
Lab tech	9	3	3	9
Clinical officer	5	2	2	1
Other	24	24	14	14
Providers with clinical backgrounds*	61	55	74	58
Providers reporting refresher trainings related to HIV counseling, testing, or other services	59	75	n/a	n/a
Providers who provided other services (on the same day as providing VCT)	44	52	n/a	n/a

*"Clinical" defined as a nurse/midwife or clinical officer (no doctors were interviewed).

Clients who participated in the exit interviews were slightly more likely to be female than male, the majority were over age 25, with one to three children; they were fairly well-educated with secondary or post-secondary education; and they were not married (i.e., single, divorced, or widowed) (Table 1.3). The characteristics of clients participating in exit interviews and CPI observations are similar, which is not surprising since most clients agreed to participate in both.

The majority of the observed CPI sessions were individual VCT sessions (Table 1.3). The proportion of couples participating in the CPIs was under 10% at both time points, which is notably low given the current global emphasis on encouraging couples to get tested because of the behavior change advantages (Glick, 2005). There was a large increase from baseline to post-test in the percentage of clients getting VCT as a group, specifically in the 'group pre-test counseling, testing, and post-test counseling' category. Group VCT, especially group HIV testing and results counseling, is unusual, but it appeared to be concentrated in only one or two facilities (results not shown). According to RAs, these group sessions consisted of a group of co-wives, a group of men, and a group of women.

Table 1.3. Client background characteristics and session characteristics by time and data collection method.

	Interview		CPI	
	Pre-test	**Post-test**	**Pre-test**	**Post-test**
	%	%	%	%
	(N = 372)	(N = 369)	(N =326)*	(N = 363)*
Type of session				
Individual VCT	81	62	83	63
Couple VCT	13	12	8	7
Individual, couple or group counseling only	4	3	5	4
Individual or couple ongoing counseling	1	3	3	3
Group pre-testing, individual testing, post-test counseling	1	5	0	10
Group pre-test counseling, testing, and post-test counseling	0.5	17	0	14
Sex/type of client				
Female	52	57	49	39
Male	48	43	41	34
Male/female couple	n/a	n/a	9	7
Group counseling	n/a	n/a	1	20
	(N = 372)	(N = 369)	(N =354)*	(N = 392)*
Age				
Less than 18	2	4	6	8
18-24	32	34	27	28
25 or more	66	62	67	64
Number of children				
None	38	42	37	39
1-3	34	32	36	35
4 or more	28	26	27	27
Highest level of school				
Did not attend	7	8	7	10
Primary	42	37	41	36
Secondary or post-secondary	51	55	52	54
Occupation				
Housewife	7	7	11	10
Small scale farmer	17	18	19	19
Small scale trader/ self-employed /casual work/ Other	26	28	22	25
Salaried worker	22	23	23	23
Student	8	10	9	10
Unemployed	20	14	16	14
Marital status				
Married or living as, living together, or living apart	46	44	n/a	n/a
Single, widowed, divorced/separated	54	56		

*Sample sizes differ based on whether they are counting the number of observations or the number of clients.

2) Client experience with VCT and HIV status

Many clients had previouly been tested for HIV: 43% at post-test, an increase from baseline (32%) (results not shown). The main reason for HIV testing was: "to plan for the future." Other popular reasons were more focused on HIV risks such as "don't trust partner," "feeling unwell" and generally "at risk for HIV." Unfortuately, the reasons for wanting an HIV test fail to explain why over two-fifths of clients at post-test were returning for another HIV test.

One of the reasons for integrating family planning services into VCT is to reach people who are HIV infected and to prevent unintended pregnancies that could result in infant HIV infections. From observations of CPIs, we obtained information about HIV status for male and female clients, couples, and groups. The percentage of women who are HIV infected is quite high—almost four times that of the men (Table 2.1). The percentage of couples that tested HIV positive is also quite high (including both partners who were HIV infected and the HIV+ partner in discordant couples). We have little information about the people who made up the "group counseling" groups to conclude how common this type of testing may be, so it is difficult to interpret these data.

Table 2.1. CPI observations of HIV status by time.

HIV-positive test results	Pre-test %	Post-test %	Pre-test N	Post-test N
Female	24	28	174	214
Male	12	7	155	165
Couples, both positive or discordant	21	24	24	25
Group counseling	0	26	0	73

NB: 'Invalid results' and 'tests not done' are excluded.
Couples and group counseling categories include males and females.

3) Training and its effects

Staff family planning training

Not all providers, only 20 of 60, participated in the FP-VCT integration training. Although initially we included at least two providers per VCT center in the FP-VCT training, we found during post-test data collection that there were fewer than 1.5 trained providers per center. Thus, some FP-VCT trained providers were either not on duty during data collection or they were no longer providing VCT. The percentage of all VCT providers with any family planning training increased slightly over time from 42% to 50%.

Providers were trained in FP-VCT integration at different times. Five providers participating in the study were trained during the first training in November 2004, six in the December 2004, and nine in March 2005.

Because providers with certain characteristics may have been given preference to attend the FP-VCT training and because their background characteristics may influence their ability to provide family planning in VCT, we assessed the characteristics of providers trained in FP-VCT integration compared to those who were not (Table 3.1). FP-VCT-trained providers were slightly more likely to be female, they were less likely to be married, they were more likely to have clinical backgrounds, they were much more likely to be supervisors, but they were about the same age and equally as likely as their non-FP-VCT-trained colleagues to report any refresher trainings related to HIV counseling and testing (no statistical tests conducted).

Table 3.1. VCT providers' background, job characteristics, and training background by FP-VCT integration training.

	Trained in FP-HIV (N=20)	Not trained in FP-HIV (N=60)
Average provider age -- mean (SE)	36 (1.48)	38 (1.20)
	%	%
Female	75	68
Marital status		
Married or living as, live together, or live apart	55	74
Single, divorced/separated, widowed	45	26
Clinically trained provider	55	33
Provider is also a supervisor (interviewed for supervisor interview)	40	15
Proportion reporting refresher trainings related to HIV counseling, testing or other services	75	75

We assessed the availability of policy and training resources on VCT and family planning, because these are important resources for supervisors and providers. Based on supervisor reports, almost all VCT centers had copies of the national VCT guidelines (Table 3.2). Four centers at post-test lacked the Participant's Handbook from the FP-VCT integration training, even though at least two providers from each VCT center had attended the training. A few centers also lacked the orientation package, although this was not distributed during some trainings. Finally, some centers lacked the MOH Reproductive Health and Family Planning Policy Guidelines and Standards, which were not distributed as part of the intervention.

Table 3.2. Number of supervisors reporting availability of VCT guidelines, RH policies, and orientation packages by time.

	Pre-test (N = 14)	Post-test (N = 14)
Copy of MOH/NASCOP National Guidelines for Voluntary Counseling and Testing	13	14
Copy of the MOH Reproductive Health/Family Planning Policy Guidelines and Standards for Service Providers	4	11
Copy of the Participants' Handbook: An Integrated Approach to Counseling and Service Provision	n/a	10
Orientation Package: Family Planning and HIV/AIDS	n/a	11

Knowledge, attitudes, and potential barriers

An important precursor to behavior change is knowledge change. During interviews with providers at post-test who participated in the FP-VCT integration training (n=20), providers reported that they learned how to identify a client who might be at risk for unintended pregnancy, how to counsel clients on the benefits of family planning, and how to provide oral contraceptives (results not shown). Few providers reported they learned how to insert and remove implants (n=4), how to insert and remove an IUCD (n=6), and how to conduct a pelvic exam (n=5). These results were consistent with the content of the FP-VCT integration training, which focused on screening clients for risk of unintended pregnancy, counseling on methods, and providing oral contraceptive pills and referral for other methods.

At baseline, the majority of all providers we spoke with felt that their knowledge and skills of family planning were very adequate (44%) or somewhat adequate (34%) (results not shown). At post-test, this

increased slightly, with 50% of providers reporting their knowledge and skills were very adequate and 31% reporting somewhat adequate.

We also assessed providers' knowledge and attitudes using a series of questions (Table 3.3). A composite score was created based on answers to a series of questions where each question or attitude was weighted the same and a correct answer or positive attitude received a score of one (Figure 3.1). From baseline to post-test, the average composite knowledge score increased by three-tenths of a point, which was not statistically significant (maximum score=11). Trained providers scored almost three points higher than those not trained (statistically significant at p=0.00).

For the attitude score, while an increase from a score of 7.3 to 8 from baseline to post-test was not statistically different (maximum score=9, p=0.08), there were statistically significant differences between providers trained in FP-VCT and those not trained (p=0.00).

Figure 3.1. Composite knowledge and attitude scores by timing and by FP-VCT training group.

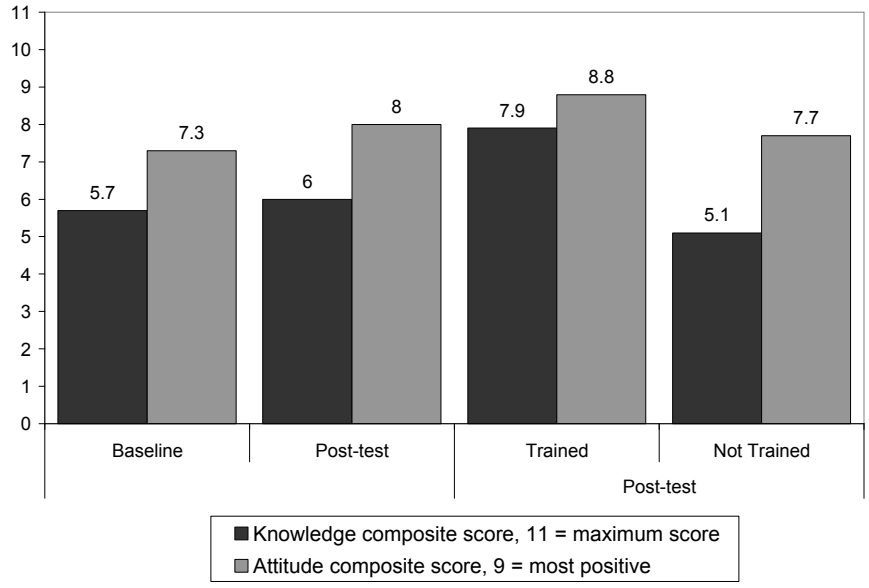


Table 3.3. Providers' family planning knowledge and attitudes by time and by FP-HIV training.

	Pre-test (N = 59)	Post-test (N = 60)	Trained in FP-VCT (N = 20)	Not trained in FP-VCT (N = 40)
	%	%	%	%
Knowledge				
Percentage of providers who know…				
Injectables are the most frequently used FP method in Kenya	56	52	55	51
What emergency contraception is	48	56	95	36
The two goals of dual protection	71	75	100	62
Providers' first choice of what to do for a client wanting to start the pill or any other hormonal method but who is not currently menstruating:				
Tell her to return when she is menstruating	2	9	0	13
Give her a barrier method and ask her to return when she is menstruating	25	29	25	31
Perform a pregnancy test	20	19	0	28
First try to rule out pregnancy through history and an exam	51	44	75	28
Providers' reports of the lowest age recommended for clients to be able to use combined oral contraceptive pills:				
Any time after menarche	42	37	45	34
Proportion of providers who can name five correct characteristics or conditions that are contraindications to OC use	24	27	40	21
Proportion of providers with correct knowledge of….				
Length of Norplant's contraceptive effectiveness	83	83	80	85
Length of Copper T IUCD's effectiveness	37	48	70	36
If pregnancy ruled out, time during menstrual cycle for IUCD insertion	34	39	45	36
Three requirements for lactation amenorrhea method	17	20	45	8
Requirement of pelvic exam before IUCD initiation	36	86	95	82
Proportion of providers who incorrectly identified other methods (pills, Norplant, and injectables) as needing pelvic exam for safe provision	64	18	15	20
Proportion of providers who agree that a woman who is 14 days late for her injectable contraception injection should be told to use a barrier method for one week.	36	63	85	51
Attitudes				
Proportion of providers who agree with the following statements:				
Condoms encourage promiscuity	17	9	0	13
Asking married women about STI / HIV risk is insulting to them	2	7	0	10
HIV+ women should not have sex	7	2	0	3
It is worthwhile to talk with men about family planning	100	97	100	95
For most clients, it is not worthwhile to try to convince them to use condoms	20	14	10	15
Women who are HIV+ and know their status should have children if they want to	61	88	95	85
Unmarried adolescents should not be provided with contraceptives	14	10	10	10
Condoms, even when used every single time, fail to reduce the risks of some of the most common STIs to an acceptable level	19	3	0	5
Contraception encourages promiscuity among adolescents	41	20	0	31

To assess potential barriers, we asked providers how they might react to situations where they are providing contraception to clients based on clients' age, health status, and number of children. Providers at baseline and those not trained in FP-VCT integration were less likely than providers at post-test or those trained in FP-VCT to say that they would provide contraception to sexually active adolescents under any condition (Table 3.4). Among those reporting they would impose conditions for adolescents to use contraception, having children was a common requirement: 22% of providers at baseline and 15% at post-test said they would provide contraception to sexually active adolescents if they have had children (results not shown). Some providers would restrict the use of certain methods among adolescents (25% baseline vs. 31% post-test) (type of method not specified). Very few providers (n=5) said they would never provide contraception to adolescents.

Women wanting to use injectable methods of contraception may face barriers if they have never been pregnant (or do not have at least one child), if they are adolescents, or if they are breastfeeding (Table 3.4). While these findings were more typical of providers who had not been trained in FP-VCT integration, the responses of trained providers were also troubling. For example, while 59% of providers not trained in FP-VCT integration said that women who have never been pregnant should not use injectables, 40% of trained FP-VCT providers also agreed with this statement.

In the post-test period, no provider said that there were contraindications to condom use. However, as indicated by the responses in Table 3.4, some providers may restrict use of sterilization, IUCD, and injectables by women with few or no children. The FP-VCT integration training appeared to reduce this bias, but the responses still indicate a problem that deserves attention.

Table 3.4. Providers' reported reactions to potential family planning situations by time and by FP-HIV training.

	Pre-test (N = 59)	Post-test (N = 60)	Trained in FP-VCT (N = 20)	Not trained in FP-VCT (N = 40)
	%	%	%	%
Conditions under which providers report they would provide contraception to a sexually active adolescents:				
Any adolescent, any method	27	46	60	39
According to providers, women with these characteristics should not use injectables:				
Women who smoke	36	32	40	28
Women over 35	12	10	15	8
Teenagers	44	29	15	36
Women who have never been pregnant	59	53	40	59
Women with sexually transmitted infections	5	5	0	8
Women who are breastfeeding (within 6 months postpartum)	41	42	55	36
Women with multiple sex partners	5	5	0	8
Women testing HIV positive	14	9	5	10
Proportion of providers who agree with the following statements:				
A woman should have at least 4 children before referral for sterilization	19	15	10	18
A woman should have at least 1 child before using the IUCD	41	22	10	28
A woman should have at least 1 child before using injectables	56	49	35	56
Injectables can be safely used by adolescents	32	53	70	44

Provision of family planning services in VCT centers

Condom counseling and provision

While the results suggest that the FP-VCT integration training positively affected VCT providers' knowledge and attitudes, we turn to the crucial question of whether actual provision of family planning in VCT centers occurred. Since VCT providers should already be counseling and providing condoms, we first present the results regarding condoms. Because part of the rationale for integration of family planning services into VCT is to reach people who are HIV-infected and to prevent unintended pregnancies that could result in infant HIV infections, we also examine the results of condom counseling and distribution by client HIV status.

Observations of CPIs revealed that while almost all providers discussed the fact that condoms prevent HIV, about three-quarters told clients that condoms prevent other STIs, and three-fifths discussed that condoms prevent pregnancy (Table 3.5). The same "cascade" effect was found in the 2002 assessment (Reynolds et al., 2003), except that providers in this study were more likely to discuss the fact that condoms prevent HIV (85% in the 2002 assessment vs. 96% at post-test).

Almost all observers spotted condoms in the room (Table 3.5). While there was an increase over time in the proportion of providers offering condoms to the client and a slight increase in the proportion of clients accepting condoms over time when offered, these results were not statistically significant.

Post-test observations of condom counseling and provision suggest that the FP-VCT-trained did result in trained providers performing significantly better on some condom elements related to reproductive health and family planning (Table 3.5). FP-VCT-trained providers were significantly more likely than untrained providers to discuss that condoms prevent transmission of STIs (p=0.05) and that condoms prevent pregnancy (p=0.00). They were significantly more likely to demonstrate condom use on the penile model and to discuss dual method use (p=0.01). There were few differences in condom counseling and provision based on the client's HIV status.

Table 3.5. CPI and facility observations about condoms by time, FP-HIV training, and HIV status.

	Pre-test (N=326)	Post-test (N=362)	FP-VCT trained (N=163)	Not FP-VCT trained (N=198)	HIV+ or discordant (N=66)	HIV- (N=287)
	%	%	%	%	%	%
Discuss that condoms prevent transmission of HIV	95	96	98	94	97	95
Discuss that condoms prevent transmission of STIs (other than HIV)	78	74	87	62	70	74
Discuss that condoms prevent pregnancy	60	61	83	43	53	62
There are condoms in the room	97	96	n/a	n/a	n/a	n/a
Provider offers condoms to client	40	54	56	53	50	56
(If offered) Client takes condoms	26	31	34	29	27	33
There is a penile model in the room	89	96	n/a	n/a	n/a	n/a
There is a pelvic model in the room	35	11	n/a	n/a	n/a	n/a
Provider demonstrates condom use on penile model	50	62	71	54	62	61
Provider demonstrates condom use with pelvic model	18	9	n/a	n/a	n/a	n/a
Discuss negotiating condom use with partner	35	41	47	36	39	41

Other family planning counseling and provision

Since the FP-VCT intervention aimed to add other family planning services to VCT, we broaden the scope of the discussion from condoms to include other family planning methods and services. To answer the question of whether the FP-VCT training resulted in an increase in family planning service provision, we rely on a number of indicators and data collection methods. Thus, we compare different perspectives to take advantage of the triangulation offered by the different data collection methods. We first discuss providers' reports of the family planning services they offered, then results of what was observed during CPIs, and finally what clients' reported about the family planning services they received.

Providers' reports indicated that the amount of family planning services they offered increased over time (Table 3.6). There were significant increases in the percentage of providers that reported counseling about and provision of the pill. This is a promising result since provision of condoms and pills in VCT was defined by the MOH as "Level 1" integration. There was a statistically significant increase in the percentage of providers over time who reported they counseled on the use of oral contraceptive pills (p=0.01), showed VCT clients a contraceptive demonstration tray (p=0.03), and provided contraceptive pills (p=0.00).

Trained providers were also more likely to report counseling on the use of pills (p=0.01) and to report providing contraceptive pills than untrained providers (p=0.00) (Table 3.6). Providers were significantly more likely at post-test than at baseline to report that they showed VCT clients a contraceptive demonstration tray (p=0.03), although this result did not vary by training group. Because the intervention focused on provision of pills and condoms as family planning methods, it was not surprising to see that few providers reported they offered injectables.

Table 3.6. Providers' reports of provision of family planning services by FP-HIV training by time and FP-HIV training.

	Pre-test (N = 59)	Post-test (N = 60)	Trained in FP-VCT (N = 20)	Not trained in FP-VCT (N = 40)
	%	%	%	%
Providers reports of FP services offered:				
Give clients pamphlets about FP in general or about specific methods	15	33	45	28
Provide (oral) information to clients about family planning or methods	64	85	95	80
Show VCT clients contraceptive demonstration tray with available methods	9	38	45	35
Counsel on the use of contraceptive pills	n/a	72	100	58
Provide oral contraceptive pills	2	52	90	33
Provide injectables	3	5	15	0

However, the CPIs failed to show a statistically significant change in fertility-related discussions, with one exception. Discussions on whether the client desires more children increased from baseline to post-test (p=0.05) (Table 3.7). Counseling on any family planning method during VCT increased by 17 percentage points over time, but this change was not statistically significant (Table 3.7). When providers did counsel on family planning methods, they all mentioned condoms, and the next most frequently mentioned methods were pills and injectables. Providers who counseled on any family planning methods mentioned more methods at post-test than at baseline. Providers were significantly more likely to mention family planning services and methods available outside VCT at post-test compared to baseline (p=0.04), but not necessarily those methods available within the same room.

Observations of fertility discussions during VCT stratified by whether the providers attended the FP-VCT training suggest trained providers offered more information on family planning methods than those who

did not participate in the training (Table 3.7). Further, trained providers discussed more methods than untrained providers, but they were most likely to talk about condoms, pills, and injectables. Trained providers were significantly more likely to discuss current method use (p=0.05), to explain available FP services within and outside VCT (p=0.05 and p=0.04, respectively), and to counsel on any family planning methods during VCT (p=0.02), but for some indicators trained providers did not perform better than untrained ones.

Table 3.7. CPI observations of fertility and family planning counseling and services in VCT by time and FP-HIV training.

	Pre-test (N = 326)	Post-test (N = 363)	FP-VCT trained (N = 163)	Not FP-VCT trained (N = 198)
	%	%	%	%
Fertility discussions				
Discuss number of children/pregnancies client has	20	21	28	16
Discuss whether or not client desires more children	11	20	30	11
Discuss intervals/space between children/pregnancies	8	7	9	5
Family planning counseling				
Discuss current use (or partner's current use) of FP methods	23	28	40	18
Discuss past use (or partner's past use) of FP methods	17	26	38	17
Any FP method counseled on during VCT	46	63	82	49
Family planning methods counseled on during VCT:				
Condoms	46	63	81	49
Pills	6	34	58	15
Injectables	6	33	55	14
Implants	4	23	46	5
IUCD	4	21	41	4
Male sterilization (vasectomy)	2	19	38	3
Female sterilization (tubal ligation)	2	20	41	3
Other	3	16	22	1
Discuss "dual method use" (use of condoms and another method of contraception to prevent both HIV/STIs and pregnancy)	22	32	54	14
Explains available FP services and/or methods within VCT (the same room)	13	25	39	13
Explains available FP services and/or methods outside VCT (within the same facility or beyond)	6	20	39	5

NB: We were not able to accurately measure family planning choice, distribution, or referral with the CPI data collection instrument; thus, we rely on clients reports for measuring these elements.

Now we turn from CPI observations to examining what clients had to say about services received. While there was an increase from baseline to post-test among the five indicators of clients' reports of fertility discussions, only one indicator—whether the provider mentioned family planning, fertility, or pregnancy—was statistically significant (p=0.04) (Table 3.8). Clients' reports of discussions about family planning methods revealed that providers' discussions of condom use to prevent pregnancy significantly increased over time (p=0.01), and there were large and significant increases over time in discussions about pills (p=0.00), injectables (p=0.00), IUCDs (p=0.02), and implants (p=0.04).

Clients' reports of fertility and method-specific discussions reflected trends that were observed during the CPIs, but clients were generally more likely to report that fertility discussions occurred (see Tables 3.7 and 3.8). This cannot be accounted for by differences in the clients served because most clients who participated in the CPIs also participated in the client exit data collection activities. On the other hand, the levels of family planning method counseling reported by clients were similar to levels observed during CPIs. While we do not know exactly what influenced over-reporting of fertility discussions by

clients, we can hypothesize that it may be in some part due to the specificity of the questions during the client exit interview. The fertility questions were broad questions with 'yes/no' responses, while the responses to questions about family planning methods required clients to provide the name of the method counseled on without prompting from the interviewer.

Table 3.8. Clients' reports of fertility and family planning discussions during VCT by time.

	Pre-test (N = 372)	Post-test (N = 369)
	%	%
Fertility discussions		
Client reported…		
Provider mentioned family planning, fertility, or pregnancy	50	66
Provider asked whether children wanted in the future	29	41
Provider asked about current methods used to avoid pregnancy	38	51
Provider asked whether want to delay/prevent pregnancies	32	46
Provider discussed how to avoid pregnancies	50	65
Family planning method discussions		
Client reported…		
Provider discussed condom use to avoid pregnancy	47	61
Provider discussed other family planning methods:		
Pills	12	43
Injectables	11	36
IUCD	5	18
Implants	5	19
Male or female sterilization	5	24
Other	7	5

Despite the improvements in fertility discussions and method counseling, this had little effect on clients' uptake of contraceptive methods (Table 3.9). "Contraceptive uptake," for the purposes of this study, has two distinct actions: first, the client chooses the method, and then the provider distributes the method. In this study, the percentage of clients reporting they chose a family planning method with the VCT providers doubled over time, but the change was not statistically significant. For those few clients who reported that they chose a family planning method, the condom was the method of choice for almost three-fourths of clients at both time points. There was, however, a 12 percent increase from baseline to post-test in clients choosing pills.

Clients' reports that providers gave them a method increased over time and approached statistical significance ($p=0.06$) (Table 3.9). Only condoms were distributed, although a few clients chose other pregnancy prevention strategies. Clients reported that no pills were distributed, so clients who chose pills were probably expected to get this method through a referral to the family planning clinic.

It is important to note that fewer clients actually chose a method than the number of clients who reported receiving a method. We would expect the level of method choice to be at least as great as method distribution if there was informed choice. With informed choice, clients make decisions on which method they would like to use based on the information they have about their family planning choices. We know that from Table 3.8 that VCT providers did not discuss a wide range of methods; generally they mentioned condoms and less often pills, and even less often injectables. Those clients who reported receiving a method but did not report choosing a method probably received condoms for HIV/STI prevention (a core element of VCT) but are also (correctly) reporting those condoms as family planning methods based on their dual purpose.

Table 3.9. Clients' reports of method choice and distribution during VCT by time.

	Pre-test (N = 372)	Post-test (N = 369)
	%	%
Client chose FP method today with VCT counselor	10	20
Method chosen:		
Condoms	72	70
Pill	3	15
Injectable	6	8
Not having sex/ avoid sex/ abstain	16	2
IUCD	3	2
Other	0	4
Provider gave client FP method today	17	29
Method/message given:		
Not having sex/ avoid sex/ abstain	2	0
Condoms	96	94
Withdrawal	0	7

Provision of family planning by sex and by HIV status

One of the central reasons for providing family planning services in VCT is that it offers a good opportunity to reach men, since about half of VCT clients are men and men do not attend traditional, vertically-oriented family planning services. In order to understand what messages men and women were getting about fertility and family planning, we turn to post-test observations of CPIs. We also investigate whether those who are HIV+ receive more or less information about family planning than those who test negative. We then turn to men's and women's reports of fertility and family planning discussions and family planning distribution to see if there were improvements from baseline to post-test.

FP-VCT-trained providers did a better job of discussing fertility and family planning with both women and men compared to those providers not trained in VCT-FP (Table 3.10). The greatest differences in counseling messages by sex were observed during the discussions of family planning use and services. Providers—again, mainly trained providers—were much more likely to discuss family planning use and where to get methods with women than with men.

There are few differences in fertility and family planning discussions stratified by HIV status and sex; thus, it does not appear that HIV status influences fertility and family planning discussions. We could not analyze the data by sex as too few men tested positive.

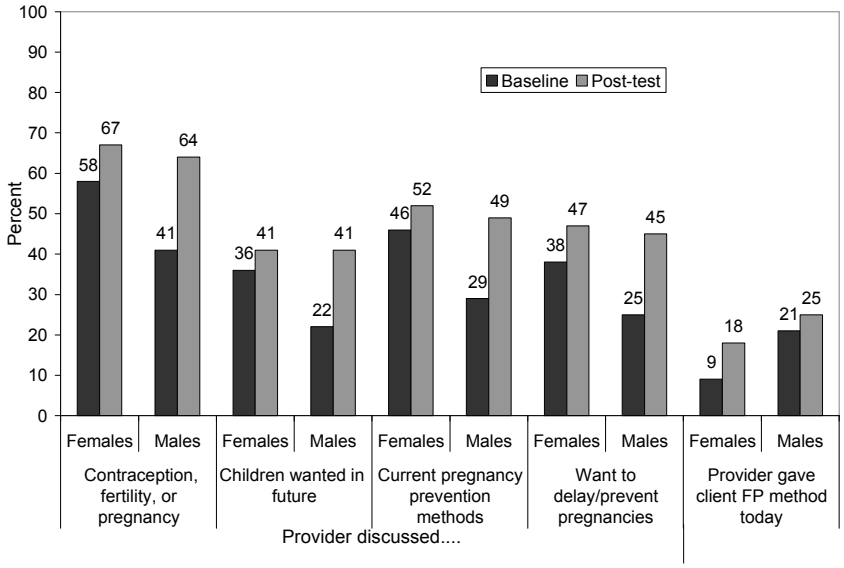
Table 3.10. Observations of fertility and family planning discussions in VCT by sex and by FP-HIV provider training and client HIV status (post-test observations only).

		FP-VCT trained	Not FP-VCT trained	HIV+ or discordant	HIV-
		%	%	%	%
Fertility discussions					
Discuss number of children/pregnancies client has	Males	22	10	--*	17
	Females	26	14	19	22
Discuss whether or not client desires more children	Males	19	10	--	14
	Females	32	11	30	20
Discuss intervals/space between children / pregnancies	Males	5	5	--	2
	Females	9	3	8	2
Family planning use and services discussions					
Discuss current use (or partner's current use) of FP methods	Males	21	10	--	15
	Females	50	24	30	42
Explains available FP services and/or methods within VCT (the same room)	Males	25	16	--	21
	Females	49	11	30	31
Explains available FP services and/or methods outside VCT (within the same facility or beyond)	Males	24	5	--	15
	Females	41	5	27	24
N	Males	63	58	4	115
	Females	78	63	37	99

*Only four men tested HIV positive so we have excluded them from this analysis.
NB: The observations of "group counseling" and "couple" VCT sessions have been omitted from the table due to small sample sizes.

We also assessed women's and men's reports of providers' fertility and family planning discussions and method distribution from baseline to post-test (Figure 3.2). For both men and women there was an increase in all indicators over time, but increases were greater for men than women. Despite the increases, men were consistently less likely than women at both time points to report having had fertility and family planning discussions with providers.

Figure 3.2. Clients' reports of providers' fertility discussions and method distribution by client sex and time.



Providers made the greatest increases over time in distributing methods to women compared to men (Figure 3.2), although men were more likely than women at both time points to report that the provider gave them a family planning method. This is because the only method distributed was condoms (see Table 3.9), and the majority of clients reporting that the provider gave them a condom as a family planning method were men (68% at baseline and 54% at post-test, results not shown).

Referral, record keeping, and commodities

Referrals

According to the Kenya FP-VCT integration strategy, VCT centers are mandated to integrate the first level of contraceptive services. Hence, access to methods other than condoms and pills and access to re-visits rely heavily on referral mechanisms. However, VCT providers rarely refer to family planning.

When asked where VCT providers usually refer their clients, no providers mentioned family planning as their first or second most common referral point; only 12% of providers at baseline and 14% at post-test mentioned family planning as their third most common referral point (data not shown).

Despite the low priority given to family planning referral, most providers (85% at baseline and 90% at post-test) reported they had ever referred clients to family planning services (data not shown). Most of them reported that their point of family planning referral was another room or another provider within the health facility (Table 3.11).

Providers identified a number of problems with referrals including a lack of creative and effective referral mechanisms. The majority of providers simply tell (i.e., word-of-mouth) their clients where to get family planning (Table 3.11), although a minority of providers had ways of establishing whether clients went to their family planning referrals. The most common mechanisms named at post-test for establishing whether clients went to their referrals was by checking with the providers at the referral point or escorting clients to the referral point (results not shown). However, VCT is anonymous and unlinked to identifiers, so it is unclear how appropriate these mechanisms are for establishing whether clients went for their referrals.

To improve referral, the majority of providers (54%) recommended using a referral card (data not shown). In Kenya, the MOH is using a yellow family planning referral card. The card can be used in any service, not just VCT, to make a referral to family planning. The card has information for the family planning provider about the methods given in the referring service. It appears that while this card could be used in any service, it has been mainly used in community-based distribution programs (CBD).

Table 3.11. Reports of referral practices, by time, of providers who ever refer to family planning services.

	Pre-test (N = 50)	Post-test (N = 54)
	%	%
Of those who refer to FP, referral to another room/provider within this health facility	92	87
Of those who refer, method of referral:		
Tell them by word of mouth where to go	70	50
Issue a referral note	42	48
Make telephone referral	2	2
Escort them physically	38	32
Proportion of providers who report ways of establishing whether clients go to FP referrals	38	46

Independent observations indicate family planning referrals at baseline or post-test were few (Table 3.12), reflecting providers' reports.

Table 3.12. CPI observations of family planning referrals by time and by FP-VCT training.

	Pre-test (N = 326)	Post-test (N = 363)	FP-VCT trained (N = 163)	Not FP-VCT trained (N = 198)
Any referral made	2%	7%	6%	9%
Of those referred, referral for family planning methods made within facility	57%	85%	89%	83%

Record keeping and commodities

Two components of service delivery, record keeping and commodities, affect delivery of family planning services in VCT. VCT providers need a mechanism with which to record family planning visits so that they can use this information to request additional commodities, for monitoring and evaluation purposes, and/or to communicate to the family planning service providers. Commodities are important because without adequate supplies, family planning services cannot be furnished.

From supervisors' reports, we ascertained that three VCT centers recorded clients' family planning information in the MOH family planning register located in the VCT center (results not shown). Three other VCT centers submitted this information directly to the family planning clinic. Four VCT centers had developed their own recording system, although the form of the recording system or how the information is used is unknown. Four VCT supervisors reported that no family planning records or information were kept, probably because family planning services in VCT had not been fully implemented, if at all. Most providers recommended having family planning registers dedicated to the VCT room.

Providers' reports of stockouts of condoms and family planning methods in the last six months were rare (Table 3.13). However, reports of stockouts of HIV test kits in the last six months were quite high. This raises questions about the availability of VCT in general.

Table 3.13. Providers' reports of stockouts and adequacy of supplies by time.

	Pre-test (N = 59)	Post-test (N = 60)
	%	%
Providers unable to offer condoms in VCT because of stock out last 6 months	5	7
Providers unable to offer FP methods other than condoms because of stock out last 6 months	9	12
Providers reported HIV test kit stock out in last 6 months	37	45

Potential demand for contraception

Efforts to integrate family planning services into VCT are futile if there is no demand for these services among VCT clients. In order to understand the level of potential demand for contraception in VCT, we rely on clients' reports to assess risk of unintended pregnancy. Although 'risk of unintended pregnancy' is the main indicator we use to assess potential demand for family planning, we acknowledge that a client at risk of unintended pregnancy does not necessarily mean he or she has a demand for contraceptive methods even after counseling to raise awareness. A client was defined as at risk for an unintended pregnancy if s/he was sexually active, not desiring a pregnancy in the next two years, but not using a

method of contraception. We found that between 27% and 29% of clients were at risk of unintended pregnancy (Table 3.14). The level and consistency of the proportion of clients at risk of unintended pregnancy validates the integrated approach.

Unintended pregnancy risk was higher among women than men: about one-third of female VCT clients were at risk compared to one-fourth of male clients (Table 3.14). A higher percentage of female clients ages 25 and older have risk of unintended pregnancy compared to the 24-year-old and younger age group. There was not a clear trend by age among men. There were too few cases under age 19 to create a separate age group.

Because 'risk of unintended pregnancy' was obtained from clients' reports and the HIV status was obtained from observations of CPIs, we are unable to assess the proportion of clients who are at risk of unintended pregnancy and HIV infected. But, if we assume that the level of risk of unintended pregnancy is the same among HIV-positive women as it is in the whole sample (31%), then approximately 8% of all women in VCT are HIV positive and are at risk for unintended pregnancy.

Table 3.14. Percent of clients at risk for unintended pregnancy by sex, age group, and time.

	Baseline		**Post-test**	
	%		%	
At risk for unintended pregnancy	29		27	
	Female n (%)	Male n(%)	Female n(%)	Male n(%)
Age group				
≤24	14 (23)	16 (25)	21 (28)	18 (28)
25 or more	47 (36)	30 (26)	45 (33)	19 (20)
Total	61 (32)	46 (26)	66 (31)	37 (23)

We rely on clients' reports of providers' fertility discussions and method choice and provision to assess whether providers are identifying clients at risk of unintended pregnancy and then helping those clients at risk of unintended pregnancy to choose a method. At baseline, there was little difference in the level of fertility discussions by pregnancy risk status (Table 3.15). At post-test, on the other hand, it appears that providers were less likely to engage in fertility discussions with clients at risk of unintended pregnancy than with clients not at risk. Although there is no clear explanation for this finding, we would not necessarily expect a difference in the level of fertility discussion by pregnancy risk status, since providers would have to engage in these discussions to identify those clients at risk of unintended pregnancy.

If providers were identifying clients at risk for unintended pregnancy, we would expect to find a higher proportion of these clients choosing a method and getting a method or referral. This is not generally the case (Table 3.15). In fact, clients at risk of unintended pregnancy were slightly less likely to report that they chose a method, that the provider gave them a method, or that they were referred for FP services (statistical tests not conducted).

It is possible that some clients at risk of unintended pregnancy would not be ready to choose or start a method at the time of counseling in VCT. However, in this study, the lack of differences found in uptake by pregnancy risk status is more likely due to the fact the providers were not engaging in fertility discussions to enable them to identify clients at risk.

Table 3.15. Client reports of provider fertility discussions and method choice and provision by risk of unintended pregnancy by time.

	At risk for unintended pregnancy			
	Baseline		Post-test	
	Yes (N = 107)	No (N = 265)	Yes (N = 103)	No (N = 266)
	%	%	%	%
Fertility discussions				
Provider mentioned FP, contraception, fertility, or pregnancy	50	49	56	70
Provider asked whether client would like to have children in the future	30	29	30	45
Provider asked clients about current methods used to avoid pregnancy	31	41	34	58
Provider asked client whether s/he would like to delay or prevent pregnancy	22	35	29	53
Method choice and provision				
Client chose a method of FP today after consultation with VCT counselor	4	11	9	17
Provider gave client a method of FP today	8	17	12	25
Provider referred client for FP services	2	5	4	5

Next we consider the components of "pregnancy risk." Almost all clients have ever had sex (Table 3.16). About half of clients say they do not want a/another baby in the next two years, although there is a notable decrease from baseline to post-test, reasons for which are not clear. Almost two-thirds of clients have ever taken measures in the past to prevent pregnancy, although less than half were currently taking action to avoid pregnancy. Of clients who had ever taken measures to avoid pregnancy in the past, over one-third at baseline and over one-half at post-test had used condoms. The next most popular methods were the injectable followed by the pill. The percentage of clients currently using a method decreased slightly over time. The majority of clients intended to use a method in the next two years, although 17% of these clients were not sure what method they would use.

Table 3.16. Clients' reports of fertility desires and methods used by time.

	Pre-test	Post-test
	%	%
	(n = 372)	(n = 369)
Never had sex	4	1
Does not want a/another baby in next 2 years	60	42
Ever used a method to prevent pregnancy	64	58
Currently using a method to prevent pregnancy	44	41
Intends to use FP in next two years	53	54
Of clients who have done anything in the past to avoid pregnancy:	(n = 230)	(n = 211)
Not having sex/ avoid sex/ abstain	7	1
Condoms	36	53
Injectable	37	41
Pill	30	27
IUCD	8	3
Rhythm method/ Periodic abstinence	14	3
Other modern method	12	4
Other traditional method	2	2
Of those clients currently acting to avoid pregnancy, action taken:	(n = 159)	(n = 152)
Not having sex/ avoid sex/ abstain	13	13
Condoms	35	34
Injectable	18	26
Pill	8	9
IUCD	3	0
Rhythm method/ Periodic abstinence	15	6
Other modern method	12	14
Other traditional method	1	1

Clients' answers to questions about contraceptive use indicate that the condom is an important method for VCT clients. Looking more closely at condom use among all VCT clients, we see that about one-half of clients have ever used a condom (Table 3.17). Most condom users relied on the condom for STI/HIV prevention, although about one-fifth used the condom solely for pregnancy prevention, and an increasing percentage from baseline to post-test used it for dual protection from STI/HIV and pregnancy. In contrast, there was a decrease from baseline to post-test in the percentage of clients who reported using condoms with another contraceptive method.

Although clients relied on condoms for pregnancy and HIV/STI prevention, only about one-half of clients who had ever used a condom used a condom at last sex (Table 3.17). The primary reason given by clients to explain why they did not use a condom at last sex was that there was 'no reason to use condoms' (e.g., not at risk, trust partner, etc.) (53% baseline and 54% post-test). The next most common reason given was that their 'partner does not like condoms' (16% baseline and 17% post-test) (results not shown).

Table 3.17. Clients' reports of condom use by time.

	Pre-test	Post-test
	%	%
	(n = 372)	(n = 369)
Ever used a condom	55	49
Of clients ever used condoms, purpose of condom use:	(n = 204)	(n = 180)
Prevention of STI/HIV	47	37
Prevention of pregnancy	22	19
Prevention of STI/HIV and pregnancy	30	42
Of clients who ever used condoms, condom used with other FP method	24	15
Of clients who ever used condoms, condom use last sex	51	50

4) VCT quality

General VCT quality

Integration skeptics consistently raise the question of whether VCT quality will change when contraceptive services are introduced. Their main concerns have centered on whether VCT messages will be diluted in the presence of family planning messages and whether providers will have time to address both services. Further, the question has been raised about the best time to mention family planning issues in a VCT session. To examine these issues, we assess general VCT quality, then we investigate the length of the VCT session and waiting time. Next, we address supervisors', providers', and clients' perception of VCT quality with family planning services, and finally we focus on the timing of family planning messages and services.

To measure the general quality of VCT, we rely on observations of CPIs to assess how VCT providers interacted with clients though their greetings, questions, and general provision of information about the VCT service. These general indicators of quality of VCT were relatively high with no notable changes over time (Table 4.1). It should be noted that some of these topics were not necessarily addressed in the FP-VCT integration intevention, although they are core VCT concepts that would be addressed in VCT trainings.

In terms of counseling content, most providers were counseling about the basic facts of HIV/AIDS and that HIV can be transmitted through sexual intercourse. However, discussions around other modes of HIV transmission, such as from mother to child, were relatively few probably because these mesages are

viewed by VCT providers as PMTCT messages. Prevention messages about 'be faithful' were relatively common at both time points. The percentage of providers discussing abstinence as a way to prevent HIV increased over time. However, clients may not be receiving the message or retaining it, or they might have misunderstood the question, because at baseline only 21% of clients reported that the provider discussed abstinence, and this decreased significantly to 10% (p=0.01) at post-test (data not shown).

Table 4.1. CPI observations about VCT services and counseling content by time.

	Pre-test (N = 326)	Post-test (N = 363)
	%	%
General		
Greets client respectfully, warmly	100	98
Ensures visual and auditory privacy for client	100	100
Encourages questions	97	98
Explains what to expect during VCT visit	97	91
Discusses HIV testing procedures at site	96	90
Asks client why HIV test is requested	97	92
Asks client whether s/he received VCT services before	91	89
Asks client what s/he knows about the HIV test	83	93
Assures confidentiality	99	94
Counseling content		
Educates about basic facts of HIV and AIDS	90	94
Educates that HIV can be transmitted through sexual intercourse	98	94
Educates that HIV can be transmitted from mother to babies:		
In general	39	50
During pregnancy	39	58
During delivery	51	57
By breastfeeding	43	57
Educates that HIV can be prevented by being faithful / reducing the number of sexual partners	88	88
Educates that HIV can be prevented by abstaining from any sexual intercourse	73	90
Assesses client's risk for HIV	96	95
Discusses ways to reduce the risk of transmission and acquisition of infection	89	92
Discusses client's sexual life/history of sexual partners	93	90
Discusses disclosing status with spouse, friends, family	80	79
Discusses follow-up care and support	72	73
Checks for client's understanding of what an HIV-negative or positive test means	95	92
Gives results of HIV test given simply and clearly	96	91

Waiting time and session length

Concerns abound as to whether adding family planning services to VCT will increase the length of sessions and result in longer waiting time for clients. To answer this question, we first examine VCT session length, then client's reports of waiting times, and finally, providers' reports of the adequacy of their time to provide family planning in VCT.

Independent observations suggest average total session length increased by six minutes, from 52 minutes at baseline to 58 minutes at post-test, although this was not statistically significant (data not shown). Most of the increase in the total session time appeared to be due to an increase in time from start to HIV test; there was a statistically signficant increase from 25 minutes at baseline to 38 minutes at post-test (p=0.01).

The mean session length from start to HIV test was actually longer by six minutes for those providers not trained in FP-VCT compared to those who had been trained, although this was not statistically different (Table 4.2). The overall session time was three minutes longer for those not trained in FP-VCT, which is also not statistically significant. Session time appears to be associated with HIV status; stratifying by client's HIV status confirms that VCT sessions are longer by about 19 minutes for those clients who test HIV positive.

Table 4.2. CPI observations of VCT mean session length by provider training and client HIV status.

	FP-VCT trained (N = 163)	Not FP-VCT trained (N = 198)	Clients HIV+ or discordant (N = 66)	Clients both HIV- (N = 287)
Mean length in minutes from start to HIV test (SE)	35 (1.71)	41 (2.53)	46 (3.45)	36 (1.80)
Mean length in minutes of session (SE)	56 (1.56)	59 (2.17)	74 (3.74)	55 (1.40)

Clients' reports indicate that waiting time does not seem to have been affected by family planning counseling either. Clients' reported that the mean waiting time to see the provider was 61 minutes at baseline and 52 minutes at post-test, although almost two-thirds of clients reported waiting less than 31 minutes (Table 4.3). According to clients, waiting time did not change from baseline to post-test, and the majority of clients thought the waiting time was "ok" and almost all clients thought the time they had with the provider was "ok."

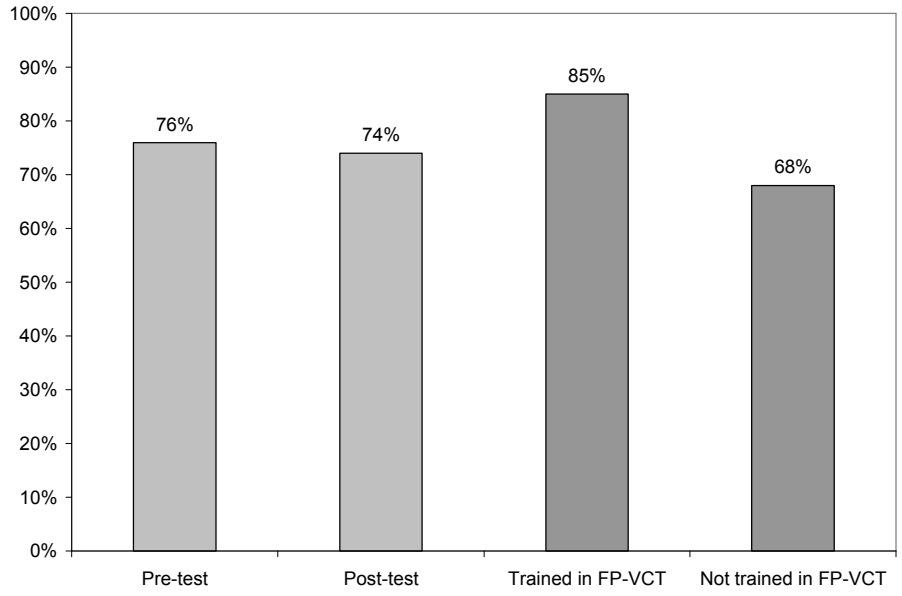
Table 4.3. Clients' reports of and satisfaction with waiting time by time.

	Pre-test (N = 372)	Post-test (N = 369)
	%	%
Waiting time		
≤ 30 minutes	63	63
31-60 minutes	13	16
≥ 60 minutes	24	21
Opinion about waiting time		
Too long	30	26
Too short	4	3
Ok	66	71
Opinion about time with provider		
Too long	8	10
Too short	2	4
Ok	90	86

Supervisors and providers also felt they had enough time to incorporate family planning. The majority of supervisors believed that providers' time to provide family planning services in VCT was "very adequate" or "somewhat adequate" (11 out of 14 supervisors at baseline and 9 out of 14 supervisors at post-test) (results not shown).

The percentage of providers reporting that the amount of time in the VCT session to provide family planning was "very adequate" or "somewhat adequate" was similar to supervisors. At baseline, over three-quarters of providers felt their time was "very adequate" or "somewhat adequate" to provide family planning services in VCT, and the proportion was similar at post-test (Figure 4.1) Moreover, providers trained in FP-VCT were actually more likely to say their time was adequate than providers not trained in FP-VCT (statistical tests not conducted).

Figure 4.1. Percentage of providers who believe that the time to provide family planning in VCT is "very adequate" or "somewhat adequate" by timing and training.



Perceptions of VCT quality with family planning services

Another aspect of quality that we investigated was supervisors' and providers' perceptions of how introducing family planning has affected VCT quality and clients' satisfaction with VCT services. About one-half of supervisors and providers reported that family planning introduction improved VCT quality (Table 4.4). In fact, the training appeared to have a positive influence on VCT quality; providers who had been trained in FP-VCT counseling were more likely to say that VCT quality improved than those not trained.

At both time points, clients were very satisfied with services. From baseline to post-test there was an increase of 16 percentage points of clients who said that the information they received about family planning during VCT increased their satisfaction with VCT. However, 40% of clients even at the post-test measure said they did not receive any information.

Table 4.4. Supervisors' and providers' reports of VCT quality with family planning introduction by time and training, and clients' satisfaction by time.

	Pre-test	Post-test	Trained in FP-VCT	Not trained in FP-VCT
Supervisors' reports of how training VCT providers in FP has affected the quality of VCT services:	n/a	(n=14)	n/a	n/a
Improved		7		
Decreased		1		
Not Changed		6		
	%	%	%	%
Providers reports of FP introduction on VCT quality:	n/a	(n = 60)	(n = 20)	(n = 40)
Improved		51	75	39
Decreased		3	0	5
No change		29	20	33
Not introduced FP		15	5	21
Clients' reports of information received about FP during VCT:	(n = 372)	(n = 369)	n/a	n/a
Increased satisfaction	32	48		
Decreased satisfaction	1	1		
Did not make a difference in satisfaction	19	11		
Did not receive any information	48	40		
Client satisfaction with VCT services:	(n = 372)	(n = 369)	n/a	n/a
Very satisfied	88	89		
Somewhat satisfied	10	10		
Somewhat dissatisfied or Dissatisfied	2	2		

We asked clients about their perspectives on the advantages of providing family planning during VCT and we saw interesting changes from baseline to post-test. First, at baseline, the most frequently cited advantage was increased knowledge or use of family planning (Table 4.5). However, at post-test the most frequently cited reason was to facilitate the clients' choice of method or family size. Moreover, we noted that almost one-fifth of clients at post-test acknowledged that family planning in VCT is a benefit for people who do not usually access family planning services (one of the key theoretical advantages for integration of family planning services into VCT). Few clients said there were no advantages.

Table 4.5. Client perspectives of family planning during VCT by time.

	Pre-test (N = 372)	Post-test (N = 369)
	%	%
Advantages of FP information during VCT according to client:		
Facilitate method choice/ planning family size	16	36
Increase knowledge/ use of FP	40	25
Interrelated RH services/ dual protection/ reduce MTCT	14	20
Benefit people who don't usually access FP services	0	19
Help prevent unintended pregnancy	0	17
Save time and cost/ reduce FP load/ reduce referral need	21	0
Increase uptake b/c of high quality VCT	1	0
Important for young/male clients	3	0
Don't know	3	0
No advantages	8	5

Timing of family planning messages and services

Timing of the family planning messages and services has also been debated. Some people argue that in the post-test period HIV-positive clients will be too distracted to listen to family planning messages and HIV-negative clients will be relieved by the results and ready to end the session. To investigate these

assumptions, we asked providers and clients at both time points when they thought was the most appropriate time to discuss family planning methods in VCT (Table 4.6). Providers clearly preferred the pre-HIV test period, and this preference was more pronounced at post-test than baseline. FP-VCT training appeared to strengthen this preference, 80% of trained providers and 70% of untrained providers reported that before the HIV test was the most appropriate time to discuss FP methods during VCT (results not shown). CPI observations confirmed that most family planning discussions occurred before the HIV test.

On the other hand, even during the post-test data collection period, clients preferred the period after the HIV test for family planning discussions. However, the client preference for this timing declined by seven percentage points over time. This may be because providers were most likely to counsel during the pre-HIV test period (CPI data) and the experience positively influenced client preferences.

Table 4.6. Perspectives on timing family planning discussion during VCT by provider and client surveys and observations of actual timing during CPIs.

	Providers		Clients		CPIs*	
	Pre-test (N = 59)	Post-test (N = 60)	Pre-test (N = 372)	Post-test (N = 369)	Pre-test (N = 133)	Post-test (N = 252)
	%	%	%	%	%	%
Reports/observation of time to discuss FP methods during counseling session:						
Before seeing VCT counselor	0	0	5	2	n/a	n/a
Pre-HIV test	46	73	22	29	79	77
During HIV testing/while waiting for result	14	8	9	14	3	11
Post-HIV test	34	13	51	44	18	12
On a follow up visit	0	0	2	2	n/a	n/a
Never	0	2	5	3	n/a	n/a
Anytime	7	3	4	0	n/a	n/a

*Sample sizes for CPIs based on the subset of interactions with any family planning discussion

While we investigated whether VCT quality was affected by family planning integration, some findings raise larger questions about the overall quality of VCT. First, we see an increasing proportion of clients who had previously been tested for HIV, up to almost one-half of VCT clients. We also see indications of high levels of test kit stockouts, decreasing proportions of clinically trained VCT providers, increasing proportion of providers reporting refresher trainings, and increasing reports of time spent serving non-VCT clients in other services. Although these finding were outside the scope of the study and may not be representative of VCT as a whole, they suggest that VCT providers are being pulled in many directions and may not be able to adequately meet the demand of those clients who are seeking testing for the first time. These results beg further investigation.

5) Costs

In this section, we address the economic costs of the FP-VCT integration activities. The first activity was to estimate the economic costs associated with the five-day training manual integration or "harmonization" workshop by resource category. JHPIEGO and EngenderHealth/AMKENI had both developed materials related to FP-VCT integration, and the harmonization activity was conducted to merge the two resources into one document that would serve as the MOH training manual on FP-VCT integration. For this activity, costs pertain to personnel involved in the harmonization process as well as accommodations, facilities and supplies, transportation, and per diems (Table 5.1).

Table 5.1 Training manual harmonization costs by resource category.

Resources	Costs (Ksh)
Personnel: Contribution to harmonization (42 person days)	441,420
Accommodation	178,500
Conference facilities and supplies	15,500
Transportation	19,520
Per diems (meals and incidentals only)	61,400
Total	**716,340**
Total US dollars	**$9,550**
1 USD = 75 Ksh	

Before trainings were conducted, the MOH conducted pre-site training assessments over four days to ensure that each site could make appropriate use of the training skills and that the appropriate providers to participate in the training were identified. Table 5.2 shows the economic costs associated with the FP-VCT pre-training site assessment by resource category.

Table 5.2. FP-VCT pre-training site assessment costs by resource category.

Resources	Costs (Ksh)
Personnel: Conducting assessments (12 person days)	197,920
Accommodation	87,000
Per diems (meals and incidentals only)	39,700
Transportation	110,725
Total	**435,345**
Total US dollar	**$5,803**
1 USD = 75 Ksh	

Prior to conducting any training sessions, nine day-long advocacy meetings were held to raise awareness and gain support among MOH stakeholders at the provincial level (Table 5.3). Costs pertain to staff involved in conducting the advocacy meetings; the cost of the venue, per diems, materials and supplies, and transportation; and the cost of participant time to attend the advocacy meetings.

Table 5.3. Advocacy activities by resource category.

Resources	Costs (Ksh)
Personnel: Conducting meetings (54 person days)	351,624
Participant costs	952,586
Venue costs	21,600
Per diems (meals and incidentals only)	165,000
Materials and supplies	165,000
Transportation	99,000
Total	**1,754,810**
Total US dollar	**$23,397**
1 USD = 75 Ksh	

Prior to conducting provider training, MOH trainers were trained during two sessions lasting four days each (Table 5.4). Three different provider trainings lasting four days each were also conducted. Costs pertain to the salary for core trainers, per diems, venue costs, supplies, transportation, and participant and staff time.

Table 5.4. Training of trainers and provider training costs by resource category.

Resources	Training of trainers Costs (Ksh)	Provider training Costs (Ksh)
Personnel: Conducting trainings (100 person days)	202,070	303,105
Participant costs	181,127	481,415
Per diems (meals and incidentals only)	576,000	1,392,000
Venue	19,200	28,800
Supplies	19,000	50,500
Transportation	26,600	70,700
Total	**1,023,997**	**2,326,520**
Total US dollar	**$13,653**	**$31,019**
1 USD = 75 Ksh		

Following the trainings, supportive supervision activities were carried out over five days (Table 5.5). It is important to note that the supervision visits did not occur in all of the facilities with trained providers. If all trained providers had received supportive supervision visits, these costs would have been proportionally higher.

Table 5.5. Supportive supervision activity costs by resource category.

Resources	Costs (Ksh)
Personnel (conducting visits) and per diem (30 person days)	570,420
Transport and communication	183,000
Total	**753,420**
Total US dollar	**$10,045**
1 USD = 75 Ksh	

Finally, we present the overall FP-VCT integration costs by activity (Table 5.6). Total economic costs amount to Ksh 7,010,432. Training costs made up almost half of total economic costs. The next most important cost was for advocacy activities. The cost per person trained is Ksh 50,435. When annualized over a two-year period (assuming that this is the amount of time that would elapse between the original training efforts and the need to update staff or to train new staff), the cost per person trained amounts to Ksh 20,100 and 26,325 respectively.

Table 5.6. FP-VCT integration activity cost summary, total and unit costs.

Activity	**Total economic costs (Ksh)**	**% of Total economic costs**
Training manual integration	716,340	10%
VCT pre-site assessment	435,345	6%
Advocacy activities	1,754,810	25%
Training of trainers	1,023,997	15%
Provider training	2,326,520	33%
Supportive supervision	753,421	11%
Total	**7,010,432**	**100%**
Total US dollars	**$93,472**	
Unit Costs		
Cost per person trained (Ksh)	50,435	
Cost per person trained ($US)	$672	
Annualized cost per person trained (Ksh)	26,325	
Annualized cost per person trained ($US)	$351	

1 USD = 75 Ksh

These results provide a framework for understanding the amount and types of resources necessary for conducting and scaling up the integration activities. In future efforts, some activities would not need to be repeated, such as designing the curriculum, and these costs could be ignored in a scale-up. It is possible to examine potential scenarios where support from MOH development partners is reduced or eliminated and the costs of integration activities are borne in varying degrees by the Ministry of Health.

Discussion & Recommendations

The FP-VCT integration training intervention had a positive effect on improving providers' knowledge and attitudes toward family planning and the likelihood of VCT clients receiving family planning messages in VCT. Trained providers were consistently more likely to engage in fertility and family planning discussions with clients than were nontrained providers. Although the intervention did not result in more clients choosing a method, more clients reported receiving a method. The method clients received was exclusively the male condom.

The study confirmed that many VCT clients are at risk of unintended pregnancy. Women had higher levels of unintended pregnancy risk than men. Women were also much more likely to be HIV infected. Since the needs of these clients may not be met through traditional family planning services, failure to provide contraceptive methods in VCT is a missed opportunity to prevent unintended pregnancies and infant HIV infections. Moreover, the risk of unintended pregnancy has probably been underestimated, since most clients relied on condoms as their pregnancy prevention method and the majority of condom users reported inconsistent use.

Few clients at risk of unintended pregnancy received a method. The limited uptake of contraceptive methods in VCT may be due in part to the lack of routine screening of clients for pregnancy risk. If providers do not identify clients who are at risk for unintended pregnancy, they are unable to target family planning messages to those clients who most need them.

More attention should be paid to informing clients about a greater number of contraceptive methods. Providers focused their counseling on condoms. We do know that providers have gaps in knowledge and counseling. Even among trained providers, some conservative beliefs, such as restricting nulliparous women from using injectable methods, need to be addressed. However, it is not clear whether the focus on condoms is related to the low comfort levels or skills of providers in discussing other methods, to the fact that few methods other than condoms are available in VCT, or that VCT clients prefer condoms as a family planning method.

Despite the focus on condoms, providers can still strengthen their condom counseling. Clients need more messages about using condoms consistently and correctly, using condoms to prevent both HIV *and* pregnancy, and using a more effective pregnancy prevention method if consistent and correct condom use is not realistic.

Failure to target male VCT clients with fertility discussions and family planning is a missed opportunity to involve men in these issues. While the intervention resulted in a positive increase in fertility and family planning related discussions with men, there is still much room for improvement. Providers were still more likely to discuss fertility and family planning with women.

Surprisingly, client's HIV status did not influence discussions about condom use, fertility desires, or family planning methods. Discussions about fertility and contraceptive options may not be appropriate in a setting where a client just learned his/her HIV status. However, it is not clear why HIV status was not associated with discussions about condom use given that the condom is a key HIV prevention method.

The feasibility and acceptability of integrating family planning services in VCT was confirmed by this study. Providers have the time to discuss family planning, they believe it improves VCT quality, and they can distribute condoms for dual protection. Even if they do not yet distribute pills, they can make referrals to the family planning center located in the same facility. VCT quality, measured either by VCT session time or perceptions, does not appear to be negatively affected by the introduction of family planning. If anything, providers and clients appear to have positive feelings about the introduction of

family planning services. Nonetheless, the overall level of implementation was low, so VCT quality should continue to be monitored as the integration intervention strengthens.

Family planning services in VCT may be feasible and acceptable, but the timing of when to introduce family planning messages and services is not clear. Providers preferred the pre-HIV test period, whereas clients preferred the post-HIV test period for family planning information. Providers may find clients more amenable to family planning messages in the post-test period after the anticipation of the HIV test results has passed. However, if services are truly integrated, it may not be possible to identify the ideal timing for family planning messages. Integration of family planning services into VCT means much more than tacking family planning visits on to the end of a VCT session. Because HIV risk screening overlaps with unintended pregnancy risk screening (e.g., unprotected sex) and because the messages for HIV prevention are also pregnancy prevention (e.g., condom counseling), providers should capitalize on those opportunities to offer the dual messages wherever they arise.

Although MOH development partners covered a significant amount of resources for the project, this may not be the case in the future. It is possible to examine potential scenarios where support from MOH development partners is reduced or eliminated and the costs of integration activities are borne in varying degrees by the Ministry of Health. Provider training along with supportive supervision are the two activities most likely to be needed in any scale up of activities. However, some cost savings may occur as the training manual harmonization, provincial sensitization, and TOT activities may not need to be replicated at all or to the same extent. Further, some cost savings may be achieved if this intervention is implemented primarily by MOH staff because of differences in salaries, although their level of effort will be comparable. On the other hand, because of limited success of the intervention, future efforts may require additional activities, and therefore costs, in an effort to strengthen implementation.

The study findings suggest several recommendations:

- Advocacy efforts should stress the relatively large proportion of VCT clients at risk for unintended pregnancy. Policy-makers, program managers, and providers should be concerned with how unintended pregnancy affects the health and lives of their clients, especially those affected by HIV.
- Trainings and supervision should focus on developing providers' skills in pregnancy risk screening, informed choice counseling, and dual protection counseling.
- Training more then one to two VCT providers per facility should improve the level of coverage.
- Future trainings should enhance providers' ability to target their messages to clients at risk for unintended pregnancy, men, and potentially clients who are HIV-positive, although more information is needed to understand whether targeting HIV-positive VCT clients with family planning messages is appropriate.

The study findings reinforce our assumptions that integration of contraception into VCT has the potential to reduce unintended HIV-positive births, in addition to extending the benefits of contraception to all clients who want to prevent pregnancy. After strengthening the content and coverage of the intervention, more research is needed to be able to make a definitive statement about whether integration of family planning services into VCT can indeed result in contraceptive uptake.

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APPENDIX A: List of VCT centers serving as study sites in Western and Coast provinces

Coast Province

1. Malindi Stand Alone
2. Kilifi District Hospital
3. Port Reitz District Hospital
4. Kisauni Health Center (dropped)
5. Gede Dispensary
6. Malindi District Hospital
7. Likoni Health Center (dropped)
8. Msambweni Sub-district Hospital (dropped)
9. Mariakani Health Center (dropped)
10. Ganjoni Clinic (dropped)

Western Province

1. Mbale Rural Health Training Center
2. Khunyangu Health Center
3. Busia District Hospital
4. Nangina Dispensary (dropped)
5. Kimilili Sub-district Hospital
6. Chwele Health Center
7. Kakamega Municipality (Stand Alone)
8. Kakamega Provincial General Hospital
9. Friends Lugulu Mission Hospital
10. Webuye Sub-district Hospital