Effect of a provider-based educational outreach ("detailing") to stimulate IUCD use in Kenya

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AMKENI

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List of Abbreviations

CBD	community based distribution
DMPA	depot-medroxyprogesterone acetate, AKA depo provera, injectables
DPHN	District Public Health Nurse
DRH	Division of Reproductive Health
FHI	Family Health International
FP	family planning
GTZ	German Agency for Technical Cooperation (Gesellschaft fur Technische Zusammenarbeit)
IEC	information, education, and communication
IUCD	intra-uterine contraceptive device
MOH	Ministry of Health
OCP	oral contraceptive pill
WHO	World Health Organization

Executive Summary

This operations research study tested the effectiveness of an outreach intervention to clinic-based family planning providers and community-based distribution (CBD) agents, in promoting use of the intrauterine contraceptive device (IUCD) in Kenya.

Rationale for the study

In July 2002, the Kenyan Ministry of Health (MOH) signed a letter of support for the Reintroduction of the IUCD to the family planning services of the country. Although IUCD use at one time comprised 31 percent of the total modern contraceptive use in Kenya, that percentage has declined in recent years to 7.6 percent in 2003. Research conducted by Family Health International (FHI) indicated that one of the major barriers to IUCD use in Kenya is provider behaviors. A simulated client study found that providers spontaneously mentioned the IUCD in fewer than half the monitored interactions. The IUCD is a safe, effective, reversible contraceptive method. The length of its effectiveness makes it a low cost method for clients and the public health system. Furthermore, the IUCD requires fewer follow-up visits by clients than short-term methods thus over time providers will be required to spend less time with clients using the IUCD than clients using methods that require regular re-supply visits to the clinic.

Study objectives

The study tested a practical approach to reducing clinic provider and CBD agent biases about the IUCD while at the same time giving them information and tools to better counsel their clients regarding this method. The primary objectives of the study were to determine: (1) Whether detailing among clinic-based providers and CBD agents was an effective intervention to increase IUCD use in Kenya. (2) Whether detailing among clinic-based providers and/or among CBD agents had a positive impact on provider attitudes, knowledge, and self-efficacy regarding the IUCD. (3) The costs of implementing a detailing intervention among clinic-based providers and CBD agents.

Study design

The study used an experimental pre/post-test factorial design to test the effectiveness of the educational outreach intervention among both clinic-based providers and CBD agents. The study was designed to give information on whether the detailing intervention was more effective when applied to clinic-based providers, CBD agents, or both groups at the same time. The clinics chosen were MOH clinics in Western province, some AMKENI-supported, that had CBD programs attached to them, and had providers trained to insert and remove IUCDs. Forty-five study sites were chosen, and then randomly assigned to four groups: (1) Received the intervention among clinic based providers only; (2) Received the intervention among CBD agents only; (3) Received the intervention among both providers and CBD agents; and (4) Received no intervention at all. All family planning providers in the study sites and CBD agents attached to those clinics were invited to participate in the intervention. The study was reviewed and approved by the Protection of Human Subjects Committee at FHI and approved by Kenyatta National Hospital's ethics review board.

Design of Intervention

The exact design of the detailing intervention was created working closely with the Division of Reproductive Health (DRH), Ministry of Health (MOH), and in collaboration with the AMKENI

and MOH/GTZ projects. The intervention trained existing MOH supervisors (District Public Health Nurses) from the districts where the study took place. This model was selected so that the detailing intervention would not be too costly to be replicated on a wider-scale. The intervention consisted of two visits to family planning providers in health clinics and/or to CBD agents by the trained detailer. For both provider and CBD agent groups, the detailers asked the participants at the first visit to commit to activities to promote IUCDs.

Detailers were instructed to proactively present both the advantages and disadvantages of the IUCD to participants within the context of client informed choice, and worked to directly address rumors and misconceptions about the IUCD. Providers and CBD agents were presented with IEC brochures and promotional materials to emphasize the visit's key messages, and to use in their interactions with clients. Approximately one month after the first visit, detailers returned to each clinic and/or CBD program to discuss providers' and CBD agents' experiences in implementing their action plans. At this time, detailers also assisted participants in identifying solutions to any problems that surfaced.

Data collection

At baseline and six months after the intervention, indicators of clinic-based provider and CBD agent knowledge, attitudes and (for providers only) self-efficacy in counseling about and inserting the IUCD were measured in all 45 sites. These were measured through interviewer-administered questionnaires after having completed informed consent procedures and obtained participant signatures. Fieldworkers also collected service statistics information on the number of IUCD clients as a proportion of all family planning clients (new and continuing) for the entire twelve-month period of the study. The intervention costs were assessed through record reviews and interviews with key informants.

Results

The intervention only modestly increased the provision of IUCDs and only when both clinic-based providers and CBD agents were targeted. We concluded that detailing is most effective when it is done with both clinic providers and CBD agents. The clinic providers represent the "supply side" of service provision and the CBD agents the "demand side." Poor provider attitudes and technical skills are not adequately addressed by this intervention and may constitute the major obstacles to increasing IUCD uptake. Furthermore, the two detailing visits provided do not appear sufficient to sustain the effect of the intervention or to completely address poor provider attitudes and lack of technical skills. The number of IUCDs provided dropped immediately after the intervention ceased, indicating that continued promotion and education about the method are required.

A cost-effectiveness analysis reveals that the cost per 3.5 years of pregnancy protection was $49.57 for the detailing intervention plus the cost of the IUCD compared to $15.19 for the commodity costs of the current standard of care, DMPA provision. Thus we conclude that although the effectiveness of provider-based activities was somewhat amplified when concurrent demand creation activities were carried out, we cannot recommend the expansion of the detailing intervention due to its high cost and modest outcome.

Introduction and Background

In July 2002, the Kenyan Ministry of Health (MOH) endorsed the reintroduction of the intra-uterine contraceptive device (IUCD) to the family planning services of the country. Although IUCD use at one time comprised 31 percent of the total modern contraceptive use in Kenya, both the proportion of modern contraceptive users utilizing the IUCD and the absolute numbers of IUCD users have declined in recent years. In 2003, only 7.6 percent of modern contraceptive users in Kenya were using the IUCD.(1-3)

The IUCD is a safe, effective, reversible contraceptive method that is acceptable to users. For example, a 1996 study in Kenya showed lower discontinuation rates for IUCD than for oral contraceptive pills or injectable contraceptives (e.g., DMPA) and high client satisfaction with the IUCD.(4) The IUCD is a long-term contraceptive method, effective up to 12 years, depending on the device. The length of its effectiveness makes it a low cost method for clients -- after two years the average annual contraceptive method cost to clients is lowest for the IUCD.(5) Furthermore, since current recommendations for IUCD clients advise them to attend the facility one month after insertion of the IUCD and thereafter only once a year for routine gynecological exam and method-related follow-up, over time providers will be required to spend less time with clients using the IUCD than clients using methods that require regular re-supply visits to the facility. This makes the method low-cost for the health care system as well.(6)

Research conducted by Family Health International in 1995 indicated that one of the major barriers to IUCD use in Kenya was provider behaviors.(7) In a qualitative assessment of family planning provider knowledge and attitudes regarding the IUCD, researchers found that although providers had used and were satisfied with the IUCD themselves, they were not recommending the device to their clients. Among other things, this was attributed to a lack of knowledge about the contraindications for the IUCD and to a reluctance to commit the time and effort to inserting the device in an environment where providers feel over-burdened and under-supplied. (The same study found that most facilities had IUCDs in stock, but some were missing expendable supplies such as cotton wool.) Whatever the reason, Kenyan providers do not seem to encourage clients to choose the IUCD, despite the fact that many providers are satisfied users of the IUCD themselves. The simulated client portion of the above study found that providers spontaneously mentioned the IUCD in fewer than half the monitored interactions.

Another barrier to increased IUCD uptake identified was weak client demand due to myths and misperceptions circulating in communities. Where community based distribution (CBD) programs exist, many Kenyans get information about family planning from CBD agents. CBD agents are community members who are trained to provide FP information and some commodities to their neighbors, bringing services directly to the community. A 1997 assessment of CBD programs in Kenya found that approximately 50 percent of people in districts with a CBD program knew of a CBD agent and that between 20-25 percent of people had directly met with a CBD agent.(8) CBD agents supply only basic contraceptive methods: condoms, oral contraceptives and spermicides. However, CBD agents also give information to their clients about other methods and often refer clients to local health facilities. Thus, given their access to large numbers of community members, CBD agents may be key in confronting myths and building demand among prospective IUCD users.

The study described here examined the effectiveness of an intervention designed to address provider and CBD agent knowledge, attitudes and motivation regarding IUCD provision, in an effort to facilitate wider choice of contraceptive methods for Kenyan family planning clients. The study applied the intervention to two separate target groups: clinic-based health care providers and CBD agents. Both the providers and CBD agents targeted were attached to the health facilities chosen as study sites.

The test intervention, called detailing[1], is an educational outreach to clinic providers and CBD agents in selected sites. The term "detailing," describes an intervention wherein a role model or "champion" makes outreach visits to service delivery points to educate, motivate, and facilitate a desired activity (in this case, increased promotion of the IUCD). First used as a marketing tool, detailing has shown promise as a means of improving provider practices.(9) The detailing intervention evaluated here included education/motivation visits to clinics and CBD programs, and provision of information, education and communication (IEC) pamphlets and promotional materials (key rings, badges and pens). By addressing provider and CBD agent concerns and questions, the intervention was designed to encourage them to spend more time talking to clients about IUCDs and consequently increase the number of clients choosing the IUCD as their contraceptive method.

This study was an activity of the Ministry of Health's IUCD Re-introduction Initiative, and part of the FHI Research to Practice Initiative. The detailing intervention was designed to contribute to the IUCD Re-introduction Initiative's goal of increasing and sustaining access, demand and utilization of high quality IUCD services among Kenyan women. The study also utilized characteristics of research to practice in two ways. First, the intervention was designed to disseminate current research findings to health care providers. Second, the intervention was created in collaboration with the MOH to complement existing systems and meet Ministry of Health objectives. The study was reviewed and approved by the Protection of Human Subjects Committee at FHI and by the Kenyatta National Hospital Ethics and Research Committee in Nairobi.

[1] Also called "academic detailing".

Detailing intervention

One "detailer" was selected by the District Health Management Team in each of the five participating districts of Western Province. The detailers were all district public health nurses (DPHN), or their deputies. DPHNs are responsible for supervising the quality of care in all health facilities (both public and private) in their districts. Choosing DPHNs as the detailers improved the sustainability and replicability of the intervention, since they are already employed by the MOH and responsible for supervision.

To train the detailers, a curriculum for a five-day workshop was developed. The curriculum contained the following topics:

- Refresher on all family planning methods
- Focus on the IUCD, with particular emphasis on the latest scientific evidence and the World Health Organization (WHO) medical eligibility criteria
- Advocacy and communication skills for reproductive health, including material on social marketing, adult learning and theories of behavior change
- Developing messages to promote the IUCD addressing its advantages and common myths

In addition to the above topics, on the fifth day of the training participants went to non-study facilities to practice their detailing presentations before clinic providers and CBD agents. This practical session allowed the detailers to put into practice skills they had acquired during the training. The detailing curriculum is available from FHI for interested parties.

Overall, the intervention entailed two visits to family planning providers in health facilities and to CBD agents engaged in community-based distribution programs by a trained "detailer" to educate and motivate them about the IUCD. The detailers held group discussions with all clinic based providers and CBD agents in intervention facilities to discuss issues related to the IUCD, for example its advantages and disadvantages, myths and misconceptions held by clients and its use in HIV positive clients.[2]

Detailer reviews basic anatomy with CBD Agents to reassure them that the IUCD cannot travel in the body.

The detailers asked the participants to create a list of the barriers they perceived to IUCD provision. One frequent concern raised by participants was the prevalence of rumors about the IUCD among clients. Some of the more common rumors are that the IUCD can travel to other parts of the body, a child could be born while holding the IUCD or that the IUCD causes infertility and/or delays pregnancy. Since the detailers had received up to date information about the IUCD and had already developed many message confronting these myths during training, they were able to use concrete evidence to demystify the rumors. For example, they explained

[2] In some facilities other support staff members were also invited because they come into contact with clients within the community, are often regarded as "doctors", and may be confronted with situations where they might counsel clients on FP.

that the IUCD cannot travel to the other parts of the body because the only opening out of the uterus is via the vaginal cavity. Through sessions with the CBD agents, detailers concluded that some of the myths circulating in the community were originating from CBD agents themselves – thus making them an essential group to target with education and motivation.

The detailer then assisted the group in developing activities that addressed these barriers and that they could carry out over the next month to increase IUCD uptake. Some of these included:

Clinic based providers

- Continue health talks ("micro-teachings") to clients in the waiting room, placing more emphasis on the IUCD
- Give updates to other service providers not present during the detailing session
- Order any equipment or supplies necessary for inserting IUCDs that were missing from their facilities
- Intensify sensitization to women's groups, CBD agents and clients who go for VCT services
- Conduct re-orientation of IUCD insertion and removal for providers who were not comfortable with their skills in these areas
- Ensure quality counseling so that clients can make informed choices

CBD agents

- Sensitize community members about the IUCD
- Refer clients not suitable for other methods who are interested in the IUCD to the local health clinics
- Conduct health education talks discussing the IUCD during home visits and/or meetings for women's groups

In addition to the group talks, detailers also held one-on-one discussions with some clinic providers and CBD agents to address their individual concerns.

Since the detailers actually supervised the health facilities in the areas they were assigned, they were able to help clinic staff and CBD agents to confront any supply problems that existed. For example, some detailers delivered missing supplies themselves, while others arranged for clinics to borrow missing supplies or equipment from other facilities.

Detailers also distributed MOH-created IEC pamphlets for providers and CBD agents to use to educate their clients. The IEC materials distributed included 250 IUCD advocacy briefs for the providers, 18,000 IUCD specific client brochures and 5300 general family planning brochures. Clinic providers and CBD agents were given promotional items such as key chains, badges (e.g. buttons) and pens, embossed with the IUCD Reintroduction Initiative theme, "A new look at IUCDs," to prompt them to remember to counsel their clients about the IUCD whenever appropriate. Approximately 950 key rings, 2000 badges and 1000 pens were distributed.

Study design

The study tested a practical approach to reducing clinic based provider and CBD agent biases about the IUCD while at the same time giving them information and tools to better counsel their clients regarding this method. The objectives of the study were:

- To determine whether detailing among clinic-based providers and CBD agents was an effective intervention to increase IUCD use in study sites
- To determine the cost-effectiveness of implementing a detailing intervention in study sites among clinic-based providers and CBD agents
- To determine whether detailing among clinic-based providers and CBD agents had a positive impact on provider and CBD agent knowledge, attitudes, and self-efficacy regarding the IUCD

Description of the target population and selection criteria for human subjects

Study sites were public sector rural health facilities in five districts of Western Province with family planning programs and a CBD program attached. Western Province, an underserved area of the country, is also the same province where a large, integrated reproductive health intervention, supported by USAID/Kenya, the AMKENI project is currently taking place. The study utilized some sites that are included in the AMKENI intervention and some that are not in order to determine whether the intervention works equally well outside the AMKENI project. Also in Western Province, the MOH cooperates with the German development agency (GTZ) to manage a large CBD program. The MOH/GTZ program has over 2800 active CBD agents in Western Province, who work as part-time volunteers, receive non-monetary incentives and are attached to specific public sector health facilities. The study targeted those health care providers and CBD agents attached to the selected study sites. A complete list of health facilities with family planning services was obtained for all chosen districts. The eligibility criteria for the study sites stated that facilities must:

- Have an active family planning program
- Be capturing data on their family planning clients
- Have at least one FP provider trained in IUCD insertion and removal who was expected to remain at the facility during the time of the study
- Have active CBD agents attached to the facility

The study used an experimental pre/post-test factorial design to test the effectiveness of a "detailing" intervention among both clinic-based providers and CBD agents. A factorial experiment tests "the effect of more than one treatment (factor) using a design that permits an assessment of interactions between the treatments."(10) In this case the two treatments were the detailing intervention with clinic providers and the detailing intervention with CBD agents. The benefit of using a factorial design is its power to assess the effect of the intervention in each target group separately, and to examine if there is an interaction effect when both target groups receive the intervention. In the case of an interaction effect, the impact of the intervention in one group is affected by the presence of the intervention in the other group. Thus, the study was able to provide information on whether the detailing intervention is more effective when applied to clinic-based providers, CBD agents, or both groups at the same time.

Forty-five public health facilities were selected as study sites using the selection criteria. They were then stratified based on whether they were AMKENI sites, and randomly assigned to receive the intervention in neither, one, or both target groups (Table 1). The majority of the study sites were health clinics (36), but 7 hospitals and 2 dispensaries that met the site selection criteria were also included. The planned sample size of 20 clinics per study arm was selected to have at least 80% power to detect a 5% difference of IUCD use between arms under type I error rate $\alpha = 0.05$ with the assumption of at least 0.5 correlation between outcomes at the pre-and post-intervention and no interaction between factors.

Research assistants visited each facility at baseline and follow-up and collected monthly service statistics for 12 months (Jan-Dec 2004) using the daily activity logs in each facility. All available clinic based service providers offering FP services in the study sites were interviewed during baseline as well as follow up surveys. Due to their larger numbers, the study interviewed a sample of CBD agents at each facility. A list of codes of active CBD agents was used to randomly select 15 CBD agents per facility (using a random numbers table). In facilities where there were fewer than 15 CBD agents, all were invited to answer the study questionnaire. CBD agents selected to participate in the study were asked to report to the facility on one of the two days that research assistants were there collecting data.

Table 1: No. sites by factorial study design intervention assignments

AMKENI Sites

	CBD Detailing	No CBD Detailing	**Total**
Detailing in Clinics	5	5	**10**
No Detailing in Clinics	5	5	**10**
Total	**10**	**10**	**20**

Non-AMKENI Sites

	CBD Detailing	No CBD Detailing	**Total**
Detailing in Clinics	6	6	**12**
No Detailing in Clinics	7	6	**13**
Total	**13**	**12**	**25**

During baseline data collection in March and April 2004, research assistants conducted interviews with 131 clinic-based family planning service providers and 480 CBD agents. At follow-up data collection (January and February 2005), 120 providers and 402 CBD agents were interviewed. Every attempt was made to speak to the same providers and CBD agents at the follow-up interviews, and the interviewers succeeded in re-interviewing 83.8% of the CBD agents at follow-up. Unfortunately, we were unable to match identities of providers between baseline and follow-up due to issues of respondent confidentiality. CDD agents had pre-assigned code numbers that could be used to match their responses at pre and post-test data collection, rather than collecting their names. Such code numbers did not exist for providers, thus we would have had to collect their names for the matching and this would have increased the risk of a breach of confidentiality. Ten percent of provider respondents at follow-up said they had been working in that facility for less than a year, so we are certain there were at least *some* providers interviewed at follow-up who did not contribute information at baseline.

Statistical analysis

To analyze the effect of the detailing intervention, we created multivariate ordinary least squares (OLS) models which allowed us to examine the differential effects of the intervention while holding other effects constant. We tested both the proportion of all FP clients who received the IUD and the total numbers of IUDs provided as outcome measures. We examined the interaction effect of detailing at a study site for both target groups and the main effects of detailing at study sites for either providers or CBD agents. A confounding factor was defined as any variable that, by its exclusion from the model, resulted in a change in the primary estimates of effect of 10% or greater.

Primary analyses used intention-to-treat principles. All study sites, providers and CBD agents attached to study sites that were assigned to an active intervention arm were assumed to have been exposed to detailing, regardless of whether they attended the talk or not. We also conducted a post-hoc sensitivity analysis using participant responses as evidence of whether the respondents in each facility were exposed to the detailing intervention.

Cost-effectiveness analyses compare the gains associated with a health intervention with the costs and cost savings associated with implementing the intervention. The cost-effectiveness ratio was calculated as the cost of each projected additional IUD provided associated with the detailing intervention. In order to put this cost-effectiveness ratio in context, we calculated a cost-effectiveness ratio for the "standard of care", the injectable contraceptive Depot-Medroxyprogesterone Acetate (DMPA). We chose DMPA as the comparison because it is the most commonly used modern contraceptive in Kenya.(11) We make the assumption that the IUD will be used for 3.5 years, the standard conversion factor for this method and therefore assume that one IUD provides the same protection as 14 injections of DMPA. We ignore the costs associated with provider time as provision of the IUD and provision of DMPA are likely to require similar amounts of time over the 3.5 year time period; while it takes a relatively longer time to insert the IUD, DMPA clients must make many more clinic visits.

Outcome measures

IUD uptake was the primary outcome measure and was collected from daily FP logs in the study sites. We collected both the total number of IUDs provided per month in each clinic, as well as the proportion of IUDs relative to the total number of FP clients served in each month. Because FP service provision numbers tend to vary from month to month, we used a three month average number and proportion in the analyses. The baseline average was taken from January-March 2004 and the follow-up period was October-December 2004. Condom clients were excluded from the denominator of the proportion as most of them also received another FP method and so would have been double-counted. We measured exposure to the intervention at the individual respondent level by asking at follow-up if providers and CBD agents in all facilities had heard a detailing presentation about the IUD.

All financial costs were collected during the project. We did not consider any study-related or start-up costs in the cost-effectiveness analysis, since they would not be necessary for a replication of the detailing intervention. Regular salary costs are also not included in the calculations, since we assume that current MOH staff members will perform the detailing intervention as part of their normal supervisory duties, incurring little additional staff time.

To measure the effects of the detailing intervention on individuals in the target groups, provider and CBD respondents were read a series of statements designed to evaluate their knowledge about and attitudes towards the IUD during interviewer-administered face-to-face interviews. For example, one of the attitude statements was, "I would recommend the IUD to a friend or family member." Several statements were also posed to determine the respondents' sense of self-efficacy with regard to counseling about and providing the IUD. For each statement, respondents were asked to respond either true/false or agree/disagree. In some cases, providers and CBD agents were given different statements, based on the assumed level of their knowledge and specific issues that applied to one target group but not the other.

Provider and CBD agent characteristics

The great majority of both providers and CBD agents were female (CBD: 91.3% female; providers: 84.0% female), which mirrors the overall gender distribution of providers and CBD agents in this area. The CBD agents were aged 25 to 74 years old, with a median age of 45 years. The average CBD agent interviewed had been a CBD agent for 10.6 years (range: 3-30 years). Providers were on average slightly younger than CBDs, with a median age of 42.6 years (range: 27-54). However, the providers had spent a good deal more time as health care providers than the CBD agents. The average provider-respondent had been working in health care for 18.2 years (range: 2-33). On average, providers said they had worked in the facility in which they were interviewed for 6.7 years (median 4.0 years). However, the distribution is highly skewed. Nearly thirty percent of respondents (29.0%) had worked in their clinic for one year or less at the time of interview, reflecting the high rate of staff transfers in the MOH system. The distribution of respondents at follow-up was similar to baseline, with respondents predominantly being female (CBD: 91.5%; providers: 84.2%) and median ages in the mid-40s (CBD: 45 years; providers: 44 years). The average amount of time spent as a provider and CBD agent were also similar to baseline (CBD: 11.3 years; provider: 17.8 years).

CBD Agent presents her concerns about the IUCD to detailer.

Providers were asked to give their current primary responsibility in the clinic. (Table 15) Less than half (baseline: 43.8%; follow-up 34.2%) of the providers said that their current primary responsibility was family planning. This proportion may be lower at follow-up because some providers interviewed at baseline were assigned to the family planning clinic at that time, but had been assigned different responsibilities in the meantime.

Table 2: Provider's Current Primary Responsibility in Facility

	Baseline		Follow-up	
Current Primary Responsibility	**No.**	**%**	**No.**	**%**
Family planning	57	43.8	41	34.2
Child health	17	13.1	43	35.8
Supervision/management	16	12.3	6	5.0
General curative (inpatient or outpatient)	9	6.9	12	10.0
Antenatal care	9	6.9	9	7.5
Labor and delivery care	4	3.1	1	0.8
STI/HIV/AIDS/PMTCT	3	2.3	2	1.7
Counseling	2	1.5	2	1.7
Pharmacy	0	0.0	1	0.8
All services	13	10.0	3	12.5
Total	**130**	**100**	**120**	**100**

At baseline, nearly one-quarter of providers (22.9%) and over one-third of CBD agents (37.5%) reported currently using no method of contraception or being menopausal or widowed, implying no need for contraception. (Table 3) The numbers of respondents independently reporting that they were menopausal or widowed at baseline were so high that they were added as separate response categories at follow-up, explaining why they are even higher at the second data collection. The providers, younger on average than the CBD agents, were less likely at both baseline and follow-up to report being menopausal or using no method (baseline: 22.9%; follow-up 31.7%). Interestingly, the proportion of CBD agents reporting personal IUCD use doubled from baseline to follow-up.

Respondents tended to use contraceptive methods that they have easy access to. For example, providers were more likely to use clinical methods. Among providers, the most commonly reported method was female sterilization, followed by the IUCD, condoms and the injectable. CBD agents were most likely to use oral contraceptive pills (OCP) at baseline, which they themselves distribute to clients. At follow-up, however, the proportion on OCPs decreased, as the proportion using IUCDs increased. Among the CBD agents, the most popular form of birth control was the oral contraceptive pill (baseline), condoms, female sterilization and injectables.

Table 3: Respondent's Current Use of Contraception

	Providers				CBD Agents			
	Baseline		Follow-up		Baseline		Follow-up	
Contraceptive Method*	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Female sterilization	32	24.4	23	19.2	79	16.5	74	18.4
IUCD	22	16.8	21	17.5	16	3.3	28	7.0
Condoms	20	15.3	14	11.7	87	18.1	57	14.2
Injectable	19	14.5	12	10.0	57	11.9	48	11.9
OCP	5	3.8	7	5.8	113	23.5	57	14.2
Natural method	1	0.8	0		9	1.9	11	2.7
Norplant	4	3.1	5	4.2	5	1.0	2	0.5
Male sterilization	1	0.8	0		2	0.4	2	0.5
Menopausal/Widowed	12	9.2	22	18.3	143	30.0	124	30.8
No method	18	13.7	16	13.3	36	7.5	45	11.2
Pregnant	0		3	2.5	0		1	0.2
Total	**131**		**120**		**480**		**402**	

*Note: Percentages do not add up to 100%, since more than one answer was possible.

Of the female respondents the majority of both providers and CBD agents said they had used an IUCD at sometime in the past (Table 4), and a high proportion said they would consider using the IUCD as a personal contraceptive method in the future. For both groups of respondents, the proportion willing to consider the IUCD for themselves decreased with increasing age.

Table 4: Past Use of IUCDs

	Providers				CBD Agents			
	Baseline		Follow-up		Baseline		Follow-up	
	No.	%	No.	%	No.	%	No.	%
Used IUCD in past								
Yes	76	67.9	71	69.6	94	21.5	96	26.2
No	36	32.1	31	30.4	343	78.5	271	73.8
Total No. Female Respondents	**112**	**100**	**102**	**100**	**437**	**100**	**367**	**100**

*Providers missing at baseline=1; Providers missing at follow-up=4

Providers tended to have received training on counseling more recently than insertion and removal techniques (measured only at baseline). (Table 5) The majority of providers had at least received some training on insertion and removal techniques, despite it having been in the distant past, but nearly one-quarter (22.1%) of providers said they had never received training on how to counsel clients about the IUCD. Like the providers, most of the CBD respondents (98.7%) had received some training about IUCDs in the past, but over half of them (58.8%) had received that training more than five years ago.

Table 5: Last time received training about IUCDs

	Clinic Providers				CBD Agents	
Last time received training	**Insertion/Removal**		**Counseling**		**Any IUCD training**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Within the last 1 year	22	16.8	27	20.6	87	18.1
1-5 years ago	25	19.1	35	26.7	105	21.9
More than 5 years ago	73	55.7	40	30.5	282	58.8
Never	11	8.4	29	22.1	6	1.3
Total	**131**	**100**	**131**	**100**	**480**	**100**

Study results

IUCD Uptake

In all, the 45 health facilities provided 281 IUCDs in the three months before the baseline data collection (Jan-Mar 2004) and 234 in the three months of follow-up data collection (Oct-Dec 2004). At the same time, the median total number of FP clients per month per facility increased slightly from 151 (mean: 206; range: 208-3052) to 154 (233; 117-3631). The total number of FP clients excludes condom clients, since they may have been double-counted in the facility daily activity logs if they were using both condoms and another contraceptive method. Only one referral for an IUCD insertion was reported in any of the 45 study sites in the baseline period thus these data were not collected at follow-up.

The provision of IUCDs was highly variable from facility to facility. At baseline (Jan-Mar), 48.9% of facilities reported 0 IUCD insertions and at follow-up (Oct-Dec), 35.6% of facilities reported 0 IUCD insertions. To avoid this skewed distribution, we used the median for the measure of central tendency. In general, the median number of IUCDs provided and the proportion of the method mix constituted by IUCDs increased from baseline to follow-up. (Table 2) The overall median number of IUCDs inserted per month per facility was 0.3 at baseline and 0.7 at follow-up. The average percentage of all family planning clients[3] who accepted IUCDs in each month increased from 0.1 at baseline to 0.4 at follow-up.

Table 6: Average number of IUCDs provided per month per facility by period and intervention type

		Median No. IUCDs		Range		Median Percent of All FP Clients	
Intervention Group	**No. Sites**	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
Clinic only	11	1.3	0.7	0-26	0-5	1.1	0.2
CBD only	12	0.0	0.0	0-9	0-4	0.0	0.0
Clinic & CBD	11	0.0	1.3	0-27	0-18	0.0	0.7
No detailing	11	0.3	0.7	0-6	0-2	0.2	0.5
Total	**45**	**0.3**	**0.7**	**0-27**	**0-18**	**0.1**	**0.4**

Hospitals tended to provide the most IUCDs, on average, but saw a decrease in their proportional provision of IUCDs. (Table 7) At baseline hospitals provided a median of 4 IUCDs per month, but at follow-up this had dropped to a median of 2.3 per month. Health centers, on the other hand, increased their average median number of IUCDs inserted per month from 0.0 at baseline to 0.7 at follow-up.

[3] Note: this percentage excludes clients reported as "condom" clients.

Table 7: Average number of IUCDs provided per month per facility by period and facility type

		Median No. IUCDs		Range		Median Percent of All FP Clients	
	No. Sites	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
Hospitals	7	4.0	2.3	0-26	0-18	1.3	0.4
Health Centers	36	0.0	0.7	0-10	0-11	0.0	0.5
Dispensaries	2	3.2	0.5	0-6	0-1	1.9	0.5
Total	**45**	**0.3**	**0.7**	**0-26**	**0-18**	**0.1**	**0.4**

The number of IUCDs provided varied by district also. (Table 8) Facilities in Kakamega, Bungoma and Lugari experienced increases in the median number of IUCDs provided per month, while Vihiga and Butere-Mumias had very small decreases. Even among those districts that succeeded in increasing IUCD provision, the median percent of all family planning clients accepting IUCD remained below one percent. The differences between districts can largely be explained by differences in facility type.

Table 8: Average number of IUCDs provided per month by period and district

		Median No. IUCDs		Range		Median Percent of All FP Clients	
	No. Sites	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
Kakamega	11	0.0	0.7	0-26	0-18	0.0	0.6
Bungoma	10	0.3	1.5	0-14	0-11	0.2	0.7
Vihiga	9	1.0	0.7	0-10	0-4	0.6	0.5
Butere-Mumias	10	0.2	0.0	0-6	0-1	0.1	0.0
Lugari	5	0.3	1.0	0-2	0-5	0.1	0.5
Total	**45**	**0.3**	**0.7**	**0-26**	**0-18**	**0.1**	**0.4**

AMKENI status

Of the 45 facilities involved in the study, 20 were supported by the AMKENI project. The AMKENI project is a large, USAID-supported, integrated reproductive health intervention which provides support to facilities for infrastructure, supplies and equipment, and staff training. At baseline, those facilities supported by AMKENI appeared to be providing a somewhat higher number and proportion of IUCDs per month. At follow-up, both AMKENI supported facilities and those not taking part in the AMKENI project had achieved increases in IUCD provision.

Table 9: Average number of IUCDs provided per month (past 3 months) by AMKENI status

		Median No. IUCDs		Range		Median Percent of All FP Clients	
AMKENI supported?	**No. Sites**	Baseline	Follow-up	Baseline	Follow-up	Baseline	Follow-up
Yes	20	0.5	0.8	0-26	0-11	0.3	0.5
No	25	0.0	0.7	0-14	0-18	0.0	0.3
Total	**45**	**0.3**	**0.7**	**0-26**	**0-18**	**0.1**	**0.4**

Reported IUD service provision

The majority of providers (87.8%) and CBD agents (70.2%) reported that when they are counseling women about contraceptive methods, they tell their clients about the IUCD all or most of the time. Less than ten percent of respondents at baseline, and less than two percent of providers at follow-up said they never or almost never tell their clients about the IUCD. (Table 10) CBD agents also almost universally agreed that the IUCD should always be included when discussing family planning choices.[4] However, despite the reported frequency of counseling about the IUCD, providers still reported inserting very few IUCDs. Those few providers who said they never or almost never counseled clients about the IUCD also generally reported not having inserted any IUCDs in the past month.

Table 10: When counseling women about contraceptive methods, how often does participant tell them about IUCD?

	Providers				CBD Agents	
How often tells clients about IUCD	**Baseline**		**Follow-up**		**Baseline**[1]	
	No.	**%**	**No.**	**%**	**No.**	**%**
All the time	96	73.3	105	87.5	157	32.8
Most of the time	19	14.5	6	5.0	179	37.4
Some of the time	7	5.3	7	5.8	122	25.5
Almost never	3	2.3	1	0.8	12	2.5
Never	6	4.6	1	0.8	9	1.9
Total	**131**	**100**	**120**	**100**	**479**	**100**

On average, providers reported having provided 1.2 IUCDs in the past month at baseline and 1.1 IUCDs in the past month at follow-up. (Note that this is somewhat lower than the average monthly number of IUCDs distributed in the facilities over the past three months, as recorded by the Daily Activity Logs in the facilities.) Mirroring the actual service statistics, the distribution of provider responses was highly skewed with well over half of the respondents at baseline and follow-up reporting zero IUCDs inserted in the past month. (Table 11) At baseline, the median estimate by providers of how long it takes to insert an IUCD, including the time spent counseling the client, was 37.5 minutes (mean: 44.6 minutes). This decreased to 30.0 minutes (mean: 40.0 minutes) at follow-up. The most common responses were that it took 30 minutes or 60 minutes, however a very few respondents reported that it took a much longer period of time (between 75-240 minutes (n=9) at baseline; between 75-120 minutes (n=5) at follow-up), thus skewing the population average higher than the median.

Table 11: Number of IUCDs inserted in last month, according to providers

	Baseline		Follow-up	
	No.	**%**	**No.**	**%**
0	90	70.3	79	65.8
1	9	7.0	14	11.7
2 or more	29	22.7	27	22.5
Total	**128**	**100**	**120**	**100**

[4] Note: this question was inadvertently left off the follow-up questionnaire for CBD agents.

At baseline, nearly half the provider respondents thought that IUCD use in their facility had decreased in the past year, while the other half were split between whether IUCD use had stayed the same or increased (Table 12). At follow-up these proportions were reversed and just over half the providers thought that IUCD use had increased in their facility in the past year. In reality, we observed that forty percent of facilities increased IUCD provision, while one-third decreased IUCD provision.

Table 12: Has IUCD use in this facility changed over the past year?

IUCD use changed past year	Baseline		Follow-up		Actual	
	No.	%	No.	%	No.	%
Increased	31	25.0	60	51.3	18	40.0
Stayed the same	36	29.0	34	29.1	12	26.7
Decreased	57	46.0	23	19.7	15	33.3
Total	**124**	**100**	**120**	**100**	**45**	**100**

The number of clients CBD Agents reported having counseled in the past month on family planning and the number they reported having discussed the IUCD with increased slightly from baseline to follow-up (Table 13). The number of referrals did not appear to change over time.

Table 13: Average number of clients counseled and referred by CBD Agents in the past month

	Baseline	Follow-up
Counseled on FP	17.2	20.2
Counseled on IUCD	3.9	5.0
Referred for other methods	4.7	4.9
Referred for IUCD	1.4	1.8
Total CBD Agents	**480**	**402**

The reporting of the CBD numbers above came from estimates the respondents made at the time of the interview. These figures were not verified with CBD Agent diaries or facility records. Furthermore, the averages reported above were often heavily influenced by outlying values reported by a small number of respondents. For example, the range of clients counseled in the past month on family planning spans from 0 to 110 clients, with one respondent reporting having counseled over 400 clients in the past month at both baseline and follow-up. Whether or not they are completely accurate, it is still revealing that despite most CBD Agents having said they mention the IUCD all or most of the time, when they counsel their clients about contraceptive methods the average respondent reported discussing the IUCD with only about 25% of clients.

Exposure to the intervention

The study interviewed the same CBD agents at follow-up, but did not establish provider identity to allow follow-up of the same providers. At the follow-up interview all respondents, regardless of whether they were in a facility assigned to the detailing intervention or they had been interviewed at baseline, were asked whether they had been present for the detailer's first visit and presentation on the IUCD. Among those providers who were in facilities assigned to receive the detailing intervention, only 50.6% (44/120) reported having heard the detailing presentation. This relatively low percentage may be due to staff transfers between clinics or facilities, or due

to providers simply not having been present on the day the detailer came. Among CBD agents intended to receive detailing, the exposure was higher, with 87.7% (186/212) of CBD Agents in facilities assigned to receive the detailing intervention reporting having heard the detailer's presentation.

Detailer works with clinic-based providers on activity plan for promoting the IUCD.

As explained above, there were some facilities where one target group (providers or CBD agents) was assigned to the intervention and the other group was not. It appears that separation between groups was not entirely successful. Respondents were asked if they heard the detailer give his/her presentation about the IUCD. Among those providers not assigned to receive the detailing intervention, 30.3% said that they had heard the detailer and among CBD Agents not assigned the intervention, 16.8% said they actually did hear the detailer's presentation. (Table 10) This situation is known as "intervention contamination" where the assigned intervention status is not the true intervention status at the end of the study. These respondents, who were meant to serve as controls, were unexpectedly exposed to the intervention. This may have taken place since some providers assigned to receive the detailing intervention may also have been CBD supervisors, and may have been present during a detailing session with CBD agents. The detailers are district supervisors and they may have given messages about the IUCD to non-intervention groups, despite requests that they refrain from doing so before the study was over. Or the respondents may simply have been mistaken about whether the source they heard about the IUCD from was the detailer.

In order to avoid bias in the analysis, we ignored the intervention contamination and proceeded with an intent-to-treat analysis. A sensitivity analysis was also conducted to determine if the contamination changed the overall study results (see below).

Table 14: Exposure to detailing intervention by intervention group assignment

		Providers (N=120)				CBD Agents (N=402)			
Assigned to receive detailing?		**Yes**		**No**		**Yes**		**No**	
		No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Heard detailing intervention?	Yes	44	50.6	**10**	**30.3**	186	87.7	**32**	**16.8**
	No	43	49.4	23	69.7	26	12.3	158	83.2
	Total	87	100	33	100	212	100	190	100

Note: intervention contamination **bold and in red**.

On average, providers who heard it said the detailer's presentation was 58.7 minutes long (median: 45; range: 20-180) and CBD agents said the presentations were 72.8 minutes long (median: 60; range: 10-360). Respondents who heard the detailing presentations were overwhelmingly positive about them. Nearly eighty-five percent (84.9%) of providers and 95.0% of CBD agents said they learned new information about the IUCD during the presentation. Most providers (84.9%) and CBD agents (90.4%) said the presentation changed how they think about the IUCD. Even higher proportions of respondents said they found the material presented to them helpful for their work (providers 92.3%, CBD agents 97.6%) and they nearly unanimously said they had used that information in counseling clients (providers 98.1%, CBD agents 99.5%).

CBD Agents examine an IUCD to overcome misconceptions about its size.

Of those who reported having heard the detailer's presentation, 62.3% of providers and 55.5% of CBD agents said they saw the detailer during his/her second visit to the facility. Respondents were very positive about the value of the second visit. While only 60.7% of providers said they learned new information during the second visit, 89.3% said the second visit answered questions they had regarding the first presentation, and 96.4% said the second visit helped them to use information about the IUCD more effectively. CBD agents seem to have learned more in the second visit (86.4% reported learning new information) than providers, but they were equally enthusiastic about the value of the second visit to answer questions they had after the first presentation (96.6%) and 100% said that the second visit enabled them to use the information they had learned about the IUCD more effectively.

Although the initial model for detailing incorporated one-on-one sessions with providers to discuss their experiences with providing IUCDs, detailers felt the group presentation method to be more effective in their context. As a result, few respondents (5.9% of providers and 5.0% of CBD agents) had one-on-one meetings with the detailers. Those few who had these private sessions were nearly universal in saying that they changed their thinking about IUCDs and used the information they gained for counseling clients (100% providers and 95% CBD agents changed thinking; 100% providers and CBD agents used information for client counseling).

Other sources of information about the IUCD

Approximately thirty percent of all respondents (33/120 providers, 128/402 CBD agents) reported that they had received training or education about the IUCD from a source other than the detailer in the past six months. The most common source of information for both providers and CBD agents was a provider at their home facility. (Table 15) This finding suggests that those who received information about the IUCD during the detailing intervention did share their knowledge with colleagues, thus diffusing the intervention. Some of the other sources of information may also have been due to the wider Kenya IUCD Reintroduction Initiative.

Table 15: Other sources of information about the IUCD*

	Providers (N=33)		CBD Agents (N=128)	
	No.	%	No.	%
Provider/colleague this facility	14	42.4	66	51.6
MOH / RH supervisor	7	21.2	21	16.4
AMKENI program	7	21.2	14	10.9
Other NGO	4	12.1	11	8.6
Provider/colleague other facility	1	3.0	17	13.3
CBD agent	0		10	7.8
TV/radio	0		7	5.5
MOH/GTZ CBD program	1	0.3	3	2.3
Brochure/pamphlet	2	6.1	2	1.6

*Note: more than one answer was possible. Totals do not add to 100%.

Effect of the detailing intervention

To analyze the effect of the detailing intervention, we created multivariate ordinary least squares (OLS) models which allowed us to examine the differential effects of the intervention while holding other effects constant. Examining its effects in a multivariate model, the detailing intervention resulted in a small increase in the number of IUCDs provided when both clinic-based providers and CBD agents were targeted, but no significant change in facilities where only one group received the detailing intervention. The effect of targeting both clinic-based providers and CBD agents increased IUCD provision by 1.0% per quarter per facility, or by 6.5 IUCDs per quarter per facility, holding constant AMKENI support and baseline IUCD provision both of which controlled for significant confounding in the model. (Table 16) The estimate of effect for the change in the number of IUCDs provided per quarter was statistically significant ($p<0.05$) but did not achieve the 5% increase we defined as programmatically significant in the sample size calculations. Differences among districts and the effects of access to essential supplies were not important predictors of IUD or statistically significant confounders and so were excluded from the model.

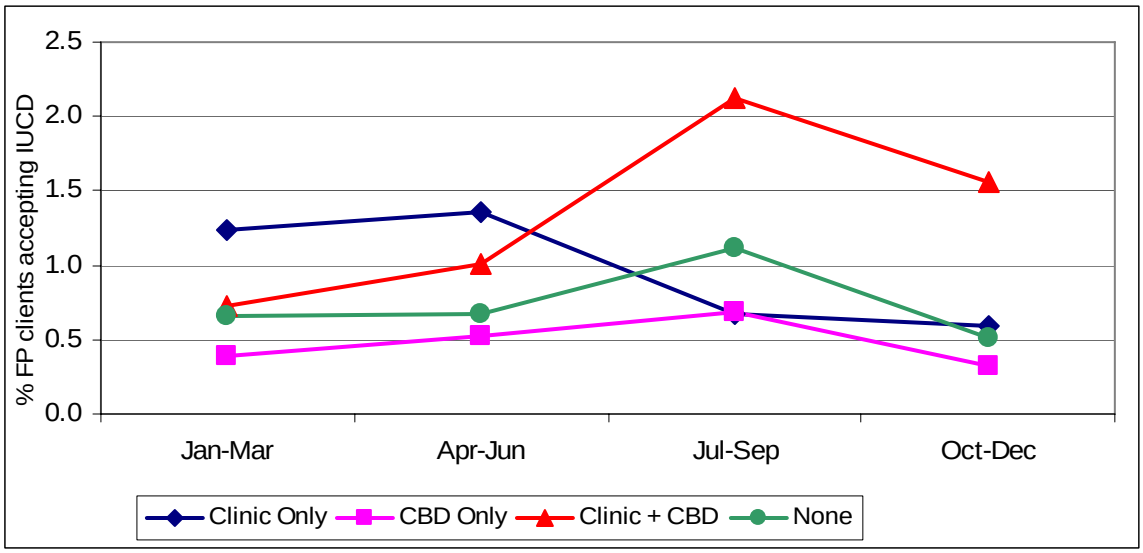
Table 16: Factors associated with change in proportion or number of IUCD users, Jan-Mar 2004 to Oct-Dec 2004*

	Change in percent of all family planning clients receiving IUD per quarter (N=45)		Change in number of IUDs provided per quarter (N=45)	
	Estimate	**95 CI†**	**Estimate**	**95 CI†**
No detailing	0.2	-0.6, 1.0	0.9	-3.8, 5.7
Received detailing in clinic only	0.0	-1.0, 1.1	-0.5	-6.7, 5.8
Received detailing in CBD program only	-0.2	-1.1, 0.8	-0.1	-6.1, 5.9
Received detailing in both clinic and CBD program	1.0**	-0.0, 2.0	6.5‡	0.3, 12.7

* Adjusted for baseline level of IUD provision and participation in AMKENI project
† Confidence interval ** $p<0.05$ ‡ $p<0.10$

Figure 1 demonstrates the effect in the study sites assigned the intervention among both provider and CBD agent target groups using the unadjusted proportions of IUD among all family planning clients. The detailing visits (intervention) took place in June and July. Immediately thereafter, the proportion of FP clients initiating IUD use increased in clinics receiving detailing among both clinic-based providers and CBD agents. This increase started to drop off almost immediately after the intervention although it remained elevated as compared to baseline. It is worth noting that implants were out of stock for much of the study period. It was back on the shelves of clinics in September 2004 and its provision increased at the same time that IUD provision was decreasing following the post-intervention bump. We cannot directly link the re-stocking of implants to the lack of success of the detailing intervention, but implants appear to be popular with both providers and clients. Data after December 2004 have not yet been collected to determine if any increase was sustained over a longer period of time.

Figure 1: Average quarterly percent of all family planning clients accepting IUCD by intervention group (unadjusted), 2004



For facilities that received detailing among clinic-based staff, support from the AMKENI project was an important, statistically significant predictor of IUCD provision (data not shown). AMKENI-supported facilities that received the intervention in the clinic provided more IUCDs on average than non-AMKENI facilities, and were better able to maintain the increase in IUCD provision over time than non-AMKENI facilities. The single most important predictor of IUCD was the baseline provision of IUCDs, which was highly statistically significant ($p<.0001$) in both models (data not shown). Differences among districts, facility type and the effects of access to essential supplies were not important predictors of IUCD or statistically significant and were excluded from the model. We conducted a sensitivity analysis accounting for those clinics that experienced cross-over (e.g. contamination) of intervention groups and found that this made no difference in the statistical findings of the study effect.

Access to essential supplies

One possible reason for the continued low provision of IUCD could have been lack of essential supplies in the clinics. To assess the availability of commodities, expendables and equipment designated by the Kenya IUCD Reintroduction Initiative Task Force as the required supplies and equipment for IUCD provision, clinic providers were asked whether supplies were in stock and equipment was functioning on the day of each interview. The sterilizing or high level disinfecting equipment was the most likely piece of equipment to *not* be in working order, and cotton wool was the most commonly missing supply. (Table 17) The proportion of facilities with working sterilization or high level disinfecting equipment increased from baseline to follow-up.

Table 17: Availability of commodities, expendables and equipment on day of interview

	Baseline		Follow-up	
	No. providers responding yes	**% Yes**	**No. providers responding yes**	**% Yes**
Supplies in stock?				
IUCDs	106	80.9	106	88.3
Rubber gloves	129	98.5	117	97.5
Cotton wool	83	63.4	80	66.7
Antiseptic solution	115	87.7	105	87.5
Equipment present and in good working order?				
Speculum	121	92.4	113	94.2
Uterine tenaculum	123	93.9	115	95.8
Uterine sound	121	93.1	116	96.7
Forceps	126	96.2	118	98.3
Scissors	119	90.8	114	95.0
Bowl	126	96.2	120	100
Sterilizing/high level disinfecting equipment working?				
	92	70.2	98	81.7
Total respondents	**131**		**120**	

Missing supplies and equipment seem largely to be a function of the district. (Table 18) In particular, at baseline Bungoma district seemed to have several facilities that were missing many of the essential supplies or equipment needed for IUCD provision. The situation in Bungoma district improved by follow-up, but there were still some scattered problems.

Table 18: Percent* facilities per district reporting supplies in place and equipment functioning properly on day of interview

	Kakamega		Vihiga		Bungoma		Butere-Mumias		Lugari	
	Base	**F/U**	**Base**	**F/U**	**Base**	**F/U**	**Base**	**F/U**	**Base**	**F/U**
IUCDs	58.3	100	100	100	80.0	70.0	100	100	100	100
Rubber gloves	100	100	100	100	100	90.0	100	100	100	100
Cotton wool	100	60.0	88.9	88.9	40.0	70.0	60.0	90.0	100	60.0
Antiseptic solution	100	90.0	88.9	100	90.0	100	100	100	100	100
Speculum	100	100	100	100	70.0	90.0	100	100	100	100
Uterine tenaculum	100	100	100	100	70.0	90.0	100	100	100	100
Uterine sound	100	100	100	100	80.0	90.0	100	100	100	100
Forceps	100	100	100	100	80.0	90.0	100	100	100	100
Scissors	100	100	100	100	70.0	90.0	100	100	100	80.0
Bowl	100	100	100	100	90.0	100	100	100	100	100
Sterilizing/high level disinfecting equipment	100	81.8	88.9	100	70.0	90.0	100	90.0	80.0	100
Total No. Facilities	12		9		10		10		5	

*Note: those facilities that had “mixed” responses, where respondents in one facility gave different answers about availability, were counted as “yes” under the assumption that the confusion came from the fact that some staff members were not informed about the availability of certain elements.

Costs of the detailing intervention

An important criterion for evaluating the success of the detailing intervention is its cost-effectiveness. Cost-effectiveness analysis compares the gains associated with a health intervention with the costs associated with implementing the intervention. In this section, we will enumerate the monetary costs involved in implementing the detailing intervention (targeting both clinic-based providers and CBD agents). We will then create a ratio of cost to effectiveness to determine the cost of each projected IUCD provided as a result of the detailing intervention. Finally, we will compare the cost-effectiveness ratio of the detailing intervention to the "standard of care", which is DMPA (injectable) provision. We chose DMPA as the comparison because it is the most commonly used modern contraceptive in Kenya.(3)

All monetary costs were collected during the project. The costs can be divided into three categories: (1) specifically study-related costs (e.g. data collection costs); (2) one time, start-up costs (e.g. creating the curriculum); and (3) intervention-related costs. We did not consider the study-related or start-up costs in this analysis, since they would not be necessary for a replication of the detailing intervention. Table 19 summarizes the intervention-related costs for implementing the detailing intervention in the 34 facilities that received some form of detailing during the study.

Table 19: Actual intervention-related costs for 34 health facilities

	Kenyan Shillings (KSh)	US Dollars
Training costs		
MOH Trainer for detailer training	25,000	333
Airfare and airport transfers for trainer	32,257	430
Accommodation for detailers and training space	29,050	387
Per diem for detailers	12,500	167
Transport for detailers	3,800	51
Meals during training	7,870	105
Stationery	4,950	66
Sub total	**115,427**	**1,539**
Materials production		
Promotional bics (pens)	11,903	159
Key rings	92,118	1,228
IUCD briefs @US$2.50 ea x 250	95,881	1,278
IUCD brochures/General FP brochures	664,126	8,855
Sub total	**864,027**	**11,520**
Intervention costs		
Transport reimbursement to CBD agents	125,217	1,670
Detailers transport during field work	59,559	794
Communication	6,882	92
Sub total	**191,659**	**2,555**
Grand total	**1,171,113**	**15,615**

Exchange rate (2005): US $1 = KSh 75

The detailers in this operations research study were provided with per diems for their participation, as stipulated by Ministry of Health, Division of Reproductive Health protocol. We have not included detailer per diems as part of the cost calculations presented here, since the payments to detailers were study-related costs. Discussions with MOH staff members have confirmed that providing detailers with money for transportation to make the detailing visits, and adding detailing to their job responsibilities should be sufficient to ensure that MOH personnel carried out detailing activities. Regular salary costs are also not included in the estimate, since we assume that current MOH staff members will perform the detailing intervention as part of their normal supervisory duties, incurring little additional staff time. Furthermore, the detailing visits took up relatively little time. During the study, detailers spent an average of 2.8 hours in the facilities during the first visits and 2.1 hours during their second visits to the clinic.

Not all of the 34 facilities receiving the detailing intervention in the study received detailing in both target groups, therefore we calculated a per facility cost for implementing detailing targeting both clinic-based providers and CBD agents following the two-visit model utilized in the study. (Table 20) The training costs include a 5-day workshop for 5 detailers, utilizing the curriculum written for the study. Because most of the costs associated with the training are per participant (e.g. everything except the expenses for the trainer), there would be only limited economies of scale in increasing the size of the training cohort.

Table 20: Unit cost per facility of implementing detailing among both providers and CBD agents

	Kenyan Shillings (KSh)	US Dollars
Training costs		
MOH Trainer for detailer training	735	10
Airfare and airport transfers for trainer	949	13
Accommodation for detailers and training space	854	11
Per diem for detailers	368	5
Transport for detailers	11	1
Meals during training	231	3
Stationery	146	2
Sub total	**3395**	**45**
Materials production		
Promotional bics (pens)	529	7
Key rings	4094	55
IUCD briefs @US$2.50 ea x 250	4358	58
IUCD brochures/General FP brochures	29,517	394
Sub total	**9,498**	**513**
Intervention costs		
Transport reimbursement to CBD agents	5444	73
Detailers transport during field work	1752	23
Communication	202	3
Sub total	**7398**	**99**
Grand total	**45,908**	**623**

Exchange rate (2005): US $1 = KSh 75

In order to determine the cost-effectiveness of the detailing intervention relative to the current standard of care, we first identified a numeric indicator of the effect of the intervention. The observed effect of the detailing intervention targeting both providers and CBD agents was an increase of 6.5 IUCDs per facility per quarter. If we assume that the two-visit model of detailing is effective over a six month period, we would expect a total of 13.0 (6.5 IUCDs x 2 quarters) additional IUCDs to be inserted per facility for a cost of US $623, or an intervention cost per IUCD of US $47.92 (KShs 3594 per IUCD).

We then compared the intervention costs of the detailing intervention plus the commodity costs of the IUCD to the commodity cost of providing DMPA and alternate scenarios of implementing detailing. (Table 21) We used commodity costs reported for USAID.(12) For the IUCD, we used a commodity cost of US $1.65 per IUCD, and an average continuation rate of 3.5 years. Adding $1.65 to the $47.92 intervention cost per IUCD produced a 3.5 year-cost of the detailing intervention of $49.57. In comparison, DMPA has a per unit commodity cost of US $1.09. Since clients using DMPA must return to the clinic every 3 months for a new injection, the total cost of providing DMPA for 3.5 years is (14 injections x $1.09 each) $15.26.

Table 21: Comparative costs of pregnancy prevention for detailing intervention and DMPA

	Component costs	**Cost per 3.5 years of pregnancy prevention**
DMPA provision	Commodity cost (3 months): $1.09	$15.26
Detailing intervention	Intervention cost: $47.92 Commodity cost (3.5 years): $1.65	$49.57

Clearly implementing detailing for IUCD promotion is much more expensive than providing DMPA. In order for the detailing intervention to equal the cost of DMPA provision, it would have to result in 23 additional IUDs inserted per quarter (23 IUDs x 2 quarters, program cost of $623; per IUD cost of $13.54 + commodity cost of $1.65 = $15.19) as compared to the 6.5 IUCDs per quarter observed in this study.

Knowledge, attitudes and self-efficacy

The detailing intervention was designed to improve knowledge and self-efficacy among providers and CBD agents and to create more positive attitudes among them towards the IUCD. If the detailing intervention was not successful in achieving these objectives, it may explain why there was only a modest effect of the intervention observed. To measure these elements, both provider and CBD respondents were read a series of statements designed to test their knowledge about and attitudes towards the IUCD. Several statements were also posed to determine the respondents' sense of self-efficacy with regard to counseling about and providing the IUCD. For each statement, respondents were asked to respond either true/false or agree/disagree. In some cases, providers and CBD agents were given different statements, based on the assumed level of their knowledge and specific issues suspected of applying to one group or another.

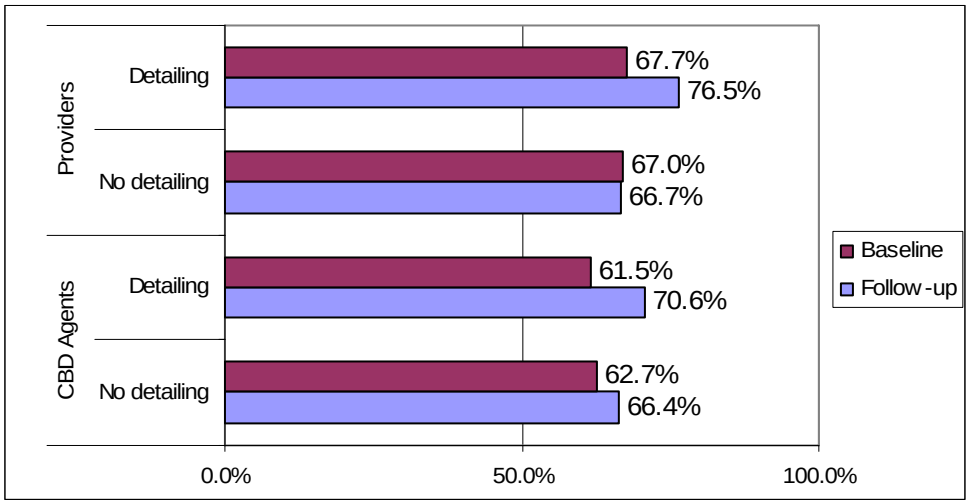
Although "don't know" was not a response option given to the respondents, some were unable or unwilling to give an answer, and so were coded as "don't know". It is interesting to note that for many of the statements where the respondents had a low number of correct or favorable responses, there also seemed to be many missing responses, especially at baseline.

Detailer demonstrates how the IUCD is placed in the uterus.

Figure 2 summarizes the percent of providers and CBD agents who responded correctly to all knowledge statements, separated by those who were intended to receive the detailing intervention and those who were not. Knowledge at baseline was relatively high – over 60% on average for both providers and CBDs. Despite its high baseline level, knowledge increased among both providers and CBD agents who received the detailing intervention. Providers in the detailing group had an 8.8 percentage point increase in correct answers, as compared to a 0.3 percentage point decrease among providers not assigned to receive detailing.

CBD agents who received detailing had a 9.1 percentage point increase in correct answers. CBD agents not assigned to detailing had a smaller increase in correct answers of 3.7 percentage points. This increase in the control group could be due to the intervention contamination, or it could be a sign of information spreading within the community. (See Appendix 1 for more detailed tables about provider and CBD agent knowledge, attitudes and self-efficacy.)

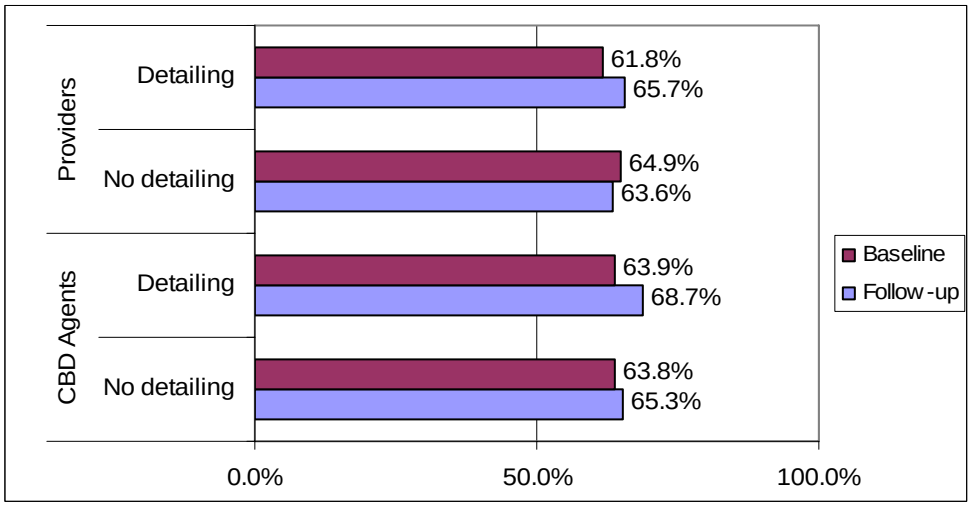
Figure 2: Percent correct answers to knowledge questions by respondent and intervention type



Providers and CBDs were also measured on the percent of positive responses to attitude statements such as, "I would recommend the IUCD to a friend or family member," or "More women should use IUCDs." Among those exposed to the detailing intervention, providers had slightly smaller increases in positive attitudes about the IUCD than did CBD agents and attitudes were less likely to become more positive than knowledge was to increase. (Figure 3) These results may indicate that provider prejudices towards IUCD provision are too engrained to be changed in a two-session intervention.

Among providers in facilities receiving detailing, the percent of positive answers increased by 3.9%, and among CBD agents it increased by 4.8 percentage points. In contrast, those providers who were in facilities that did not receive detailing actually decreased in the percent of positive answers (-1.3%), while the CBD agents showed a small increase (+1.5%).

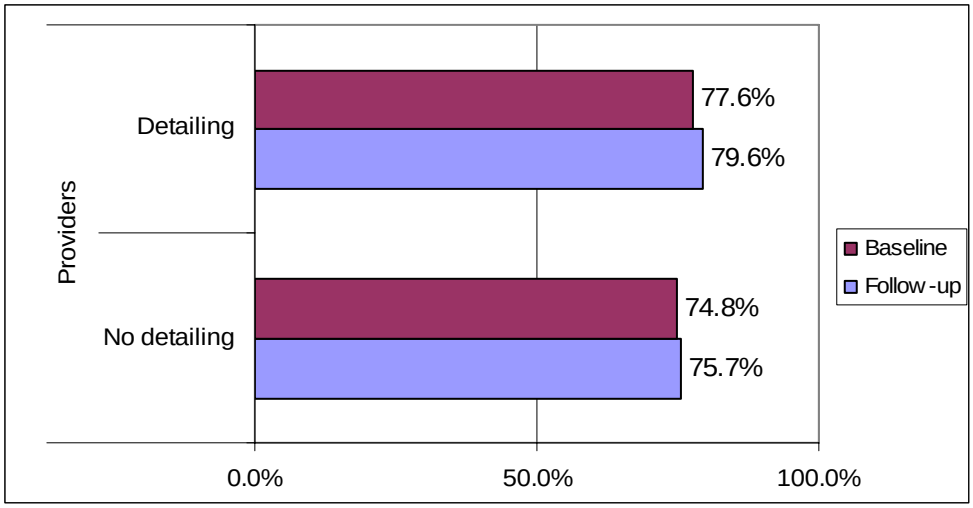
Figure 3: Percent positive answers to attitude questions by respondent and intervention type



The detailing training focused considerable attention on finding messages to convince providers that increasing IUCD uptake would decrease their workload in the long run. However, at follow-up approximately half the providers in both intervention and control groups continued to agree that they are often too busy to insert IUCDs than they were at baseline. (Table 32, Appendix 1)

Providers only were asked questions about their comfort level in counseling about, inserting and removing IUCDs. At baseline, positive self-efficacy for IUCD provision was nearly 75 percent. (Figure 4) However, there appeared to be almost no additional increase in self-efficacy among those providers who received the detailing intervention as compared to those providers who did not. This result indicates that the promotional detailing visits did little to improve self-efficacy, and hints that along with attitudes, technical proficiency may be a real hindrance to increasing IUCD uptake.

Figure 4: Percent positive answers to self-efficacy questions by intervention type



It is interesting to note that in sessions with the detailers, providers often requested more technical training on IUCD provision, but when asked these questions by the research assistants, they by and large reported that they were comfortable with their skill level.

Data interpretation workshop with local stakeholders

A data interpretation workshop to present preliminary results of the detailing study to local stakeholders took place on May 5, 2005 in Western Province. Forty service providers from the five study districts attended the workshop. Participants included FP service providers who supervise CBD agents and DPHNs or their deputies. Other reproductive health organizations that worked closely with FHI on the study were also represented, including AMKENI, the MOH/GTZ CBD program, and the Family Planning Association of Kenya.

Representatives from the national-level Division of Reproductive Health (DRH), the Provincial Medical Officer's office and the Kakamega District Medical Office made opening comments emphasizing the need for revitalized family planning programs in Western Province. FHI researchers then presented the background, design and preliminary results of the detailing study. Results of the cost-effectiveness analysis were not available at the time of this workshop. The presentation concluded with questions for the participants of the workshop in an effort to better understand the results. These questions included:

- What can be done to improve and sustain the momentum of the detailing intervention?
- What is the role of clinic–based providers and CBD agents in increasing IUCD uptake?

Participants generally felt that given the results, the detailing intervention should be continued and rolled out to all facilities within the districts. Participants understood that there was only a modest increase in IUCD use in facilities where both clinic based service providers and CBD agents received detailing during the short intervention period. In their opinion, this change showed that if more effort was directed towards IUCD activities, then a higher uptake could be realized. Participants emphasized that the first step will be to share results of the study with all facilities that participated and other facilities in the districts. Participants proposed integrating the detailing intervention with the regular quarterly supervision visits to all facilities conducted by DPHNs. They also recognized that financial support from the District Health Management Teams is essential to ensure continuous access to necessary supplies. Other activities to supplement the detailing intervention were suggested, including: on-the-job training for service providers with inadequate skills, strengthening practice of micro-teaching on reproductive health issues to clients in the health facilities, reducing frequent transfers of staff from one facility or clinic to another and balancing staff assignments between facilities.

Regarding the decline in IUCD provision observed in the facilities where only clinic providers received the detailing intervention, participants had several possible explanations. The key issue in their minds was the staff shortage that exists in facilities and results in very heavy patient loads for providers. This would leave them less time to do micro-teaching in the clinics or to conduct sensitization meetings in the community. Since they did not have the assistance of

CBD Agent examines an IUCD to discover how soft the strings are.

CBD agents to promote the method in communities, they did not see an increase in demand for the method. The lack of time in facilities might also reinforce provider biases against the method as being too time-consuming. Finally, there were isolated instances of missing supplies and more widespread problems with provider skill levels, despite the amount of perceived self-efficacy they reported in the study

Workshop participants acknowledged that CBD agents could play an important role in promoting the IUCD. Some activities they suggested to facilitate this are conducting refresher courses for CBD agents and recruiting new CBD agents as needed. They also suggested introducing non-monetary incentives for CBD agents to strengthen their commitment to serving as community resource persons.

The final conclusions and recommendations of the data interpretation workshop were that continuous medical education, including on-the-job training in technical skills is essential for maintaining quality services and client method choice. The involvement of stakeholders such as the MOH headquarters, DPHNs, and the provincial health administration are key for successfully replicating the detailing intervention. In addition, participants acknowledged the usefulness of IEC materials, but suggested that the detailing intervention use less expensive forms of these materials, such as posters, to improve the sustainability of the intervention.

Remarks from the Provincial Medical Officer, read on his behalf by the Provincial Nursing Officer, closed the workshop. The Provincial Medical Officer endorsed sustaining the detailing intervention and collaborating at all levels of the MOH and with all partner organizations to more effectively market the IUCD to clients. He also recognized the key role of community resource persons, such as CBD Agents in encouraging IUCD uptake and recommended strengthening referral networks between communities and their rural health facilities.

Conclusions and Recommendations

IUCD provision was low in the participating facilities at baseline and remained low 6 months after the detailing intervention. IUCD clients made up an average of 0.4% of all FP clients at follow-up in all facilities. The intervention had a moderately statistically significant effect in increasing IUCD provision among facilities that received detailing for both providers and CBD Agents, but the effect was still very small and did not meet our definition of programmatically significant (5% increase).

In facilities where only one target group received the detailing intervention, there was no increase in IUCD provision observed. This leads to our primary conclusion which is that in order to increase uptake of the IUCD, efforts must be made on both the supply side (e.g. providers) and the demand side (e.g. clients). The inclusion of CBD agents as one of the target groups was intended to serve the purpose of increasing client demand and appears to be important to achieving the goals of IUCD promotion. Without a community-oriented demand creation element, clients may arrive at the clinic with their minds already made up to request the "typical" contraceptive which providers will then feel obliged to supply, regardless of its appropriateness to the woman's reproductive needs.

We saw an immediate drop-off of IUD provision after the detailing intervention ceased, indicating that two detailing visits is probably not sufficient to sustain increases. The intervention was specifically designed to have only two visits so that it might be realistically replicable for the MOH. A more intensive intervention might produce stronger results, but at the expense of any likelihood that the intervention would be scaled up after the research was completed.

Why wasn't the intervention more successful in significantly increasing IUD provision in any meaningful way? We examined several factors and found that facility type, access to essential supplies and district were not significant determinants of success. The sensitivity analysis suggests that the contamination among study arms did not significantly change the results. It is worth noting that implants were out of stock for much of the study period. They were back on the shelves of clinics in September 2004 and implant provision increased at the same time that IUD provision was decreasing following the post-intervention bump. We cannot directly link the re-stocking of implants to the lack of success of the detailing intervention, but implants appear to be popular with both providers and clients.

Examining changes in knowledge, attitudes and self-efficacy, the intervention appears to have been successful in increasing knowledge and improving attitudes overall, but on some key issues respondents remained unmoved. For example, only about half of respondents agreed that unmarried women could use IUCDs, and most respondents were strongly opposed to nulliparous women using IUCDs. We also noted that the promotional detailing visits did little to improve self-efficacy among providers. Although providers at both baseline and follow-up reported relatively high levels of self-efficacy about inserting and removing IUCDs, participants in the data interpretation workshop confirmed the researchers' impressions that technical proficiency is still a major obstacle to IUCD provision.

The detailing training focused considerable attention on finding messages to convince providers that increasing IUCD uptake would decrease their workload in the long run. However, post-intervention approximately half the respondents, whether they were subject to the intervention or not, agreed that they are often too busy to insert IUCDs. This indicates that providers are still not enthusiastic about offering this service to clients. By increasing client demand and promotion efforts about the IUCD among providers, we hypothesize that an expanded and sustained detailing effort may be able to more significantly increase IUCD uptake.

Among the strengths of this study is its experimental design including a control study arm and random assignment to intervention study arms. On the other hand, there was a large amount of intervention contamination. The contamination points to the difficulties inherent in conducting research in a real-life field setting. Only just over half of clinic providers in sites assigned to receive the detailing intervention reported that they actually heard the detailer's presentation. This may be due to staff transfers between job duties or facilities, or due to providers simply not having been available on the day the detailer came. CBD agents assigned to the intervention were more likely to report receiving it, which makes sense given that they are more stable members of the community than clinic providers.

In addition, many providers and CBD agents who were not assigned to receive the intervention reported having heard the detailing presentation. This may have taken place since some providers assigned to receive the detailing intervention may also have been CBD supervisors, and may have been present during a detailing session with CBD agents. Furthermore, since the detailers are district supervisors they may have given messages about the IUD to non-intervention groups, despite requests that they refrain from doing so before the study was over. Or, the respondents may simply have been mistaken about whether the source they heard about the IUCD from was the detailer. The nationwide IUCD Reintroduction Initiative was on-going at the same time as the study and approximately thirty percent of all respondents (33/120 providers, 128/402 CBD agents) reported that they had received training or education about the IUCD from a source other than the detailer in the past six months.

We examined the cost-effectiveness of the detailing intervention to determine if it could spur enough IUCD use to save the family planning program money in commodity costs and contribute to its overall sustainability. We found that if replicated exactly as done during the study, implementing the intervention would cost $49.57 per additional 3.5 years of contraceptive protection, whereas continuing DMPA provision for 3.5 years is associated with a cost of $15.26. Clearly detailing is not cost-effective in this light. To make the detailing intervention worthwhile, it would have to improve its effectiveness three-fold and spur provision of an additional 23 IUCDs per quarter rather than the 6.5 IUCDs per quarter we observed in this study to make it comparable to DMPA provision. Thus we conclude that although the effectiveness of provider-based activities was somewhat amplified when concurrent demand creation activities were carried out, we cannot recommend the expansion of the detailing intervention due to its high cost and modest outcome.

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Appendix 1: Knowledge, attitude and self-efficacy tables

Table 22: Providers' correct/favorable responses: General support for the method

	Baseline		Follow-up	
Statement/Question (Correct/Favorable Response)	**% Correct/ Favorable**	**No. Missing**	**% Correct/ Favorable**	**No. Missing**
Providers				
I would recommend the IUCD to a friend or family member. (A)	93.1	0	95.83	0
Given the advantages of the IUCD, it should be used by more Kenyan women. (A)	88.6	0	90.8	0
There are too many issues to consider when deciding if a woman can use an IUCD. (D)	51.2	0	50.0	0
CBD Agents				
I would recommend the IUCD to a friend or family member. (A)	93.5	2	96.8	2
The IUCD should always be included when discussing family planning choices. (A)	97.5	2	97.8	2

Table 23: Changes in correct/favorable responses by intervention group from baseline to follow-up: General support for the method

	Providers		CBD Agents	
Statement/Question (Correct/Favorable Response)	**Change in Proportion Correct/ Favorable**		**Change in Proportion Correct/Favorable**	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
I would recommend the IUCD to a friend or family member. (A)	-0.4	+6.6	+4.5	+1.9
Given the advantages of the IUCD, it should be used by more Kenyan women. (A)	+6.5	-3.0		
There are too many issues to consider when deciding if a woman can use an IUCD. (D)	+0.8	-3.7		
The IUCD should always be included when discussing family planning choices. (A)			+3.2	-3.1

Table 24: Correct/favorable responses: Efficacy & sequelae

	Baseline		Follow-up	
Statement/Question (Correct/Favorable Response)	**% Correct/ Favorable**	**No. Missing**	**% Correct/ Favorable**	**No. Missing**
Providers				
A copper IUCD is effective in preventing pregnancy for up to 12 years. (T)	27.7	12	47.3	8
The IUCD is more effective at preventing pregnancy than oral contraceptives. (T)*	81.7	0	83.3	0
Over a five-year period, the IUCD is as effective as sterilization in preventing pregnancy. (T)	66.7	2	70.7	4
IUCDs can lead to infertility. (D)	90.0	1	92.5	0
IUCDs cause the majority of the cases of pelvic inflammatory disease (PID) in Kenya. (F)	88.2	4	91.3	5
CBD Agents				
A copper IUCD is effective in preventing pregnancy for up to 12 years. (T)	62.4	78	76.6	21
The IUCD is more effective at preventing pregnancy than oral contraceptives. (T)*	76.0	5	90.0	1
The IUCD is more effective at preventing pregnancy than implants/Norplant. (F)	36.5	28	76.8	6
Sterilization is the best contraceptive method for a woman who doesn't want any more children. (D)	2.5	0	1.0	0
After an IUCD is removed, a woman can become pregnant again right away. (T)	84.7	16	90.9	6

* Note: for this question, providers were asked to evaluate the opposite statement, that IUCDs are *less* effective than oral contraceptives. The results above are reported for the percentage of correct responses to both statements.

Table 25: Changes in correct/favorable responses by intervention group from baseline to follow-up: Efficacy and sequelae

Statement/Question (Correct/Favorable Response)	Providers		CBD Agents	
	Change in Proportion Correct/ Favorable		Change in Proportion Correct/Favorable	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
A copper IUCD is effective in preventing pregnancy for up to 12 years. (T)	+31.2	+3.6	+22.3	+5.3
The IUCD is more effective at preventing pregnancy than oral contraceptives. (T)*	+7.7	-5.9	+16.5	+11.4
The IUCD is more effective at preventing pregnancy than implants/Norplant. (F)			-17.0	-9.1
Over a five-year period, the IUCD is as effective as sterilization in preventing pregnancy. (T)	+8.6	-1.7		
IUCDs cause the majority of the cases of pelvic inflammatory disease (PID) in Kenya. (F)	+8.1	-3.0		
IUCDs can lead to infertility. (D)	+6.4	-2.3		
After an IUCD is removed, a woman can become pregnant again right away. (T)			+9.2	+3.0
Sterilization is the best contraceptive method for a woman who doesn't want any more children. (D)			-1.1	-1.9

Table 26: Correct/favorable responses: Eligibility and contraindications

Statement/Question (Correct/Favorable Response)	Baseline		Follow-up	
	% Correct/ Favorable	No. Missing	% Correct/ Favorable	No. Missing
Providers				
A woman should use the IUCD only when she does not want any more children. (D)	80.8	1	80.8	0
Most good candidates for the IUCD are women with contraindications to hormonal methods. (D)	18.3	0	20.0	0
Many people are allergic to the copper in IUCDs (Copper T380A). (D)	92.8	6	96.5	5
The IUCD is a good contraceptive method for women who are not married. (A)	50.0	1	56.9	4
An IUCD is not a good contraceptive method for a woman who is HIV positive. (F)	67.8	16	80.0	5
The IUCD is an appropriate contraceptive method for women who do not have children. (A)	27.1	2	28.0	2
CBD Agents				
A woman should use the IUCD only when she does not want any more children. (D)	33.6	4	37.0	2
The IUCD is a good method for women who are breastfeeding. (T)	81.4	12	92.0	1
An IUCD is not a good contraceptive method for women who have many sexual partners. (T)	82.8	8	82.3	1
The IUCD is a good contraceptive method for women who are not married. (A)	49.4	8	55.8	4
An IUCD is not a good contraceptive method for a woman who is HIV positive. (F)	46.6	36	47.9	7
The IUCD is an appropriate contraceptive method for women who do not have children. (A)	22.8	6	28.6	4

Table 27: Changes in correct/favorable responses by intervention group from baseline to follow-up: Eligibility and contraindications

Statement/Question (Correct/Favorable Response)	Providers		CBD Agents	
	Change in Proportion Correct/ Favorable		Change in Proportion Correct/Favorable	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
Most good candidates for the IUCD are women with contraindications to hormonal methods. (D)	+5.7	-3.3		
Many people are allergic to the copper in IUCDs (Copper T380A). (D)	+7.2	-0.6		
A woman should use the IUCD only when she does not want any more children. (D)	+6.0	-7.4	+1.7	+5.2
The IUCD is a good contraceptive method for women who are not married. (A)	+6.4	+7.4	+9.2	+3.0
An IUCD is not a good contraceptive method for a woman who is HIV positive. (F)	+15.4	+8.1	+3.6	-1.4
The IUCD is an appropriate contraceptive method for women who do not have children. (A)	+3.1	-1.9	+6.1	+5.6
The IUCD is a good method for women who are breastfeeding. (T)			+13.7	+7.2
An IUCD is not a good contraceptive method for women who have many sexual partners. (T)			-1.6	+0.8

Table 28: Correct/favorable responses: Technical knowledge & self-efficacy

	Baseline		Follow-up	
Statement/Question (Correct/Favorable Response)	**% Correct/ Favorable**	**No. Missing**	**% Correct/ Favorable**	**No. Missing**
Providers				
I feel that I have been adequately trained on *contraindications* to the IUCD. (A)	79.4	0	76.7	0
I feel that I have been adequately trained on *how to insert* the IUCD safely and effectively. (A)	75.6	0	80.0	0
I feel comfortable that I can *insert* an IUCD safely and effectively. (A)	81.7	0	82.5	0
When inserting the IUCD, I worry about infecting myself with a sexually transmitted disease or HIV/AIDS. (D)	76.0	2	69.8	1
I feel that I have been adequately trained on *how to remove* the IUCD safely. (A)	80.9	0	85.8	0
I feel comfortable that I can *remove* an IUCD safely. (A)	85.5	0	85.8	0
I feel that I have been adequately trained on *counseling* women about the IUCD. (A)	64.1	0	80.0	0
It is very difficult to convince clients that rumors about the IUCD are not true. (D)	51.5	1	45.0	0
CBD Agents				
I feel that I understand the IUCD well enough to educate my clients about it. (A)	91.4	3	94.5	2
I feel that I can influence what method a woman chooses. (A)	97.3	1	93.0	0
It is very difficult to convince clients that rumors about the IUCD are not true. (D)	36.7	1	32.8	0

Table 29: Changes in correct/favorable responses by intervention group from baseline to follow-up: Technical knowledge & self-efficacy

	Providers		CBD Agents	
Statement/Question (Correct/Favorable Response)	**Change in Proportion Correct/ Favorable**		**Change in Proportion Correct/Favorable**	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
I feel that I have been adequately trained on *contraindications* to the IUCD. (A)	-8.7	+4.7		
I feel that I have been adequately trained on *how to insert* the IUCD safely and effectively. (A)	+2.7	+6.5		
I feel comfortable that I can *insert* an IUCD safely and effectively. (A)	-1.1	+3.1		
When inserting the IUCD, I worry about infecting myself with a sexually transmitted disease or HIV/AIDS. (D)	-0.4	-13.7		
I feel that I have been adequately trained on *how to remove* the IUCD safely. (A)	+3.4	+6.7		
I feel comfortable that I can *remove* an IUCD safely. (A)	+0.6	-0.1		
I feel that I have been adequately trained on *counseling* women about the IUCD. (A)	+16.7	+14.9		
I feel that I understand the IUCD well enough to educate my clients about it. (A)			+5.3	+0.7
I feel that I can influence what method a woman chooses. (A)			-5.2	-3.2
It is very difficult to convince clients that rumors about the IUCD are not true. (D)	+0.8	-15.8	+7.4	+0.1

Table 30: Respondents' correct/favorable responses: Mechanism of action

Statement/Question (Correct/Favorable Response)	Baseline		Follow-up	
	% Correct/ Favorable	No. Missing	% Correct/ Favorable	No. Missing
Providers				
I feel comfortable explaining how the IUCD works. (A)	93.9	0	95.8	0
The IUCD is different from other contraceptives because it causes abortion. (F)	93.0	2	89.1	1
CBD Agents				
I feel comfortable explaining how the IUCD works. (A)	94.6	2	96.5	2
The IUCD is different from other contraceptives because it causes abortion. (F)	78.4	35	81.8	7

Table 31: Changes in correct/favorable responses by intervention group from baseline to follow-up: Mechanism of action

Statement/Question (Correct/Favorable Response)	Providers		CBD Agents	
	Change in Proportion Correct/ Favorable		Change in Proportion Correct/Favorable	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
I feel comfortable explaining how the IUCD works. (A)	+3.9	-0.6	+4.0	-0.5
The IUCD is different from other contraceptives because it causes abortion. (F)	-0.5	-8.1	+7.8	-1.5

Table 32: Respondents' correct/favorable responses: Time and cost

	Baseline		Follow-up	
Statement/Question (Correct/Favorable Response)	**% Correct/ Favorable**	**No. Missing**	**% Correct/ Favorable**	**No. Missing**
Providers				
Most of my family planning clients can afford the cost of the IUCD. (T)	77.3	3	93.3	0
The cost and trouble of inserting an IUCD are worth it for the client in the long-term. (A)	83.2	0	85.7	1
There are many days when I am too busy to insert IUCDs. (D)	33.8	1	50.8	0
CBD Agents				
Most of my family planning clients can afford the cost of the IUCD. (T)	61.6	14	74.0	6

Table 33: Changes in correct/favorable responses by intervention group from baseline to follow-up: Time and cost

	Providers		CBD Agents	
Statement/Question (Correct/Favorable Response)	**Change in Proportion Correct/ Favorable**		**Change in Proportion Correct/Favorable**	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
Most of my family planning clients can afford the cost of the IUCD. (T)	+19.6	+11.5	+13.7	+10.9
The cost and trouble of inserting an IUCD are worth it for the client in the long-term. (A)	+5.9	-1.6		
There are many days when I am too busy to insert IUCDs. (D)	+16.3	+17.7		

Table 34: Respondents' correct/favorable responses: Logistics of provision

Statement/Question (Correct/Favorable Response)	Baseline		Follow-up	
	% Correct/ Favorable	No. Missing	% Correct/ Favorable	No. Missing
Providers				
A new IUCD user only needs to come back to the clinic one month after insertion and then once a year after that, unless there are complications with the IUCD. (T)	88.4	2	86.6	1
A woman must be menstruating at the time of IUCD insertion (F)	60.0	1	60.8	0
A tarnished or discolored IUCD is no longer usable. (F)	8.2	9	14.7	4

Table 35: Changes in correct/favorable responses by intervention group from baseline to follow-up: Logistics of provision

Statement/Question (Correct/Favorable Response)	Providers		CBD Agents	
	Change in Proportion Correct/ Favorable		Change in Proportion Correct/Favorable	
In detailing intervention facility?	**Yes**	**No**	**Yes**	**No**
A new IUCD user only needs to come back to the clinic one month after insertion and then once a year after that, unless there are complications with the IUCD. (T)	-1.8	-2.1		
A woman must be menstruating at the time of IUCD insertion (F)	+4.1	-3.9		
A tarnished or discolored IUCD is no longer usable. (F)	+3.8	+10.0		