EVALUATION

Counseling on Hormonal Contraception and HIV Risk

Evaluation of a Pilot Intervention in Tanzania

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ABSTRACT

In 2017, the World Health Organization (WHO) issued revised counseling guidance on the use of progestogen-only injectables by women at high risk of HIV acquisition. The main objective of the pilot intervention and evaluation was to assess the effect of providing the new counseling messages on contraceptive knowledge and behavior. The pilot intervention was conducted from September through November 2018 in ten healthcare facilities located in the Iringa and Njombe regions of Tanzania. Data collection occurred in November and December 2018 to assess the change in level and trend of contraceptive uptake during the intervention. It included 471 client exit interviews, 26 healthcare provider interviews, and extraction of service statistics for 15 months. Univariate and bivariate analyses were used to assess quantitative interview data. Thematic qualitative assessment was used to assess qualitative interview data from healthcare providers. Interrupted time series analysis was used to assess changes in the trend of contraceptive uptake. Results indicate that the counseling messages did not cause a decrease in the uptake of Depo-Provera: 97 percent of interviewed clients received Depo-Provera at their visit. The analysis of service statistics showed no statistical difference in the trend of injectable uptake between the preintervention and intervention periods. However, only 67.5 percent of interviewed clients spontaneously recalled hearing the message that use of Depo-Provera may increase a woman's risk of getting HIV. Additionally, there was some confusion among clients about whether other hormonal methods, specifically oral contraceptive pills and implants, also increase the risk of HIV acquisition. Providers' knowledge of the messages was high, though it appears that not all messages were consistently provided during the counseling sessions. Study limitations and recommendations are discussed.

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CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

DMPA	depot medroxyprogesterone acetate
FP	family planning
HC-HIV	hormonal contraception-HIV
ITS	interrupted time series
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly, and Children
NET-EN	norethisterone enanthate
STI	sexually transmitted infection
USAID	United States Agency for International Development
WHO	World Health Organization

EXECUTIVE SUMMARY

Background

Hormonal methods of contraception, such as the progestogen-only injectable, do not protect against sexually transmitted infections (STIs), including HIV. This fact is an important consideration for individuals and couples who wish to prevent pregnancy as well as STIs, and is particularly relevant in Africa, which suffers from the highest HIV prevalence in the world. Women using non-barrier contraceptive methods and who may be at risk of HIV should be counseled that dual-method use (injectable plus a barrier method) is considered a family planning counseling "best practice."

In 2016, an updated systematic literature review was conducted in response to a growing body of evidence showing a possible increase in the risk of HIV acquisition associated with the use of hormonal methods, specifically depot medroxyprogesterone acetate (DMPA), a progestogen-only formulation of the injectable (Polis, Curtis, Hannaford, et al., 2016). The updated review found that if the relationship between DMPA and HIV acquisition risk is causal, the increased risk of acquiring HIV may be as much as 50 percent for women using DMPA (hazards ratio of 1.5 or less) (Polis, Curtis, Hannaford, et al., 2016).

In 2017, the World Health Organization (WHO) issued revised counseling guidance on the use of progestogen-only injectables by women at high risk of HIV acquisition. The new WHO guidance statement signals that additional efforts are needed to strengthen communication and counseling on injectable use and HIV risk (the counseling also is referred to as hormonal contraceptive-HIV [HC-HIV] counseling), especially in settings where women are at high risk of acquiring HIV. Tanzania—with an HIV prevalence of 4.5 percent and with injectables being the most popular method of contraception—is a country where these counseling changes could potentially be relevant for the general population of family planning clients (WHO, 2018; Tanzania Ministry of Health, Community Development, Gender, Elderly, and Children [MOHCDGEC], and the Tanzania Ministry of Health [MOH], 2016).

A pilot intervention was conducted in Tanzania in 2018, the main goal of which was to evaluate new HC-HIV counseling messages and to test the impact of providing messages related to the potential increased risk of acquiring HIV when using progestogen-only injectables (namely, Depo-Provera). Would the counseling increase women's knowledge and understanding of the risks and would it affect their contraceptive choice and uptake? The pilot intervention was conducted from September through November 2018 in ten healthcare facilities in the Iringa and Njombe regions. Data collection occurred in November and December 2018 and included 471 exit interviews with clients, 26 healthcare provider interviews, and extraction of service statistics for 15 months to assess any change in level and trend of contraceptive uptake occurring during the intervention. Univariate and bivariate analyses were used to assess quantitative interview data from clients and healthcare providers. Thematic qualitative assessment was used to assess qualitative interview data from healthcare providers only. Interrupted time series analysis was used to assess service statistics data to observe changes in the trend of contraceptive uptake.

Results

Results indicate that the counseling messages did not cause a decrease in the uptake of Depo-Provera. According to client exit interviews, 97 percent of clients opting for Depo-Provera received Depo-Provera after the counseling (1.5 percent received the implant, 1.1 percent received the pill, and 0.2 percent received

the IUD). In support of this finding, the interrupted time series regression found no statistically significant change in the level or trend of clients choosing the injectable during the intervention period as compared to the preintervention period.

In interviews after the family planning visit, 97.2 percent of clients reported that HIV risks were discussed during the visit, 91.3 percent reported that dual-method protection was discussed, and 85.8 percent reported that the provider discussed STIs. As a result of the counseling, 60.3 percent of clients reported that they planned to use condoms as a method of STI and HIV prevention, though the proportion varied significantly by age, from 53.1 percent of clients age 35 and over to 75 percent of adolescent clients.

Regarding knowledge of the new HC-HIV counseling messages, clients were asked to remember the messages discussed about HIV risk. The most commonly mentioned messages were that women at risk of HIV and who are using Depo-Provera should use condoms (48 percent) and that Depo-Provera may increase the risk of HIV (40.1 percent). Overall, fewer than five percent of women reported an incorrect understanding of the messages, that Depo-Provera can cause STIs and HIV. Clients were also read a number of true-false statements to assess knowledge. More than half of the clients were able to correctly answer all but two of the statements: only 25.3 percent knew that implants do not increase a woman's risk of getting HIV, and only 28.9 percent knew that contraceptive pills do not increase a woman's risk of getting HIV.

When providers were asked to list the HC-HIV counseling messages, two-of-five key messages were recalled by more than 80 percent of healthcare providers: (1) that Depo-Provera many increase the risk of HIV, and (2) that women at risk of HIV who are using Depo-Provera should also use condoms. Providers mentioned one of the messages only rarely: that contraceptive methods other than injectables do not appear to increase the risk of HIV. All providers stated they were confident they understood the WHO guidance, with some indicating they were "100 percent" confident. Family planning (FP) counseling took from 10 to 30 minutes and providers reported that the new HC-HIV counseling messages—which took about two to five minutes within the overall counseling time—did not take too much time to deliver. Almost all healthcare providers stated that when they communicated the HC-HIV counseling messages, their clients were initially concerned that Depo-Provera caused HIV. Most healthcare providers were confident that, after further clarification, clients understood that Depo-Provera does not cause HIV; but they differed somewhat in how well they thought clients understood all of the messages by the end of the counseling session. Providers shared that either none or very few clients who were using Depo-Provera at the time of the clinic visit switched to a different method.

Discussion

Clients' assessed level of knowledge of HC-HIV messages was highest for messages that are typical of FP counseling sessions—messages related to the effectiveness of hormonal methods to prevent pregnancy and recommendations to use condoms to protect against STIs, including HIV. The level of assessed knowledge for the main message—that Depo-Provera may increase the risk of getting HIV—was not as high; only 67.5 percent of interviewed clients knew that message. Spontaneous mention of this message by clients was also relatively low and varied significantly by education. Women with any education were two to three times more likely to remember this message than were women who had no education (although the number of women with no education was relatively small).

Additionally, confusion exists among clients about whether other hormonal methods, specifically oral contraceptive pills and implants, also increase the risk of acquiring HIV. One reason may be that, when interviewed, providers only rarely recalled the message that other contraceptives do not appear to increase the risk of HIV, even though this was a main HC-HIV message. The low recall may indicate that this message was less likely to have been provided during the counseling session.

In general, few significant differences in outcome measures were found by age group, education level, marital status, or parity. This may be due, in part, to the homogeneity of the sample. Almost all interviewed women were educated at the primary, secondary, or higher level (93.6 percent); had one or more living children (97.5 percent), and were married (93.6 percent). Because efforts were made to interview every eligible FP client during data collection, the low level of diversity may reflect the "typical" FP client at these clinics or, perhaps more likely, the "typical" injectable user at these clinics. As a result, generalizations of findings to populations with different characteristics should be made with caution.

Providers' knowledge of the counseling messages was generally high, especially as assessed by the true-false statements. In spontaneous response, three-fourths of providers mentioned at least three of the HC-HIV counseling messages. These results suggest that there were probably two or three "main" messages that the providers discussed with clients, and that not all of the counseling messages were conveyed.

The evaluation design provided an opportunity to test whether the facility-level data were of sufficient quality to be used for an interrupted time series analysis. The service statistics tended to "bounce around" over the course of 15 months and, while trend lines could be fitted to the data, no clear trends were observed in any direction, as evidenced in the scatterplots either before or during the pilot intervention. Because of this, it may have benefitted the pilot if it had included a post-implementation period of longer than three months. Furthermore, it is not known the extent to which errors in data recording at the facility level could have contributed to the wide variability in monthly reports. While interrupted time series analysis is still a recommended analytical tool for answering questions about health services, future analyses using this method in this setting will benefit from continued improvement in the capture of service data and by implementing a longer period of observation in the post-implementation period.

The evaluation focused on an implementation of new HC-HIV counseling messages in the public health sector only. Implementation in the private, non-governmental organizational, or faith-based organizational sectors may produce different results. Importantly, the evaluation does not provide evidence for the rollout of the messages in injectable distribution occurring outside of health facilities, such as through community-based health workers. Pending results of the current evaluation study, such issues may be worthy of future investigation.

Recommendations

As the first study to examine the effects of providing HC-HIV counseling messages on method uptake, the evidence generated from the Tanzania pilot can be used to inform FP programming efforts in Tanzania, the region, and globally. Specifically, the evaluation results provide valuable information on the process for developing an HC-HIV counseling package and the potential impact the counseling may have on FP knowledge, method use, and FP and HIV programming.

Recommendations include:

Messaging

- Consider including additional messages about Depo-Provera and HIV. For example, given remnant myths and misperceptions that injectables may contain the HIV virus, Tanzania and other East African countries could include explicit messaging that Depo-Provera and the injection needle do not contain HIV, and never have. Clarifying this message at the beginning of HC-HIV counseling could help disabuse clients of this myth and prevent the continuing spread of false information.
- Improve clarification during counseling that there is not an observed association between risk of HIV acquisition and methods other than Depo-Provera, such as oral contraceptive pills or implants. When and how to incorporate messages about other methods should be considered in the context of the flow of the counseling session on Depo-Provera.
- The counseling session messages should make clear that dual methods to protect against STIs, including HIV, is recommended for all hormonal methods, not just injectables.

Training

- Use the results of this evaluation, and any others, in provider trainings to emphasize that the HC-HIV messages have not been shown to result in decreased use of Depo-Provera as a method.
- Emphasize that providers should expect client questions during the HC-HIV counseling. Messages may need to be repeated or restated in various ways until the client's questions are answered.
- Place emphasis on practice sessions during training so providers can become proficient in the types of questions they could ask clients to gauge how well clients understand the messages. The practice sessions could include role-play scenarios in which the client is having difficulty understanding. This practice will give providers the chance to brainstorm strategies to explain the messages in an accurate and understandable way.

Conclusions

The evaluation results presented in this report show the potential for successful implementation of new HC-HIV counseling messages in Tanzania and other countries, especially those with high rates of injectable use and high HIV prevalence. Sustainability issues related to providing this counseling at scale include initial and continuing costs of provider training and the production, distribution, and replacement costs of counseling materials. Sustainability also will greatly depend upon full "buy-in" from healthcare providers to ensure that the messages are provided continuously to all clients.

INTRODUCTION

Background

Worldwide, 64 percent of married in-union women of reproductive age are estimated to be using a method of contraception as of 2015; the most popular methods being female sterilization (19 percent) and the IUD (14 percent) (UN, 2015). Contraceptive prevalence in the African region is much lower than the global average, at 33 percent, though there is wide variation across the continent (ranging from an average 54 percent in southern Africa to 15 percent in western and middle Africa) (UN, 2015; Tsui, Brown, and Li, 2017). The African region also differs from the global average in its method mix, as the most popular methods in the continent are hormonal contraceptives, namely the injectable and implants (Tsui, Brown, and Li, 2017). Injectable use alone accounts for 47 percent of modern method use in Sub-Saharan Africa (Tsui, Brown, and Li, 2017). The popularity of the injectable is a result of substantial financial and programmatic efforts that contributed to the expansion of injectable use across the continent, including training of providers, improved supply chain management, investment in social marketing, and the expansion of community-based distribution efforts (Tsui, Brown, and Li, 2017).

Hormonal methods of contraception, such as the injectable, do not protect against sexually transmitted infections (STIs), including HIV. This is an important consideration for individuals and couples who wish to prevent pregnancy as well as STIs, and is particularly relevant in the African region, which suffers from the highest HIV prevalence in the world—at 4.1 percent among adults ages 15–49 (WHO, 2018). Counseling on dual-method use for women using non-barrier methods and who may be at risk of HIV is considered a family planning counseling "best practice" (Dehlendorf, Krajewski, and Borrero, 2014). However, evidence from the region indicates that use of dual methods is low; for example, an analysis of a nationally representative sample of young women ages 15–24 in South Africa found seven percent reported dual-method use while 28 percent reported using a hormonal method and a condom at last sex (MacPhail, Pettifor, Pascoe, and Rees, 2007). Research from HIV-positive women on antiretroviral therapy from public hospitals in northern Ethiopia found dual-method use at 16 percent (Gebrehiwot, Azeze, Robles, and Adinew, 2017), while a study of women on antiretroviral therapy in Lusaka, Zambia found that 18 percent of contraceptive users reported dual-method use (Chibwesa, Li, Matoba, et al., 2011).

In 2016, an updated systematic literature review was conducted in response to a growing body of evidence showing a possible increase in the risk of HIV acquisition associated with the use of hormonal methods, specifically depot medroxyprogesterone acetate (DMPA), a progestogen-only formulation of the injectable (Polis, Curtis, Hannaford, et al., 2016). The updated review found that if the relationship between DMPA and HIV acquisition risk is causal, there is up to a 50 percent increased risk of HIV acquisition for women using DMPA (hazards ratio of 1.5 or less) (Polis, Curtis, Hannaford, et al., 2016). Based on these recent findings, the World Health Organization (WHO) issued revised guidance on the use of progestogen-only injectables, namely DMPA and norethisterone enanthate (NET-EN) by women at high risk of HIV acquisition (WHO, 2017). The revised guidance reclassifies progestogen-only injectables from "Category 1" (unrestricted use for all women, though women at high risk of HIV should be informed of the potential, but unproven, risk for increased HIV acquisition) to "Category 2" (the advantages of using the method generally outweigh the disadvantages for women at high risk of HIV, but additional counseling is warranted). The reclassification recommends that women who are current or potential users of progestogen-only injectables be advised about: (1) concerns that these methods may increase the risk of HIV acquisition; (2) the uncertainty over whether there is a causal relationship; and (3) how to minimize their risk of acquiring HIV.

Table 1. WHO guidance for progestogen-only contraceptives

Condition	DMPA/ NET-EN	Clarification/Evidence
High risk of HIV	2	CLARIFICATION: There continues to be evidence of a possible increased risk of acquiring HIV among progestogen-only injectable users. Uncertainty exists about whether this is due to methodological issues with the evidence or a real biological effect. In many settings, unintended pregnancies and/or pregnancy-related morbidity and mortality are common, and progestogen-only injectables are among the few types of methods widely available. Women should not be denied the use of progestogen-only injectables because of concerns about the possible increased risk. Women considering progestogen-only injectables should be advised about these concerns, about the uncertainty over whether there is a causal relationship, and about how to minimize their risk of acquiring HIV. EVIDENCE: Evidence from 13 observational studies of DMPA, NET-EN or nonspecified progestogen-only injectables, which were considered to be "informative but with important limitations," continues to show some association between use of progestogen-only injectables and risk of HIV acquisition, but it remains unclear whether this results from a causal relationship or methodological limitations. Two small studies assessing levonorgestrel implants, which were considered to be "informative but with important limitations" did not suggest an elevated risk, although the risk estimates were imprecise. One study reported no association between use of progestogen-only pills and HIV acquisition

Source: WHO. Hormonal contraceptive eligibility for women at high risk of HIV: Guidance Statement. (2017), p. 2.

The new WHO Guidance Statement (2017) signals that additional efforts are needed to strengthen communication and counseling on injectable use and HIV risk (also referred to as hormonal contraceptive-HIV [HC-HIV] counseling), especially in settings where women are at high risk of acquiring HIV. Tanzania, with a prevalence of HIV at 4.5 percent and with injectables being the most popular method of contraception (accounting for 37 percent of modern method use in 2015–16) is a country where these counseling changes could potentially be relevant for the general population of family planning clients (WHO, 2018; MOHCDGEC and MOH, 2016).

Description of the Intervention

The main goal of the pilot intervention and evaluation of new HC-HIV counseling messages was to test the outcome of providing messages related to the use of progestogen-only injectables and the potential increased risk of acquiring HIV on women's knowledge and understanding of the messages and contraceptive uptake. The pilot intervention was conducted in Tanzania in 2018 and involved a number of organizations and projects, including the Tanzania Ministry of Health, Community Development, Gender, Elderly, and Children (MOHCDGEC); USAID/Tanzania; USAID/Washington offices of HIV/AIDS and Population and Reproductive Health; and USAID-funded projects including Breakthrough ACTION, Boresha Afya Southern Zone, and MEASURE Evaluation. Additionally, Marie Stopes Tanzania conducted an earlier qualitative study on the acceptability of HC-HIV counseling messages and shared experiences and data collection tools to help shape the pilot implementation. Table 2 presents each partner organization and their role in the pilot intervention and evaluation of the HC-HIV counseling messages.

Table 2. Organization and role of partners involved with the pilot implementation

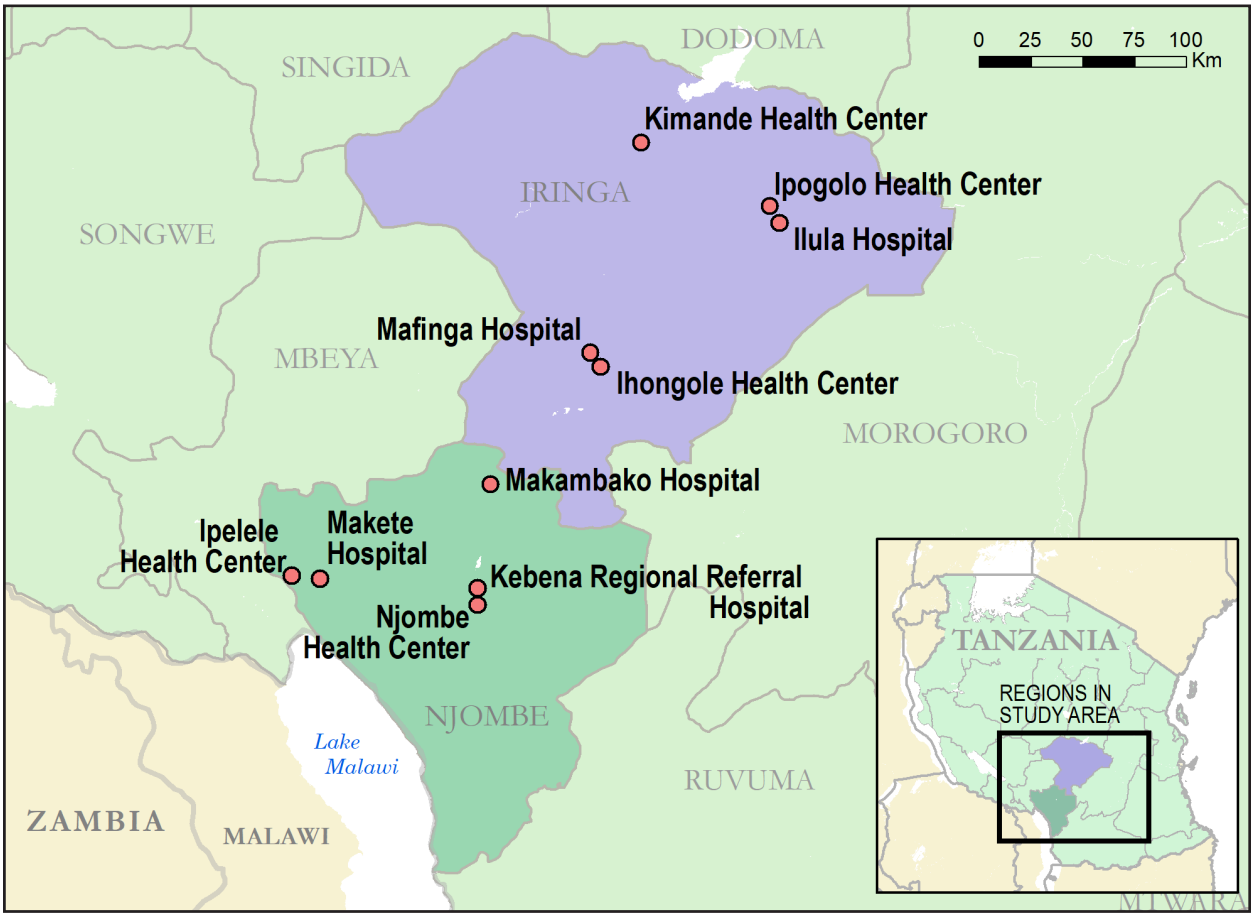
Organization	Role
• Boresha Afya Southern	Assist with the planning of pilot intervention and selection of sites; assist with the development of message/tools; assist coordination of training of healthcare workers; monitor adherence to training among healthcare workers; support the evaluation of this activity and any post-intervention activities
• Breakthrough ACTION, Johns Hopkins Center for Communication Programs	Solicit buy-in from key stakeholders; develop and pretest context appropriate HC-HIV communication messages and tools; provide input on pilot intervention; train/orient healthcare workers on new counseling messages and materials; adapt/ refine messages and tools as needed
• Marie Stopes Tanzania	Collaborate with partners and share data collection tools and results from qualitative research on HC-HIV counseling messages
• MEASURE Evaluation, University of North Carolina, and MEASURE Evaluation–Tanzania	Assist with the development of the pilot intervention; develop evaluation research protocol and data collection tools; conduct data collection; analyze data; prepare final report on findings of research; assist with dissemination of results and use
• Tanzania Ministry of Health Community Development, Gender, Elderly, and Children (MOHCDGEC)	Provide input to counseling materials and pretesting; provide input to activity planning; approve counseling materials; support provider training; support data collection; review evaluation report; support post-evaluation activities
• USAID/Tanzania	Provide input to counseling materials; provide input to activity planning; assist with coordination of activities among all partners; review evaluation report
• USAID Washington, Office of HIV AIDS and Office of Population and Reproductive Health	Provide funding for the intervention and evaluation research; manage the activity in direct coordination with USAID/Tanzania

A launch of the pilot intervention was held in Dar es Salaam, Tanzania in January 2018. The launch included presentations and discussions on HC-HIV research, the new WHO counseling guidance, and plans for the Tanzania pilot intervention, including the design of counseling materials and the evaluation research. The launch meeting was attended by representatives from all the partner organizations as well as other local stakeholders from the FP and HIV community. At the launch, it was decided that the intervention would be piloted in two regions of Tanzania: Iringa and Njombe. These regions were selected due to the relatively high level of modern contraceptive use (32 percent in Iringa and 45 percent in Njombe) and HIV prevalence (11.3 percent in Iringa and 11.4% in Njombe) compared to the national averages of 32 percent and 4.5 percent, respectively, in Tanzania (MOHCDGEC and MOH, 2016; 2017). Stakeholders agreed to include ten healthcare facilities. Five primary healthcare facilities with high numbers of Depo-Provera[1] uptake from March 2017 to February 2018 were selected as intervention sites in each region. Among the ten selected facilities, annual Depo-Provera uptake ranged from 1,933 clients at Njombe Health Center to 414 clients at Ihongole Health Center. The selected health facilities from Iringa were Mafinga Hospital, Ilula Hospital,

[1] At the time of the pilot intervention, Depo-Provera was the only formulation of the injectable available in Tanzania.

Ipogolo Health Center, Kimande Health Center, and Ihongole Health Center. The selected health facilities from Njombe were Makete Hospital, Kibena Regional Referral Hospital, Makambako Hospital, Njombe Health Center, and Ipelele Health Center. The location of Iringa and Njombe and the ten selected healthcare facilities are shown in Figure 1. All women attending these health facilities during the intervention period who were (1) currently using Depo-Provera or (2) expressed interest in using Depo-Provera were eligible to receive the new counseling on the risk of HIV acquisition. A mix of long-acting and short-acting methods of contraception were available to clients throughout the intervention, including in addition to Depo-Provera, oral contraceptive pills, implants, IUD, and male and female condoms.

Figure 1. Map of intervention facilities



One of the main components of the intervention was the development of context-appropriate counseling messages and the development and pretesting of context-appropriate counseling materials. Context-appropriate counseling messages to communicate the potential increased risk for HIV acquisition among women using Depo-Provera were developed and approved by stakeholders at the launch meeting. They can be summarized as follows:

1. Depo-Provera may increase the risk of acquiring HIV.
2. It is not known if Depo-Provera causes a higher risk of HIV.
3. Other contraceptive methods (such as oral contraceptive pills and implants) do not appear to increase the risk of HIV.

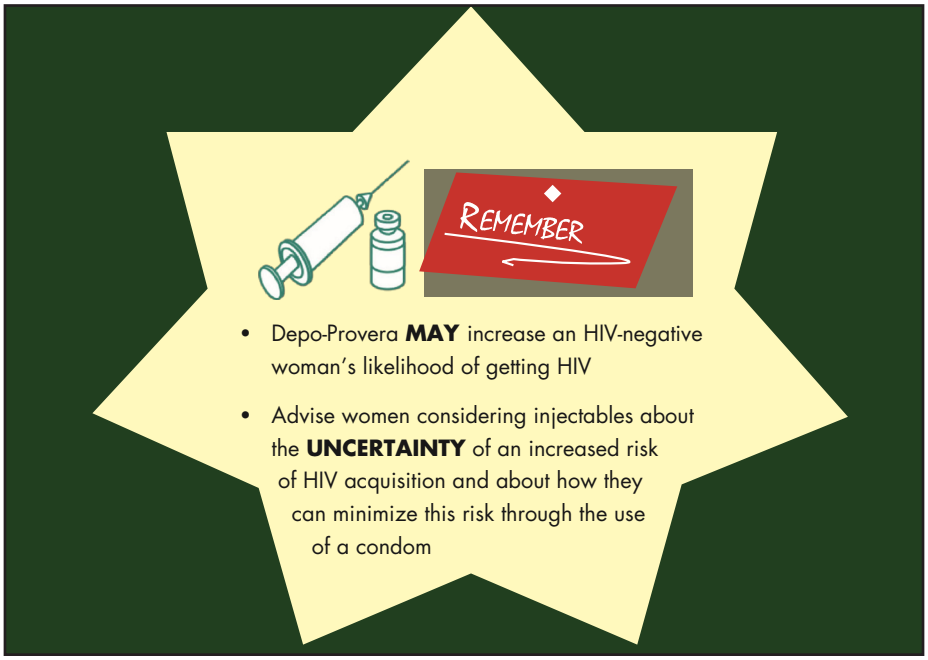
4. Women at risk of HIV can still use any method of FP.
5. Women at risk of HIV who are using Depo-Provera should also use condoms.

Breakthrough ACTION, a USAID-funded project led by the Johns Hopkins Center for Communications Programs, in collaboration with the Tanzania MOHCDGEC, led the development and pretesting of counseling materials. The following materials were developed:

1. A flip-chart page entitled, "Use of Depo-Provera and Risk of HIV Infection" to be added to the regular flip-chart used during FP counseling sessions.
2. A booklet entitled, "Hormonal Contraception and HIV: Frequently Asked Questions and Counselling Messages."
3. An amendment to an already existing wall chart that updated the section on "Depo-Provera."
4. A provider reminder sticker (see Figure 2).

All materials were translated into the local language of Swahili. The counseling messages and materials were reviewed and adapted at a stakeholder meeting, convened in April 2018 by the MOHCDGEC.

Figure 2. Example of the provider reminder sticker



Another component of the intervention was the orientation of healthcare providers from selected health facilities to the issue of HC-HIV acquisition risk and training on the counseling messages themselves. The training followed the model used by the Tanzanian MOHCDGEC for refresher and technical update trainings. First, a training-of-trainers event was held in Morogoro, Tanzania in August 2018. A group of ten master trainers selected by the MOHCDGEC spent two and a half days learning about the WHO guidelines and the new counseling messages for the pilot intervention. During the training, participants were given many opportunities to practice explaining the new messages to providers as well as to provide the counseling messages themselves. The master trainers also determined the optimal time to provide the new messages during a counseling session—that time being when advantages and disadvantages of Depo-Provera are explained.

After the training, half of the master trainers traveled to Iringa and half traveled to Njombe for a two-day rollout training of 49 healthcare providers. The master trainers oriented the healthcare providers on the WHO guideline updates, new counseling messages, and plans to pilot the messages. The providers were supplied with the counseling support materials for their facilities. They were advised to not take any leave or transfers during the three-month implementation and to conduct the counseling themselves—i.e., not to train others at their facilities to provide the new counseling messages. This effort was made to ensure that the new counseling was provided only by healthcare providers who had received the comprehensive training and who had proven competent to counsel on the new messages. Upon leaving the training, on August 29, 2018, the healthcare providers were told to initiate the pilot intervention, and to continue providing the messages to every eligible client until November 30, 2018.

A final component of the intervention was the monitoring of provider-client FP counseling sessions to ensure consistent and accurate transmission of the new counseling messages. Boresha Afya Southern Zone carried out the monitoring of the intervention in the ten health facilities. The majority of the health facilities (n=9) were visited four or five times, while one facility was visited three times during the three-month implementation period. Monitoring visits were initiated on September 17, 2018 and completed on December 7, 2018; a visit occurred outside the implementation period at three of the clinics in Njombe during the first week of December. At each visit, one or more providers were observed during FP counseling sessions and a monitoring checklist was completed. The checklists verified whether providers were providing the counseling messages according to the standards set at the provider training, and included elements such as:

- clients are counseled on possible increased risk for HIV while using Depo-Provera;
- condoms are presented as a means of protection from HIV while using Depo-Provera (i.e., as dual method) and women are counseled on their use;
- clients are free to choose any method, including Depo-Provera; and
- clients' opinions, concerns, and reactions are respected and correctly addressed by the provider following the delivery of the HC-HIV risk acquisition messages.

EVALUATION DESIGN AND METHODS

Evaluation Purpose and Questions

Ultimately, the desired outcome of the provision of the new HC-HIV counseling messages is to ensure that women's contraceptive method choice is fully-informed and voluntary. To reach this end, information that may influence the decision to use or not use a particular method must be communicated to clients. However, it is essential that complex information, such as the HC-HIV acquisition risk messages, be communicated to FP clients in a way that they can understand and weigh their decisions based on individual circumstances and assessments of risk.

The evaluation measured FP client's understanding of the messages, provider's attitudes about providing the messages, and the impact of communicating the messages on contraceptive method uptake. The study specifically examined whether the counseling messages caused changes in the use of Depo-Provera and other hormonal methods and whether there was any change in intended dual-method use. In sum, the evaluation sought to answer the following questions:

1. To what extent did the new counseling messages change the uptake of Depo-Provera among FP clients exposed to the messages? This was measured in both potential new users and continuing users of Depo-Provera.
2. To what extent did new counseling messages change the uptake of other hormonal methods, such as oral contraceptive pills and implants, among FP clients exposed to the messages?
3. To what extent did new counseling messages influence the reported use or intention to use condoms among FP clients exposed to the messages? Condom use included single-method and dual-method use.
4. To what extent did FP clients have correct knowledge of the new counseling messages? What did FP clients believe about the potential increased risk of HIV acquisition? Were there differences in the level of knowledge by age, marital status, or education level?
5. How well did healthcare providers know the new counseling messages? How did the providers respond to the new counseling messages? What were their attitudes about their own ability to correctly communicate the messages? What, if any, concerns did healthcare providers have about the messages?

Evaluation Design

- The outcome evaluation design focused on three main outcomes: (1) correct knowledge of the messages; (2) contraceptive uptake after hearing the messages; and (3) provider feedback about experiences providing the messages. The evaluation used a mixed-methods approach that included multiple types of data—client exit interviews, provider interviews, routine service statistics, and routine monitoring of provider-client counseling—to provide a comprehensive understanding of the impact of the HC-HIV counseling messages. Specifically, client understanding of the communication messages, intention to use condoms, and FP method chosen during the appointment was assessed through a short client exit interview utilizing both closed- and open-ended questions. Provider feedback on the messages, knowledge, and level of comfort providing the messages, was assessed through key informant interviews. A time-series design to track overall trends in uptake of Depo-Provera, other hormonal methods, and condoms distributed, before and after the intervention, was undertaken with data from health facility FP service statistics.

Client Exit Interviews

- Exit interviews were conducted with women exposed to the counseling messages. Women were eligible for a client exit interview if they (1) attended a FP appointment at one of the ten healthcare facilities involved in the intervention during the period of data collection, and (2) received the counseling messages. Eligible women included continuing Depo-Provera users and new Depo-Provera users, as well as women who received the counseling messages but then selected an alternative method. Eligible women were of reproductive age (ages 15–49). Ineligible women included clients who did not consider Depo-Provera use, who were known to be HIV positive, or who for other reasons did not receive the counseling. During periods of data collection, providers were instructed to give a green colored card to clients who received the counseling and a yellow colored card to clients who did not. In this way, data collectors were able to identify women eligible for the interview without needing to collect information on HIV status as a screening question or as part of the interview. An attempt was made to approach all women with green colored cards for interviews.
- The minimum sample size was derived by setting an acceptable level of significance of $p<0.05$ and a power of 80 percent. An additional 10 percent was added to the estimate of 383 to account for incomplete surveys and other potential data quality issues (n=422). According to service statistics from the DHIS 2 for the 12-month period of March 2017 to February 2018, the number of Depo-Provera clients seen per week ranged from 8–37 clients in the ten selected facilities. Due to the variation in the flow of clients, data collectors planned to spend up to five weeks in the field to achieve a full sample, though the actual number of clients interviewed at each facility would vary according to client volume.

Provider Interviews

- Key informant interviews were conducted with healthcare providers. A minimum of two providers from each of the participating facilities were selected for the interview ($n\geq20$). Eligible providers were those who (1) received the training on new HC-HIV counseling messages, (2) participated in the intervention, and (3) were available for the interview during one of the days of data collection.

Extraction of Service Statistics

- In addition to information on contraceptive use collected through client exit interviews, the evaluation used interrupted time series (ITS) analysis using segmented regression to assess the overall impact of the counseling messages on contraceptive uptake among FP clientele in participating health facilities. In an ITS study, a time series of a particular outcome of interest, such as Depo-Provera uptake, is used to establish an underlying trend, which is "interrupted" by the intervention at a known point in time. The hypothetical scenario under which the intervention had not taken place and the trend continues unchanged (the "expected" trend in the absence of the intervention, given the preexisting trend) serves as the counterfactual (Bernal, Cummins, Gasparrini, 2017). For this analysis, 12 months of service statistics on uptake of Depo-Provera, other contraceptives (oral contraceptive pill, implant, IUD, and condom), number of condoms distributed, and total FP methods were used to establish underlying trends against which the data from the three-month intervention were compared.
- Monthly totals of contraceptive uptake by method were collected from each facility participating in the intervention. Statistics were collected from one year prior to the initiation of the intervention (September 2017) through the completion of the intervention (November 2018). Thus, there were a total of 15 months: 12 months prior to the intervention and three months of the intervention. Monthly facility totals for each method were pooled for analysis. The ITS design has no comparable control group; rather the projected preintervention trend serves as the counterfactual. In addition to providing a quasi-experimental design for analysis, the ITS analysis offered an opportunity to work with a source of underutilized data (i.e., routine service statistics) to answer clinically relevant questions.

Design Limitations

- The ITS design is typically unaffected by confounders, however, a potential limitation is that it does not fully control for time-varying factors that may affect contraceptive use trends, such as trends that could influence the use of HC but are unrelated to the counseling messages. Additionally, any change in the recording of method uptake during the intervention could bias results. Another potential threat to the validity of findings would be a very small effect of the intervention on method uptake—in such a case, the findings would have large error terms and would need to be interpreted with caution. Finally, high-quality routine data at the facility level, including accuracy and completeness, are necessary to attain valid results.

Analysis

At the client level, outcomes of interest were method uptake, including intention to use condoms as a dual method, and knowledge of the new counseling messages. Univariate and bivariate statistics were used to assess these data. Select outcomes were assessed by demographic variables, mainly age (categorized in five-year age groups). The Pearson Chi-square test was used to examine equivalence of distribution between demographic variables and outcomes of interest where appropriate. At the provider level, univariate statistics were used to present quantitative measures of knowledge of the new counseling messages, feedback on the training, and use of counseling materials.

Transcripts of qualitative interviews with healthcare providers were transcribed and translated from Swahili to English by the local research partner. Analysis of the interview data involved three iterative steps: reading, organizing and displaying, and reducing. First, each transcript was read at least twice to begin to identify preliminary themes. Sections of transcripts were highlighted to help bookmark quotes that were potentially meaningful or unexpected. Next, to organize and display the data, a matrix was developed to summarize typical and atypical responses to interview questions, as well as additional information or perspectives provided by the providers. The final process of reducing the data involved identifying themes and sub-themes from the data, and assessing whether there were meaningful differences by region.

For the analysis of service statistics, routine data from the ten intervention facilities were aggregated to the total number of FP clients seen per month, total number of clients seen per month by method (pill, implant, IUD, and condom), and total number of condoms distributed per month. Separate models were run for each outcome variable. ITS commands using ordinary least-squares regression were run using STATA version 14 (Linden, 2015). Newey-West standard errors were used to adjust for autocorrelation. The Cumby-Huizinga test was used to assess autocorrelation and to correctly fit the model. According to the test, autocorrelation was not convincingly present in any of the models, up to the five lags tested. Default adjustments for autocorrelation (lag[0]) were therefore used in the models. For each outcome variable, a line plot of the predicted variables was combined with a scatterplot of the actual values over time.

Implementation and Evaluation Timeline

Table 3 provides a timeline for key components of the pilot implementation and evaluation study.

Table 3. Timeline for pilot intervention and evaluation activities

Activity	Jan 2018	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan 2019	Feb
HC-HIV strategic communication workshop—launch	X													
HC-HIV activity planning meeting with stakeholders	X													
Design communications materials	X	X	X	X										
Develop evaluation protocol		X	X	X	X									
Develop data collection tools			X	X	X									
Communication material pretest				X	X	X								
Ethics approval					X	X	X							
Health worker training								X						
HC-HIV counseling intervention									X	X	X			
HC-HIV counseling intervention monitored									X	X	X			
Data collection training										X				
Collect provider interview data										X	X			
Collect client exit interview data										X	X			
Collect FP service statistics												X		
Data analysis												X	X	X
Draft evaluation report												X	X	X

Ethical Considerations

The proposal and draft data collection tools were reviewed and approved by the University of North Carolina Institutional Review Board on August 2, 2018 and the Tanzania National Institute for Medical Research on July 20, 2018. Research clearances and permits were also obtained from the Tanzania Commission for Science and Technology, the Tanzania National Bureau of Statistics, and the President's Office, Regional Administration and Local Government. Additionally, permission to conduct the research in the selected health facilities was obtained from regional and district authorities prior to data collection.

Informed written consent was obtained from all study participants. The consent form for healthcare providers explained the use of audiotapes. All data was deidentified. There were no personal benefits to participating in the study, other than the opportunity to participate in the research process and provide input on FP counseling and services. There were no anticipated risks to clients or providers to participate in the evaluation. Providers were assured that their names and identifying data would not be used in the analysis or evaluation report.

To ensure data protection and confidentiality across the study, all partners committed to using reasonable data protection measures. The MEASURE Evaluation principal investigator and the study team conducted an ongoing review of study processes throughout the data collection period. A member of the MEASURE Evaluation team accompanied the interview team for the first week of data collection to ensure that the protocol was appropriately followed and to ensure participant rights and safety. Field supervisors reviewed questionnaires and other data collection forms on a daily basis and provided feedback to interviewers if deviations in the protocol or questionnaire completion occurred. Field supervisors completed weekly field report forms documenting progress and emergent problems with data collection.

Expected Use of Findings

As the first study to examine the effects of the new HC-HIV counseling messages on method uptake, the evidence generated from the Tanzania pilot has the potential to influence FP programming efforts in Tanzania and globally, especially with regard to FP counseling and HIV prevention efforts. Specifically, findings from the pilot intervention are intended to inform the Tanzania government on the impact of the new HC-HIV counseling messages on FP knowledge and behaviors, so programmatic adaptations can be made as needed. Such adaptations may include changes to counseling on Depo-Provera, changes to the available method mix at facilities, and/or changes to HIV/FP integration efforts. Additionally, evidence generated by the evaluation will provide valuable information to other countries in the region on the process for developing an HC-HIV counseling package and the potential impact the HC-HIV communication efforts may have on FP knowledge, use, and FP and HIV programming.

RESULTS

Findings from Client Interviews

A total of 471 client exit interviews were conducted with women receiving the new HC-HIV counseling messages at the ten intervention health facilities. Demographic characteristics of the interviewed clients are shown in Table 4. The age of the interviewed clients ranged from 17 to 49, while the mean age was 27.9 years. About 30 percent of the women interviewed had a secondary education or higher. Almost all women interviewed had at least one child, with 60.3 percent having either one or two children. Ninety percent of the clients were either married or living with their partner.

Table 4. Background characteristics of clients in Tanzania

Percent distribution of interviewed women by age group, education, number of living children, and marital status, Tanzania 2018.

Age (yrs)	**#**
17–19	5.1
20–24	23.6
25–29	35.2
30–34	22.5
35+	13.6
Education	
No education	6.4
Primary	63.5
Secondary or higher	29.9
No response	0.2
Number of living children	
No children	2.5
1 child	26.3
2 children	34.0
3 children	20.0
4+ children	17.2
Marital status	
Never in union	6.4
Married/living together	89.8
Separated/divorced/widowed	3.4
No response	0.4
Number of women	471

Contraceptive Uptake, Continuation, and Switching

Table 5 shows the distribution of method use by age. Prior to the family planning visit, 68 percent of interviewed women were using a modern contraceptive method. The most common methods used were Depo-Provera (57.7 percent) and implant (4.9 percent). Dual methods were used by 13.6 percent of the women. Patterns of use varied somewhat by age: adolescents were the least likely to be using any modern method prior to the visit (45.8 percent), while women age 35 and over were the most likely to have been using a modern method at the time of the clinic visit (84.4 percent).

Table 5. Contraceptive method use prior to clinic visit

Percent distribution of women age 17–49 by contraceptive method used by her or her partner before the visit to the clinic, by age group, Tanzania 2018.

Age (yrs)	Any modern method	Dual use of modern method[1]	Modern method					Not currently using	Number of women
			IUD	Depo-Provera	Implant	Pill	Male/ female condom		
17–19	45.8	8.3	0.0	41.7	0.0	0.0	4.2	54.2	24
20–24	62.2	14.4	0.0	50.5	4.5	2.7	4.5	37.8	111
25–29	64.5	13.9	1.8	53.0	5.4	3.0	1.2	35.5	166
30–34	74.5	11.3	0.0	63.2	6.6	0.9	3.8	24.5	106
35+	84.4	17.2	0.0	79.7	3.1	1.6	0.0	15.6	64
Overall	**67.9**	**13.6**	**0.6**	**57.7**	**4.9**	**2.1**	**2.5**	**31.8**	**471**

[1]Dual use is defined as use of male condom and another modern method of contraception.

Table 6 shows the pattern of method continuation and switching in the female clients. At the clinic visit, 97 percent of clients opting for Depo-Provera received Depo-Provera after the counseling, while 1.5 percent received the implant, 1.1 percent received the pill, and 0.2 percent received the IUD.[2] One client decided to stop using a contraceptive method in order to become pregnant.

[2] All women received the method at the time of the visit, except for five women who were prescribed Depo-Provera and one woman who was prescribed pills.

Table 6. Method continuation and switching at visit

Percent distribution of the change in contraceptive use as a result of the clinic visit, by age group, Tanzania 2018.

Age (yrs)	Continued Depo-Provera	Started Depo-Provera after non-use	Switched to Depo-Provera from a different method	Started another method after non-use	Switched from Depo-Provera to a different method	Stopped using a method	Number of women
17–19	41.7	54.2	4.2	0.0	0.0	0.0	24
20–24	49.5	36.9	11.7	0.9	0.9	0.0	111
25–29	50.0	34.3	11.4	1.2	2.4	0.6	166
30–34	63.2	22.6	12.3	1.9	0.0	0.0	106
35+	76.6	14.1	4.7	1.6	3.1	0.0	64
Overall	**56.1**	**30.6**	**10.4**	**1.3**	**1.5**	**0.2**	**471**

During the family planning visit, 97.2 percent of clients reported that HIV risks were discussed, 91.3 percent reported that dual-method protection was discussed, and 85.8 percent of clients reported that the provider discussed STIs. As a result of the counseling, 60.3 percent of clients reported that they plan to use condoms as a method of STI/HIV prevention, though the proportion varied significantly by age from 53.1 percent of clients age 35 and over to 75 percent of adolescent clients (Table 7).

Table 7. Intention to use condoms

Percentage of women ages 17–49 who report they plan to use condoms for protection against STIs, including HIV, by age group, Tanzania 2018.

Plan to use condoms as method of STI/HIV protection	Age*					
	17–19	20–24	25–29	30–34	35+	Overall
Yes	75.0	71.2	57.8	53.8	53.1	**60.3**
No	25.0	28.8	38.0	40.6	45.3	**36.7**
Don't know	0.0	0.0	4.2	5.7	1.6	**3.0**

*p-value<0.05

Knowledge of HC-HIV Counseling Messages

Women were asked to summarize, in their own words, what they remembered from their visit about the risks associated with Depo-Provera use and the increased risk of HIV. The interviewers used no prompts. The most common responses reflected a correct understanding of the new HC-HIV counseling messages, though less than half of all women mentioned any single one of the messages. Table 8 shows that the most commonly mentioned messages were that women at risk of HIV and who are using Depo-Provera should use condoms (48 percent) and that Depo-Provera may increase the risk of HIV (40.1%). Overall, fewer than five percent of women reported an incorrect understanding of the messages, that Depo-Provera can cause STIs/HIV (3.8 percent), though the percentage was somewhat higher for women ages 35 and over (7.8 percent). Responses did not differ significantly by age group.

Table 8. Spontaneous mention of messages related to Depo-Provera and HIV acquisition

Percentage of women ages 17–49 who spontaneously recalled various messages from counseling on Depo-Provera and potential increased risk of HIV acquisition, by age group, Tanzania 2018.

Message	Age					
	15–19	20–24	25–29	30–34	35+	Overall
Women at risk of HIV who are using Depo-Provera should also use condoms	29.2	47.7	48.2	45.3	59.4	**48.0**
Depo-Provera may increase the risk of HIV	29.2	44.1	40.4	36.8	42.2	**40.1**
It is not known if Depo- Provera causes higher risk of HIV	25.0	20.7	22.9	22.6	28.1	**23.1**
Depo-Provera use does not protect against STIs/HIV	16.7	13.5	16.3	17.9	10.9	**15.3**
Women at risk of HIV can still use Depo-Provera	12.5	13.5	9.6	13.2	10.9	**11.7**
There are other long-acting and effective methods of family planning	12.5	12.6	7.8	13.2	12.5	**11.0**
Don't know/remember any messages	20.8	9.9	10.2	8.5	4.7	**9.6**
Depo-Provera use can cause STIs/HIV	4.2	1.8	3.6	3.8	7.8	**3.8**
Number of women	24	111	166	106	64	**471**

However, a significant difference in the distribution of responses by education level is seen for the spontaneous mention of the message that Depo-Provera may increase the risk of HIV. Women completing secondary education or higher were the most likely to mention this statement (54.6 percent), followed by women completing primary education (35.5 percent), while women with no education were the least likely to mention this statement (16.7 percent) (results not shown in table). The mention of other messages did not vary significantly by education level.

A number of true/false statements related to the use of hormonal contraceptive methods were read to the interviewed clients to assess their knowledge of the new HC-HIV counseling messages. Table 9 shows the distribution of clients correctly answering the eleven true/false questions. The statements are presented in the order they were given to the clients. The number of correct responses ranged from zero (one client answered "don't know" to all statements) to eleven, with the mean number of correct statements at 7.5 per client. More than 90 percent of women were able to correctly answer three of the statements, one related to the effectiveness of hormonal contraception to prevent pregnancy and two related to the use of condoms to prevent STIs and HIV. Another statement on dual-method use was correctly answered by 80.3 percent of the interviewed clients. Just over two-thirds of the women (67.5 percent) understood that using Depo-Provera may increase a woman's risk of acquiring HIV. Overall, more than half of women were able to answer correctly all the statements except two: only 25.3 percent knew that implants do not increase a woman's risk of getting HIV, and only 28.9 percent knew that contraceptive pills do not increase a woman's risk of getting HIV.

Table 9. Client's knowledge of new counseling messages: True/false

Percent distribution of knowledge about hormonal contraceptive methods and associated risk of HIV acquisition among women ages 17–49, Tanzania 2018.

True/false statement		Correct	Incorrect	"Don't know"
1.	Hormonal contraceptives, such as implants, pills, and Depo-Provera, are very effective in preventing unintended pregnancy when used consistently and correctly. (TRUE)	94.1*	1.7	4.2
2.	Hormonal contraceptives, such as implants, pills, and Depo-Provera, are very effective in preventing STIs when used consistently and correctly. (FALSE)	76.4	14.0	9.6
3.	Dual-method use, using a condom with another FP method, will help prevent both unintended pregnancy and HIV/STIs. (TRUE)	80.3*	14.4	5.3
4.	Using Depo-Provera may increase a woman's risk of getting HIV. (TRUE)	67.5	20.6	11.9
5.	Using implants may increase a woman's risk of getting HIV. (FALSE)	25.3	49.0	25.7
6.	Taking contraceptive pills can increase a woman's risk of getting HIV. (FALSE)	28.9	51.2	20.0
7.	Women at risk of getting HIV can use any methods of family planning. (TRUE)	64.8	18.5	16.8
8.	Women who think they are at risk of getting an STI or HIV should use condoms. (TRUE)	93.6	2.1	4.2
9.	Women who think they are at risk of getting HIV and are using Depo-Provera should also use condoms. (TRUE)	91.7	4.0	4.2
10.	Some research has found that women who use Depo-Provera and are exposed to HIV are slightly more likely than other women to get an HIV infection. (TRUE)	66.5*	15.7	17.8
11.	We do not know whether or not Depo-Provera *causes* higher risk of HIV. (TRUE)	56.7	20.4	22.9

*p-value<0.05

Knowledge of the new counseling messages was mostly consistent across the age groups. In a comparison of the distribution of correct answers by age group, only three statements had significant variance at a p-value of <0.05, as indicated in Table 9. The age group distributions for these three statements are shown in Table 10. For the statement on the effectiveness of hormonal contraception at preventing unintended pregnancy, the percent of women answering correctly ranged from a low of 88.3 percent for women ages 20–24 to a high of 100 percent for women ages 17–19 and ages 35 and over. For the statement on dual-method use for protection against unintended pregnancy and acquisition of STIs and HIV, the percent of women answering correctly ranged from 75.7 percent for women ages 20–24 to 92.2 percent for women ages 35 and over. Finally, for the counseling message related to the research on HC-HIV risk acquisition, the percent of women answering correctly ranged from 50 percent of the adolescents ages 17–19 to 79.7 percent of the women ages 35 and over.

There were no significant differences in knowledge of the statements by marital status or level of education ($p<0.05$). One statement showed significant variation by number of living children: the statement on the use of implants and a woman's risk of getting HIV (statement #5 in Table 9). This statement was correctly answered by 58.3 percent of women with no children as compared to 26.6 percent of women with one child; 26.3 percent of women with two children, 18.1 percent of women with three children, and 24.7 percent of women with four or more children (results not shown in table). However, it should be noted that there were only 12 women in the sample without any living children.

Table 10. Significant differences by age group in client's knowledge of new counseling messages: True/false

Percent distribution of knowledge about hormonal contraceptive methods and associated risk of HIV acquisition, by age group, for statements with significant variation according to Chi-Square test, Tanzania 2018.

	Hormonal contraceptives are very effective in preventing unintended pregnancy (Statement #1)		Dual-method use will help prevent both unintended pregnancy and HIV/STIs (Statement #3)		Some research has found that Depo-Provera users exposed to HIV are slightly more likely to get an HIV infection (Statement #10)		Number of women
Age	Correct	Incorrect	Correct	Incorrect	Correct	Incorrect	
17–19	100.0	0.0	79.2	20.8	50.0	50.0	24
20–24	88.3	11.7	75.7	24.3	68.5	31.5	111
25–29	94.0	6.0	76.5	23.5	60.8	39.2	166
30–34	95.3	4.7	84.0	16.0	68.9	31.1	106
35+	100.0	0.0	92.2	7.8	79.7	20.3	64
Overall	**94.1**	**5.9**	**80.3**	**19.7**	**66.5**	**33.5**	**471**

Attitudes about Depo-Provera After the Visit

Clients were asked how likely they were to recommend Depo-Provera as a FP method to their friends and family. Just over 85 percent of clients reported they were "very likely" (69.2 percent) or "somewhat likely" (16.4 percent) to recommend Depo-Provera to their friends or family members. Almost 10 percent of clients said they were "not likely" (4.5 percent) or "will not recommend (5.3 percent) the method, while 4.7 percent responded "don't know" (results not in table).

Clients were also asked what they would say to their friends or family about use of Depo-Provera after their visit. Responses were open-ended and then categorized for analysis. The most common response categories were that the women would advise friends or family members to use Depo-Provera for FP (30.1 percent) or to use Depo-Provera (or another method) and a condom (29.3 percent). The next most common response categories were that they would endorse Depo-Provera (10.0 percent) or that they had no advice/suggestions or could not advise others on FP (9.8 percent). Some women stated they would advise their friends or family not to use Depo-Provera (5.5 percent). Some clients would inform friends or family that Depo-Provera does not protect against STIs, including HIV (4.2 percent). Finally, fewer than 4 percent of clients responded that they would advise friends or family that Depo-Provera may influence the risk of getting HIV or may lead to HIV (3.6 percent), while 3.8 percent of clients said they would advise friends or family to visit the health clinic or a healthcare provider for counseling on FP.

The responses were then assessed by whether they were: "Positive," or conveyed a positive message or support for Depo-Provera, dual-method use, or FP in general; "negative" if they would advise against use of Depo-Provera or if they mentioned a negative consequence of using Depo-Provera, including influencing HIV risk; or "other" if the comments were neither positive or negative or were unrelated to use of Depo-Provera. Table 11 shows the distribution of response categories with examples of the types of comments in each category.

Table 11. Messages to friends and family about Depo-Provera

Percent distribution of messages for friends and family about use of Depo-Provera, Tanzania 2018.

Overall message	%	Example Messages
Positive	73.5	"I will advise them to use Depo." "Depo is good." "Use Depo, but also condoms." "Use condoms for HIV prevention." "It is good for their health." "Depo protects against pregnancy, but not HIV."
Negative	10.6	"I will not advise them to use Depo." "Depo-Provera is not good." "Not to trust Depo." "It can influence the risk of getting HIV." "Might not be able to have children." "It might influence risk behavior."
Other	6.2	"Come to the clinic." "Visit the health center for more counseling." "Depo Provera has its pros and cons." "Depo is given by healthcare providers."
No message	9.8	"No comment." "I can't say at this moment." "I don't have any suggestions." "It's up to them to decide."

Findings from Healthcare Providers

Twenty-six interviews (fourteen in Iringa and twelve in Njombe) were conducted with healthcare providers trained to provide the HC-HIV counseling messages. Twenty-three of the providers were female and three were male. Twenty-one of the providers were nurses (others were clinical officers, "Muuguzi Mkunga," or in-charge). The level of experience of the providers ranged from less than one year to 27 years of experience, with an average of 8.7 years. Twelve providers had five or fewer years of experience, six providers had between six and ten years, and eight providers had more than 11 years of experience.

Knowledge of HC-HIV Counseling Messages

Two techniques were used to assess providers' knowledge of the new HC-HIV counseling messages. Providers were first asked to summarize the new HC-HIV counseling messages in their own words. Interviewers marked each of the messages that were correctly mentioned. No prompts were used. Table 12 shows the distribution of providers correctly mentioning each of the five key counseling messages.

Table 12. Providers' knowledge of new counseling messages: Spontaneous response

Number and percent distribution of knowledge of new HC-HIV counseling messages among trained healthcare providers, Tanzania 2018.

Counseling statements	Mentioned by providers Number (%)
Depo-Provera may increase the risk of HIV.	21 (81%)
It is not known if Depo-Provera causes higher risk of HIV.	19 (73%)
Other contraceptives (such as pills and implants) do not appear to increase the risk of HIV.	3 (12%)
Women at risk of HIV can still use any method of FP.	12 (46%)
Women at risk of HIV who are using Depo-Provera should also use condoms.	22 (85%)
Number of statements correctly mentioned	
One	1 (4%)
Two	6 (23%)
Three	14 (54%)
Four	3 (12%)
Five	2 (8%)

Two of the five key messages were mentioned by more than 80 percent of the providers; that Depo-Provera many increase the risk of HIV and that women at risk of HIV who are using Depo-Provera should also use condoms. One of the messages was mentioned only very rarely, and that was the message that other contraceptive do not appear to increase the risk of HIV. Only two providers spontaneously mentioned all five of the messages, while 74 percent of providers (n=19) mentioned at least three of the messages.

Providers were then asked to answer a number of true or false questions about the counseling messages. Table 13 shows the distribution of providers correctly answering the twelve true or false questions.

Table 13. Providers' knowledge of new counseling messages: True/false

Number and percent distribution of correct knowledge of new HC-HIV counseling messages among trained healthcare providers, Tanzania 2018.

True/False Statement		Correctly answered Number (%)
1.	Hormonal contraceptives, such as implants, pills, and Depo-Provera, are very effective in preventing unintended pregnancy when used consistently and correctly. (TRUE)	25 (96%)
2.	Hormonal contraceptives, such as implants, pills, and Depo-Provera, are very effective in preventing STIs when used consistently and correctly. (FALSE)	26 (100%)
3.	Dual-method use, using a condom with another FP method, will help prevent both unintended pregnancy and HIV/STIs. (TRUE)	26 (100%)
4.	Using Depo-Provera may increase a woman's risk of getting HIV. (TRUE)	13 (50%)
5.	Using implants may increase a woman's risk of getting HIV. (FALSE)	22 (85%)
6.	Taking contraceptive pills can increase a woman's risk of getting HIV. (FALSE)	19 (73%)
7.	Women at risk of getting HIV can use any methods of family planning. (TRUE)	24 (92%)
8.	Women who think they are at risk of getting an STI or HIV should use condoms. (TRUE)	26 (100%)
9.	Women who think they are at risk of getting HIV and are using Depo-Provera should also use condoms. (TRUE)	26 (100%)
10.	Some research has found that women who use Depo-Provera and are exposed to HIV are slightly more likely than other women to get an HIV infection. (TRUE)	26 (100%)
11.	We do not know whether or not Depo-Provera *causes* higher risk of HIV. (TRUE)	26 (100%)
12.	All women, regardless of HIV status, have the right to choose the number, timing, and spacing of their pregnancies. (TRUE)	26 (100%)

All of the providers correctly answered seven of the statements, and more than 80 percent of providers correctly answered ten of the statements. Only two statements showed a mixed level of knowledge among providers: the statement that using Depo-Provera may increase a woman's risk of getting HIV and the statement that taking contraceptive pills can increase a woman's risk of getting HIV.

During the interviews, all providers initially stated they were confident they understood WHO's new guidance, with some indicating they were "100 percent" confident. Many service providers exemplified their high understanding of the WHO counseling message through sharing how they counseled their clients. In responding to the types of questions clients ask after receiving the counseling message, one service provider stated:

> *"They ask if injections cause HIV infection. We respond by telling them it is not true, but a particular person's habit is the one that triggers the infections. Injections do not cause HIV infections."* —Provider in Njombe

As interviews progressed, however, it was clear that some providers did not understand basic concepts necessary to fully counsel on the WHO guidance. For example, a few providers did not understand the difference between a factor that increases the risk of HIV (i.e., a risk factor) and one that does not protect against HIV (i.e., not being a protective factor). In responding to how well clients understood the new counseling messages, one provider revealed his/her own understanding of the message. S/he stated:

> *"It is hard to know how much…clients understand these messages, but when I start delivering these new counseling messages to a client, I may ask her some questions like "why do you think Depo-Provera cause*[s] *HIV to women using Depo?"...clients who already understand…will tell you "…this depends on the attitude and personal behavior." Most women think that if you use Depo-Provera you cannot get HIV even when you cheat* [on] *your relationship."*
>
> —Provider in Njombe

Some providers were also not clear on why use of dual methods was being emphasized for women using Depo-Provera and not for women using other methods of hormonal contraception. These providers stated that emphasizing use of dual methods for women on Depo-Provera made it seem that the practice was not as relevant for users of other methods.

Communicating HC-HIV Counseling Messages with Clients

FP counseling took anywhere from 10 to 30 minutes, and providers reported that the new HC-HIV counseling messages, which took about two to five minutes within the overall counseling time, did not take too much time to deliver.

Almost all healthcare providers stated that when they first communicated the HC-HIV counseling messages, their clients were initially concerned that Depo-Provera caused HIV. Some clients were specifically concerned that the Depo-Provera injection itself contained HIV, and that the virus was intentionally placed in the injection by a party external to the clinic or service provider.

> *"They* [clients] *tend to believe that the manufacturers insert HIV in such methods. But we explain to them that they don't have HIV infections because they have been certified by experts."* —Provider in Iringa

All service providers who counseled these clients assured them that Depo-Provera does not include HIV, and many continued their counseling by explaining that HIV infection is a result of behaviors such as having multiple partners and having sex without a condom. At times, however, providers did not fully disabuse clients of their misconceptions around the injections including the virus.

> *"They* [clients] *ask whether the government is planning to put HIV virus in the injections. They ask you why now injections contain the HIV virus…but we tell them it's just belief, not proved yet."* —Provider in Iringa

Most healthcare providers were confident that after further clarification clients understood that Depo-Provera does not have HIV, but they differed somewhat in how well they thought clients understood the messages by the end of the counseling session. Some providers thought their clients had a good understanding of the messages, while others believed their clients did not fully understand what they were being counseled on.

> *"It is difficult since as I said, you may ask if she has any question…but she does not. You ask her a question but she does not answer. It is difficult to know if they understood what you told her. Most of the time very few acknowledge the fact that they did not understand."* —Provider in Njombe

Service providers in Iringa were generally more forthcoming about their clients' confusion around the counseling message. In clarifying the part of the counseling message that was challenging for clients to understand, one provider shared:

> "*The* [part of the] *message* [that is confusing is] *for those using injections who have the possibility of being infected. It is the difficult message to explain to the customer. It is hard to understand.*" —Provider in Iringa

One strategy used by a few providers to both gage whether clients understood the counseling message and, in the process, help clients better understand the message, was to ask clients to repeat the message back, and then follow-up with clarifications, if needed, or questions. These providers were clear that they believed merely telling the message to the client was not effective counseling, and that instead, they needed to have a discussion with the client.

A few providers shared that clients wanted to understand the exact mechanism through which Depo-Provera might increase their risk of HIV. These providers expressed frustration that the potential pathway is unknown and that they were unable to share definitive information about the risk of using Depo-Provera or the manner in which Depo-Provera might increase HIV risk with their clients.

Providers shared that either none or very few clients who were using Depo-Provera at the time of the clinic visit switched to a different method. When asked whether clients who switched did so because of the new counseling message, the providers stated that they were unsure of the reason.

Thoughts on HC-HIV Technical Update Training

The healthcare providers were asked about their experiences at the HC-HIV Technical Update Training conducted August 27–28, 2018. They were asked if they agree, disagree, or were neutral to six statements about the training. Table 14 presents the number of providers answering agree, disagree, or neutral to these statements.

Table 14. Providers' thoughts on HC-HIV technical update training

Number of providers who agree, disagree, or are neutral to statements about the HC-HIV technical update training, Tanzania 2018.

Statement		Agree	Neutral	Disagree
1.	The information about WHO's new guidance on hormonal contraceptives for women at high risk of HIV was easy to understand during training.	15	11	0
2.	The new counseling messages about increased risk for HIV acquisition among women using Depo were easy to understand during training.	9	15	2
3.	The guidelines on how to communicate the new counseling messages with clients were easy to understand during training.	16	6	4
4.	The instructions on how to use the new flip chart page as a job aid were easy to understand during training.	23	2	1
5.	The instructions on how to use the new FAQ booklet was easy to understand during training.	23	2	1
6.	The training adequately prepared you to implement the new counseling messages.	22	3	1

All trained providers agreed or were neutral that the information about the new WHO guidance on HC-HIV risk was easy to understand. However, only 9 providers felt the new counseling messages were easy to understand during the training, while 15 were neutral, and two disagreed. Additionally, only sixteen providers felt the guidelines on how to communicate the messages was easy to understand during the training, while six were neutral, and four disagreed. Almost all providers (over 80 percent) felt the instructions on how to use the materials for the counseling were easy to understand. Finally, 22 providers felt the training prepared them to implement the new messages, while three were neutral, and one provider felt unprepared.

Use of Counseling Materials and Suggestions for Counseling

A flip chart page, FAQ booklet, and wall chart were developed to assist providers with counseling on the new HC-HIV messages. Most of the providers reported using all three materials (n=23 (88 percent), while two providers reported only using two of the materials, and one reported not using any. Among 23 providers using the flip chart page, most used it "always" (n=18) or "most of the time" (n=3), compared to "sometimes" (n=2). Among 25 providers using the FAQ booklet, most used it "always" (n=19) or "most of the time" (n=1), compared to "sometimes" (n=5).

The healthcare providers offered several suggestions on how to improve the counseling messages and tools. One provider thought that the counseling messages should first include an explanation about how Depo-Provera works to prevent pregnancy, and also the risk factors of HIV:

> *"They should improve on the part of how to give a message to the customer on how Depo-Provera is working and how the customer may be infected with HIV. Depo-Provera does not cause HIV infection but HIV is caused by this and that; but if you use a condom you will not get infected…"* —Provider in Iringa

Several providers suggested that improving the manner of delivery would make the counseling messages more effective. One provider stated that practicing communicating the message in a conversant manner, rather than reading them from the flip charts, would help clients understand the message. (This practice was encouraged during the training.) Two providers suggested first establishing rapport with the client at the beginning of the session, and then asking her questions to ensure she understands. Another provider recommended emphasizing that all users of hormonal contraceptives should use dual methods. Finally, one provider specifically recommended using the following sentence:

> *"Risky behavior can lead an injection method user to be infected with HIV."* —Provider in Njombe

Several providers stated the client counseling messages could be improved upon only when the results of the ECHO study were released. These providers wanted to be informed about the results so they would have a better understanding of whether Depo-Provera increases the risk of HIV infection, and thus, would be able to provide more clear counseling to clients.

Findings from Service Statistics

ITS analysis was used to further assess the impact of the implementation of the new counseling messages on method uptake of FP clients in the ten intervention health facilities. The ITS design provided evidence on whether the new counseling messages resulted in a shift in the level and trend of contraceptive uptake during the intervention period as compared to the preintervention period. Numbers of FP clients were totaled for each month during the 12 months prior to the pilot intervention period and the three months of the

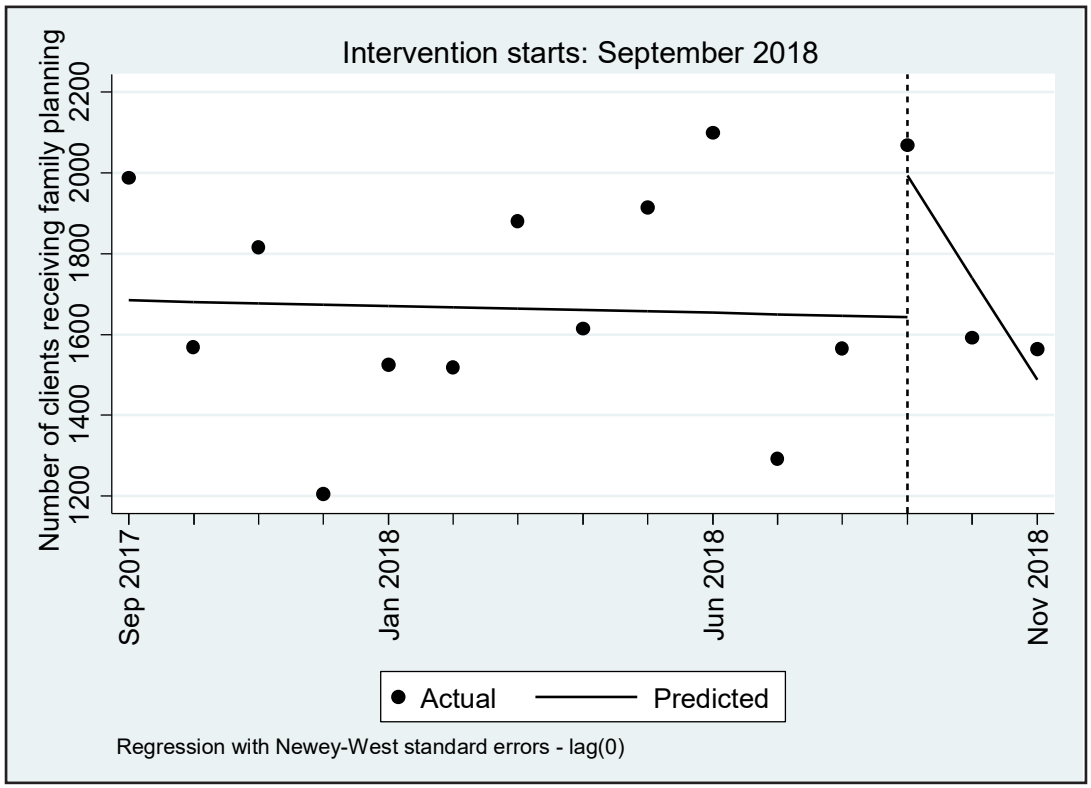
intervention. During this 15-month period, the lowest monthly number of clients seen at the ten facilities was 1,206 and the highest monthly total was 2,097; the mean number was 1,680 with a standard deviation of 268. The ITS regression found a significant decrease in the monthly trend of FP clients of 248.6 clients for the intervention period as compared to the preintervention period (P=0.003, CI = [-396.0,-101.2]), as shown in Table 15. After the initiation of the pilot intervention, the number of FP clients decreased monthly at a rate of 252 clients per month. Figure 3 provides a visual display of these results. Due to the large variation in monthly totals, combined with a relatively short period of intervention, these results should be interpreted with caution.

Table 15. Results of interrupted time series regression, monthly totals of all FP clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	-3.402	26.192	-0.13	0.899	-61.050	54.245
Intervention period	349.197	220.408	2.58	0.141	-135.918	834.312
Interaction of time and intervention period (trend)	-248.598	66.987	-3.71	0.003	-396.035	-101.161
Constant	1687.364	184.356	9.15	0.000	1281.599	2093.128
Post-intervention linear trend						
Treated (pilot intervention)	-252.000	61.654	-4.087	0.002	-387.700	-116.301

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure 3. Graph of total number of FP clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018



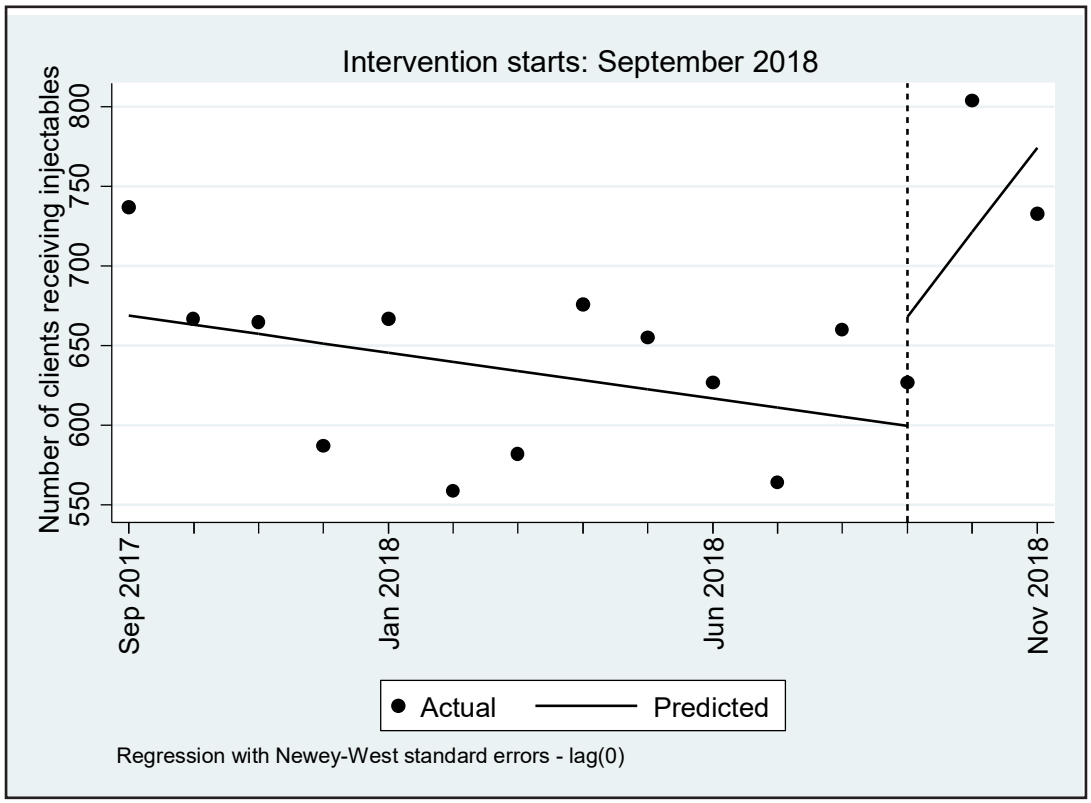
Numbers of injectable clients were also totaled for each month during the 12 months prior to the pilot intervention period and the three months of the intervention. During this 15-month period, the lowest monthly number of clients who received the injectable at the ten facilities was 559 and the highest monthly total was 804; the mean number was 654 with a standard deviation of 68.1. The ITS regression found no statistically significant change in the level or trend of injectable clients for the intervention period as compared to the preintervention period (Table 16). Figure 4 provides a visual display of these results.

Table 16. Results of interrupted time series regression, monthly totals of injectable clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	-5.769	4.610	-1.25	0.237	-15.916	4.378
Intervention period	68.667	61.735	1.1	0.290	-67.212	204.545
Interaction of time and intervention period (trend)	58.769	34.440	1.71	0.116	-17.032	134.571
Constant	674.667	34.907	19.33	0.000	597.836	751.497
Post-intervention linear trend						
Treated (pilot intervention)	53.000	34.130	-4.087	0.1487	-22.119	128.119

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure 4. Graph of total number of injectable clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018



Separate ITS analyses of the monthly number of clients receiving oral contraceptive pills, implants, IUD, and condoms were also conducted. The reported monthly totals of these methods ranged from 102–269 for oral contraceptive pills, 430–941 for implants, 62–285 for the IUD, and 0–54 for condoms. Unlike for injectables, for oral contraceptive pills, implants, and the IUD, there was a statistically significant reduction in the number of clients per month during the pilot intervention period as compared to the preintervention period (results shown in Appendix A). These findings support the decline seen earlier in the total number of FP clients, but require the same caution for interpretation due to the large variation in monthly totals combined with the relatively short period of intervention. In fact, there was a pattern of large numbers reported for oral contraceptive pill, implant, IUD, and condom users for the first month of the intervention (September 2018) as compared to the following two months. However, the reverse pattern was seen for the reported number of injectable users during the intervention period.

Condom distribution was also assessed (results shown in Appendix A). Unlike other methods, the distribution of condoms shows a significant decline during the preintervention period. Condom distribution then peaked in September 2018, at 1,650 condoms distributed, producing a significant outcome in the ITS analysis. However, the three months prior to September recorded zero distribution, suggesting September was a "catch-up" month, which was then followed by zero distribution in October and distribution of only 165 condoms in November.

Monitoring of the Intervention

A total of 109 monitoring checklists were completed during 43 visits to the health facilities. The checklists indicate that providers were following all expected standards for counseling on the HC-HIV risk acquisition messages. Common checklist comments from Iringa stated that "client's concerns are respected" and that there was little reaction from clients about the messages. Observer comments from Njombe also indicated that the messages were received by clients and that clients were continuing to choose Depo-Provera. One observer in Njombe commented: "[My] overall assessment is that it seems that clients are well-informed and opting to continue using Depo-Provera." However, in Njombe a few checklist comments indicated that the messages raised additional questions and concerns, but that the providers were able to address them. It was also noted that there were some clients who decided to stop or switch methods after hearing the messages.

In addition to the information provided by the monitoring checklists, the data collection team identified some implementation challenges while working in the health facilities. The team found that many of the nurses selected for training were based in antenatal/postnatal and labor wards, and they thus did not consistently engage with FP service delivery. Due to work shifts in the afternoons and nights, their presence for FP appointments was irregular. As a result, there were occasions when no trained nurses were present to deliver the HC-HIV counseling messages at FP appointments. This situation was noted in five of the ten health facilities. In such cases, the data collection team contacted the Medical Officers Incharge, Health Facility Matrons, and/or officials at the district and regional level to resolve the staffing issues.

Another issue noted by the data collection team was that some of the trained nurses directed untrained nurses to deliver the messages, despite having been told that only providers attending the training event were to provide the counseling messages. This was noted in three of the health facilities.

DISCUSSION

The goal of the evaluation was to provide evidence on the impact of the provision of new HC-HIV counseling messages on clients' knowledge and choice of methods. To fully address this issue, the evaluation measured FP clients' understanding of the messages, providers' experiences in providing the messages, and the impact of communicating the messages on contraceptive method uptake. Overall, results indicate that the counseling messages did not cause a decrease in the uptake of Depo-Provera. According to client exit-interviews, the overwhelming majority of women received Depo-Provera at their clinic visit (97 percent) after being given the new HC-HIV counseling messages in addition to usual counseling on the method. Additionally, the analysis of service statistics showed no significant difference in the trend of injectable uptake between the preintervention and intervention period.

Dual methods were used by almost 14 percent of clients prior to the clinic visit. After the visit, the reported intention to use condoms to prevent HIV and STIs was high, at 60 percent of interviewed clients (and even higher for adolescents, at 75 percent). While the positive response to dual-method use is encouraging, follow-up research is needed to know if such intentions translate into actual use. Service statistics are not clear on whether condom clients are single-method (i.e., condom-only clients) or include dual-method (i.e., also included as clients for other methods), however, the overall numbers were low, ranging between 0 and 54 per month during the intervention. The trend in the total number of condoms distributed also did not show an increase during the intervention period. This suggests that most clients reporting an intention to use condoms for dual protection did not obtain them from the clinics during this time period.

Clients' assessed level of knowledge of HC-HIV messages was highest for messages that are typical of FP counseling sessions—i.e., related to messaging about the effectiveness of hormonal methods to prevent pregnancy and recommendations to use condoms to protect against STIs, including HIV. However, the level of assessed knowledge for the main message of the new counseling was not as high; only 67.5 percent of interviewed clients knew that using Depo-Provera may increase a woman's risk of getting HIV. Spontaneous mention of this message by clients was also relatively low and varied significantly by education. Women with any education were two to three times more likely to remember this counseling message than were women who had no education (though the number of women with no education was relatively small, n=30).

Additionally, there appears to be confusion about whether other hormonal methods, specifically oral contraceptive pills and implants, also increase the risk of HIV acquisition. Information from the provider interviews may help to explain this finding: the message that other contraceptives do not appear to increase the risk of HIV was mentioned only very rarely by providers as one of the key HC-HIV counseling messages. This may indicate that it was less likely to have been a message that was provided during the counseling session. ITS analysis actually showed decreasing trends in uptake of other methods during the intervention period. However, these results appear to be unrelated to the provision of the counseling messages, and may in fact be an artifact of the data themselves (as discussed in the limitations section that follows).

Overall, despite hearing complicated messaging about use of injectables and the potential for increased risk of HIV acquisition, most clients were likely to recommend use of Depo-Provera to friends and family.

In general, few significant differences in outcome measures were found by age group, education level, marital status, or parity. This may be due, in part, to the homogeneity of the sample. Almost all interviewed women were educated at the primary, secondary, or higher level (93.6 percent), had one or more living

child (97.5 percent), and were married (93.6 percent). Since efforts were made to interview every eligible FP client during data collection, the low level of diversity in these demographic characteristics may reflect the "typical" FP client at these clinics, or perhaps more likely, the "typical" injectable user at these clinics. As a result, generalizations of findings to populations with different characteristics should be made with caution.

Provider's knowledge of the counseling messages was generally high, especially as assessed by the true/false statements. In spontaneous response, three-fourths of providers mentioned at least three of the HC-HIV counseling messages. These results suggest that there were probably two or three "main" messages that the providers discussed with clients, and that not all of the counseling messages were being conveyed.

Providers shared that clients often asked questions immediately after hearing the messages, and that correcting and qualifying the client's understanding was often part of the counseling session. While providers felt the time spent on providing the new counseling messages and answering questions was acceptable, many expressed frustration with having to convey a message based on evidence that is not definitive.

Limitations

During the provider trainings, the appropriate place in the counseling session to provide the new HC-HIV messages was identified as when side effects and other disadvantages of the method were discussed. Because of this placement of the messages, it is likely that clients had already selected Depo-Provera as their method of interest. Thus, the potential effect of the new messaging was not likely on their initial selection of Depo-Provera, but rather, on whether they would stay with the method once they heard the counseling messages. As a result, it is not clear how the messages would affect clients' initial choice of method if the messages were given before they identified Depo-Provera as their method of interest.

Assessing knowledge through a quantitative data collection tool is difficult. The tools used in this analysis combined a variety of methods to measure how clients and providers understood the HC-HIV counseling messages. Nevertheless, open-ended, spontaneous response questions require that data collectors discern key points correctly and accurately take note of incorrect responses. Assessment by true/false statements can be difficult to deliver (for example, by misreading statements that are similar to other statements in the tool), as well as to answer (for example, to identify the slight differences in wording that make a true statement false, and vice versa). Actions undertaken to ensure the validity of results on knowledge included multiple stakeholder review of the tools, interviewer practice with the tools, and observations of interviews in the field.

This evaluation design provided an opportunity to test whether the facility-level data were of sufficient quality to be used for an ITS analysis. The service statistics tended to "bounce around" over the course of 15 months, and while trend lines could be fitted to the data, there were no clear trends in any direction as observed by the scatterplots either before or during the pilot intervention. Because of this, the post-implementation period (or more specifically, the pilot implementation period) may have benefitted from being longer than three months (note, three time points after implementation is the minimum number recommended for ITS [Bernal, Cummins, Gasparrini, 2017]). Additional months after the implementation of the new counseling messages may have led to some "evening out" of the post-implementation trend lines; thus, findings of significant reductions in the distribution of methods other than injectables may not be maintained. Furthermore, it is not known the extent to which there were errors in the data recording at the facility level that could have contributed to the wide variability in monthly reports. While ITS is still a recommended analytical tool for

answering questions about health services, future analyses using this method in this setting will benefit from continued improvement in the capture of service data and by implementing a longer period of observation in the post-implementation period.

Data collection teams identified some instances of incomplete implementation in some of the facilities—this could have reduced the potential impact of the messages on overall uptake of Depo-Provera, or other methods, as found in the analysis of service statistics. In addition, there appears to have been some miscommunication about the end of the pilot period. There should have been no delivery of messages after November 30, 2018, but eight monitoring observations were done at three clinics during the first week of December 2018.

Finally, actual condom use after exposure to the counseling messages, as well as longer-term outcomes such as changes in contraceptive behavior that happen after the index visit to the healthcare facility (particularly for continuing use of Depo-Provera), could not be assessed with this cross-sectional design. Furthermore, the evaluation focused on an implementation of new HC-HIV counseling messages in the public health sector only; implementation in the private, nongovernmental organization, or faith-based organization sectors may produce different results. Importantly, the evaluation does not provide evidence for the rollout of the messages through non-facility-based injectable distribution channels, such as through community-based health workers. Pending results of the current evaluation study, such issues may be worthy of future investigation.

RECOMMENDATIONS

As the first study to examine the effects of providing HC-HIV counseling messages on method uptake, the evidence generated from the Tanzania pilot can be used to inform FP programming efforts in Tanzania and globally. Specifically, the evaluation results provide valuable information to Tanzania and other countries in the region on the process for developing an HC-HIV counseling package and the potential impact the HC-HIV communication efforts may have on FP knowledge, use, and FP and HIV programming.

If HC-HIV counseling messages are to be rolled out on a national level in Tanzania or in another country, recommendations for improvement include:

Messaging:

- Consider including additional messages about Depo-Provera and HIV. For example, given remnant myths and misperceptions around injections containing HIV, Tanzania and other East African countries could include explicit messaging that Depo-Provera and the injection needle do not contain HIV, and never have. Clarifying this message at the beginning of HC-HIV counseling could help disabuse clients of this historical myth and prevent the continuing spread of false information.
- Improve clarification during counseling that there is not an observed association between risk of HIV acquisition and methods other than Depo-Provera, such as oral contraceptive pills or implants. This issue needs to be considered in the context of the flow of the counseling session; specifically, when counseling about Depo-Provera, when and how key messages about other methods should be incorporated.
- Care should be taken during the counseling session that messages about dual-method use to protect against STIs, including HIV, are understood to apply to all hormonal methods, not only injectables.

Training:

- Use the results of this evaluation, and any others that have been done, in provider trainings to emphasize that the HC-HIV messages have not been shown to result in a reduction of Depo-Provera users.
- Emphasize that the HC-HIV messages will generate questions from clients, and that this should be anticipated. Messages may need to be repeated and/or restated in various ways until the client's questions are answered.
- Place emphasis on practice sessions so providers can become proficient in the types of questions they could ask clients to gage understanding of the messages. The practice sessions could include role-play scenarios in which the client is having difficulty understanding the new counseling messages and the provider needs to brainstorm strategies to explain the counseling messages in an accurate and understandable way.

Next steps of the pilot intervention should include sharing the results of the evaluation with facilities participating in the pilot intervention. Such dissemination of the findings could serve as a demonstration of how routine service statistics can be used to answer clinically important questions. It should be emphasized that the data needed for the analysis came a year prior to the intervention, meaning that good quality data were needed before the intervention had even started. This means that continuous improvement in data

quality at the facility level will strengthen future monitoring and evaluation efforts, even for those programs and pilots that have not yet been planned or implemented. When available, results of the ECHO trial should also be made available to providers.

It will need to be determined how often the counseling messages should be provided to clients: At every visit; at first visit; once for all Depo-Provera clients and then every new Depo-Provera client thereafter (and if so, how would that be monitored)?

If another pilot of HC-HIV counseling messages were to be implemented, in another country for example, it is recommended that the intervention be conducted by a designated project (or a program), such that there is a single organization (or point person) responsible for the implementation itself. This would help strengthen fidelity of the model (that the pilot is implemented according to plan) and reduce uncertainty of roles between different actors involved in the intervention and evaluation.

Finally, it is noted that further research may be needed to better understand effects of HC-HIV messaging for different population subgroups, such as adolescents or FP clients with no formal education. Consideration should also be given to how HC-HIV counseling messages would be given outside of a clinic setting, such as through community distribution channels.

KEY FINDINGS FOR PROGRAMMING (SUMMARY)

- Additional messages about Depo-Provera and HIV may need to be added to counseling sessions. These include explicit messaging that Depo-Provera and the injection needle do not contain HIV, and never have; how HIV is acquired; and how Depo-Provera works to prevent pregnancy. One provider offered the following sentence as an example: "*Risky behavior can lead an injection method user to be infected with HIV.*"
- Counseling should clarify that there is not an observed association between risk of HIV acquisition and methods other than Depo-Provera, such as oral contraceptive pills or implants.
- Messages about dual-method use to protect against STIs, including HIV, should be clear to apply to all hormonal methods, not only injectables.
- Questions from clients should be anticipated. Messages may need to be repeated and/or restated in various ways until the client's questions are answered.
- One way to gage client understanding is to ask her questions about the messages provided.
- Provider training should include time for practice sessions so providers can become proficient in providing the messages and gaging client understanding.

CONCLUSIONS

Results of the evaluation indicate that the counseling messages did not cause a decrease in the uptake of Depo-Provera. After initially selecting Depo-Provera and receiving the new HC-HIV counseling messages as part of regular method counseling, 97 percent of interviewed clients received Depo-Provera at their visit. The analysis of service statistics showed no statistical difference in the trend of injectable uptake between the preintervention and intervention periods. Overall knowledge of counseling messages by clients was good, though there was some confusion about whether other hormonal methods, specifically oral contraceptive pills and implants, also increase the risk of HIV acquisition. Providers' knowledge of the messages was high; however, it appears that not all the HC-HIV messages were consistently provided during the counseling sessions.

The evaluation results presented in this report show the potential for successful implementation of new HC-HIV counseling messages in Tanzania and other countries, especially those with high rates of injectable use and high HIV prevalence. Sustainability issues related to the at-scale provision of the counseling messages include initial and continuing costs of provider training, as well as the production, distribution, and replacement costs of the counseling materials. Just as essential, full "buy-in" from healthcare providers will help ensure that the messages are provided continuously to all clients.

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APPENDIX A. ITS RESULTS BY METHOD

Table A1. Results of interrupted time series regression, monthly totals of oral contraceptive pill clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	-0.990	4.638	-0.21	0.835	-11.196	9.217
Intervention period	34.348	27.617	1.24	0.239	-26.437	95.134
Interaction of time and intervention period (trend)	-23.010	8.298	-2.77	0.018	-41.274	-4.747
Constant	185.182	41.581	4.45	0.001	93.662	276.702
Post-intervention linear trend						
Treated (pilot intervention)	-24.000	6.881	-3.488	0.005	-39.145	-8.855

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure A1. Graph of total number of oral contraceptive pill clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018

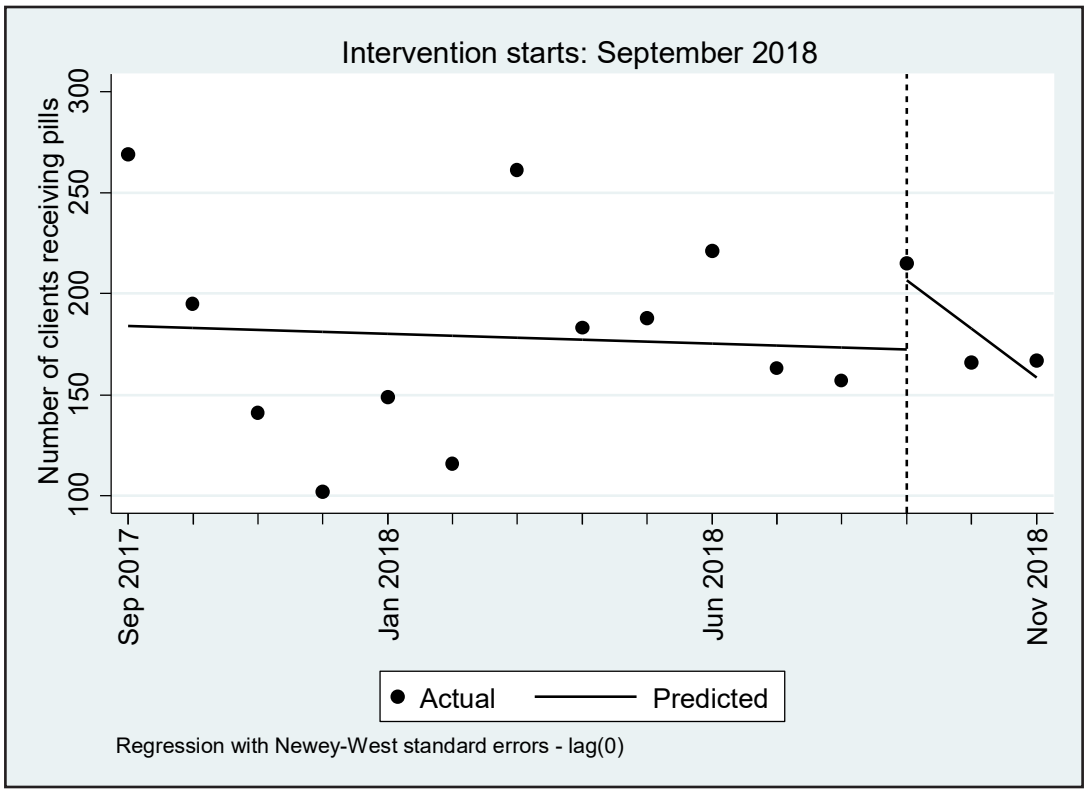


Table A2. Results of interrupted time series regression, monthly totals of implant clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	0.972	15.312	0.06	0.951	-32.729	34.673
Intervention period	178.682	143.300	1.25	0.238	-136.719	494.083
Interaction of time and intervention period (trend)	-173.472	57.536	-3.02	0.012	-300.108	-46.837
Constant	672.515	106.948	6.29	0.000	437.124	907.907
Post-intervention linear trend						
Treated (pilot intervention)	-172.500	55.461	-3.110	0.010	-294.569	-5.431

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure A2. Graph of total number of implant clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018

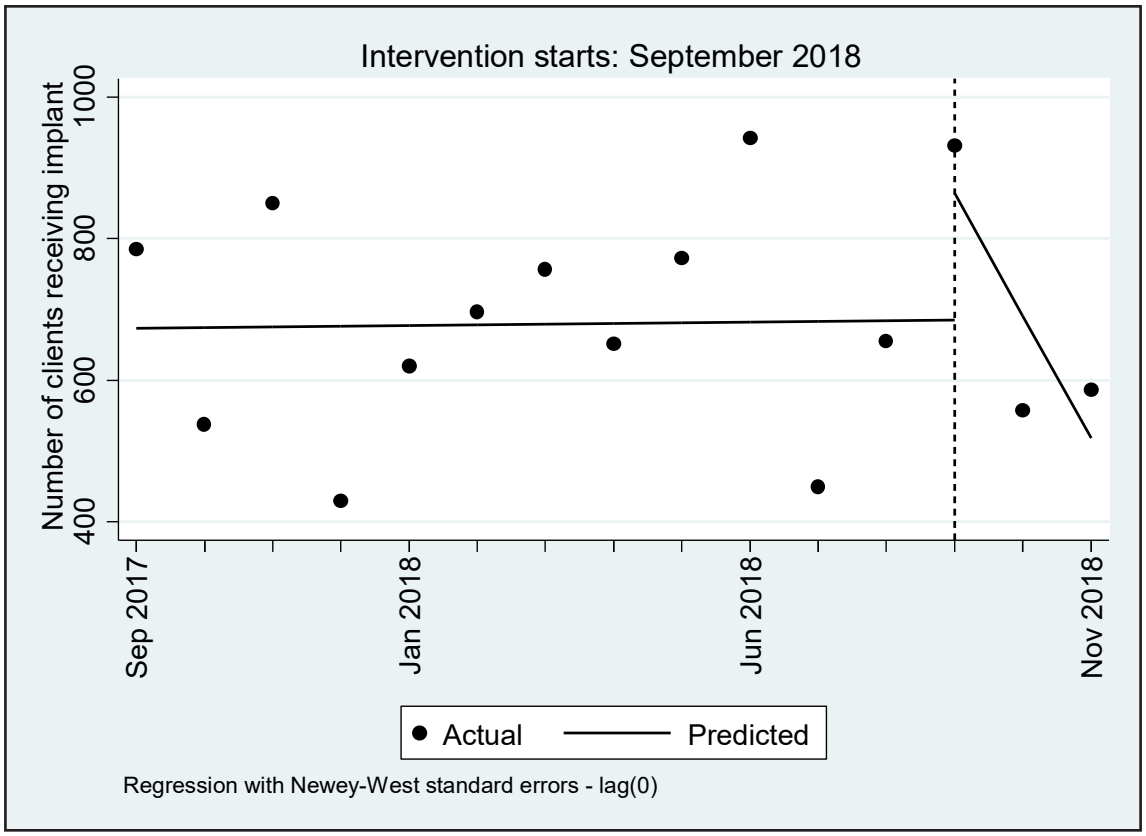


Table A3. Results of interrupted time series regression, monthly totals of IUD clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	2.770	7.127	0.39	0.705	-12.918	18.456
Intervention period	61.667	77.505	0.80	0.443	-108.921	232.254
Interaction of time and intervention period (trend)	-96.269	27.235	-3.53	0.005	-156.212	-36.326
Constant	123.5	36.106	3.42	0.006	44.032	202.968
Post-intervention linear trend						
Treated (pilot intervention)	-93.500	26.286	-3.557	0.005	-151.354	-35.646

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure A3. Graph of total number of IUD clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018

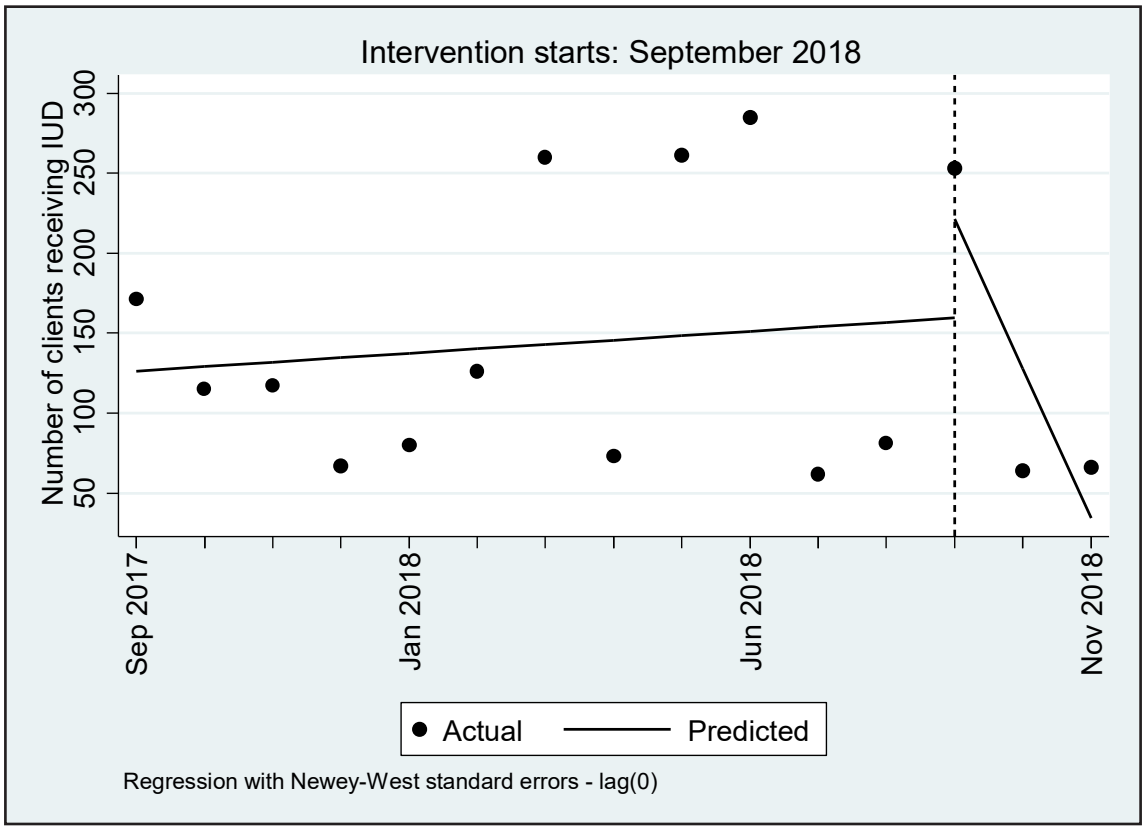


Table A4. Results of interrupted time series regression, monthly totals of condom clients in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	-0.385	1.589	-0.24	0.813	-3.881	3.112
Intervention period	5.833	16.019	0.36	0.723	-29.245	41.092
Interaction of time and intervention period (trend)	-14.615	7.330	-1.99	0.072	-30.750	1.59
Constant	31.5	11.076	2.84	0.016	7.123	55.878
Post-intervention linear trend						
Treated (pilot intervention)	-15.000	7.156	-2.096	0.060	-30.751	0.751

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure A4. Graph of total number of condom clients per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018

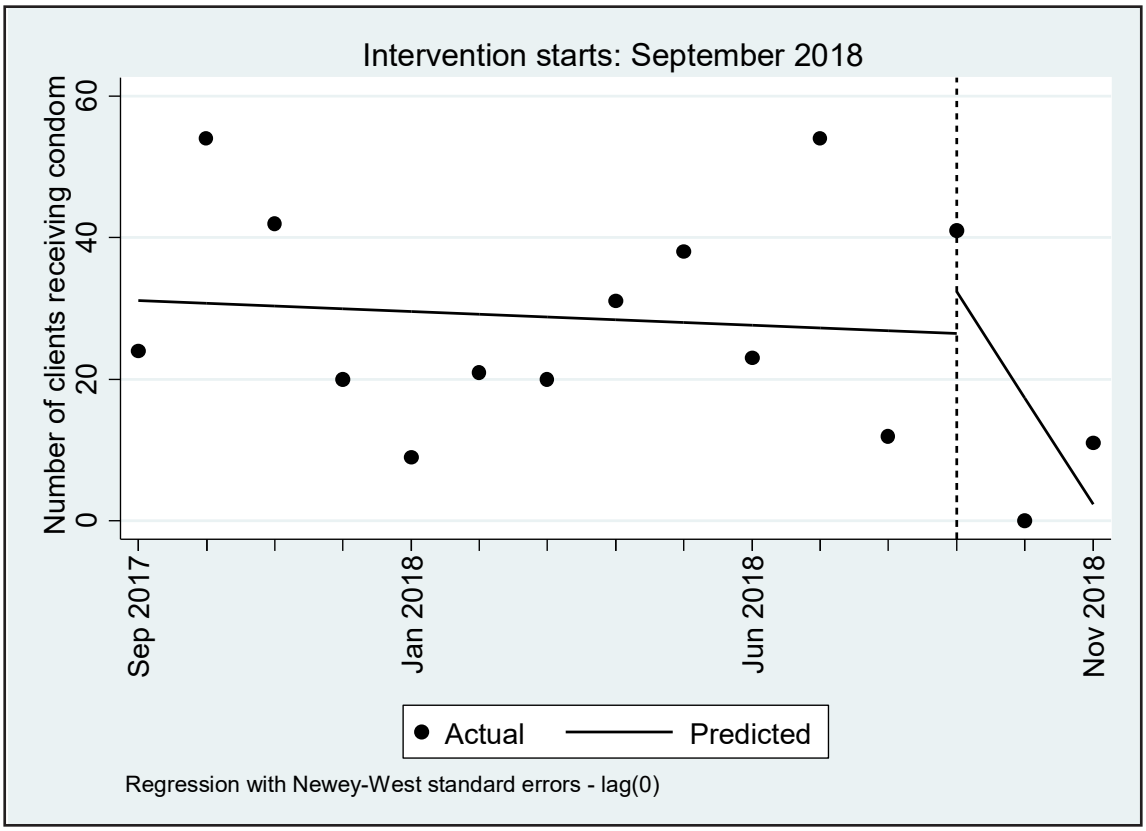
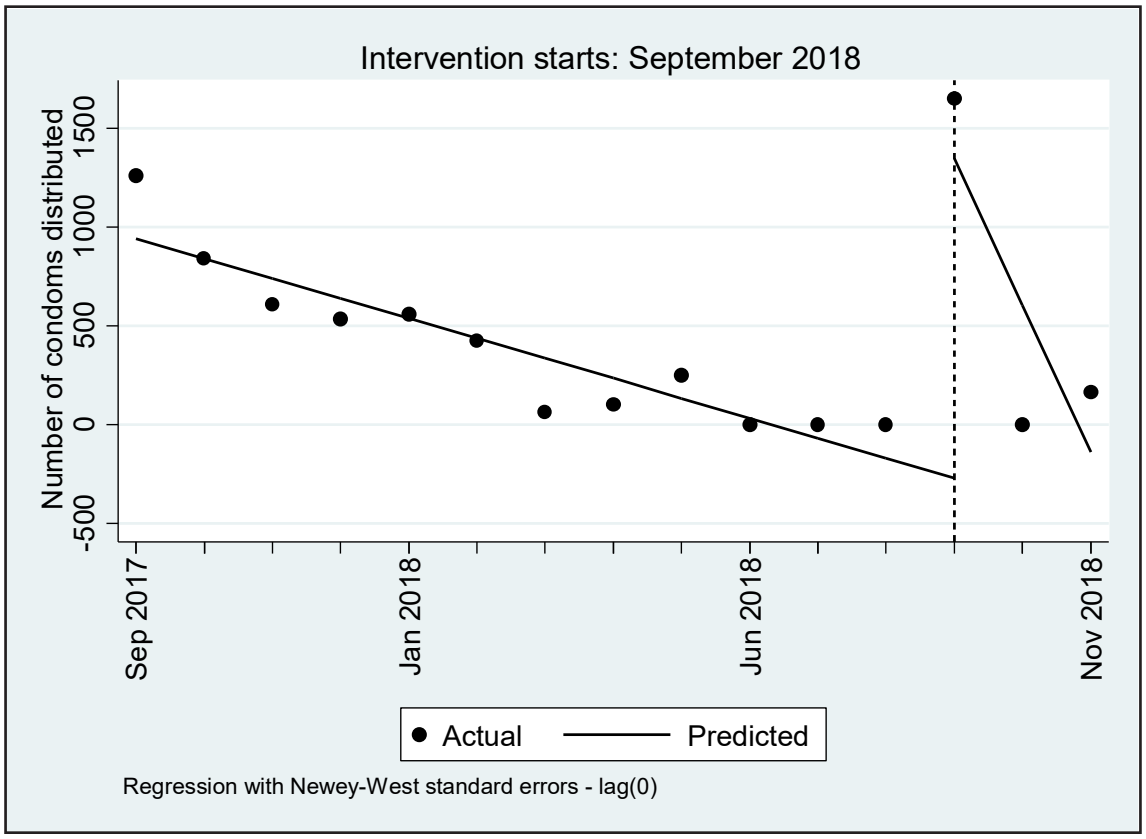


Table A5. Results of interrupted time series regression, monthly totals of condoms distributed in the ten pilot intervention facilities from September 2017 to November 2018, Tanzania 2018

All FP clients	Coefficient	Std. Err.	t	P>|t|	[95% conf. interval]	
Time (since start of period)	-100.839	17.249	-5.85	0.000	-138.804	-62.874
Intervention period	1616.455	396.103	4.08	0.002	744.638	2488.271
Interaction of time and intervention period (trend)	-641.661	250.376	-2.56	0.026	-1192.735	-90.587
Constant	1041.955	137.684	7.57	0.000	738.914	1344.995
Post-intervention linear trend						
Treated (pilot intervention)	-742.500	249.781	-2.973	0.0127	-1.290	-192.735

Note: Regression with Newey-West standard errors. Maximum lag: 0

Figure A5. Graph of total number of condoms distributed per month in the ten pilot intervention facilities from September 2017 through November 2018, Tanzania 2018



APPENDIX B. DATA COLLECTION TOOLS

Client Exit Interview Tool

Impact of HIV Risk Communication on Hormonal Contraceptive Uptake in Tanzania

CLIENT INTERVIEW GUIDE

Questionnaire ID Number { }{ }{ } FOR data entry USE ONLY:

Interviewer : _____

Interviewer code { }{ }

Date (DD/MM/YY): _____/_____/_____

To be filled before the client interview	
FACILITY IDENTIFICATION	
Name of Facility	
Facility Number	_____
FOR OFFICE USE ONLY: Client interview serial number within facility	☐☐☐
Region	IRINGA 1 NJOMBE 2
District	**IRINGA** IRINGA MC 1 IRINGA DC 2 KILOLO DC 3 MAFINGA DC 4 **NJOMBE** MAKAMBAKO TC 5 NJOMBE TC 6 MAKETE DC 7
Type of Facility	REGIONAL HOSPITAL 1 DISTRICT HOSPITAL 2 DISTRIC-DESIGNATED HOSPITAL 3 HEALTH CENTRE 4

Introduction and Consent

Hello. My name is_____. I am working with_____.
We are conducting a study about family planning counseling messages and contraceptive uptake in Tanzania. We hope this study will help improve family planning services, specifically counseling messages that are provided as part of family planning clinic visits.

Now let me take you through consent form before we proceed with the interview.

Do you have any questions? May I begin the interview now?

_____ _____
Interviewer's Signature Date
(Sign if respondent agreed to participate)

No.	Questions	Coding Categories	Go To
READ: First, I would like to ask you some questions about yourself and then some questions about your use of family planning and your visit today.			
C1	What is your age?	☐☐ YEARS	
C2	What is your marital status?	NEVER MARRIED 1 MARRIED 2 COHABITATION 3 DIVORCED/SEPARATED 4 WIDOWED 5	
C3	How many living children do you have?	☐☐ CHILDREN	
C4	What is the highest level of education you completed?	DID NOT GO TO SCHOOL 1 ATTENDED SOME PRIMARY 2 COMPLETED PRIMARY 3 ATTENDED SOME SECONDARY 'O' 4 COMPLETED SECONDARY 'O' 5 ATTENDED SOME SECONDARY 'A' 6 COMPLETED SECONDARY 'A' 7 COMPLETED COLLEGE 'MIDDLE' 8 COMPLETED UNIVERSITY 9 DON'T KNOW 88	
C5	Were you or your partner using any method of family planning before this clinic visit?	YES 1 NO 2	-->C11

No.	Questions	Coding Categories		Go To
C6	Which family planning method(s) were you using before this clinic visit? **(i.e. current use)** **SELECT ALL MENTIONED** **PROBE: CONDOM USE**	FEMALE STERILIZATION MALE STERILIZATION IUCD DEPO PROVERA IMPLANT PILLS MALE CONDOMS FEMALE CONDOMS EMERGENCY CONTRACEPTION STANDARD DAYS METHOD LAM RHYTHM/CALENDAR METHOD WITHDRAWAL OTHER,SPECIFY:_____	A B C D E F G H I J K L M X	
C7	How long have you or your partner been using [CURRENT METHOD] without stopping?	YEARS _____ MONTHS _____		
C8	What was the outcome of this visit - did you decide to continue the same method you were already using, switch to a different method, or stop using a method?	CONTINUE SAME METHOD SWITCH TO DIFFERENT METHOD STOP USING FP OTHER, SPECIFY_____	1 2 3 66	--> C14 --> C10 --> C11
C9	What is your main reason for changing your FP method? SINGLE RESPONSE.	OLD METHOD NOT APPROPRIATE/SIDE EFFECTS/CONTRAINDICATIONS OLD METHOD NOT AVAILABLE TOLD TO RETURN/AFTER MENSES CHANGED MIND AFTER COUNSELING WANTED MORE EFFECTIVE METHOD OLD METHOD INCONVENIENT TO USE OLD METHOD BECAME TOO EXPENSIVE AFRAID METHOD(S) CAUSES HIV OTHER SPECIFY _____	1 2 3 4 5 6 7 8 66	**Go to C11 AFTER THIS QN**
C10	What is the main reason why you decided to stop using FP? **SINGLE RESPONSE**	NOT APPROPRIATE/ SIDE EFFECTS/ CONTRAINDICATIONS METHOD NOT AVAILABLE TOLD TO RETURN/AFTER MENSES CHANGED MIND AFTER COUNSELING METHOD FAILED/SUSPECTS PREGNANCY AFRAID METHOD(S) CAUSES HIV WANT TO BECOME PREGNANT INFREQUENT/NO SEX/PARTNER IS AWAY OTHERS DISSAPROVED OF FP USE	1 2 3 4 5 6 7 8 9	**AFTER THIS QUESTION** Go to C17

		OTHER,SPECIFY:_____ 66	
C11	Did you have a FP method in mind that you wanted to start today?	YES 1 NO 2	--> C14
C12	Is this the same method that you received from your provider today?	YES 1 NO 2	--> C14
C13	Why did you receive a different method?	DESIRED METHOD NOT APPROPRIATE/ CONTRAINDICATIONS 1 DESIRED METHOD NOT AVAILABLE 2 TOLD TO RETURN AFTER MENSES 3 CHANGED MIND AFTER COUNSELING 4 SUSPECTS PREGNANCY 5 AFRAID METHOD(S) CAUSES HIV 6 OTHER 66 SPECIFY _____ _____ _____ _____ _____	

No.	Questions	Coding Categories			Go To
C14	What FP method did you either receive or get a prescription or referral for today? **SELECT ALL THAT APPLY**				
		Received	Prescribed	Referred	
a	Female sterilization	1	2		**If any answer is:** **1-->C17**
b	Male sterilization	1	2		
c	IUCD	1	2		
d	Depo Provera	1	2		
e	Implant	1	2		
f	Pills	1	2		
g	Male condoms	1	2		
h	Female condoms	1	2		
i	Emergency contraception	1	2		
j	Standard days method (cycle beads)	1	2		
K	Other	1	2		
l	No method	1			

No.	Questions	Coding Categories	Go To
C15	Do you know where to go to receive your [PRESCRIBED or REFERRED FP METHOD]?	YES 1 NO 2	**If answer is 2--->C17**
C16	Do you have a scheduled visit to receive [REFERRED FP METHOD]?	YES 1 NO 2	
C17	Did your provider talk about STIs with you today?	YES 1 NO 2	
C18	Did your provider talk about HIV risks with you today?	YES 1 NO 2	
C19	Did your provider talk about dual method protection with you today? Dual method protection is the use of condoms plus another FP method.	YES 1 NO 2	

No.	Questions	Coding Categories		Go To
C20	After today's appointment, do you plan to use condoms as a method of STI or HIV protection?	YES NO DON'T KNOW	1 2 88	
C21	After today's appointment, how likely are you to recommend Depo Provera as a FP method to your friends or family members? (Read out the responses)	Very likely Somewhat likely Not likely Will not recommend Don't know	1 2 3 4 88	
C22	When you met with your provider today, they talked to you about Depo Provera. In your own words, can you summarize what you know about the risks associated with Depo Provera use and the increased risk of HIV? **SELECT ALL ANSWERS THAT ARE MENTIONED**. **Probe**: Anything else?	MAY INCREASE RISK OF HIV NOT KNOWN IF IT CAUSES HIGHER RISK OF HIV WOMEN AT RISK OF HIV CAN STILL USE DEPO PROVERA WOMEN AT RISK OF HIV AND ARE USING DEPO PROVERA SHOULD ALSO USE CONDOMS THERE ARE OTHER LONG-ACTING AND EFFECTIVE METHOD OF FP DON'T KNOW Others (write all mentioned) …… …… …… …… …… ……	A B C D E F G	

No.	Questions	Coding Categories	Go To
READ: Now I'm going to read you some statements related to the use of hormonal contraception methods. Please answer TRUE or FALSE to the following statements.			
C23	Hormonal contraceptives, such as implants, pills and Depo Provera, are very effective in preventing unintended pregnancy when used consistently and correctly.	TRUE 1 FALSE 2 DON'T KNOW 8	
C24	Hormonal contraceptives, such as implants, pills and Depo Provera, are very effective in preventing STIs when used consistently and correctly.	TRUE 1 FALSE 2 DON'T KNOW 8	
C25	Dual method use, using a condom with another FP method, will help prevent both unintended pregnancy and HIV/STIs.	TRUE 1 FALSE 2 DON'T KNOW 8	
C26	Using Depo Provera may increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
C27	Using implants may increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
C28	Taking contraceptive pills, such as [common brand], can increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
C29	Women at risk of getting HIV can use any methods of family planning.	TRUE 1 FALSE 2 DON'T KNOW 8	
C30	Women who think they are at risk of getting an STI or HIV should use condoms.	TRUE 1 FALSE 2 DON'T KNOW 8	
C31	Women who think they are at risk of getting HIV and are using Depo Provera should also use condoms.	TRUE 1 FALSE 2 DON'T KNOW 8	
C32	Some research has found that women who use Depo Provera and are exposed to HIV are slightly more likely than other women to get an HIV infection.	TRUE 1 FALSE 2 DON'T KNOW 8	
C33	We do not know whether or not Depo Provera *Causes a* higher risk of HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	

INSTRUCTIONS FOR INTERVIEWER Write down the respondent's answer in the blank space provided. Use bullets, but be sure to capture all important details. I have been asking you close ended questions; I would now like to hear your opinions on the following questions.	
C34	What will you say to your friends OR family about use of Depo Provera after your visit today?
C35	Did you have any unanswered questions or any concerns after your visit today? If yes, what were the questions or concerns?

END OF INTERVIEW This concludes the interview. Thank you for your time and participation in the study.

Provider Interview Tool

Impact of HIV Risk Communication on Hormonal Contraceptive Uptake in Tanzania

PROVIDER INTERVIEW GUIDE

Questionnaire ID Number { } { } { } { } FOR data entry USE ONLY:

Interviewer: _____

Interviewer code { } { } { }

Date (DD/MM/YY): _____/_____/_____

To be filled before the provider interview	
FACILITY IDENTIFICATION	
Name of Facility	
Facility Number	____ ____ ____ ____
Provider Interview Number	FIRST PROVIDER INTERVIEWED.....1 SECOND PROVIDER INTERVIEWED.....2 THIRD PROVIDER INTERVIEWED.....3
Region	IRINGA 1 NJOMBE 2
District	**IRINGA** IRINGA MC 1 IRINGA DC 2 KILOLO DC 3 MAFINGA DC 4 **NJOMBE** 5 MAKAMBAKO TC 6 NJOMBE TC 7 MAKETE DC

Type of Facility	REGIONAL HOSPITAL 1 DISTRICT HOSPITAL 2 DISTRIC-DESIGNATED HOSPITAL 3 HEALTH CENTRE 4

Introduction and Consent

Hello. My name is_____. I am working with_____.
We are conducting a study about family planning counseling messages and contraceptive uptake in Tanzania. We hope this study will help improve family planning services, specifically counseling messages that are provided as part of family planning clinic visits.

We would like to ask you some questions about your experience with delivering the new counseling messages to your clients.
Now let me take you through consent form before we proceed with the interview.

_____ _____
Interviewer's Signature Date
(Sign if respondent agreed to participate)

No.	Questions	Coding Categories	Go To
READ: To start, I would like to ask a few general questions about you.			
P1	Record the sex of the provider	FEMALE 1 MALE 2	
P2	What is your current title or position?	NURSE 1 CLINICAL OFFICER 2 OTHER,SPECIFY: 3 _____	
P3	How long have you been working as a [CURRENT POSITION]?	YEARS _____ MONTHS _____	
P4	How long have you been working at this facility?	YEARS _____ MONTHS _____	

No.	Questions	Coding Categories	Go To
READ: The rest of the interview will be about the new counseling messages on Depo Provera use and HIV risk. We will start with an open-ended question.			
P5	In your own words, can you summarize the new counseling messages on Depo use and HIV risk? **MARK EACH OF THE FOLLOWING STATEMENTS IF *CORRECTLY* MENTIONED BY CIRCLING THE LETTER THAT CORRESPONDS TO THE STATEMENT.** **DO NOT READ ANSWER OPTIONS OUT LOUD.** **WRITE DOWN ANY INCORRECT STATEMENTS BELOW.**		
		CORRECTLY MENTIONED	
	DEPO PROVERA MAY INCREASE THE RISK OF HIV	A	
	IT IS NOT KNOWN IF DEPO PROVERA CAUSES HIGHER RISK OF HIV	B	
	OTHER CONTRACEPTIVES (SUCH AS PILLS/ COCs AND IMPLANTS) DO NOT APPEAR TO INCREASE RISK OF HIV	C	
	WOMEN AT RISK OF HIV CAN STILL USE ANY METHODS OF FP	D	
	WOMEN AT RISK OF HIV WHO ARE USING DEPO PROVERA SHOULD ALSO USE CONDOMS	E	

Use this space to write down any incorrect statements and observations.
(IN BULLET FORM)

No.	Questions	Coding Categories	Go To
READ: Please answer TRUE or FALSE to the following statements.			
P6	Hormonal contraceptives, such as implants, pills and Depo Provera, are very effective in preventing unintended pregnancy when used consistently and correctly.	TRUE 1 FALSE 2 DON'T KNOW 8	
P7	Hormonal contraceptives, such as implants, Pills and Depo Provera, are very effective in preventing STIs when used consistently and correctly.	TRUE 1 FALSE 2 DON'T KNOW 8	
P8	Dual method use, using both a condom with another FP method, will help prevent both unintended pregnancy and HIV/STIs.	TRUE 1 FALSE 2 DON'T KNOW 8	
P9	Using Depo Provera may increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
P10	Using implants may increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
P11	Taking contraceptive pills, can increase a woman's risk of getting HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
P12	Women at risk of getting HIV can use any methods of family planning.	TRUE 1 FALSE 2 DON'T KNOW 8	
P13	Women who think they are at risk of getting an STI or HIV should use condoms.	TRUE 1 FALSE 2 DON'T KNOW 8	
P14	Women who think they are at risk of getting HIV and are using Depo Provera should also use condoms.	TRUE 1 FALSE 2 DON'T KNOW 8	
P15	Some research has found that women who use Depo Provera and are exposed to HIV are slightly more likely than other women to get an HIV infection.	TRUE 1 FALSE 2 DON'T KNOW 8	
P16	We do not know whether or not Depo Provera *Causes* higher risk of HIV.	TRUE 1 FALSE 2 DON'T KNOW 8	
P17	All women, regardless of HIV status, have the right to choose the number, timing and spacing of their pregnancies.	TRUE 1 FALSE 2 DON'T KNOW 8	

No.	Questions	Coding Categories	Go To
P18	Did you receive the Technical Update Training on August 27 – 28 for the new counseling messages?	YES 1 NO 2	-->P25
READ: I would like to know more about your experience at the Technical Update Training on August 27 & 28. Please tell me, if you AGREE DISAGREE OR ARE NEUTRAL to the following statements Remember, the statements are in reference to your experience and the information you received during the training.			
P19	The information about WHO's new guidance on hormonal contraceptives for women at high risk of HIV was easy to understand during training.	AGREE 1 NEUTRAL 2 DISAGREE 3	
P20	The new counseling messages about increased risk for HIV acquisition among women using Depo were easy to understand during training.	AGREE 1 NEUTRAL 2 DISAGREE 3	
P21	The guidelines on how to communicate the new counseling messages with clients were easy to understand during training.	AGREE 1 NEUTRAL 2 DISAGREE 3	
P22	The instructions on how to use the new ***flip chart page*** as a job aid were easy to understand during training.	AGREE 1 NEUTRAL 2 DISAGREE 3	
P23	The instructions on how to use the new ***FAQ booklet*** was easy to understand during training.	AGREE 1 NEUTRAL 2 DISAGREE 3	
P24	The training adequately prepared you to implement the new counseling messages.	AGREE 1 NEUTRAL 2 DISAGREE 3	
READ: Now, I would like to ask about your experience with delivering the new counseling messages to clients over the past [1-3] months.			
P25	Are job aids, specifically the ***flip chart page, the FAQ booklet,*** and ***the wall chart***, used during FP counseling at this facility? **SELECT ALL THAT ARE USED or NONE**	FLIP CHART PAGE A FAQ BOOKLET B WALL CHART C NONE ARE USED Y	-->P29
P26	if possible, can I see the job aids that are used during FP counseling at this facility? **SELECT ALL THAT ARE VERIFIED or NONE** (ASK ONLY THOSE THAT ARE BEING USED IN P25)	FLIP CHART PAGE, VERIFIED A FAQ BOOKLET, VERIFIED B WALL CHART, VERIFIED C NONE, VERIFIED Y	
P27	**ONLY ASK IF P25 = A** How often do you use the ***flip chart page*** When counseling clients on their FP options?	NEVER 1	

		SOMETIMES 2 MOST OF THE TIME 3 ALWAYS 4	
P28	**ONLY ASK IF P25 = B** How often do you use the ***FAQ booklet*** when counseling clients on their FP options?	NEVER 1 SOMETIMES 2 MOST OF THE TIME 3 ALWAYS 4	

No.	Open-Ended Questions
READ: The rest of the questions are open-ended questions about your experience with delivering the new counseling messages. As previously mentioned, this section will be audio recorded. May I start the recording now? INSTRUCTION: Once recording has started, repeat the Facility Number and Provider Interview Number from Page 1 of the interview.	
P29	How confident are you in your understanding of WHO's new guidance on use of hormonal contraception for women at risk of HIV? *Probe1: Are there any parts that you do not understand?* *Probe 2: What questions or concerns do you have about the content of the new counseling messages?*
P30	How comfortable are you with communicating the WHO's new guidance on Hormonal Contaception for women at risk of HIV? *Probe 1: Are some key messages more difficult to explain to clients than others?* *Probe 2: Are you comfortable recommending dual method or other long-lasting methods to clients at risk of HIV?*
P31	How well do you think clients understand the new counseling messages? *Probe 1: What common questions do clients have after you discuss the new counseling messages?* *Probe 2: Are some key messages more difficult for clients to understand than others?*

No.	Open-Ended Questions
P32	How do clients generally respond (or react) after hearing the new counseling messages? *Probe 1: What common concerns do clients have after you discuss the new counseling messages, if any?* *Probe 2: In your opinion, are clients opting out of Depo Provera because of the new counseling messages? If yes, why?*
P33	In your opinion, how can the new counseling messages be improved? *Probe 1: For clarity?* *Probe 2: For better provider-client interaction/communication?* *Probe 3: To ensure clients' understanding?* *Probe 4: Do you have suggestions on other job aids that can help you better communicate the new counseling messages to clients?* *Probe 5: Do you feel your training on the new counseling messages was sufficient? If not, how could it be improved?*
P34	How long on average, does it take to deliver the new counseling messages? Is this an acceptable amount of time?

P35	How do you determine which women should/ should not receive the new counseling messages?
P36	Do you have recommendations on introducing these counseling messages to all FP service Providers in Tanzania? **Probe:** Is there anything else you would like to say or any comment on the new messages?

END OF INTERVIEW
This concludes the interview. Thank you for your time and participation in the study.

Facility Data Extraction Tool

Impact of HIV Risk Communication on Hormonal Contraceptive Uptake in Tanzania

FACILITY DATA EXTRACTION TOOL

FACILITY IDENTIFICATION	
Name of Facility	
Facility Number	___ ___ ___ ___ ___
Region	IRINGA 1 NJOMBE 2
District	Iringa MC 1 Iringa DC 2 Kilolo DC 3 Mafinga DC 4 Makaambako TC 5 Njombe TC 6 Makete DC 7
Type of Facility	REGIONAL HOSPITAL 1 DISTRICT HOSPITAL 2 DISTRICT-DESIGNATED HOSPITAL 3 HEALTH CENTRE 4
Interviewer Code	☐☐
Date (DD/MM/YYYY)	☐☐ ☐☐ ☐☐☐☐

FACILITY DATA EXTRACTION
"FOMU YA MUOANISHO YA KITABU CHA 8: REJESTA YA UZAZI WA

Instructions

1. Ask for the facility's monthly family planning reporting form, "**FOMU YA MUOANISHO YA KITABU CHA 8: REJESTA YA UZAZI WA MPANGO**," for months **September 2017 through November 2018**. There should be 15 monthly reports total, one for each month on this spreadsheet.
2. For each monthly summary, record the TOTAL number of clients that received the following FP methods.

		2017				2018										
Row (on form)	**Total No. Clients that received…**	**SEPT**	**OCT**	**NOV**	**DEC**	**JAN**	**FEB**	**MAR**	**APR**	**MAY**	**JUN**	**JUL**	**AUG**	**SEPT**	**OCT**	**NOV**
1a	**Injections**: Idadi ya Wateja wa Sindano															
2a	**Pills**: Idadi ya wateja wa Vidonge Kituoni															
3b	**Condoms**: Idadi ya wateja waliochukua kondom Kituoni Ke (females)															
5a	**Implants**: Kuweka vipandikizi - kituoni															
6a	**IUCD**: Kuweka Kitanzi - kituoni															
9b	No. Condoms distributed: Idadi ya kondomu zilizogawiwa Kituoni Ke (Females)															

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