Developing a digital marketplace for family planning: Results of a pilot randomized encouragement trial

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Abstract

Background: Family planning is an effective tool for preventing death among women who do not want to become pregnant and has also been shown to improve newborn health outcomes, advance women's empowerment, and bring socioeconomic benefits through reductions in fertility and population growth. Yet among the populations that would benefit the most from family planning, uptake remains too low. The emergence of digital health tools have created new opportunities to strengthen health systems and promote behavior change. In this study, women with an unmet need for family planning in Western Kenya were randomized to receive an encouragement to try an investigational digital health intervention.

Objective: The objectives of the pilot study were to explore the feasibility of a full-scale trial—in particular the recruitment, encouragement, and follow-up data collection procedures—and to examine the preliminary effect of the intervention on the take-up of contraception.

Methods: This pilot study tested the procedures for a randomized encouragement trial. We recruited 112 women with an unmet need for family planning from local markets in Western Kenya, conducted an eligibility screening, and randomized half of the women to receive an encouragement to try the investigational intervention. Four months after encouraging the treatment group, we attempted to conduct a follow-up survey with all enrolled participants.

Results: The encouragement sent via text message to the treatment group led to differential rates of intervention uptake between the treatment and control groups, but take-up among the treatment group was lower than anticipated (33.9% vs 1.8% in the control group). Study attrition was also substantial. We obtained follow-up data from 44.6% of enrolled participants. Among those in the treatment group who tried the intervention, however, instrumental variables estimate of the Local Average Treatment Effect was an increase in the probability of contraceptive take-up of 41.0 percentage points.

Conclusions: This randomized encouragement design and study protocol is feasible but requires modifications to the encouragement and follow-up data collection procedures. The

investigational intervention appears to have a positive impact on contraceptive take-up among women with an unmet need despite a number of contextual challenges.

Pilot Trial Registration: ClinicalTrials.gov NCT03224390.

Keywords: family planning, unmet need, contraception, digital health, Kenya

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Introduction

Pregnancy exposes women to the risk of maternal death, and family planning is an effective tool for preventing death among women who do not want to become pregnant [1]. First, by preventing unintended pregnancies, contraception use reduces deaths caused by unsafe abortions. Second, contraception use leads to fewer high-risk pregnancies among adolescents and women over the age of 35. For the 12-month period ending July 2017, contraceptive use across 69 focal countries included in the global initiative FP2020 is estimated to have prevented 84 million unintended pregnancies, averted 26 million unsafe abortions, and saved 125,000 women from maternal deaths [2]. Voluntary family planning has also been shown to improve newborn health outcomes, advance women's empowerment, and bring socioeconomic benefits through reductions in fertility and population growth [1].

Yet among the populations that would benefit the most from family planning, uptake remains too low. In the five years that have passed since the FP2020 initiative launched at the London Summit on Family Planning in 2012, an additional 38.8 million women and girls across the 69 focal countries began using a modern method of contraception [2]. This progress is above historic trends, but substantially off the pace required to meet the goal of adding 120 million new users by 2020. Across these focal countries, 1 out of every 5 married women of reproductive age would like to prevent or delay childbirth but is not using a modern method of contraception.

This indicator is referred to as unmet need for modern contraception, and it represents a measure of access to family planning. In Kenya, for instance, 17.2% of currently married or in-union women of reproductive age [3] and 26.4% of sexually active unmarried women [4] have an unmet need for family planning. This translates into approximately 1.3 million women in the country who are not using contraception but say they would like to avoid

pregnancy.[1] According to the same nationally representative study, millions of others are either unaware of the potential benefits of contraception, misinformed about the full range of modern methods available, or unsatisfied with previous experiences using contraception. Taken together, this presents a promising opportunity to significantly reduce the current unmet need for family planning and to expand the market.

Traditional approaches to promoting the take-up of family planning focus on demand generation activities, and supply-side activities, or a mixture of both. Demand generation can include mass media advertising, interpersonal communication, and development approaches such as conditional cash transfer programs. Supply-side interventions often include efforts to improve service access, quality, and cost. A systematic review of 63 published evaluations of family planning interventions concluded that development approaches and supply-side interventions had the most consistent effect on contraceptive use [5], but the overall quality of the evidence was low.

The emergence of digital health tools such as short message service (SMS), interactive voice response, and smartphone applications have created new opportunities to strengthen health systems and promote behavior change [6,7], but the evidence base remains weak. As is the case in non-digital interventions [5], studies of digital health tools have found that it is easier to increase knowledge than it is to achieve behavior change [8].

This pilot study represents another effort to promote behavior change through the use of an SMS intervention. Women with an unmet need for family planning in Western Kenya were randomized to receive an encouragement to try an investigational digital health intervention. The objectives of the pilot study were to explore the feasibility of a full-scale trial—in particular the recruitment, encouragement, and follow-up data collection procedures—and to examine the preliminary effect of the intervention on the take-up of contraception.

[1] In the 2014 Kenya DHS, 59.7% of women ages 15 to 49 were classified as married or in-union and 1.9% unmarried but sexually active. The current population of women ages 15 to 49 is approximately 11.8 million.

Methods

This was an external pilot study [9,10] conducted to inform the design and implementation of a separate full-scale trial. The study design was a randomized encouragement trial.

Setting and Participants

The target population for this study was Kenyan women who had an unmet need for family planning; that is, women who were not using family planning but wished to delay or prevent pregnancy. The accessible population was limited to women with an unmet need living in Bungoma county, Kenya.

Recruitment and eligibility screening. Over a period of 4 weeks in 2017, from July 12 until August 6, we conducted recruitment exercises five days per week at 1 of 6 open-air markets throughout the county.[2] Our market stall advertised an opportunity to participate in the "Bungoma County Women's Health Study". A team of four female study team members, all Kenyan, staffed the study table and screened women for eligibility.

To be eligible to enroll in the study, women had to meet several criteria: (a) be between the ages of 18 and 35 (inclusive); (b) have an unmet need for family planning; (c) live in Bungoma county; (d) demonstrate phone ownership; (e) opt-in to receiving calls and/or SMS messages related to the study; (f) demonstrate basic ability to operate study tablet; and (g) consent to participate in the study. Women who were pregnant or less than four months postpartum were excluded.

To begin the screening with an interested woman, a member of the study team asked the woman her age and her county of residence. To continue to the second stage of screening, the woman had to show the enumerator that she received a test SMS message from the study

[2]We identified 21 primary (10) and secondary (11) market venues in Bungoma county and selected 5 primary and 1 secondary markets that maximized geographical coverage and market volume. We visited each market on its "market day", the day of the week when foot traffic peaks. Market days for the selected markets were Sunday, Monday, Wednesday, Thursday, and Friday. Our team visited two markets on Fridays.

shortcode. In the second phase of screening, the enumerator asked the woman if she was pregnant or currently using any method of family planning to prevent or delay pregnancy.

If the woman was eligible to move to the third stage of screening, the enumerator demonstrated how to use the tablet computer to complete the survey via ACASI (audio computer assisted self-interview). The screening survey text and audio was available in English and Swahili. The woman had to demonstrate proficiency in an example exercise to continue to the full screening. Enumerators were on hand to assist participants who needed help using the tablet.

Unmet need. In the third and final phase of screening, the woman completed the baseline survey to enable us to classify her unmet need status and to collect relevant background information. The baseline survey instrument included several modules from the 2014 Kenya Demographic and Health Survey (Phase 7, short form), including household characteristics, respondent's background, reproduction, contraception, and marriage and sexual activity [3].

In defining unmet need for this study, we followed guidelines published by the Demographic and Health Survey Program (DHS, revised 2012) [11] and other relevant scholarly reviews [12]. A woman was classified as having an unmet need if she reported no current use of contraception, was not identified by the survey as infecund, and said she did not want to be pregnant for at least two years. A woman could also be classified as having an unmet need if she was postpartum amenorrheic and reported that she did not want her last birth at all or wanted to become pregnant later than she did. We further classified women as having an unmet need for limiting (does not want to become pregnant at all) or spacing (wants to delay pregnancy for at least two years). We also extended this classification of unmet need to woman who were not married or in a union if they reported being sexually active in the past month, thus making them at risk for pregnancy. See our Supplementary Materials for survey questions and a detailed algorithm for determining unmet need.

Enrollment. If the woman was eligible to participate in the study based on her responses to the screening, the tablet prompted the enumerator to review the informed consent form with her. If she consented to participate, the enumerator recorded her name and contact details in the study register. Every woman who completed the screening received an honorarium of Ksh 200 (approximately USD $2) to appreciate her time and effort, regardless of whether she was eligible to participate in the study or consented to participate. Ineligible women were not informed about the specific reason that they were ineligible to prevent others from determining what answers would trigger eligibility. See the participant flow diagram presented in Figure 1 for details.

Intervention

The investigational intervention was a digital health marketplace for family planning called Nivi [13]. At the time of the study, any woman (or man) in Bungoma county could send a toll-free SMS message to the Nivi service to ask a question about reproductive health or trigger a free callback to complete an automated family planning counseling session via interactive voice response. This screening resulted in a set of recommended methods that fit the client's preferences and goals, along with referrals to local public and private providers offering one or more of these methods. After a period of time, clients were prompted to provide details about their experience with family planning providers and were eligible to receive a transportation voucher (approximately USD $2) as a nudge toward behavior change.

Experimental Design and Randomization

Since the service was available to anyone living in Bungoma county, it was not possible to restrict access and estimate impact of the service through a randomized controlled trial. In situations like this, a randomized encouragement design can be very effective [14]. In a randomized encouragement design, participants are randomized to receive an invitation or special encouragement to receive an intervention. Not everyone who is encouraged will try the intervention (and some who are not invited will try on their own), but as long as those

randomly assigned to receive the encouragement—"the treatment group"—try the intervention at a higher rate than those not encouraged—the "control group"—it is possible to estimate the impact of the intervention. This design has been used to study a variety of interventions where two-sided non-compliance is possible [15–18].

In this pilot trial, we randomly allocated the sample of 112 enrolled women to the treatment or control arm (1:1). At the end of the recruitment period, the first author used the `blockTools` package [19] in R [20] to block randomization on age and baseline indicators of having attended postsecondary schooling, previous use and discontinuation of contraception, and being married or living in a union. One month after the end of the recruitment period, on October 2, 2017, women randomized to the encouragement arm received an invitation via SMS to text the service and complete a free family planning screening (plus bonus phone credit of approximately USD $2, not conditional on use of the service). Women randomized to the control arm received a different set of messages thanking them for participating in the study; the control messages did not mention the investigational service.

Outcome Data Collection

We conducted a follow-up survey between February 14 and March 13, 2018, approximately four months after we invited the treatment group to try the service. Participants could complete the survey for free via SMS in their preferred language or choose to receive a free callback from a study enumerator to complete the survey over the phone. Any woman who attempted SMS but experienced an error was flagged for enumerator follow-up. The study enumerator was blind to each participant's assignment until the end of the survey. We sent up to four SMS reminders to study participants who did not reply. Women who completed the survey received an honorarium of Ksh 200 (approximately USD $2) to appreciate their time and effort.

The primary outcome under investigation was self-reported use of a modern method of

contraception [21] since the baseline survey.[3] This included women who adopted and subsequently discontinued a method during this period. We obtained a binary indicator of attempted service use by querying the system logs for participant phone numbers. If a participant's phone number was present in the system logs, we coded her as having tried the service.

Statistical Methods

Because encouragement designs lead to two-sided non-compliance, we planned to use instrumental variables regression to obtain an unbiased Local Average Treatment Effect (LATE) of the impact of service use on contraceptive uptake. We used the `AER` [22] package in R [20] to estimate LATE via two-stage least squares regression. In the first stage, we regressed the indicator of service use on the instrumental variable—a binary indicator of random assignment to the treatment group. In the second stage, we regressed the primary outcome of contraceptive uptake on the predicted values of service use from the first stage regression. Both regressions included baseline controls and the mode of follow-up survey. We used the `ivpack` [23] package to obtain corrected Huber-White standard errors. Results of non-linear specifications are presented in the Appendix.

One aim of the study was to test the recruitment procedures and examine the potential for attrition. We based the target sample size for the full trial on the assumption that a sample size of 50 would be needed in an individually randomized trial (25 per arm) to detect a difference in contraception uptake of 30 percentage points between the control group (10%) and the treatment group (40%), given alpha of 5%, power of 80%, and a one-tailed test. We increased this sample size estimate by a factor of 2.8 to account for the fact that only a subset of the treatment group was expected to take up the intervention (70%) and that there would be a differential rate of service uptake in the control group that was not encouraged (10%). The inflation factor was $1/(0.7 - 0.1)^2$, producing an adjusted target sample size of 139 [24].

[3] The reference point for the start of the recall period was the national election conducted on August 8, 2017, several days after the end of the baseline survey.

Ethical Review

Institutional Review Boards at Duke University and Moi University reviewed and approved this study protocol. This pilot study is registered with ClinicalTrials.gov (NCT03224390).

Results

Participant Characteristics

As shown in Figure 1, we assessed 772 women for eligibility and enrolled 112. A total of 660 women were excluded because they did not meet the inclusion criteria; 33.0% of excluded women had a met need for contraception.

Table 1 summarizes characteristics of the enrolled sample. The average age of participants was 24.7 (SD=4.8 years). The majority of women in the study were married or in a union, and two-thirds reported previous pregnancies. The average woman gave birth to 1.6 (SD=1.6) children and desired to have a total of 3.6 (SD=1.3) children. Therefore, most reported an unmet need for spacing rather than limiting. As is typical of women in Bungoma county according to the most recent DHS, the women in this study were familiar with family planning methods. Most women indicated that they had recently been exposed to family planning messages in the media, and the average woman said she had heard of 9.6 (SD=2.2) out of 12 methods assessed.

Intervention Take-Up

The randomized encouragement design had only a modest effect on the probability of trying the intervention. Four months after the treatment group was encouraged via SMS to try the service, 19 women (33.9%) in the treatment group initiated a session. This compares to 1 women (1.8%) in the control group. The encouragement did produce a differential rate of take-up of 32.1 percentage points, but the difference was smaller than anticipated.

Table 2 shows the correlates of intervention use among the treatment group. Age was negatively associated with use, which was expected. No other baseline characteristics of participants were significantly associated with use.

Study Attrition

As shown in Figure 1, there was a substantial amount of attrition. We obtained follow-up data from 44.6% of enrolled participants. Table 3 shows that attrition was higher among the control group, but this difference was not statistically significant at conventional levels. Attrition was significantly associated with a few baseline characteristics, including post-secondary education, nulligravida, and mean number of children born; found participants were more likely to have attended post-secondary schooling, have never been pregnant, and have fewer children. The impact analysis controls for these baseline characteristics and the mode of survey administration. Slightly more than half of these participants (56.0%) completed the follow-up survey via SMS (versus via phone call with a study enumerator). Missing follow-up observations were imputed with baseline values (last observation carried forward), which in this study was no contraceptive use on study entry.

Effects of Intervention Use

Table 4 presents preliminary evidence of the impact of the investigational intervention on contraception adoption. Assignment to the treatment group led to an increase of 12.7 percentage points in the likelihood of contraception use. Among actual users of the intervention, the instrumental variables estimate suggests that this effect was 41.0 percentage points. The sign of the instrumental variables estimate appears to be positive, but the confidence interval is wide.

Two additional specifications are presented in the Appendix. Table A1 displays the OLS estimates produced without the use of last observation carried forward imputation. In these models, the estimates and confidence intervals are slightly larger than what is

presented in Table 4. Table A2 presents the results of probit regressions; the results of these non-linear specifications are consistent with the linear results presented in Table 4.

Discussion

This pilot study demonstrates that the proposed recruitment, encouragement, and data collection procedures are feasible, but some modifications are necessary prior to conducting a full trial. Additionally, analysis of the pilot data suggests that the investigational intervention has a positive effect on contraceptive take-up among women with an unmet need in Kenya, but a full trial is required to more precisely estimate the magnitude of this effect.

During a recruitment period that lasted four weeks, we screened 772 women for eligibility, but only enrolled 14.5% in the study. At this rate, it would have taken another week to reach our original target sample size. While this approach was feasible in terms of time and resources, it was inefficient in two ways. First, two-thirds of women who were ineligible to enroll did not meet basic eligibility criteria such as age, residence, and phone ownership. Screening out these women was not time intensive, but we could have eliminated some work and inconvenience to interested women by more clearly stating the criteria on the market stall signage. Second, 1 out of every 3 ineligible women were ineligible because they did not have an unmet need for family planning. To some extent this was unavoidable because we did not recruit directly for women with an unmet need, but rather embedded checks for eligibility in a short screening available to all women in the eligible age range. However, in a future trial it may be advantageous to recruit from other sub-populations in addition to open-air markets to increase the probability that the pool of potential participants will have an unmet need. For instance, recruiting from post-secondary institutions would enable us to reach younger, unmarried women who may be sexually active but not using contraception. Postnatal clinics are another potential venue for recruitment as there is a high unmet need among new mothers in this region.

We used a randomized encouragement design to account for expected two-sided

non-compliance with treatment assignment. Women assigned to the treatment group received an invitation via text message to try the intervention, and 33.9% of those invited accepted the invitation, a conversion rate that appears to be consistent with SMS marketing conversion rates observed in industry [25]. By comparison, 1.8% of control participants tried the intervention. The encouragement led to a differential rate of intervention take-up of 32.1 percentage points, thereby making causal identification possible using assignment to treatment as an instrument.

The intervention take-up rate is important because incomplete take-up requires an inflation of sample size estimates that are based on fixed parameters for power, alpha, and the desired minimal detectable effect size for traditional randomized controlled trials. Another important consideration for the optimal sample size is attrition. In this study, 44.6% of enrolled participants completed the follow-up survey via SMS or phone call with a study enumerator. We did not collect detailed tracking information from participants during the recruitment process, so we could only invite participants to complete the survey via SMS. In a future trial, it will be important to have the option to conduct in-person follow-up to reduce study attrition. Other studies that relied solely on SMS-invite as we did have encountered similar challenges [8].

A third key consideration for sample size calculations is the minimal detectable effect size. In this study, the instrumental variables estimate of the treatment effect was an increase in the likelihood of contraception take-up of 41.0 percentage points among treatment group members who tried the intervention. This is an approximate standardized effect size of 1.1. This is only a point estimate, however. The 95% confidence interval is wide. While the results suggest that the intervention effect is positive, the point estimate is not measured precisely. The effect observed in this study would be large relative to other SMS interventions for health behavior change [8,26], so it will be important to use a more conservative estimate to determine the optimal sample size for the full trial.

Limitations

The main limitation of this study is attrition. While attrition was not significantly associated with treatment assignment, found and unfound participants differed on a few baseline characteristics. The preliminary impact analysis controls for these differences, but selection bias is a concern. Our reliance on self-reported data, while standard for a trial like this, also has the potential for bias.

As this study was conducted in only one, largely rural county in Kenya, the results may not generalize to urban or international markets. Additionally, the study was conducted at a unique and challenging time. A few days after the end of the recruitment period, Kenyans voted in a national election that was ultimately nullified by the Supreme Court. A second election took place on October 26, 2017, roughly two weeks after the treatment group was encouraged to try the intervention. Then in early November, a 5-month national nurse's strike came to an end, and nurses around the country—including the bulk of the country's family planning service providers—returned to work. In short, the pilot study was conducted during a period of uncertainty, likely distrust of SMS marketing amid heavy political advertising, and a significant decrease in the availability of family planning providers.

Conclusions

This randomized encouragement design and study protocol is feasible but requires modifications to the recruitment, encouragement, and follow-up data collection procedures. The investigational intervention appears to have a positive impact on contraceptive take-up among women with an unmet need despite a number of contextual challenges running concurrent to the trial.

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Conflicts of Interest

Eric Green is a Co-Founder of Nivi, Inc., holds an equity stake in the company, is a member of the company's Board of Directors, and serves as the company's Chief Scientist. Green is a faculty member in the Duke Global Health Institute. Duke University also holds an equity stake in the company. Green's potential conflicts of interest are managed by Duke University's Research Integrity Office (MP#0600050-2017-001-A).

Abbreviations

ITT: Intent-to-treat

IV: Instrumental variables

DHS: Demographic and Health Survey

LATE: Local Average Treatment Effect

SMS: short message service

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Table 1
Participant characteristics

Characteristic	Control	Treatment	Kenya DHS 2014 Reference	
			Value	Group
Mean age (SD)	24.9 (4.6)	24.6 (5.0)		
Married or in union, %	55.4	60.7	59.7	all women, national, 20-24
Christian, %	96.4	94.6	91.4	all women, national, 15-49
Luhya tribe, %	75.0	78.6	15.0	all women, national, 15-49
Attended post-secondary schooling, %	19.6	17.9	7.2	all women, Bungoma, 15-49
No schooling, %	3.6	0.0	0.9	all women, Bungoma, 15-49
Nulligravida, %	30.4	33.9	35.3	all women, national, 20-24
Mean number of children born (SD)	1.7 (1.6)	1.5 (1.6)	1.1	all women, national, 20-24
Mean number of desired children (SD)	3.7 (1.4)	3.4 (1.1)	3.6	all women, national, 15-49
Unmet need for spacing, %	78.6	82.1	90.5	currently married women[a], national, 15-49
Past use of family planning, %	75.0	67.9	30.5	all women[b], national, 15-49
Mean number methods known (SD)[c]	9.7 (1.9)	9.4 (2.5)	8.7	all women, national, 15-49
Not exposed to family planning messages, %[d]	21.4	17.9	18.9	all women, Western, 15-49

Note. [a] currently married women with an unmet need for family planning. [b] women who started an episode of contraceptive use within the five years preceding the survey and discontinued within 12 months. [c] Asked about knowledge of 12 different methods. [d] Did not hear or see a family planning message on radio, on television or in a newspaper or magazine in the past few months.

Table 2
Correlates of intervention take up (among treatment group)

	Dependent variable:
	Tried intervention
Age	−0.04* (0.02)
Is married or in a union	−0.16 (0.20)
Identifies as Christian	0.44 (0.33)
Identifies as member of Luhya tribe	−0.01 (0.18)
Attended post-secondary schooling	0.20 (0.17)
Is nulligravida	0.09 (0.24)
Number of children born	0.04 (0.10)
Desired number of children	0.06 (0.09)
Has unmet need for spacing	−0.03 (0.24)
Past use of family planning	−0.26 (0.17)
Number of methods known	0.01 (0.03)
Not exposed to family planning messages	−0.19 (0.20)
Constant	0.71 (0.58)
Mean of dependent variable	0.34
Observations	56
R^2	0.28
Adjusted R^2	0.08
Residual Std. Error	0.46 (df = 43)
F Statistic	1.40 (df = 12; 43)

Notes: Sample limited to women randomly assigned to the treatment group. Coefficients estimated through linear probability model regression. Standard errors in parentheses.
*p<0.1; **p<0.05; ***p<0.01

Table 3
Baseline participant characteristics by follow-up status

Characteristic	Not Found (n=62)	Found (n=50)	p-value
Assigned to treatment, %	43.5	58.0	0.183
Mean age (SD)	25.0 (5.0)	24.4 (4.6)	0.535
Married or in union, %	62.9	52.0	0.332
Christian, %	93.5	98.0	0.500
Luhya tribe, %	75.8	78.0	0.962
Attended post-secondary schooling, %	11.3	28.0	0.045**
No schooling, %	3.2	0.0	0.573
Nulligravida, %	24.2	42.0	0.071*
Mean number of children born (SD)	1.8 (1.7)	1.2 (1.3)	0.041**
Mean number of desired children (SD)	3.7 (1.4)	3.4 (1.1)	0.132
Unmet need for spacing, %	75.8	86.0	0.267
Past use of family planning, %	74.2	68.0	0.609
Mean number methods known (SD)[a]	9.4 (2.3)	9.8 (2.1)	0.307
Not exposed to family planning messages, %[b]	22.6	16.0	0.527

Note. Two-sample t-tests of mean differences and two-proportions z-tests of differences in proportions.
[a] Asked about knowledge of 12 different methods. [b] Did not hear or see a family planning message on radio, on television or in a newspaper or magazine in the past few months.
*p<0.1; **p<0.05; ***p<0.01

Table 4
Impact on contraception adoption

	First stage Tried intervention	*ITT estimation* Adopted contraception	*IV estimation* Adopted contraception
	(1)	(2)	(3)
Assigned to treatment	0.31***	0.13*	
	(0.19, 0.44)	(−0.01, 0.26)	
Tried intervention			0.41*
			(−0.03, 0.85)
Mean in control group	0.02	0.16	
Includes controls	Yes	Yes	Yes
Observations	112	112	112

Notes: The first stage regression estimate (Column 1) is the coefficient on assignment to treatment from an OLS regression of intervention use on assignment. The intent-to-treat (ITT) estimate (Column 2) is the coefficient on assignment to treatment from an OLS regression of contraception adoption on assignment. The instrumental variables (IV) estimate (Column 3) is the coefficient on intervention use in a two-stage least squares regression of contraception adoption on assignment and intervention use. Controls include an indicator for mode of follow-up survey administration and several baseline characteristics, including: age, number of children born, and indicators for having attended post-secondary schooling, past use of family planning, being married or in a union, and nulligravida. Corrected Huber-White standard errors.
*p<0.1; **p<0.05; ***p<0.01

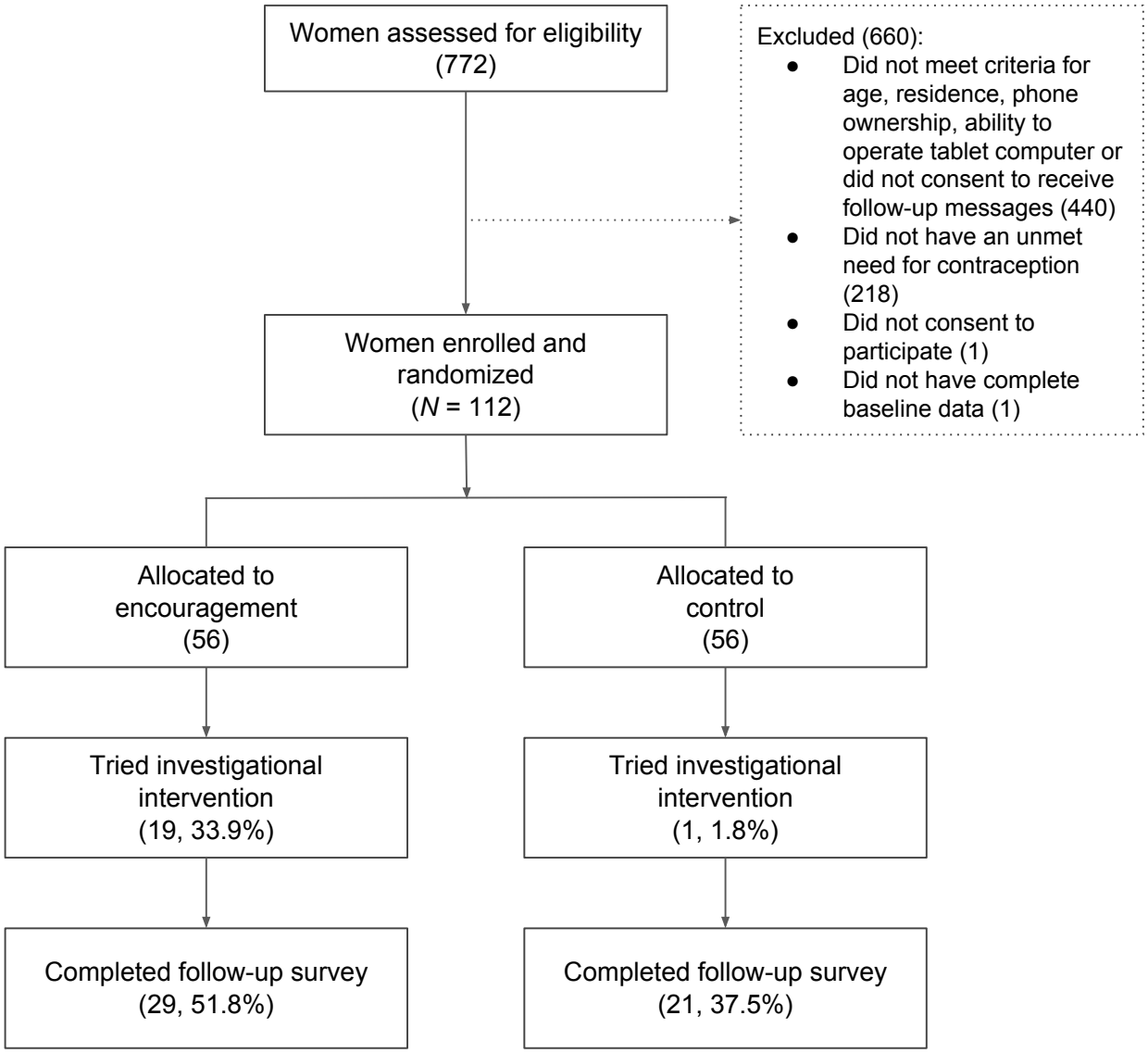

Figure 1. Participant flow diagram.

Appendix A

Table A1
Impact on contraception adoption, sample limited to found at follow-up

	First stage Tried intervention	*ITT estimation* Adopted contraception	*IV estimation* Adopted contraception
	(1)	(2)	(3)
Assigned to treatment	0.31***	0.20	
	(0.19, 0.44)	(−0.07, 0.47)	
Tried intervention			0.44
			(−0.15, 1.03)
Mean in control group	0.02	0.43	
Includes controls	Yes	Yes	Yes
Observations	112	50	50

Notes: The first stage regression estimate (Column 1) is the coefficient on assignment to treatment from an OLS regression of intervention use on assignment. The intent-to-treat (ITT) estimate (Column 2) is the coefficient on assignment to treatment from an OLS regression of contraception adoption on assignment. The instrumental variables (IV) estimate (Column 3) is the coefficient on intervention use in a two-stage least squares regression of contraception adoption on assignment and intervention use. Controls include an indicator for mode of follow-up survey administration and several baseline characteristics, including: age, number of children born, and indicators for having attended post-secondary schooling, past use of family planning, being married or in a union, and nulligravida. Corrected Huber-White standard errors.
*p<0.1; **p<0.05; ***p<0.01

Table A2
Impact on contraception adoption, probit regression

	First stage Tried intervention	*ITT estimation* Adopted contraception	*IV estimation* Adopted contraception
	(1)	(2)	(3)
Assigned to treatment	1.71***	0.68**	
	(0.54, 2.89)	(0.03, 1.34)	
Tried intervention			2.21*
			(-0.08, 4.5)
Mean in control group	0.02	0.43	
Includes controls	Yes	Yes	Yes
Observations	112	112	112

Notes: The first stage regression estimate (Column 1) is the coefficient on assignment to treatment from a probit regression of intervention use on assignment. The intent-to-treat (ITT) estimate (Column 2) is the coefficient on assignment to treatment from a probit regression of contraception adoption on assignment. The instrumental variables (IV) estimate (Column 3) is the coefficient on intervention use in a probit regression of contraception adoption on assignment and intervention use (run in Stata MP 12, Newey's two-step estimator). Controls include an indicator for mode of follow-up survey administration and several baseline characteristics, including: age, number of children born, and indicators for having attended post-secondary schooling, past use of family planning, being married or in a union, and nulligravida.
*p<0.1; **p<0.05; ***p<0.01

Appendix B

name	label::English	label::Swahili	relevant	required	options.english	options.swahili
start	A1. Start Time	A1. Start Time		yes		
end	A2. End Time	A2. End Time		yes		
today	A3. Date of Survey	A3. Date of Survey		yes		
deviceid	A4. Device	A4. Device		yes		
beginEligibilty1						
Ins6	B1. Enumerator: "I'm going to ask you a few questions to see if you are eligible to complete the survey. Not everyone will be eligible. If you are not eligible or if you choose not to join the study, we will only use several key responses to summarize who screens ineligible. We will not use your information for any other purpose. We will not record your name unless you choose to join the study. Please answer honestly. There are no right or wrong answers."	B1. Enumerator: "Naenda kukuuliza maswali machache kuona kama unafaa kukamilisha utafiti. Siyo kila mtu atafaa kwa utafiti huu. Ikiwa haufai au ikiwa Utachagua/utaamua kutojiunga na utafiti huu, tutatumia tu majibu machache muhimu ili kukamilisha awamu ya asiyefaa. Hatutatumia ujumbe wako kwa madhumuni mengine yoyote. Hatutanakili jina lako kama utachagua kutoshiriki kwenye utafiti. Tafadhali uyajibu kiukweli. Hakuna majibu sawa/ ya kweli ama yasiyo sawa /yasiyo kweli."				
New8	B2. How old are you?	B2. Uko na umri/miaka mingapi?		yes	#N/A	#N/A
New2	B3. In which Kenyan COUNTY do you reside?	B3. Unaishi kaunti gani hapa kenya?		yes	Baringo, Bomet, Bungoma, Busia, Elgeyo Marakwet, Embu, Garissa, Homa Bay, Isiolo, Kajiado, Kakamega, Kericho, Kiambu, Kilifi, Kirinyaga, Kisii, Kisumu, Kitui, Kwale, Laikipia, Lamu, Machakos, Makueni, Mandera, Meru, Migori, Marsabit, Mombasa, Muranga, Nairobi, Nakuru, Nandi, Narok, Nyamira, Nyandarua, Nyeri, Samburu, Siaya, Taita Taveta, Tana River, Tharaka Nithi, Trans Nzoia, Turkana, Uasin Gishu, Vihiga, Wajir, West Pokot	Baringo, Bomet, Bungoma, Busia, Elgeyo Marakwet, Embu, Garissa, Homa Bay, Isiolo, Kajiado, Kakamega, Kericho, Kiambu, Kilifi, Kirinyaga, Kisii, Kisumu, Kitui, Kwale, Laikipia, Lamu, Machakos, Makueni, Mandera, Meru, Migori, Marsabit, Mombasa, Muranga, Nairobi, Nakuru, Nandi, Narok, Nyamira, Nyandarua, Nyeri, Samburu, Siaya, Taita Taveta, Tana River, Tharaka Nithi, Trans Nzoia, Turkana, Uasin Gishu, Vihiga, Wajir, West Pokot
New3	B4. In which subcounty within Bungoma county do you reside?	B4. Unaishi kaunti ndogo (sub-kaunti) gani hapa kaunti ya Bungoma?	${New2} = 'Bungoma'	yes	Bumula, Kanduyi, Sirisia, Kabuchai, Kimilili, Tongaren, Webuye East, Webuye West, Mt. Elgon	Bumula, Kanduyi, Sirisia, Kabuchai, Kimilili, Tongaren, Webuye East, Webuye West, Mt. Elgon
New30	B5. At which market are you taking this survey?	B5. Unafanyia utafiti huu katika soko gani?		yes	Webuye, Bungoma, Misikhu, Chwele, Kimilili, Lugulu	Webuye, Bungoma, Misikhu, Chwele, Kimilili, Lugulu
New9	B6. Do you own a phone?	B6. Unamiliki/uko na simu?		yes	Yes, No	Ndio, La
New13	B7. Do you have the phone with you right now?	B7. Uko na simu kwa sasa?	${New9} = 'Yes'	yes	Yes, No	Ndio, La
New14	B8. Do you share your phone with anyone else?	B8. Huwa unatumia simu yako na mtu mwingine?	${New13} = 'Yes'	yes	Yes, No	Ndio, La
New15	B9. Are you the primary owner of the phone?	B9. Ikiwa unatumia simu yako na mtu mwingine,wewe ndiye mwenye simu hiyo?	${New14} = 'Yes'	yes	Yes, No	Ndio, La
New12	B10. Would you be willing to receive follow-up SMS messages or phone calls from the study team in the future?	B10. Ungependa kupokea ujumbe mfupi wa kufuatilia ama kupigiwa simu na timu ya utafiti wakati ujao?	${New9} = 'Yes'	yes	Yes, No	Ndio, La
check1	if(${New12} = 'Yes' and ${New8} >= 18 and ${New8} <= 35 and ${New2} = 'Bungoma' and ${New9} = 'Yes' and ${New13} = 'Yes' and (${New14} = 'No' or ${New15} = 'Yes') , 1, 0)					
New6	B13. Enumerator: "Studies often look for different types of people. There was nothing wrong about your answers, however today you are not eligible for this study as designed. Thank you for your time." (0)	B13. Enumerator: "Wakati mwingine utafiti hutafuta/chagua watu tofauti kushiriki.Hakuna kitu mbaya na majibu yako, lakini kwa leo/ wakati huu haufai kwa utafiti huu jinsi ulivyoundwa/ tengenezwa. Asante kwa wakati wako...." (0)	${check1}=0			
New10	B14. [Send a SMS to 22384 with the words dghi test +254XXXXXXXXX. Record the result.]	B14. [Send a SMS to 22384 with the words dghi test +254XXXXXXXXX. Record the result.]	${check1}=1	yes	Participant phone number already exists, Participant did not receive text, OK to proceed	Participant phone number already exists, Participant did not receive text, OK to proceed
New42	B15. Enumerator: "It appears that your phone number is not compatible with our study at this time. You will not need to complete the rest of the survey. Thank you and have a great day." (0)	B15. Enumerator: "Inaonekana kwamba nambari ya simu yako hailingani na utafiti wetu kwa sasa.Kwa hivo hautakamilisha ule utafiti uliosalia/baki. Asante na kuwa na siku njema." (0)	${New10}='number_exists' or ${New10}='did_not_receive'			
passedEligibility1	if(${check1}=1 and ${New10}='ok', 1, 0)					
endEligibility1						
beginEligibilty2			${passedEligibility1}=1			
Ins7	C1. Enumerator: "Great. Let me ask you a few more questions to determine if you are eligible to complete the survey. If you would not like to answer a particular question, please select the "refuse" option."	C1. Enumerator: "Vyema. Hebu nikuulize maswali machache zaidi, ili kudhibitisha kama unafaa kukamilisha utafiti huu. Ikiwa hautapendelea kujibu swali fulani,tafadhali chagua jibu ya "Kataa"."				
DHSR226	C2. Are you pregnant now?	C2. Wewe ni mjamzito kwa sasa?		yes	Yes, No, Unsure	Ndio, La, Sina uhakika
DHSC303	C3. Are you currently doing something or using any method to delay or avoid getting pregnant?	C3. Kwa sasa, unatumia mbinu zozote kuchelewa ama kuepuka kupata/kushika mimba?		yes	Yes, No	Ndio, La
DHSC304	C4. Which method are you using? SELECT ALL THAT APPLY.	C4. Ni mbinu gani unayotumia? CHAGUA ZOTE ZIFAAYO.	${DHSC303} = 'Yes'	yes	Female Sterilization/TL, Male Sterillization, IUD/ Coil, Injectables, Implants, Pill, Male Condom, Female Condom, Lactational Amenorrhea Method, Safe days/Calendar Method, Withdrawal, Other Modern Method, Other Traditional Method	Kutasisha kike/TL, Kutasisha mume, Koili, Sindano, Vidude za kupanga uzazi, Tembe, Kondomu ya wanaume, Kondomu ya wanawake, Njia ya kupanga uzazi kupitia unyonyeshaji wa mtoto, Mbinu ya kuhesabu masiku/ calenda, Uondoaji, Mbinu zingine za kisasa, Mbinu zingine za mila
DHSC313	C5. Have you ever used anything or tried in any way to delay or avoid getting pregnant?	C5. Umewahi tumia kitu chochote ama kujaribu kwa njia zozote kuchelewa ama kuepuka kupata/kushika mimba?	${DHSC303} = 'No'	yes	Yes, No, Refuse	Ndio, La, Kataa
passedEligibility2	if(${DHSR226} = 'Yes' or ${DHSC303} = 'Yes', 0, 1)					

New6	C7. Enumerator: "Studies often look for different types of people. There was nothing wrong about your answers, however today you are not eligible for this study as designed. Thank you for your time." (0)	C7. Enumerator: "Wakati mwingine utafiti hutafuta/chagua watu tofauti kushiriki.Hakuna kitu mbaya na majibu yako, lakini kwa leo/ wakati huu haufai kwa utafiti huu jinsi ulivyoundwa/ tengenezwa. Asante kwa wakati wako...." (0)	${passedEligibility2} = 0			
endEligibility2						
BeginEligibilty3			${passedEligibility2}=1			
Ins1	D1. [Use the following questions to show how the tablet works. Explain how to swipe to continue and to read questions carefully.]	D1. [Use the following questions to show how the tablet works. Explain how to swipe to continue and to read questions carefully.]				
New32	D2. What is the color of the sun?	D2. Jua ni rangi gani?		yes	Yellow, Black, Grey, Blue, Green	Manjano , Nyeusi , Kijivu , Zamawati , Kijani kibichi
New33	D3. Which of the following are foods? Select all that apply.	D3. Ni gani kati ya hizi ni chakula? chagua zote zifaazo.		yes	Ugali, Chapati, House, Sukuma, Matatu	Ugali, Chapati, Nyumba, Sukuma, Matatu
New22	D4. Enumerator: "We would like to ask a few practice questions before beginning the survey." [Hand tablet to participant]	D4. Enumerator: "Tungependa kukuuliza maswali chache ya mazoezi kabla ya kuanza utafiti." [Hand tablet to participant]				
Ins2	D5. [Let participant go through the next three practice questions on their own one time. Do not help them. Follow future prompts.]	D5. [Let participant go through the next three practice questions on their own one time. Do not help them. Follow future prompts.]				
New23a	D6. Which COUNTRY are you in?	D6. Uko nchi gani?		yes	Uganda, South Africa, Pluto, Tanzania, Kenya	Uganda, Afrika kusini, Pluto, Tanzania , Kenya
New24a	D7. Which of the following are animals? Select all that apply.	D7. Gani kati ya hawa ni wanyama? Chagua yote yafaayo.		yes	Giraffe , Sheep, Car, Goat, Book, Computer	Twiga, Kondoo, Gari, Mbuzi, Kitabu , Tarakalishi
New25a	D8. What is the current year? (YYYY)	D8. Huu ni mwaka gani? (YYYY)		yes	#N/A	#N/A
New26a	D9. Thank you for completing the practice survey. Please take the tablet to the enumerator.	D9. Asante kwa kukamilisha utafiti wa mazoezi. Tafadhali rudisha kibao simu kwa mtafiti.		yes		
Test1	if(not(${New23a} = 'Kenya' and selected(${New24a}, 'Giraffe') and ${New25a} = 2017 and selected(${New24a}, 'Sheep') and selected(${New24a}, 'Goat') and not(selected(${New24a}, 'Car') or selected (${New24a}, 'Computer') or selected (${New24a}, 'Book'))), 0, 1)					
New27a	D11. [Repeat tablet instructions and ask the participant to try again. Do not help them.]	D11. [Repeat tablet instructions and ask the participant to try again. Do not help them.]	${Test1}=0			
New23b	D12. Which COUNTRY are you in?	D12. Uko nchi gani?	${Test1}=0	yes	Uganda, South Africa, Pluto, Tanzania, Kenya	Uganda, Afrika kusini, Pluto, Tanzania , Kenya
New24b	D13. Which of the following are animals? Select all that apply.	D13. Gani kati ya hawa ni wanyama? Chagua yote yafaayo.	${Test1}=0	yes	Giraffe , Sheep, Car, Goat, Book, Computer	Twiga, Kondoo, Gari, Mbuzi, Kitabu , Tarakalishi
New25b	D14. What is the current year? (YYYY)	D14. Huu ni mwaka gani? (YYYY)	${Test1}=0	yes		
New26b	D15. Thank you for completing the practice survey. Please take the tablet to the enumerator.	D15. Asante kwa kukamilisha utafiti wa mazoezi. Tafadhali rudisha kibao simu kwa mtafiti.	${Test1}=0	yes		
Test2	if(not(${New23b} = 'Kenya' and selected(${New24b}, 'Giraffe') and ${New25b} = 2017 and selected(${New24b}, 'Sheep') and selected(${New24b}, 'Goat') and not(selected(${New24b}, 'Car') or selected (${New24b}, 'Computer') or selected (${New24b}, 'Book'))), 0, 1)		${Test1}=0			
New27b	D17. [Repeat tablet instructions and ask the participant to try again. Do not help them.]	D17. [Repeat tablet instructions and ask the participant to try again. Do not help them.]	${Test2}=0			
New23c	D18. Which COUNTRY are you in?	D18. Uko nchi gani?	${Test2}=0	yes	Uganda, South Africa, Pluto, Tanzania, Kenya	Uganda, Afrika kusini, Pluto, Tanzania , Kenya
New24c	D19. Which of the following are animals? Select all that apply.	D19. Gani kati ya hawa ni wanyama? Chagua yote yafaayo.	${Test2}=0	yes	Giraffe , Sheep, Car, Goat, Book, Computer	Twiga, Kondoo, Gari, Mbuzi, Kitabu , Tarakalishi
New25c	D20. What is the current year? (YYYY)	D20. Huu ni mwaka gani? (YYYY)	${Test2}=0	yes		
New26c	D21. Thank you for completing the practice survey. Please take the tablet to the enumerator.	D21. Asante kwa kukamilisha utafiti wa mazoezi. Tafadhali rudisha kibao simu kwa mtafiti.	${Test2}=0	yes		
Test3	if(not(${New23c} = 'Kenya' and selected(${New24c}, 'Giraffe') and ${New25c} = 2017 and selected(${New24c}, 'Sheep') and selected(${New24c}, 'Goat') and not(selected(${New24c}, 'Car') or selected (${New24c}, 'Computer') or selected (${New24c}, 'Book'))), 0, 1)		${Test1}=0			
Ins3	D24. Enumerators: "These tablets can be difficult to use. It looks like you're struggling a bit, so this may not be a fun task. You will not need to continue the survey. Thank you for your time. Have a nice day." (0)	D24. Enumerator: "Hivi vibao simu vinaweza kuwa ngumu kutumia. Inaonekana kana kwamba unang'ang'ana kiasi, kwa hivo huenda isiwe kazi ya kukufurahisha. Kwa hivo hautakamilisha utafiti. Asante kwa muda wako. Kuwa na siku njema." (0)	${Test1}=0 and ${Test2}=0 and ${Test3}=0			
passedEligibility3	if(${Test1}=1 or ${Test2}=1 or ${Test3}=1, 1, 0)					
endEligibility3						
BeginUnmetNeed			${passedEligibility3}=1			
New41	E1. Enumerator: "This survey will ask you some personal questions about family planning. You are welcome to take the survey on your own and read and/or listen to the questions. Or if you'd like, I can ask you the questions and you can tell me your answers. It's up to you. Would you like to do this on your own, or would you like help?"	E1. Enumerator: "Utafiti huu utakuuliza maswali ya kibinafsi kuhusu upangaji uzazi. Unakaribishwa kufanya utafiti huu wewe mwenyewe/wewe binafsi usome, na usikilize maswali, ama ikiwa utapenda nikuulize maswali na uniambie majibu, uamuzi ni wako. Je, ungependa kujifanyia/ kufanya wewe mwenyewe ama ungependa usaidiwe?"		yes	By Herself, By the Enumerator	By Herself, By the enumerator
Ins5	E2. Enumerator: "Great. If you need help at any point, just ask me." [Give the tablet to the participant]	E2. Enumerator: "Vyema, kama utahitaji usaidizi wakati wowote, niulize tu." [Give the tablet to the participant]	${New41}='self'			

New16	E3. Welcome and thank you for agreeing to take the Women's Health survey. Your responses to these questions will be confidential. This survey should take you about 15 to 30 minutes to complete. When you are done, we will send you airtime as a thank you for your time. Please swipe right to continue.	E3. Karibu na asante sana kwa kukubali kushiriki kwa utafiti wa Afya ya Wanawake. Majibu yako kwa haya maswali itakuwa ya siri. Utafiti unawezachukua muda wa dakika 15 hadi 30. Utakapomaliza, tutakutumia kadi ya simu kama pongezi kwa muda wako. Unaweza endelea.				
New29	E4. Please enter the last 4 digits of your phone number.	E4. Tafadhali weka nambari 4 za mwisho za simu yako.		yes		
New4	E5. You will now complete a series of questions regarding your family.	E5. Sasa utakamilisha mfululizo wa maswali kuhusu familia yako.				
DHSR201	E6. Have you ever given birth?	E6. Umewahi jifungua?		yes	Yes, No	Ndio, La
DHSR202	E7. Do you have any sons or daughters to whom you have given birth who are now living with you?	E7. Unao watoto wavulana au wasichana wenye umewazaa na unaishi nao?	${DHSR201} = 'Yes'	yes	Yes, No	Ndio, La
DHSR203A	E8. How many sons live with you? IF NONE, RECORD '0'.	E8. Ni watoto wavulana wangapi wanaishi na wewe? KAMA HAKUNA REKODI '0'.	${DHSR202} = 'Yes'	yes		
DHSR203B	E9. How many daughters live with you? IF NONE, RECORD '0'.	E9. Ni watoto wasichana wangapi wanaishi na wewe? KAMA HAKUNA REKODI '0'.	${DHSR202} = 'Yes'	yes		
DHSR204	E10. Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	E10. Unao wavulana au wasichana wenye ulizaa na wako hai lakini hawaishi na wewe?	${DHSR201} = 'Yes'	yes	Yes, No	Ndio, La
DHSR205A	E11. How many sons are alive but do not live with you? IF NONE, RECORD '0'.	E11. Ni wavulana wangapi wako hai na hawaishi na wewe? KAMA HAKUNA,REKODI '0'.	${DHSR204} = 'Yes'	yes		
DHSR205B	E12. How many daughters are alive but do not live with you? IF NONE, RECORD '0'	E12. Ni wasichana wangapi wako hai na hawaishi na wewe? KAMA HAKUNA, REKODI '0'.	${DHSR204} = 'Yes'	yes		
DHSR206A	E13. Have you ever given birth to a boy or girl who was born alive but later died?	E13. Ushawai jifungua mtoto mvulana au msichana, mwenye alizaliwa akiwa hai na baadaye akafa/akaaga dunia?		yes	Yes, No	Ndio, La
DHSR206B	E14. Have you ever given birth to a baby who cried or showed signs of life but did not survive?	E14. Ushawai jifungua mtoto mwenye alilia au aliyeonyesha dalili za uhai lakini hakuishi?	${DHSR206A} = 'No'	yes	Yes, No	Ndio, La
DHSR207A	E15. How many boys have died? IF NONE, RECORD '0'.	E15. Ni wavulana wangapi washawai aga dunia/kufa? KAMA HAKUNA, REKODI '0'.	${DHSR206A} = 'Yes' or ${DHSR206B} = 'Yes'	yes		
DHSR207B	E16. How many girls have died? IF NONE, RECORD '0'.	E16. Ni wasichana wangapi washawai aga dunia/kufa? KAMA HAKUNA, REKODI '0'.	${DHSR206A} = 'Yes' or ${DHSR206B} = 'Yes'	yes		
DHSR209	if(${DHSR203A}>=0,${DHSR203A},0)+if(${DHSR203B}>=0,${DHSR203B},0)+if(${DHSR205A}>=0,${DHSR205A},0)+if(${DHSR205B}>=0,${DHSR205B},0)+if(${DHSR207A}>=0,${DHSR207A},0)+if(${DHSR207B}>=0,${DHSR207B},0)			yes		
DHSR209A	E18. Just to make sure that I have this right: you have had in TOTAL ${DHSR209} births during your life. Is that correct?	E18. Ili kudhibitisha nimekupata vizuri: kwa jumla, umewahi jifungua mara ${DHSR209} kwa maisha yako. Je hio ni sahihi?		yes	Yes, No	Ndio, La
DHSR209B	E19. In TOTAL how many births have you had during your life? Please enter the correct number.	E19. Kwa JUMLA umewahi zaa mara ngapi kwa maisha yako?	${DHSR209A} = 'No'	yes		
DHSFP712A	E20. If you could choose or if you could have chosen exactly the number of children to have in your whole life how many would that be?	E20. Kama ungechagua idadi ya watoto ungetaka kwa maisha yako yote, wangekuwa wangapi?		yes		
New19	E21. When was your last birth?	E21. Ulijifungua lini mara ya mwisho?	${DHSR201} = 'Yes'	yes	Less Than 2 Years Ago, Within the Last 2 to 5 Years, More Than 5 Years Ago, Don't Know	Chini ya miaka 2 iliyopita, Kati ya miaka 2 hadi 5 iliyopita, Zaidi ya miaka 5 iliyopita, Sijui
DHSR228	E22. When you got pregnant, did you want to get pregnant at that time?	E22. Uliposhika/pata mimba, ulikuwa unataka uwe mjamzito wakati huo?	${DHSR201} = 'Yes'	yes	Yes, No	Ndio, La
DHSR229	E23. If you did not want to get pregnant at that time, did you want to have a baby later on or did you not want any(more) children?	E23. Ikiwa hukutaka kupata mimba wakati huo, ungependa kupata mtoto baadaye au hukuwa unataka mtoto/watoto wengine?	${DHSR228} = 'No'	yes	Later, No More	Baadaye, Singependa watoto wengine
DHSR238	E25. When did your last menstrual period start?	E25. Hedhi/ damu ya mwezi yako ya mwisho ilianza lini?		yes	Less than 6 months ago, Between 6 months and 2 years ago, Between 2 years and 5 years ago, More than 5 years ago, In Menopause/Have Had A Hysterectomy, Never Menstruated	Chini ya miezi 6 iliyopita, Kati ya miezi 6 na miaka 2 iliyopita, Kati ya miaka 2 na miaka 5 iliyopita, Zaidi ya miaka 5 iliyopita, Nimemaliza kuona hedhi/damu ya mwezi/ nimetoa nyumba ya mtoto, Sijawahi ona hedhi/ damu ya mwezi
group2	if(${New19}='Less_Than_2_Years_Ago' and (${DHSR238}='Between_24_and_60_months' or ${DHSR238}='More_than_60_months'), 1, 0)					
group2Need	if(${DHSR228}='Yes', 'no_unmet_need', 'unmet_need')		${group2}=1			
group2UnmetType	if(${DHSR229}='Later', 'spacing', 'limiting')		${group2Need}='unmet_need'			
DHSFP704	E29. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	E29. Ungependa kupata mtoto (mwingine) ama ungependelea kutokuwa na mtoto/watoto wengine tena?		yes	Have (A/Another) Child, No More Children, I Can't Get Pregnant, Undecided/Don't Know	Kuwa na mtoto/kupata mtoto mwingine, Kutopata watoto wengine, Siwezi shika mimba, Sijui
DHSFP705	E30. How long would you like to wait from now before the birth of (a/another) child?	E30. Unatarajia kungoja kwa muda gani kutoka sasa kabla kujifungua mtoto wa kwanza/mwingine?	${DHSFP704} = 'Have_AAnother_Child'	yes	Soon/Now , Not now, but within 2 years, More than 2 years from now, I Can't Get Pregnant, After Marriage, Other, Don't Know	Hivi karibuni/saa hii, Si kwa sasa, lakini kwa muda wa miaka miwili, Zaidi ya miaka miwili kuanzia sasa , Siwezi shika mimba, Baada ya ndoa, Ingine, Sijui
DHSMSA601	E31. Are you currently married or living together with a man as if married?	E31. Kwa sasa, umeolewa ama unaishi na mwanumume kana kwamba umeolewa?		yes	Yes, Currently Married, Yes, Living With A Man, No, Not In Union	Ndio, nimeolewa kwa sasa, Ndio, naishi na mwanamume, La, siko kwa uhusiano
DHSMSA602	E32. Have you ever been married or lived with a man as if married?	E32. Umewahiolewa ama kuishi na mwanamume kana kwamba umeolewa?	${DHSMSA601} = 'No,_Not_In_Union'	yes	Yes, Formerly Married, Yes, Lived With A Man, No	Ndio, niliolewa zamani, Ndio, niliiishi na mwanamume, La
DHSMSA603	E33. What is your marital status now: are you widowed, divorced, or separated?	E33. Hali yako ya ndoa kwa sasa iko vipi: wewe ni mjane, umetalakiwa ama mlitengana?	${DHSMSA602} = 'Yes'	yes	Widowed, Divorced, Separated	Mjane, Talaka, Tengana

DHSFP718	E34. Would you say that using contraception is mainly your decision, mainly your husband's/partner's decision, or did you both decide together?	E34. Ungesema kuwa upangaji uzazi ni uamuzi wako wewe mwenyewe, uamuzi wa mume/mpenzi wako ama mliamua nyinyi nyote kwa pamoja?	${DHSMSA601}='Yes,_Currently_Married' or ${DHSMSA601}='Yes,_Living_With_A_Man'	yes	Mainly Mine, Mainly My Husband's/Partner's, Joint Decision, Other	Mimi mwenyewe, Mume/mpenzi wangu hasa, Uaumuzi wa pamoja, Mengine
DHSFP718A	E35. Specify Other:	E35. Taja mengine:	${DHSFP718}='Other'			
DHSFP720	E36. Does your husband/partner want the same number of children that you want, or does he want more or fewer than you want?	E36. Je, mume/mpenzi wako anataka idadi sawa ya watoto unaotaka kupata, au anataka wengi au wachache kuliko unaotaka?	${DHSMSA601}='Yes,_Currently_Married' or ${DHSMSA601}='Yes,_Living_With_A_Man'	yes	Same Number, More Children, Fewer Children, Don't Know	Idadi sawa, Watoto wengi, Watoto wachache, Sijui
New21	E37. Did you start living with your husband/partner 5 or more years ago?	E37. Ulianza kuishi na mume/mpenzi wako miaka tano iliyopita au zaidi ?	${DHSMSA601}='Yes,_Currently_Married' or ${DHSMSA601}='Yes,_Living_With_A_Man'	yes	Yes, No	Ndio, La
DHSFP716A	E40. Do you think that your husband/partner approves or disapproves of couples using a method to avoid pregnancy?	E40. Je, unadhani kuwa mume/mpenzi wako anakubali au hakubali wanandoa kutumia mbinu kuzuia kupata/kushika mimba?	${DHSMSA601}='Yes,_Currently_Married' or ${DHSMSA601}='Yes,_Living_With_A_Man'	yes	Approves, Disapproves, Don't Know	Anakubali, Hakubali, Sijui
DHSFP716B	E41. How often have you talked to your husband/partner about family planning in the past year?	E41. Ni mara ngapi umeongea na mume/mpenzi wako juu ya upangaji uzazi kwa muda wa mwaka moja uliopita?	${DHSMSA601}='Yes,_Currently_Married' or ${DHSMSA601}='Yes,_Living_With_A_Man'	yes	Never, Once or Twice, More Often	Sijawahi/kamwe, Mara moja ama mara mbili, Kila mara
DHSMSA613	E42. Do you know how old you were when you had sexual intercourse for the very first time?	E42. Je, unajua umri uliyokuwa nao uliposhiriki ngono kwa mara ya kwanza?		yes	Yes, No, I Have Never Had Sexual Intercourse, My First Time Was When I Started Living With My (First) Husband/Partner	Ndio, La, Sijawai fanya ngono, Mara yangu ya kwanza ni wakati ambayo nilianza kuishi na mume/mpenzi wangu wa kwanza
DHSMSA613A	E43. How old you were when you had sexual intercourse for the very first time?	E43. Ulikwa na miaka ngapi ulipo fanya ngono mara ya kwanza?	${DHSMSA613} = 'Yes'	yes		
DHSMSA615	E43. When was the last time you had sexual intercourse?	E43. Ulishiriki ngono Mara ya mwisho lini?	${DHSMSA601}='No,_Not_In_Union'	yes	I Have Never Had Sexual Intercourse	Sijawahi fanya ngono
group3	if((${New21}='Yes' and ${DHSC313}="No" and (${DHSR201}='No' or ${New19}='More_Than_5_Years_Ago')) or ${DHSFP704}='I_Cant_Get_Pregnant' or ${DHSR238}='menopause_hysterectomy' or ${DHSR238}='More_than_60_months') and ${group2}!=1, 1, 0)					
group4	if(${group3}!=1, 1, 0)					
group4Need	if(${DHSFP705}='Soon/Now' or ${DHSFP705}='within_2_years', 'no_unmet_need', 'unmet_need')		${group4}=1			
group4UnmetType	if(${DHSFP704}='No_More/None', 'limiting', 'spacing')		${group4Need}='unmet_need'			
singleActive	if(${DHSMSA615}='within_1_month' or ${DHSMSA615}='between_1_and_3_months' or ${DHSMSA615}='between_4_and_6_months', 1, 0)		${DHSMSA601}='No,_Not_In_Union'			
unmetNeed	if((${group2Need}='unmet_need' or ${group4Need}='unmet_need') and ${singleActive}!=0, 1, 0)					
New7A	E50. Thank you for completing the survey. Please return the tablet to the enumerator. (00)	E50. Asante kwa kukamilisha utafiti. Tafadhali rudisha kibao simu kwa mtafiti. (00).	${unmetNeed}=0	yes		
New45	E51. Enumerator: "Studies often look for different types of people. There was nothing wrong about your answers, however today you are not eligible for this study as designed. Thank you for your time. We will deliver you airtime by sending a text message to your phone."	E51. Enumerator: "Wakati mwingine utafiti hutafuta/chagua watu tofauti kushiriki. Hakuna kitu mbaya na majibu yako, lakini kwa leo/ wakati huu haufai kwa utafiti huu jinsi ulivyoundwa/ tengenezwa. Asante kwa muda wako. Tutakufikishia/kupatia kadi ya simu kwa kutuma ujumbe mfupi kwenye simu yako."	${unmetNeed}=0			
New47a	E52. Did the participant answer the survey questions by listening to the enumerator administer the questions or answering on her own?	E52. Did the participant answer the survey questions by listening to the enumerator administer the questions or answering on her own?	${unmetNeed}=0	yes		
New44	E53. [Text 22384: dghi thanks n e +254XXXXXXXXX.]	E53. [Text 22384: dghi thanks n e +254XXXXXXXXX.]	${unmetNeed}=0			
endUnmetNeed						
BeginFP			${unmetNeed}=1			
DHSC	F1. Now I would like to talk about family planning - the various ways and methods that a couple can use to delay or avoid a pregnancy.	F1. Sasa ningependa tuongee juu ya upangaji uzazi-njia mbalimbali na mbinu ambazo watu wanawezatumia kuchelewa ama kuepuka mimba.				
DHSC30101	F2. Have you ever heard of female sterilization/TL? Women can have an operation to avoid having any more children.	F2. Umewahi sikia kutasisha ya wanawake/TL? Wanawake wanaweza fanyiwa operesheni ili kuepuka kupata watoto wengine.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30102	F3. Have you ever heard of male sterilization? Men can have an operation to avoid having any more children.	F3. Umewahi sikia kutasisha ya wanaume? Wanaume wanaweza fanyiwa operesheni ili kuepuka kupata watoto wengine.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30103	F4. Have you ever heard of an IUD/ coil? Women can have a loop or coil placed inside them by a doctor or nurse.	F4. Umewahi sikia kuhusu koili? Wanawake wanaweza wekewa tanzi au songo/koili na daktari ama muuguzi.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30104	F5. Have you ever heard of injectables? Women can have an injection by a health provider that stops them from becoming pregnant for one or more months.	F5. Umewahi sikia kuhusu sindano? Wanawake wanaweza dungwa sindano na mhudumu wa afya, ili iwazuie kupata mimba kwa muda wa mwezi moja au miezi kadhaa.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30105	F6. Have you ever heard of implants? Women can have one or more small rods placed in their upper arm by a doctor or nurse which can prevent pregnancy for one or more years.	F6. Umewahi kusikia kuhusu vidude vya kupanga uzazi? Wanawake wanaweza wekewa kijiti moja au nyingi kwa mkono na daktari au muuguzi ili kuzuia kupata/kushika mimba kwa muda wa mwaka moja au miaka nyingi.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30106	F7. Have you ever heard of the pill? Women can take a pill every day to avoid becoming pregnant.	F7. Umewahi sikia kuhusu donge/ tembe? Wanawake wanaweza meza donge ili waepuke kupata mimba.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30107	F8. Have you ever heard of a male condom? Men can put a rubber sheath on their penis before sexual intercourse.	F8. Umewahi sikia kuhusu mpira ya kondomu ya wanaume? Wanaume wanaweza weka mpira kwa sehemu yao ya uzazi kabla ya kufanya ngono.		yes	Yes, No, Refuse	Ndio, La, Kataa

DHSC30108	F9. Have you ever heard of a female condom? Women can place a sheath in their vagina before sexual intercourse.	F9. Umewahi sikia kuhusu mpira ya kondomu ya wanawake? Wanawake wanaweza weka mpira kwa sehemu yao ya uzazi kabla ya kufanya ngono.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30109	F10. Have you ever heard of the Lactation Amenorrhea Method (LAM)? If a woman's menstrual period has not returned in the first 6 months after her baby is born, she can avoid pregnancy by breastfeeding frequently, day and night.	F10. Umewahi sikia kuhusu njia ya kunyonyesha mtoto kama njia ya upangaji uzazi? Kama hedhi/ damu ya mwezi ya mwanamke haijarudi kwa miezi sita ya kwanza baada ya mtoto kuzaliwa, anaweza zuia kupata mimba kwa kunyonyesha mara kwa mara, mchana na usiku.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30110	F11. Have you ever heard of the safe days/ calendar method? To avoid pregnancy, women do not have sexual intercourse on the days of the month they think they can get pregnant.	F11. Umewahi sikia mbinu ya kuhesabu masiku/ calenda? Ili kuepuka kupata mimba, wanawake hawashiriki kwa ngono siku zenye wanafikiria wanaweza shika/pata mimba.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30111	F12. Have you ever heard of withdrawal? Men can be careful and pull out before climax.	F12. Umewahi sikia kuhusu uondoaji/ kumwaga inje? Wanaume wanaweza kuwa makini waondoe uume yao kabla ya kufika kilele.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30112	F13. Have you ever heard of emergency contraception? As an emergency measure, within three days after they have unprotected sexual intercourse, women can take special pills to prevent pregnancy.	F13. Ushawahi sikia kuhusu uzazi wa mpango ya dharura? Kama hatua ya dharura, kati ya siku tatu baada ya kufanya ngono bila kinga , wanawake wanaweza meza donge/ tembe maalum ili kuzuia mimba.		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSC30113A	F14. Have you ever heard of any other ways or methods that women or men can use to avoid pregnancy?	F14. Umewahi sikia kuhusu njia zozote ama mbinu zozote zingine ambazo wanawake au wanaume hutumia kuepuka mimba?		yes	Yes, No	Ndio, La
DHSC30113B	F15. Specify:	F15. Taja:	${DHSC30113A}='Yes'			
DHSFP714	F16. In the last few months have you heard about family planning on the radio?	F16. Kwa miezi michache iliyopita, umewahi sikia kuhusu upangaji uzazi kwa redio.?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP714A	F17. In the last few months have you seen anything about family planning on the television?	F17. Kwa miezi michache iliyopita, umewahi tazama kitu chochote kuhusu upangaji uzazi kwa televisheni?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP714B	F18. In the last few months have you read about family planning in a newspaper or magazine?	F18. Kwa miezi michache iliyopita, umewahi soma kuhusu upangaji uzazi kwa gazeti?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715A	F19. In the last 12 months have you heard about family planning at public forums such as Barazas or public gatherings?	F19. Kwa muda wa miezi 12 iliyopita, umewahi skia kuhusu upangaji uzazi katika mikutano ya umma, kama baraza au chama		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715B	F20. In the last 12 months have you seen family planning informational material such as posters, brochures, or stickers?	F20. Kwa muda wa miezi 12 iliyopita, umewahi ona habari kuhusu upangaji uzazi kwenye vifaa vya maelezo, kama mkao,vipeperushi au kibandiko		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715C	F21. In the last 12 months have you been visited by a health worker or health professional to discuss family planning issues?	F21. Kwa muda wa miezi 12 iliyopita, ulitembelewa na mhudumu wa afya au mtaalamu wa kiafya kujadiliana kuhusu upangaji uzazi?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715D	F22. In the last 12 months have you received family planning messages through social media platforms, such as Facebook or twitter?	F22. Kwa muda wa miezi 12 iliyopita, umepokea ujumbe kuhusu upangaji uzazi kupitia mtandao wa kijamii (social media), kama Facebook au Twitter?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715E	F23. In the last 12 months have you received family planning messages through a mobile phone via text or email?	F23. Kwa muda wa miezi 12 iliyopita, umepokea ujumbe kuhusu upangaji uzazi kupitia simu ya rununu au email?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSFP715F	F24. In the last 12 months have you heard political / religious / community leaders talk favorably about family planning?	F24. Kwa muda wa miezi 12 iliyopita, umesikia viongozi wa jamii (viongozi wa siasa, dini,jamii) wakizungumza vizuri/wakipendekeza kuhusu upangaji uzazi?		yes	Yes, No, Refuse	Ndio, La, Kataa
endFP						
BeginHH			${unmetNeed}=1			
New5	G1. Thank you for completing the family planning portion of the survey. You will now be asked some questions about your household and background.	G1. Asante kwa kukamilisha sehemu ya utafiti ya upangaji uzazi. Sasa utaulizwa maswali kuhusu nyumba yako na ulikotoka.				
DHSHC102	G2. What is the main source of drinking water for members of your household?	G2. Maji yenye huwa mnatumia nyumbani hutoka wapi?		yes	Piped into Dwelling, Piped to Yard/Plot, Public Tap/Standpipe, Tube Well or Borehole, Protected Well, Unprotected Well, Protected Spring, Unprotected Spring, Rainwater, Tanker Truck, Cart with Small Tank, Lake/Pond/Stream/Canal/Irrigation Channel, Bottled Water, Other	Imesambazwa na bombu la maji hadi kwa makao, Imesambazwa na bombu la maji hadi kwa shamba/yadi, Mfereji wa umma, Kisima, Kisima kilicholindwa, Kisima kisicholindwa, Chemichemi iliyolindwa, Chemichemi isiyolindwa, Maji ya mvua, Lori ya maji, Mikokoteni ya maji, Ziwa/bwawa/mkondo/mfereji/kilimo cha umwagiliaji, Maji ya chupa, Mengine
DHSHC102A	G3. Specify Other:	G3. Taja hayo mengine:	${DHSHC102} = 'Other'			
DHSHC103	G4. Where is that water source located?	G4. Chanzo cha maji hayo kiko wapi?		yes	In own Dwelling, In own Yard/Plot, Elsewhere	Kwa nyumba yako, Kwa shamba lako, Mahali pengine
DHSHC104A	G5. Do you know how long it takes to go there, get water, and come back?	G5. Je unajua muda wenye unaweza chukua kufika hapo, uteke maji, na urudi?	${DHSHC103} = 'Elsewhere'	yes	Yes, No	Ndio, La
DHSHC104B	G6. How many minutes does it take you to go there, get water, and come back?	G6. Huwa inakuchukua dakika ngapi kufika pale, kuchota maji na kurudi?	${DHSHC104A} = 'Yes'	yes		
DHSHC105	G7. Do you do anything to the water to make it safer to drink?	G7. Kuna kitu chochote unafanyia maji ili ikuwe salama kwa kunywa?		yes	Yes, No, Don't Know, Refuse	Ndio, La, Sijui, Kataa
DHSHC106	G8. What do you usually do to make the water safer to drink? Anything Else? Select all that apply.	G8. Kwa kawaida wewe hufanya nini ili kuweka maji yako yawe salama kwa kunywa? Kitu kingine? Chagua yote yafaayo.	${DHSHC105} = 'Yes'	yes	Boil, Add Bleach/Chlorine, Strain Through a Cloth, Use Water Filter (Ceramic/Sand/Composite/Etc.), Solar Disinfection, Let it Stand and Settle, Cover the Water Container, Other , Don't Know	Chemsha, Weka klorini kwa maji, Chunga kupitia nguo, Tumia chujio ya maji (kauri,mchanga, na kadhalika), Kusafisha maji kutumia nguvu ya jua/sola, Kuiacha itulie, Funika chombo cha maji, Mengine, Sijui
DHSHC106A	G9. Specify Other:	G9. Taja mengine:	${DHSHC106} = 'Other'			

DHSHC107	G10. What kind of toilet facility do members of your household usually use?	G10. Ni aina gani ya choo wenye nyumba hii hutumia mara kwa mara?		yes	Flush to Piped Sewer System, Flush to Septic Tank, Flush to Pit Latrine, Flush to Somewhere Else, Flush, Don't Know Where, Ventilated Improved Pit Latrine, Pit Latrine With Slab, Pit Latrine Without Slab/Open Pit, Composting Toilet, Bucket Toilet, No Facility/Bush/Field, Other	Mwaga/flush kupitia mfumo wa mfereji wa maji machafu, Mwaga/flush kwa tanki bora ya maji chafu/karo, Mwaga/flush kwa choo ya shimo, Mwaga/flush mahali pengine, Mwaga/flush, lakini sijui ni mahali gani, Choo ya shimo iliyoboreshwa na iko na hewa ya kutosha, Choo ya shimo iliyo na saruji, Choo ya shimo isiyo na saruji/ shimo wazi, Choo ya mbolea, Choo ya ndoo, Hakuna kituo/kichaka/uwanja, Mengine
DHSHC107A	G11. Specify Other:	G11. Taja mengine:	${DHSHC107} = 'Other'			
DHSHC108	G12. Do you share this toilet facility with other households?	G12. Huwa mnatumia choo hii na nyumba zingine?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC109	G13. How many households use this toilet facility?	G13. Ni nyumba ngapi hutumia choo hii?	${DHSHC108} = 'Yes' and not(${DHSHC107} = 'No_Facility/Bush/Field')	yes	Less Than 10 Households, 10 or More Households, Don't Know	Chini ya nyumba kumi, Nyumba kumi au zaidi, Sijui
DHSHC109A	G14. Please enter the number of households that use this toilet facility.	G14. Tafadhali weka idadi ya nyumba ambazo hutumia choo hii.	${DHSHC109} = 'Less_than_10_households'	yes		
DHSHC110	G15. Does your household have any of the following? Select all that apply.	G15. Je, nyumba yako inayo yafuatayo? Chagua zote zifaayo.		yes	Electricity, Radio, Television, Mobile Television, Non-mobile television, Refrigerator, Solar Panel, Table, Chair, Sofa, Bed, Cupboard, Clock, Microwave Oven, DVD Player, Cassette/CD Player	Stima, Redio, Televisheni, Televisheni ya mkono, Mashirika ya televisheni ya mkononi, Friji/jokofu/sanduku la barafu, Jopo nguvu ya jua/sola , Meza, Kiti, Kiti ya sofa, Kitanda, Kabati, Saa, Microwave, Mkanda (DVD player), Mkanda (CD player)
DHSHC111	G16. What type of fuel does your household mainly use for cooking?	G16. Huwa unatumia njia gani ya kupika kwako nyumbani ?		yes	Electricity, LPG/Natural Gas, Biogas, Parafin/Kerosene, Coal, Lignite, Charcoal, Wood, Straw/Shrubs/Grass, Agricultural Crop, Animal Dung, No Food Cooked in Household, Other	Stima, Gesi kiasili, Gesi ya kupika inayotengenezwa kutoka kwa samadi ya ng'ombe/biogas, Mafuta ya taa, Makaa ya mawe, Makaa, Kuni, Nyasi, Zao ya kilimo, Samadi ya mnyama, Hakuna chakula hupikwa nyumbani, Njia zingine
DHSHC111A	G17. 0	G17. Eleza hizo njia zingine:	${DHSHC111} = 'Other'	yes		
DHSHC112	G18. Is the cooking usually done in the main house, in a separate building, or outdoors?	G18. Upishi hufanyika kwa nyumba kuu, nyumba nyingine kando ama nje ya nyumba?	not(${DHSHC111} = 'No_Food_Cooked_in_Household')	yes	In the House, In a Separate Building, Outdoors, Other	Kwa nyumba, Nyumba ingine (jikoni ya nje), Nje ya nyumba, Kwingine
DHSHC112A	G19. 0	G19. Eleza wapi kwingine:	${DHSHC112} = 'Other'			
DHSHC113	G20. Do you have a separate room which is used as a kitchen?	G20. Uko na chumba kingine kwenye nyumba yako yenye hutumika kama jikoni?	${DHSHC112} = 'In_the_house'	yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC114	G21. What is the main material of the floor in your household?	G21. Nini hutumika kutengeneza sakafu ya nyumba yako?		yes	Earth/Sand, Dung, Wood Planks, Palm/Bamboo, Stone with Mud, Vinyl or Asphalt Strips, Ceramic Tiles, Cement, Carpet, Stone with Lime/Cement, Bricks, Other	Udongo/mchanga, Samadi ya ng'ombe, Mbao ya mti, Kiganja/mianzi, Mawe na matope, Lami iliyotandazwa, Tofali ya kauri (tiles), Saruji, Zulia, Mawe na saruji/mawe na chokaa, Tofali, Njia zingine
DHSHC114A	G22. 0	G22. Eleza hizo njia zingine:	${DHSHC114} = 'Other'			
DHSHC115	G23. What is the main material of the roof in your household?	G23. Nini hutumika kutengeneza paa ya nyumba yako?		yes	No Roof, Thatch/Grass/Makuti, Dung/Mud/Sod, Iron Sheets, Tin Cans, Stone with Mud, Concrete, Tiles, Stone with Lime/Cement, Bricks, Other	Haina paa, Nyasi, Matope, Mabati, Debe la kopo, Mawe na matope, Saruji, Tiles, Mawe na saruji/mawe na chokaa, Tofali, Njia zingine
DHSHC115A	G24. 0	G24. Eleza hizo njia zingine:	${DHSHC115} = 'Other'			
DHSHC116	G25. What is the main material of the external walls in your house?	G25. Nini hutumika kutengeneza ukuta wa nyumba yako?		yes	No Walls, Cane/Palm/Trunks, Dung/Mud/Sod, Bamboo with Mud, Stone with Mud, Uncovered Adobe, Plywood, Cardboard, Reused Wood, Iron Sheets, Cement, Stone with Lime/Cement, Bricks, Cement Blocks, Covered Adobe, Wood Planks/Shingles , Other	Haina ukuta, Miwa/kiganja/shina la mti, Matope/Samadi ya ng'ombe/Nyasi, Mianzi (bamboo) na matope, Mawe na matope, Matofali ya matope iliyowazi, Hadibodi, Kadibodi, Miti yenye imetumika tena, Mabati, Saruji, Mawe na saruji/mawe na chokaa, Mawe ya matofari, Mawe ya simiti, Matofali ya matope iliyofunikwa, Mbao ya mti, Njia zingine
DHSHC116A	G26. 0	G26. Eleza hizo njia zingine:	${DHSHC116} = 'Other'			
DHSHC117	G27. How many rooms in this household are USED for sleeping?	G27. Ni vyumba ngapi HUTUMIKA kama vyumba vya kulala kwa hii nyumba yako?		yes	#N/A	#N/A
DHSHC118	G28. Does any member in this household own any of the following? Select all that apply.	G28. Kuna mtu yeyote mwenye anamiliki/ako na vitu vifuatavyo? Chagua zote zifaazo.		yes	A watch, A bicycle, A Motorcycle or Motor Scooter, An Animal Drawn Cart, A Car or Truck, A Boat With a Motor, None of the above	Saa, Baiskeli, Pikipiki, Mkokoteni inayovutwa na punda, Gari, Mashua/boat ya mashine, Hakuna kati ya hayo juu
DHSHC119	G29. Does any member of this household own any agricultural land?	G29. Kuna mtu yeyote wa nyumba hii mwenye anamiliki/ako na shamba la kilimo?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC120	G30. Do you know how many acres of land members of your household own?	G30. Je, unajua ni eka ngapi ya shamba familia yako inamiliki/iko nayo?	${DHSHC119} = 'Yes'	yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC120A	G31. Please enter the number of acres.	G31. Tafadhali weka nambari ya ekari:	${DHSHC120} = 'Yes'	yes		
DHSHC121	G32. Does this household own any livestock, herds, other farm animals, or poultry?	G32. Je, hii nyumba inamiliki/iko na mifugo yoyote, ng'ombe, wanyama wengine wa shamba ama kuku?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC122	G33. How many local cattle (indigenous) does this household own?	G33. Ni ngombe wangapi wa kienyeji wenye wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi
DHSHC122A	G34. How many exotic/grade cattle does this household own?	G34. Ni ngombe wangapi wa kigeni wenye wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi
DHSHC122B	G35. How many horses, donkeys, or camels does this household own?	G35. Ni farasi, punda au ngamia wangapi wenye wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi
DHSHC122C	G36. How many goats does this household own?	G36. Ni mbuzi wangapi wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi
DHSHC122D	G37. How many sheep does this household own?	G37. Ni kondoo wangapi wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi
DHSHC122E	G38. How many chickens does this household own?	G38. Ni kuku wangapi wanamilikiwa/wako kwa hili boma?	${DHSHC121} = 'Yes'	yes	None, 1 to 4, 5 to 9, 10 or more	Hakuna, 1 hadi 4, 5 hadi 9, 10 au zaidi

DHSHC123	G39. Does any member of this household have a bank account?	G39. Kuna mtu yeyote wa hii nyumba mwenye anayo akaunti ya benki?		yes	Yes, No, Don't Know, Refuse	Ndio, La, Sijui, Kataa
DHSHC124	G40. At any time in the past 12 months, has anyone come into your dwelling to spray the interior walls against mosquitos?	G40. Kwa wakati wowote chini ya miezi 12, kuna mtu yeyote amekuja kwa makao yako kufukiza kuta za ndani dhidi ya mbu?		yes	Yes, No, Don't Know, Refuse	Ndio, La, Sijui, Kataa
DHSHC126	G41. Does your household have any mosquito nets that can be used while sleeping?	G41. Je, nyumba yako inayo neti ya kuzuia mbu yenye yaweza kutumika wakati wa kulala?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSHC127	G42. How many mosquito nets does your household have? If 7 or more nets, record '7'.	G42. Nyumba yako iko na neti ngapi ya kuzuia mbu? Kama ni saba au zaidi, andika saba.	${DHSHC126} = 'Yes'	yes		
DHSRB104	G43. Have you ever attended school?	G43. Umewahi kwenda shule?		yes	Yes, No, Refuse	Ndio, La, Kataa
DHSRB105	G44. What is the highest level of school you attended?	G44. Ulifika kiwango gani cha juu cha masomo?	${DHSRB104} = 'Yes'	yes	Primary, Secondary/'A' level, Post-primary/Vocational, College (Middle Level), University	Msingi/Primary, Sekondari/Shule ya upili, Shule ya ufundi/Technical , Chuo/College , Chuo kikuu/University
DHSRB106	G45. What is the highest standard/form/year you completed at that level? IF YOU COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '0'.	G45. Ulifika (darasa/kidato/mwaka) gani katika kiwango hicho? KAMA ULIMALIZA CHINI YA MWAKA MOJA KWA KIWANGO HICHO, REKODI '0'	${DHSRB104} = 'Yes'	yes		
DHSRB110	G46. Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	G46. Huwa unasoma gazeti hata mara moja kwa wiki, chini ya wiki moja ama husomi kamwe?		yes	At Least Once a Week, Ocasionally/Once in a While, Not at All	Angalau mara moja kwa wiki , Mara moja moja, Kamwe
DHSRB111	G47. Do you listen to the radio at least once a week, less than once a week or not at all?	G47. Huwa unaskiliza redio hata mara moja kwa wiki, chini ya mara moja kwa wiki ama huskizi kamwe?		yes	At Least Once a Week, Ocasionally/Once in a While, Not at All	Angalau mara moja kwa wiki , Mara moja moja, Kamwe
DHSRB112	G48. Do you watch television at least once a week, less than once a week or not at all?	G48. Huwa unatazama televisheni hata mara moja kwa wiki, chini ya mara moja kwa wiki ama hutazami kamwe?		yes	At Least Once a Week, Ocasionally/Once in a While, Not at All	Angalau mara moja kwa wiki , Mara moja moja, Kamwe
DHSRB113	G49. What is your religion?	G49. Wewe ni wa dini gani?		yes	Roman Catholic, Protestant or other Christian , Muslim, No religion, Other	Catoliki, Kiprotestanti (Christ-Co, Winner's Chapel, Friends/Quakers, PAG, AIC, Divine, Deliverance n.k.) , Muislamu, Hauna dini, Kabila nyingine
DHSRB113A	G50. Specify Other:	G50. Taja hiyo dini nyingine:	${DHSRB113} = 'Other'			
DHSRB114	G51. What is your ethnic group/tribe?	G51. Wewe ni wa kabila gani?		yes	Embu, Kalenjin, Kamba , Kikuyu, Kisii, Luhya , Luo, Maasai, Meru, Mijikenda/Swahili, Somali, Taita Taveta, Other	Embu, Kalenjin, Kamba, Kikuyu , Kisii, Luhya, Luo, Maasai, Meru, Mijikenda/Swahili, Somali, Taita Taveta, Njia zingine
DHSRB114A	G52. Specify Other:	G52. Taja nyingine:	${DHSRB114} = 'Other'			
DHSRB108	G53. Thank you for completing this portion of the survey. Please return the tablet to the enumerator for the final question. (111)	G53. Asante kwa kumaliza sehemu hii ya utafiti. Tafadhali rudisha kibao simu kwa mtafiti akuulize swali la mwisho. (111).		yes	#N/A	#N/A
DHSRB108A	G54. The child is reading a book	G54. Huyu mtoto anasoma kitabu.				
DHSRB108B	G55. Reading Capacity:	G55. Uwezo wa kusoma:		yes	Cannot Read at All, Able to Read Only Parts of Sentence, Able to Read Whole Sentence, No Card with Required Language, Blind/Visually Impaired	Hawezi soma kamwe, Huweza kusoma tu sehemu ya sentensi, Huweza kusoma sentensi yote, Hakuna lugha inayoeleweka, Kipofu/Haoni vizuri
DHSRB108C	G56. Specify Language:	G56. Taja lugha:	${DHSRB108B} = 'No_Card_With_Required_Language'	yes	English, Swahili	English, Swahili
New47	G57. Did the participant answer the survey questions by listening to the enumerator administer the questions or answering on her own?	G57. Did the participant answer the survey questions by listening to the enumerator administer the questions or answering on her own?		yes		
New49	G58. In which language was the screening completed?	G58. In which language was the screening completed?		yes		
New18	G59. End of Survey	G59. Mwisho wa Utafiti				
endHH						
beginConsent			${unmetNeed}=1			
New40	H7. Did this participant sign the consent form?	H7. Did this participant sign the consent form?		yes		
New46	H8. [Text XXXXX: keyword +254XXXXXXXXX.]	H8. [Text XXXXX: keyword +254XXXXXXXX.]	${New40}='No'			
IDpart	H9. [Text XXXXX: keyword +254XXXXXXXX.] Fill out the financial record book.] Please enter the participant ID sent to you by SMS:	H9. [Text XXXXX: keyword +254XXXXXXXX.] Fill out the financial record book.] Please enter the participant ID sent to you by SMS:	${New40}='Yes'	yes		
endConsent						
Idrecord	I1. Please fill out the financial record book and enter the form ID from the book (T_-XXXX):	I1. Please fill out the financial record book and enter the form ID from the book (T_-XXXX):	${passedEligibility1}=0 or ${passedEligibility2}=0 or ${passedEligibility3}=0 or ${unmetNeed}=0 or ${New40}='No'	yes		

name	label::English	label::Swahili	relevant	required	options.english	options.swahili
start	A1. Start Time	A1. Start Time		yes		
end	A2. End Time	A2. End Time		yes		
today	A3. Date of Survey	A3. Date of Survey		yes		
deviceid	A4. Device	A4. Device		yes		
beginIdentification						
IDPart	B1. [Enter the Participant ID.]	B1. [Enter the Participant ID.]		yes		
participant	B2. [Select participant]	B2. [Select participant]		yes		
partName	if(string-length(${participant}) != 0,jr:choice-name(${participant},'${participant}'),'(not a valid participant)')					
Displaypart	B4. [You chose ${partName}. If that is not correct, swipe back.]	B4. [You chose ${partName}. If that is not correct, swipe back.]				
Pullassign	if(${IDPart}=XXX or ${IDPart}=XXX or ..., 'control', 'treatment')					
ID2	B9. [What is the reason for calling the participant?]	B9. [What is the reason for calling the participant?]		yes	Participant prefers a follow up call, Something went wrong with her survey, No reply to SMS invite	Participant prefers a follow up call, Something went wrong with her survey, No reply to SMS invite
ID3	B10. [Did the call connect?]	B10. [Did the call connect?]		yes	Yes, No	Ndio, La
ID4	B11. Hi, I'm [MY NAME] from the Bungoma County Women's Health Study. Is this ${partName}?	B11. Jambo, jina langu ni [Jina] kutoka utafuti wa Afya ya Wanawake kutoka Bungoma. Wewe ndiye ${partName}?	${ID3}='Yes'		Yes, No	Ndio, La
ID5	B12. [Is this the correct participant?]	B12. [Is this the correct participant?]	${ID3}='Yes'	yes	Yes, No	Ndio, La
FUP43	B13. Is ${partName} available to speak right now?	B13. Je ${partName} yuko tayari kuzungumza wakati huu?	${ID5}='No'	yes	Yes, No	Ndio, La
FUP44	B14. Great, Can you please put her on the phone?	B14. Sawa, unaweza kumweka kwenye simu ili azungumze?	${FUP43}='Yes'	yes	Yes, No	Ndio, La
FUP45	B15. Ok, I'll try again another time this week.	B15. Sawa, nitajaribu tena kuzungumza nawe wakati mwengine wiki hii.	${FUP43}='No' or ${FUP44}='No'			
FUP46	B16. Hi, I'm [MY NAME] from the Bungoma County Women's Health Study.	B16. Jambo, mimi ni [Jina] kutoka utafiti ya afya ya wanawake kutoka Bungoma.	${FUP44}='Yes'			
Assign			${ID5}='Yes' or ${FUP44}='Yes'			
endIdentification						
beginIntro			${ID5}='Yes' or ${FUP44}='Yes'			
FUP1	C1. I received a message that you would prefer a follow up call. I'm here to help. This follow-up survey should only take 5 minutes. When you're done, I'll send you Ksh 200 airtime as a thank you. Do you have time?	C1. Nimepata ujumbe kwamba ungependa kufuatiliwa kwa njia ya kupigiwa simu. Niko hapa kukusaidia.Uchunguzi huu utachukua dakika tano tu. Utakapomaliza tutakutumia shilingi mia mbili ya pesa za kuzungumza kwa simu. Je una wakati?	${ID2}='Prefer'	yes	Yes, No	Ndio, La
FUP48	C2. Thanks again for joining our study! I'd like to invite you to participate in a very short follow-up. It should take you less than 5 minutes. When you're done, I'll send you Ksh 200 airtime as a thank you. Do you have time?	C2. Ahsante kwa kuungana nasi katika utafiti huu. Ningependa kukualika uhudhurie mfuatilio mfupi sana. Itachukua muda wa chini ya dakika tano. Utakapomaliza tutakutumia shilingi mia mbili ya pesa za kuzungumza kwa simu. Je una wakati?	${ID2}='No_Reply'	yes	Yes, No	Ndio, La
FUP37	C3. I received a message that something went wrong in your survey. I'm here to help. This follow-up survey should only take 5 minutes. When you're done, I'll send you Ksh 200 airtime as a thank you. Do you have time?	C3. Nimepata ujumbe ya kwamba kuna jambo liloharibika wakati uchunguzi ulikua unafanyika. Niko hapa kukusaidia. Uchunguzi huu utachukua dakika tano tu. Utakapomaliza tutakutumia shilingi mia mbili ya pesa za kuzungumza kwa simu. Je una wakati?	${ID2}='Wrong'	yes	Yes, No	Ndio, La
endIntro						
beginMessages	begin group		${FUP1}='Yes' or ${FUP37}='Yes'			
FUP38	D1. Let's get started! I'll ask some questions. There are no right or wrong answers.	D1. Tuanze! Nitauliza maswali chache. Hakuna swali sahihi au kosa.				
FUP2	D2. When you completed our first survey in the market, you said you were not using any form of family planning. How about now? Are you currently doing something or using any method to delay or avoid getting pregnant?	D2. Ulipokamilisha utafiti wetu wa maswali ya upangaji uzazi ulisema ya kwamba hautumii njia yoyote ya upangaji uzazi. Kwa sasa, unatumia mbinu zozote kuchelewa ama kuepuka kupata/kushika mimba?		yes	Yes, No	Ndio, La
FUP3	D3. So you are not currently using any kind of family planning, like pills, injections, or implants. Is that correct?	D3. Kwa hivyo hautumii njia yoyote ya upangaji uzazi, kama tembe, sindano ama kidude. Hio ni sawa?	${FUP2}='No'	yes	Correct, Incorrect	Sahihi, Si sahihi
FUP4	D4. Have you used any forms of family planning since the first election in August, even if you have since stopped?	D4. Umetumia njia yoyote ya upangaji uzazi tangu uchaguzi wa kwanza katika mwezi wa nane, hata iwapo uliwacha kitambo?	${FUP3}='Correct'	yes	Yes, No	Ndio, La
FUP5	D5. Which method?	D5. Ni mbinu gani unayotumia?	${FUP2} = 'Yes' or ${FUP3}='Incorrect' or ${FUP4}='Yes'	yes		
FUP6	D6. Are you satisfied with this method so far?	D6. Umeridhika na njia hii ya upangaji uzazi?	${FUP2}='Yes' or ${FUP3}='Incorrect'	yes	Yes, No	Ndio, La
FUP7	D7. Sorry to hear that. Why not?	D7. Pole sana, kwa nini haujaridhika?	${FUP6}='No'	yes		
FUP8	D8. Have you visited a family planning provider for any reason since the first election in August?	D8. Umemtembelea mhudumu wa upangaji uzazi kwa sababu yoyote tangu uchaguzi wa kwanza katika mwezi wa nane?		yes	Yes, No	Ndio, La
FUP9	D9. Which provider?	D9. Ni kituo gani cha afya uliyotembelea?	${FUP8}='Yes'	yes		
FUP10	D10. When did you go?	D10. Ulienda lini?	${FUP8}='Yes'	yes		
FUP11	D11. Did you have to pay any money at this visit?	D11. Je, ulilipia huduma hiyo?	${FUP8}='Yes'	yes	Yes, No	Ndio, La
FUP12	D12. How much?	D12. Pesa ngapi?	${FUP11}='Yes'	yes		
FUP13	D13. A while back we invited you to try a new phone service called Nivi. Have you ever called Nivi to try the service?	D13. Kitambo kidogo tuliweza kukualika ili utumia huduma mpya ya simu inayoitwa Nivi .Je umewahi kupigia Nivi simu ili kujaribu huduma hii?	${Assign}=1	yes	Yes, No	Ndio, La
FUP30	D14. Nivi is a new phone service that helps women access family planning? Have you ever heard of it?	D14. Nivi ni huduma mpya ya simu ambayo inasaidia wanawake kuweza kupata huduma ya upangaji uzazi. Je umewahi kusikia Nivi?	${Assign}=0	yes	Yes, No	Ndio, La
FUP31	D15. OK, we'll send you an invite. You might like to give it a try!	D15. Sawa, tutakutumia mwaliko. Unaweza kujaribu!	${FUP30}='No'			
FUP32	D16. Have you ever called Nivi to try the service?	D16. Je, umewahi kupigia simu Nivi ili kujaribu huduma hii?	${FUP30}='Yes'	yes	Yes, No	Ndio, La

FUP14	D17. Please enter the phone number you used when trying Nivi.	D17. Tafadhali andika nambari yako uliotumia ukijaribu Nivi.	${FUP32}='Yes' or ${FUP13}='Yes'	yes		
FUP15	D18. Did you complete the Nivi screening and receive a referral code via SMS?	D18. Je uliweza kukamilisha uchunguzi wa Nivi na kupata kodi ya rufaa kupitia ujumbe mfupi?	${FUP32}='Yes' or ${FUP13}='Yes'	yes	Yes, No	Ndio, La
FUP16	D19. Did you like using Nivi?	D19. Je ulipenda kutumia Nivi?	${FUP32}='Yes' or ${FUP13}='Yes'	yes	Yes, No	Ndio, La
FUP17	D20. That's it! Thanks for taking the time to answer a few questions. I'll send some appreciation. We'll be back in touch in a few months. Bye!	D20. Ni hayo tu kwa sasa. Asante kwa kuchukua muda wako kujibu maswali haya. Nitatuma shukrani zangu. Tutaweza kuzungumza baada ya miezi michache. Kwaheri!				
FUP42	D21. [Did you speak to the participant in Swahili or English?]	D21. [Did you speak to the participant in Swahili or English?]		yes	Swahili, English	Swahili, English
endMessages						
beginOther	begin group		${FUP1}='No' or ${FUP37}='No' or ${FUP48}='No'			
FUP39	E1. When would be a good day for me to call you back?	E1. Ni siku gani itakayokuwa nzuri ya kukupigia?		yes		
FUP40	E2. Should I call you in the morning, afternoon, or evening?	E2. Je, ninaweza kukupigia asubuhi, mchana, au jioni?		yes	Morning, Afternoon, Evening	Asubuhi, Mchana, Jioni
FUP41	E3. Thanks, I'll call back then. Have a nice day!	E3. Asante, nitakupigia simu. Uwe na siku njema!				
endOther						
FUP47	F1. [Was the follow-up survey completed?]	F1. [Was the follow-up survey completed?]		yes	Yes, No	Ndio, La