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# Consumer Use of a Family Planning Text Message Service

This brief summarizes findings about consumer use of a text message information service in Kenya called m4RH. Consumers initiate contact with the free service by sending a text and accessing information on family planning from a menu of topics. Data was drawn from messages sent and received by 6,784 study participants in a randomized controlled trial conducted in 2014 to assess the impact of m4RH on family planning knowledge and behavior. The objective of this analysis is to document how consumers engaged with the service in order to inform design of future mhealth interventions.

## Key Findings

Consumers accessed information about all nine methods and all sub-topics such as method benefits, myths, and efficacy, with an average of twelve queries per consumer. Searchable text services can serve as a basic primer on family planning options, to support goals of informed choice.

Among m4RH consumers who reported contraceptive use, condoms were the predominant method used, which differs from the general Kenyan population for whom injectables are the main method (KNBS 2010). This suggests that m4RH may be a valuable platform for transitioning individuals from short-acting to longer-acting methods.

Natural family planning was the most popular topic across all segments, suggesting the need for strong programs on fertility awareness and pregnancy prevention.

There were no significant differences in engagement with the service based on gender, age, marital status or current use of contraception. Mobile information services are effective in addressing information needs along the reproductive health cycle, and can reach males to increase joint decision-making.



Strengthening Health Outcomes  
through the Private Sector

## Background

The dramatic proliferation of mobile phones in developing countries opens new windows for delivering more effective and scalable interventions to improve health outcomes. m4RH is a pioneering example of an on-demand mobile information service in which consumers can search a database using text messages (also known as short message service or SMS) available on all models of mobile phones. For the millions still without access to the internet, SMS-based searches offer private and personalized access to information not otherwise available.

m4RH was developed in 2010 by FHI360 with funding from USAID's PROGRESS project to provide a neutral, trustworthy source of information on contraception. m4RH content was developed through a systematic process, based on evidence and country-level guidelines, approved by public health experts, and tested for usability and comprehension. The service content falls into four categories: basic information on nine methods of contraception; expanded content related to method benefits, side effects, and myths; role model stories; and a clinic locator.



In 2013, the Strengthening Health Outcomes through the Private Sector (SHOPS) project evaluated m4RH in Kenya to estimate its impact on consumer knowledge and use of family planning (Johnson et al, 2015). The evaluation detected a significant impact on family planning knowledge but did not detect an impact on consumer use of contraception. This report examines consumer engagement patterns with m4RH to provide insight on (1) what family planning content m4RH users seek, with what frequency and (2) how selection of family planning topics correlates with socio-demographic and behavioral characteristics. These findings are intended to provide insight for future mhealth implementers to best serve the needs of target beneficiaries.

## Methodology

The m4RH service used a platform created by TexttoChange, the technology provider contracted to implement m4RH. TexttoChange maintained a log of all texts sent or received by m4RH during the nine month study period from October 2013 through May 2014. This log included the specific content accessed, the mobile number that the SMS was sent to or received from, and the date and time the SMS was sent or received. SHOPS downloaded a complete record of all interactions over the study period, exported to Excel, and conducted the analyses.

Two data sets were analyzed. The first included m4RH interactions by all consumers who accessed the m4RH platform during the study period. The second smaller data set was based on analysis of platform usage by those participants who answered at least one text survey question sent to collect data for the impact evaluation. Three waves of survey questions were sent over a 90 day period, including demographic questions (gender, age, marital status, religion, education), and questions about contraceptive knowledge and contraceptive use. Analysis of m4RH access by survey responders provides the opportunity to correlate search behavior with socio-demographic and self-reported contraceptive behaviors. Sample sizes are indicated for each of the findings in this report.

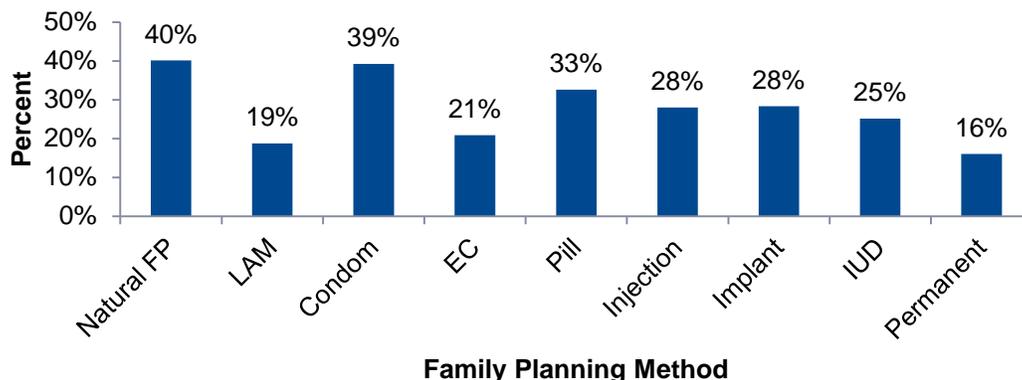
## Findings

### 1. Consumers demonstrate interest in information about all nine methods, with highest interest in natural family planning and condoms

Consumers searched information across all nine methods, suggesting that m4RH is serving as a basic introduction to family planning (Figure 1). m4RH format, offering free and easily searchable information, allows consumers to ‘surf’ the menu of topics, providing exposure to neutrally presented information. The confidential nature of mobile information services is especially important for those who may not avail themselves of facility-based reproductive health services.

The m4RH usage patterns show strongest interest in natural family planning (fertility awareness) and condoms. The popularity of individual methods does not appear to be related to the order in which the method was listed in the m4RH main menu.<sup>1</sup> The interest in non-hormonal methods is consistent with fears and mistrust about hormonal methods documented in the literature.<sup>2</sup> This suggests that family planning programs should invest in education about natural family planning methods and condoms, including the benefits and risks compared to other methods.

**FIGURE 1: PERCENT OF m4RH CONSUMERS REQUESTING INFORMATION ON FP METHODS (N=6,784)**



### 2. THE MAJORITY OF CONSUMERS ENGAGED WITH THE SERVICE ON A SINGLE DAY BUT EXPLORED MULTIPLE SUB-TOPICS

Over the study period m4RH consumers accessed an average of 12-14 texts, with 61% using the site only on a single day. (Figure 2) Consumers appeared to satisfy their curiosity in a single ‘visit’ to the service during which they perused numerous topics of interests. It is

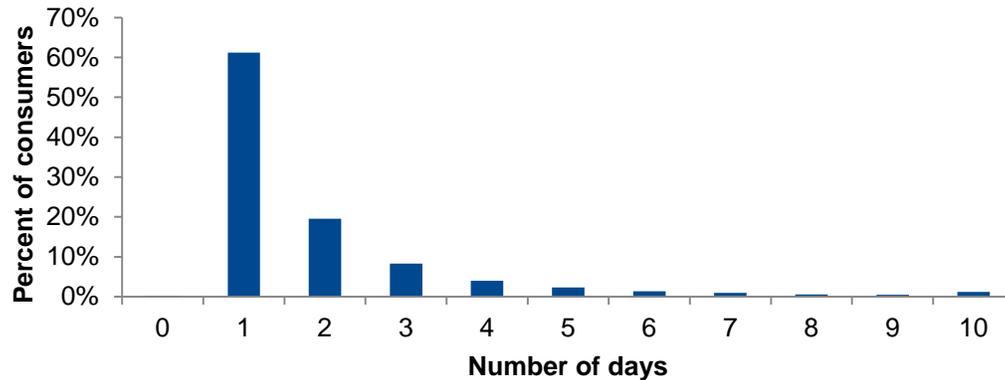
<sup>1</sup> The order of the contraceptive methods in this table and others in this brief is roughly from shortest acting to longest acting. The order of methods listed in the main menu of m4RH was as follows: implants, IUCD, permanent methods, injectables, daily pill, EC, condoms, natural family planning, and LAM.

<sup>2</sup> Sedgh, Gilda, and Rubina Hussain. 2014. ‘Reasons for Contraceptive Nonuse among Women Having Unmet Need for Contraception in Developing Countries.’ *Studies in Family Planning* 45 (2): 151–69.

noteworthy that a substantial 39% of m4RH consumers returned to the site on multiple days, with more than 1300 consumers who returned to the site on three or more days during the study period. This re-visiting the service suggests an opportunity to increase the “dose” of messaging by regularly expanding and refreshing the content in searchable text service, to reinforce key messages. m4Rh content stayed static during the study period.

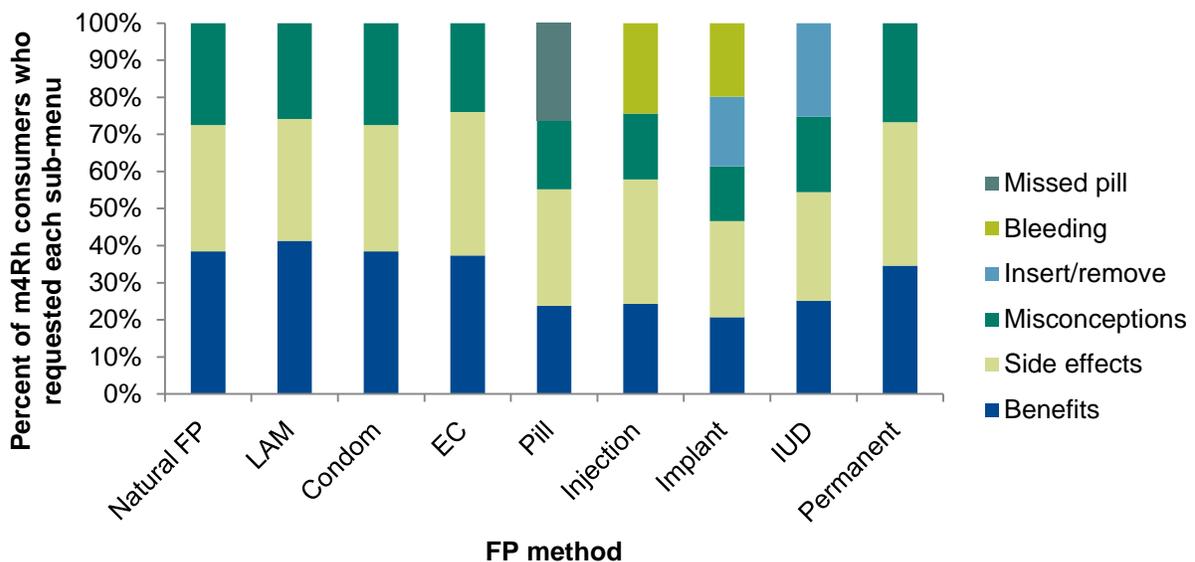
**FIGURE 2: NUMBER OF UNIQUE DAYS CONSUMERS SENT REQUESTS TO m4RH**

(n=6,784)



Consumers consistently went beyond the main or opening SMS on each method to access information on misconceptions, side effects and benefits. Although interest in these sub-topics varies slightly by method, subscribers appear to be interested in all sub-topics for all methods (Figure 3).

**FIGURE 3: PERCENT OF M4RH CONSUMERS REQUESTING SUB-MENU INFORMATION ON EACH METHODS**



The search behaviors shown in this study suggest that consumers easily navigate menus to retrieve information of interest. Text platforms can be routinely refreshed and expanded to increase the layers of information available at small marginal costs. As digital information

services like m4RH grow over time, consumers can personalize their information search to the detailed and localized information they need.

### 3. MALES AND FEMALES ACCESSED SIMILAR INFORMATION ACROSS TOPICS

Of those survey takers who answered questions about gender, 34% were male, indicating that m4RH is an effective tool for reaching men with family planning education. Male involvement in family planning is an important factor in increasing the acceptability and prevalence of family planning practices of both sexes. Family planning programs have long recognized the importance of men's role and motivation in fertility decision-making but struggle to successfully reach men who are less likely to avail themselves of clinical or community-based services

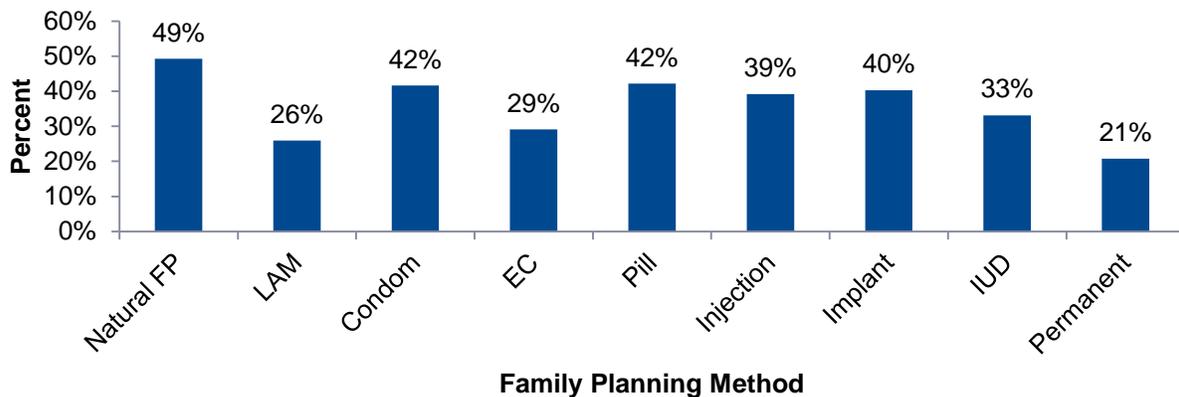
m4RH is an effective tool for reaching men

(Becker 1996, Shattuck et al. 2011).

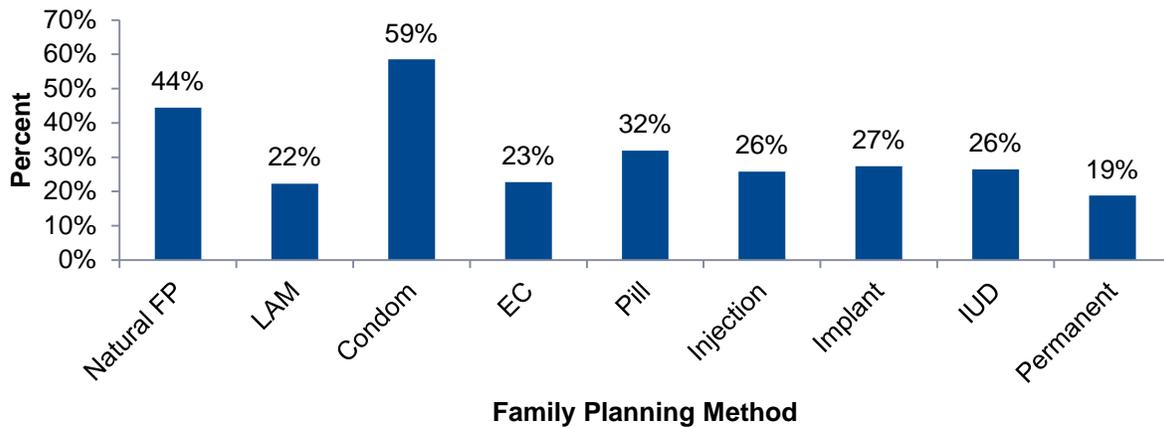
The pattern of interest in family planning methods was roughly similar between males and females, other than higher male interest in condoms (Figures 4 and 5). The interest by males across all nine methods of family planning suggests that mobile phones offer a promising educational tool. Globally, male use of mobile phones is higher than female use (GSMA 2010).

The high male interest in condom information makes sense given that condoms are the only method used by men. Condom use is an effective method of contraception but evidence indicates that education on correct and consistent use is a critical factor. Females showed relatively higher interest in pills, injections and implants compared to males.

**FIGURE 4: FAMILY PLANNING METHOD INFORMATION REQUESTED BY FEMALE CONSUMERS (N=1,870)**



**FIGURE 5: FAMILY PLANNING METHOD INFORMATION REQUESTED BY MALE CONSUMERS (N=911)**

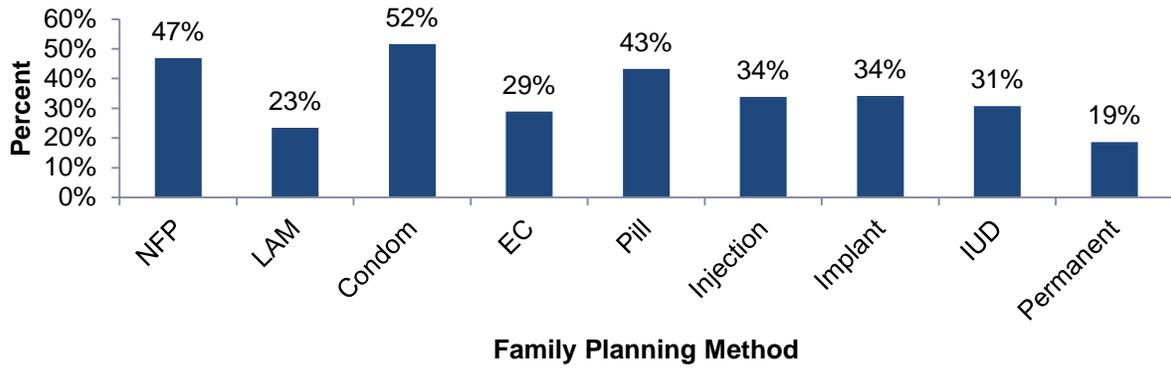


#### **4. INFORMATION ACCESSED BY DIFFERENT AGE GROUPS SHOWED MODEST DIFFERENCES**

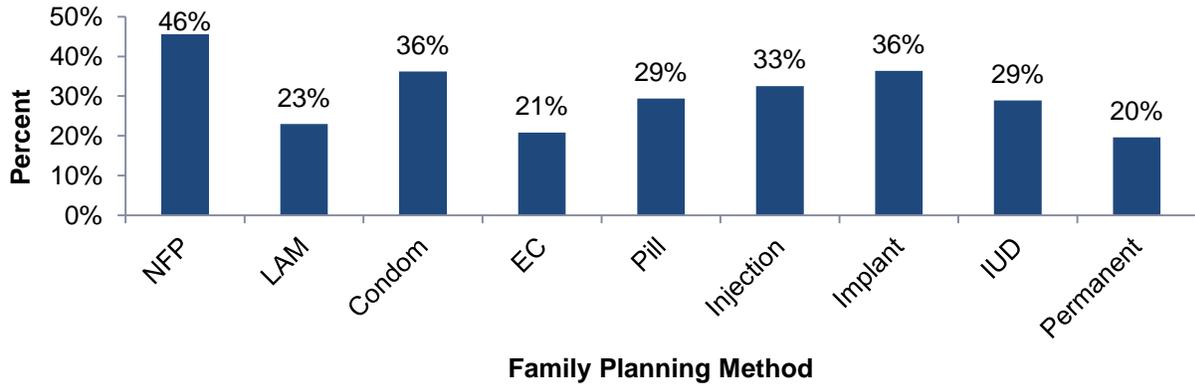
Topics of interest to m4RH consumers evolved somewhat over age categories, with younger people more interested in natural family planning methods and condoms, those 24-35 most interested in short-acting hormonal methods, and older people showing greatest interest in long-acting methods relative to younger consumers (Figures 6-8). This tracks with expected life cycle stages, as needs differ among women who have never had a child, women in the early years of child-bearing and women who seek to limit future fertility. It is interesting to note that interest in natural family planning information stayed consistently high across all three age groups. The variation in methods of interest across the reproductive life cycle validates the relevance of m4RH design, which allows consumers to access the information content they need.

The average age of consumers in our study population was 24. This suggests that m4RH can be effective in reaching young adults who are a priority population for sexual and reproductive health information. Due to ethical considerations, all youth under age 18 were eliminated from the study population, but of those who answered the age question on the survey, only 14 were eliminated due to young age. Additional research is needed to identify best ways of reaching youth 15-18 with appropriate family planning information via mobiles.

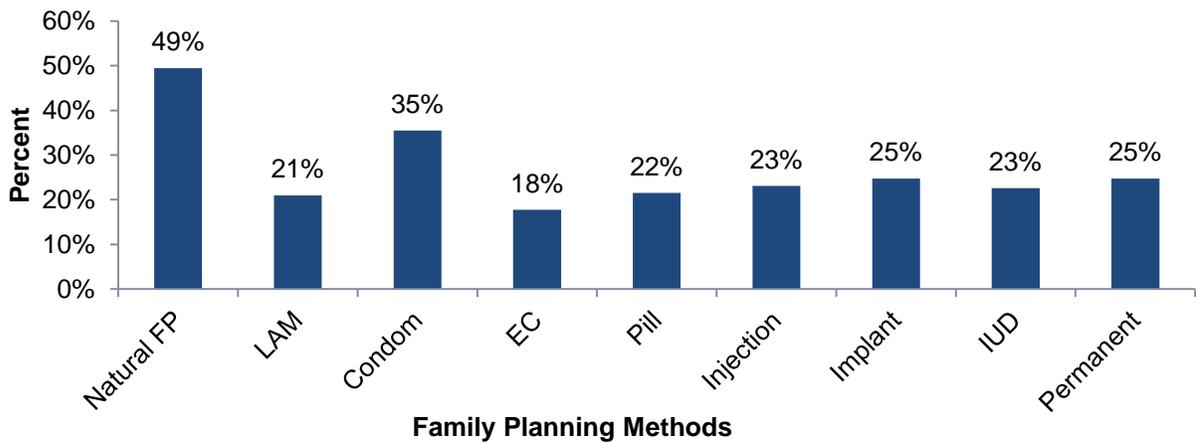
**FIGURE 6: FAMILY PLANNING METHOD INFORMATION REQUESTED BY CONSUMERS 18-24 (N=2,032)**



**FIGURE 7: FAMILY PLANNING METHOD INFORMATION REQUESTED BY CONSUMERS 25-34 (N=1,272)**



**FIGURE 8: TYPE OF m4RH CONTENT REQUESTED BY CONSUMERS AGES 35-49 (N=186)**

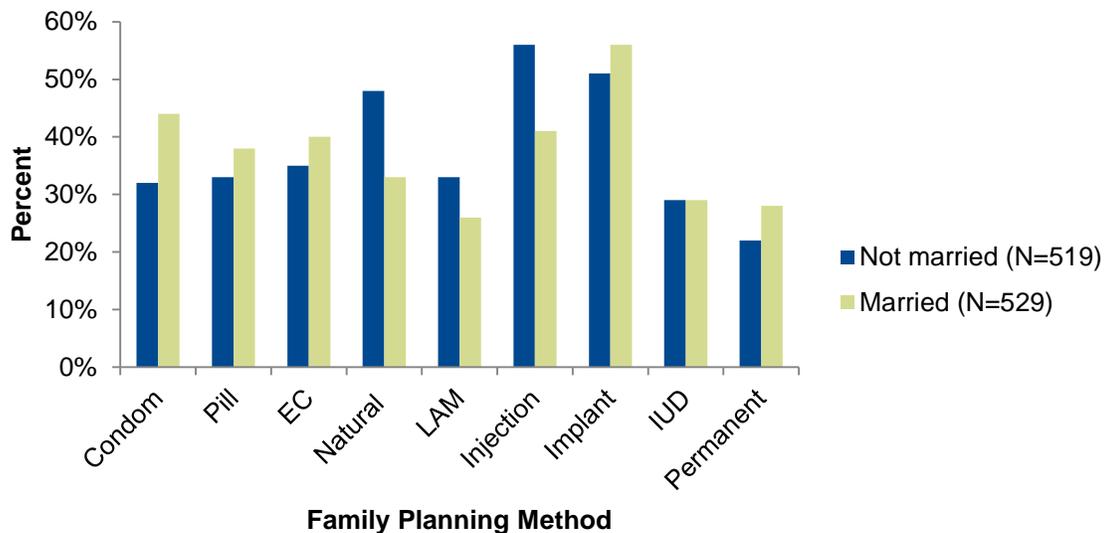


## 5. MARRIED CONSUMERS SHOWED SOMEWHAT HIGHER INTEREST IN SHORT-TERM METHODS COMPARED TO UNMARRIED CONSUMERS

Of those who answered the survey question about marital status, roughly 50% were married and 50% were unmarried. As shown in Figure 9 below, both married and unmarried individuals showed interest in a wide range of methods, with some modest differences between the two groups. Consumers who reported being unmarried showed the highest interest in injections (56 percent), implants (51 percent) and natural family planning methods (48 percent). Consumers who reported being married searched most for information on implants (56 percent), condoms (44 percent), injections (41 percent), and emergency contraception (40 percent).

Married individuals also searched for short-term methods including condoms and oral contraception pills at a higher rate than unmarried married users. This could reflect different near-term fertility intentions. The slightly higher interest in LAM by unmarried individuals is puzzling as one would expect higher interest from married individuals who more likely to be breastfeeding, but this may reflect m4RH's role as a place to learn about unfamiliar methods.

**FIGURE 9: FAMILY PLANNING METHOD REQUESTED BY MARITAL STATUS**



## 6. CONTRACEPTION USERS AND NON-USERS ACCESSED SIMILAR M4RH CONTENT

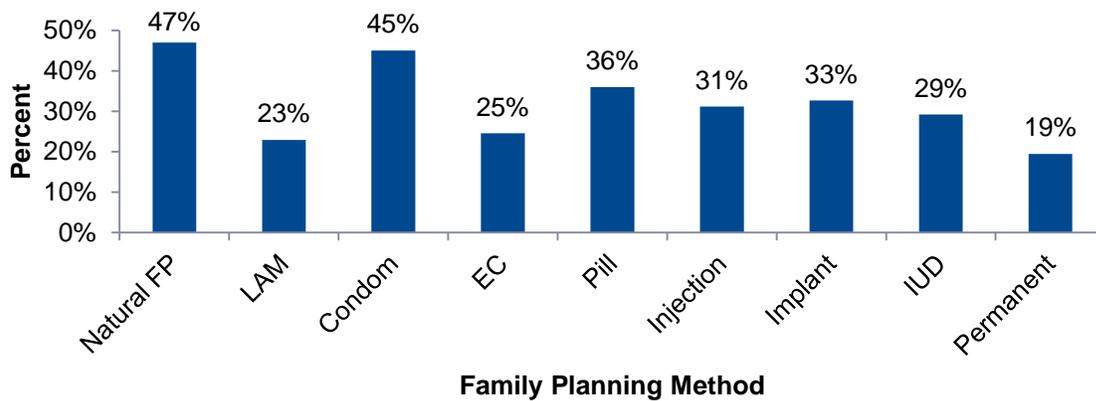
Of the 2978 consumers who answered the survey question about their contraceptive use, 70 percent reported using contraception and 30 percent reported that they did not. The frequency and depth of their searches on m4RH were similar (Table 1).

**TABLE 1: FREQUENCY OF m4RH USE AMONG FAMILY PLANNING NON-USERS AND USERS**

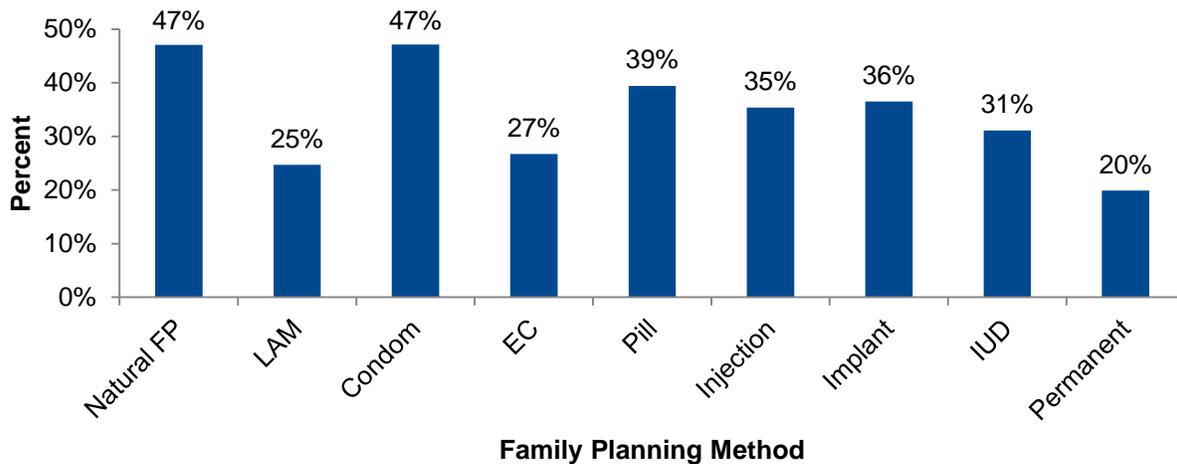
	<b>Family Planning Non-Users N=906</b>	<b>Family Planning Users N=2072</b>
Percent consumers who accessed m4RH on one day only	56%	54%
Mean number of days consumers used m4RH	2	2
Mean number of requests to m4RH	13	14

There were no significant differences in what information was accessed by contraception users and non-users (Figures 10 and 11). Non-users showed a somewhat greater interest in natural family planning, and they accessed most other methods at a slightly lower rate compared to contraceptive users.

**FIGURE 10: FAMILY PLANNING METHOD INFORMATION REQUESTED BY CONTRACEPTION NON-USERS (N=906)**



**FIGURE 11: FAMILY PLANNING METHOD INFORMATION REQUESTED BY CONTRACEPTION USERS (N=2,072)**

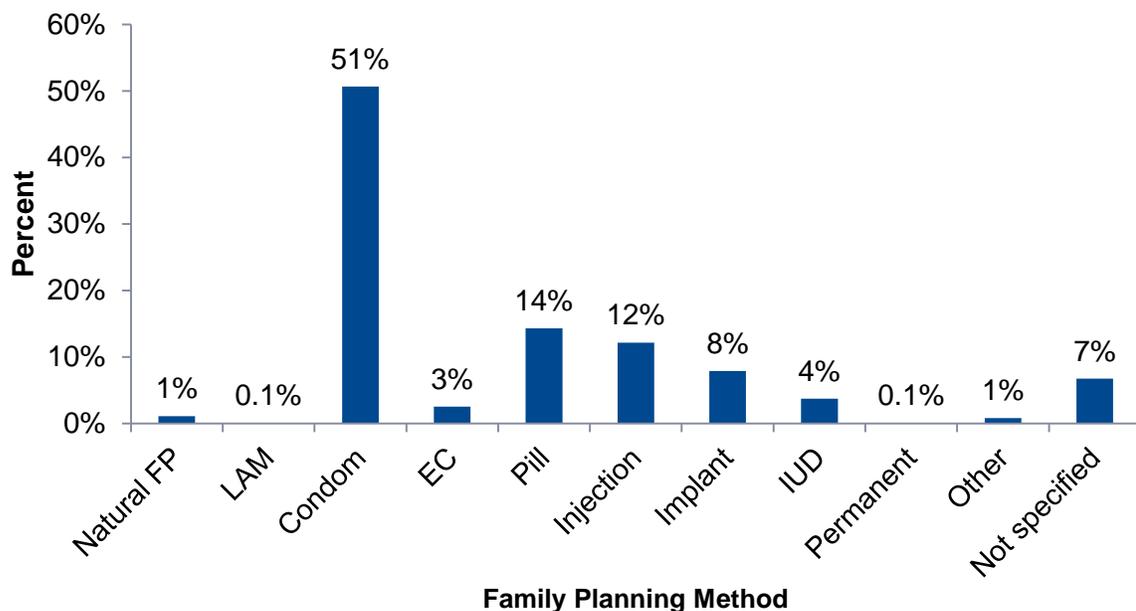


The similarity in search behavior between contraceptive users and non-users was surprising because it would seem likely that the two groups would have different informational needs. As noted below, however, m4RH consumers who reported contraceptive use were primarily condom users, who could be expected to have similar interest in information about hormonal methods as contraceptive non-users. Condoms are the most easily accessible modern method, and are valued by those who fear side effects from hormonal methods (Williamson, 2009).

## 7. METHOD USE REPORTED BY m4RH CONSUMERS DIFFERED FROM METHOD MIX OF THE GENERAL POPULATION

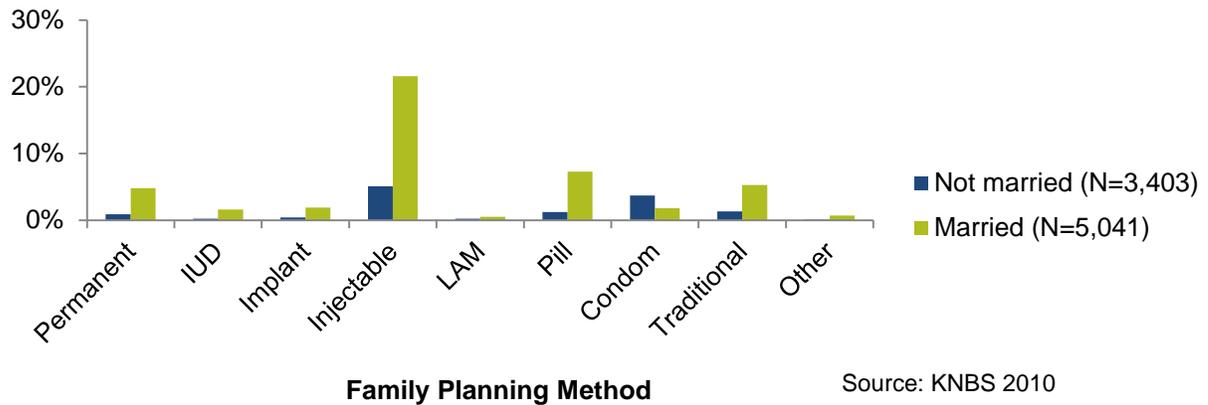
The overall method mix among m4RH consumers who reported using a method of contraception differed from the method mix among Kenyans reported in the Demographic and Health Survey DHS 2008 (Figures 12 and 13).<sup>3</sup> Among m4RH consumers who reported use of contraception, 51 percent used condoms whereas the predominant method among the population at large is injectables. Despite the large proportion of m4RH consumers who showed interest in natural family planning, only 1% used that method, which is lower than use reported in the general population.

**FIGURE 12: FAMILY PLANNING METHODS USED BY m4RH CONSUMERS (N=2,072)**



<sup>3</sup> KNBS 2010.

**FIGURE 13: PORTION OF KENYAN WOMEN WHO USE CONTRACEPTION BY METHOD TYPE (N=8,444)**

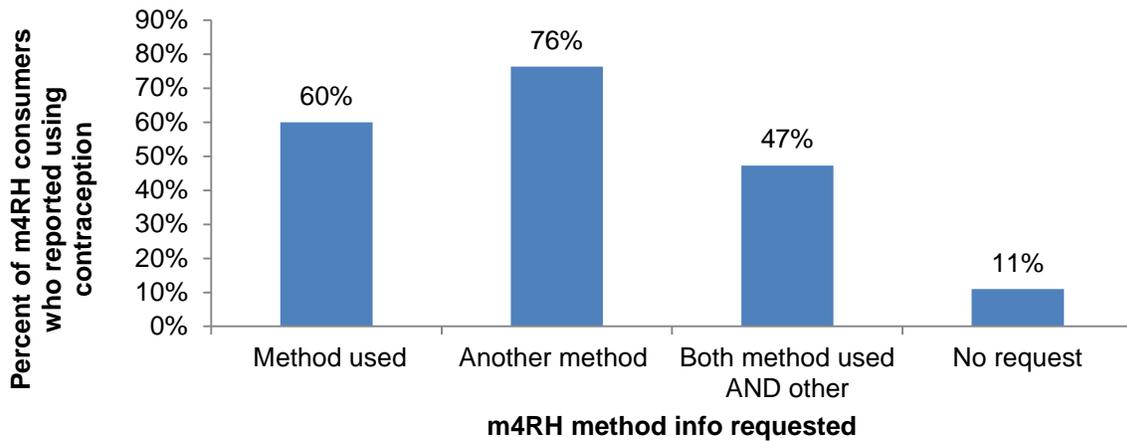


The profile of our study sample of m4RH consumers as predominantly condom users sheds some new light on our finding in the impact evaluation that m4RH was not reaching non-users of contraception. SHOPS did not conduct qualitative research with m4RH study participants which would have offered some insight into the dynamics of condom use including consistency of use (one time or every time), or whether they were used primarily to avoid pregnancy or to protect against sexually transmitted infections. We also have no information on whether those who reported to be non-users of contraceptive were sexually active. In any case the data suggest that many drawn to m4RH appear to be in early stages of initiating sexual activity, based on their age and reliance on condoms for pregnancy prevention. This population is a priority audience to reach with information on the range of contraceptive options.

## **8. CONTRACEPTIVE USERS SHOWED INTEREST IN CONTENT BOTH ABOUT METHODS THEY CURRENTLY USE AND ABOUT OTHER METHODS**

This section analyzes the correlation between a consumer’s method of use and the method information they accessed (Figure 14). Sixty percent of m4RH consumers who used family planning requested information on the method they were currently using. Seventy-six percent requested information on a method they were not currently using and nearly half (47 percent) requested information on both their current method and other family planning options.

**FIGURE 14: METHOD INFORMATION ACCESSED BASED ON METHOD USED  
(N=2,072)**



As noted above, roughly half of all m4RH customers using family planning were condom users. Condom users showed highest interest in natural family planning, with nearly half of condom users requesting information on that method (Table 2). Condom users also showed interest in oral contraceptive pills and each of the long-term methods. Apart from the current method used, m4RH customers using contraception of any type most frequently requested information on natural family planning and condoms with the exception of emergency contraceptive users who showed highest interest in oral pills.

The high percent of people accessing information on their current method of use indicates that m4RH is enhancing knowledge and offering reassurance about the appropriate use and safety of a chosen method. The higher percentage looking for information on methods other than the one currently used suggests that m4RH and similar mobile information services can support those who want to transition to other methods due to changing needs.

**TABLE 2: METHOD INFORMATION ACCESSED BASED ON METHOD USED  
(N=2,072)**

Contraceptive Method Used	Contraceptive Method Accessed								
	Implant	IUCD	Injection	Pill	Natural	LAM	EC	Perm	Condoms
Implant (N = 163)	89%	29%	23%	18%	42%	19%	13%	21%	22%
IUCD (N = 77)	36%	66%	23%	9%	52%	30%	22%	19%	29%
Injectable (N = 252)	38%	34%	73%	29%	48%	28%	29%	24%	29%
Pill (N = 296)	34%	34%	33%	67%	49%	24%	29%	21%	44%
Natural FP (N = 22)	45%	45%	50%	41%	86%	41%	36%	23%	41%
LAM (N = 2)	0%	0%	0%	0%	50%	0%	0%	0%	0%
EC (N = 52)	29%	29%	29%	54%	33%	27%	46%	17%	37%

Permanent Method (N = 2)	0%	0%	0%	0%	0%	0%	0%	100%	0%
Condom (N = 1050)	30%	28%	30%	40%	47%	25%	29%	19%	59%
Unspecified/other (N = 156)	29%	26%	33%	37%	42%	20%	15%	17%	44%

## 9. INTEREST IN ROLE MODEL STORIES WAS HIGH ACROSS DEMOGRAPHIC GROUPS

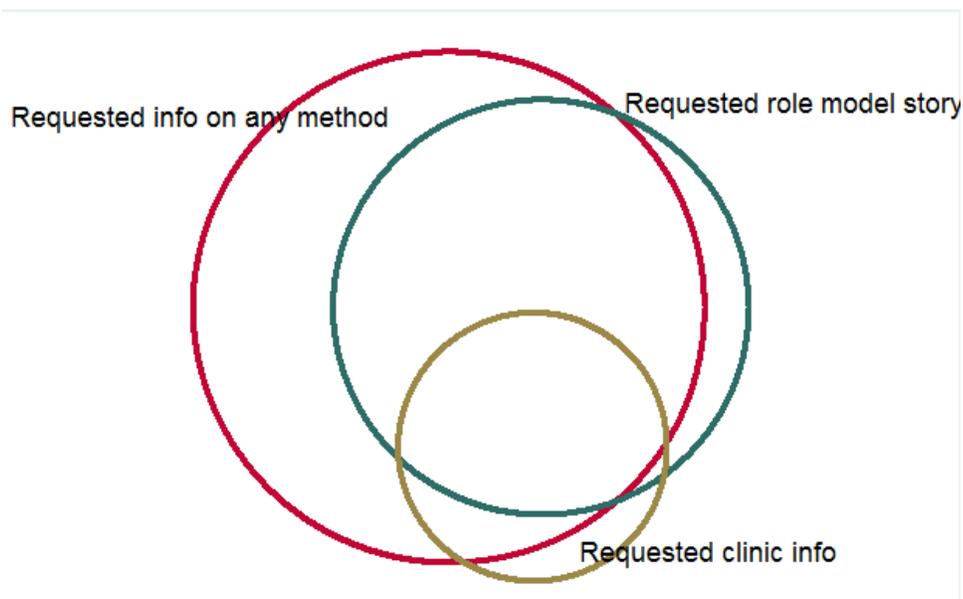
m4RH includes content in story format to supplement the factual information about methods. These role model stories offer contextual content regarding the emotional and cultural values that affect contraceptive use. Through the voice of “someone just like me,” the stories deal with common concerns including family disapproval, financial constraints, and relationship negotiations. Below as an example is the first installment of one storyline:

*Hi, I'm John. I'm a 29-year-old university student. Yesterday my girlfriend says she wants to use family planning. I don't know what this means and I'm embarrassed to ask her. My friend Tupa says if I support Amina, she will go fishing and I will lose her.*

The main menu of m4RH lists role model stories as a menu item, and offered three story lines. By sending a text selecting one of the stories, consumers receive a series of 3-4 texts over a week with a continuous story line. This format provided more continuous engagement with consumers than the overall request/response design to access content.

Interest in the role model stories was substantial, with 52% of m4RH consumers accessing at least one. As shown in Figure 15, consumers who accessed role model stories also accessed information on methods, and to a lesser extent, information on clinic locations.

**FIGURE 15: OVERLAP IN TYPES OF CONTENT REQUESTED BY m4RH CONSUMERS**



Interest in the role model stories among survey takers was similar between the genders, with females somewhat more likely to access than males (64% versus 57%). There were modest decreases in interest across the three age categories, with the highest interest among those

ages 18-24 (Table 3). There was minor difference in access to role model stories by contraceptive users (62%) and non-users (60%).

**TABLE 3: PERCENTAGE OF USERS WHO ACCESSED ROLE MODEL STORIES BY AGE**

Age	Percent who accessed role model stories
18-24 (N= 2032)	63%
25-34 (N=1272)	58%
35-49 (N=186)	52%

These findings support the continued use of storytelling within information services to provide context related to complex factors affecting contraceptive use. The results indicate that there is appeal in stories across population segments, providing opportunities to address a broad range of barriers to contraception throughout the reproductive life cycle. The high overlap in those who requested role model stories and factual information on methods indicates that the two components are complementary.

## 10. INTEREST IN CLINIC LOCATOR WAS RELATIVELY LOW

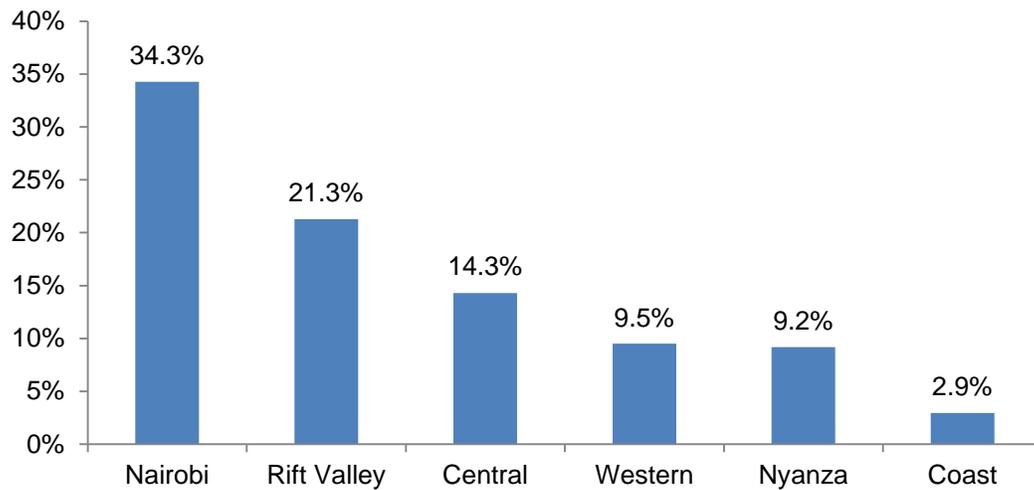
m4RH includes a menu item which allows consumers to bring up a list of clinics within their province which were provided by m4RH partner organizations. Only 22% of m4RH consumers accessed menu information related to clinic location, and interest did not vary significantly with gender or age (Table 4). Given that many m4RH consumers were either not using contraception or using condoms, which are available outside of clinics, limited use of the clinic database may reflect their lack of perceived need for clinic-based services. m4RH consumers may also know where the nearest family planning clinic is, and not need information about clinic location.

**TABLE 3: PERCENTAGE OF USERS WHO ACCESSED CLINIC LOCATOR BY AGE**

Age	Percent who accessed clinic locator
18-24 (N= 2032)	25%
25-34 (N=1272)	28%
35-49 (N=186)	26%

For those who did access and request a clinic location, there is some useful data about the geographic reach of m4RH as a proxy for the location of users. Nairobi was the most frequently requested region for clinic locations. This can be attributed to the study's greater level of promotion in Nairobi including radio talk show mentions of m4RH and the promotional activities of m4RH clinical partners.

**FIGURE 16: REGION OF CLINIC LOCATIONS REQUESTED BY M4RH CONSUMERS (N=916)**



## Conclusions

Mobile phones offer a convenient educational channel within integrated family planning programs to complement and address the constraints of less anonymous face-to-face interventions and less customizable mass media campaigns. The results of this analysis demonstrate that consumers “surf” across topics and sub-topics, exposing themselves to vetted family planning content which may not be readily available from other sources. Search-based text message platforms such as m4RH offer considerable depth of information, and can expand menu “trees” across related health areas, languages, localized sub-topics, and formats of interest. The findings of this study suggest that mobile services can effectively reach all population segments with access to basic mobile phones to meet a variety of information needs.

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