Support for Service Delivery Integration Communication

Findings from the 2016 Endline Survey of 15 Districts in Malawi

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SSDI
SUPPORT FOR SERVICE DELIVERY INTEGRATION
"Together we build healthy families"

Table of Contents

Acknowledgements

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Note: The contents of this report are the responsibility of CCP and SSDI-Communication staff and do not necessarily reflect the views of USAID or the Government of the United States.

Acronyms

ANC	Antenatal Care
CAC	Community Action Cycle
CAG	Community Action Group
CBO	Community Based Organization
CCP	Johns Hopkins Center for Communication Programs
CRECCOM	Creative Centre for Community Mobilisation
EA	Enumeration Area
EHP	Essential Health Package
EPPM	Extended Parallel Process Model
FP	Family Planning
HMIS	Health Management Information System
HAS	Health Surveillance Assistants
HTC	HIV Testing and Counseling
LA	Lumefantrine Artemether (a medication that treats malaria)
LLIN	Long Lasting Insecticide Treated Net
MDHS	Malawi Demographic and Health Survey
MNCH	Maternal and Child Health
NGO	Non-Governmental Organization
NSO	National Statistical Office
ORS	Oral Rehydration Salts
SBCC	Social and Behavior Change Communication
SCI	Save the Children International
SSDI	Support for Service Delivery Integration
STI	Sexually Transmitted Infection
TA	Traditional Authority
TBA	Traditional Birth Attendant
USAID	U.S. Agency for International Development
VCT	Voluntary Counseling and Testing
WASH	Water, Sanitation, and Hygiene
YONECO	Youth Net and Counselling

Executive Summary

Overview

Moya Ndi Mpamba (MNM) was widely accessible to Malawian men and women of reproductive ages as reflected in the findings. Moreover, exposure to the campaign was positively and significantly associated with positive knowledge, attitudes, social norms and health practices. While this association was not universal, it was more often true than not. As noted above, changes between baseline and endline were largely, although not universally, positive. These findings point to the predominantly positive effects of exposure to MNM media programming and other activities.

Methodology

This study relied on a stratified random sampling design, weighted by population, with 15 intervention and four control districts. The sample was stratified by district, enumeration areas and sex. The total sample comprised of 2,205 respondents; 981 men and 1,224 women.

Key Findings

Exposure to Moyo Ndi Mpamba

- Seventy-eight percent of men and 71% of women were exposed to at least one *Moyo ndi Mpamba* campaign activity.
- Men were exposed to significantly more campaign activities than women.
- More people in general were exposed to the radio program than the community or face-to-face activities.

WASH

- Nearly 70% of all exposed respondents reported that they wash their hands using soap and water at endline compared to 57% during the baseline. (The percent of non-exposed respondents who reported behavior was slightly lower than the overall rate at baseline.) Additionally, there was a considerable decrease in those who reported only using water (41% at baseline and 28% at endline).
- Compared to non-exposed participants, exposed participants were significantly more likely to report washing their hands with soap and water and less likely to report using water only.

Malaria

- At endline, under-five children living in households exposed to the program were more likely (92%) than those who were not exposed (84%) to sleep under a bed net the night prior to the survey.
- Of mothers who reported sleeping under a bed net, 91% at endline compared to 83% at baseline reported using an insecticide-treated net.

Fertility Preferences and Contraception

- Exposure to the campaign was associated with greater likelihood of currently using any form or a modern form of contraception for both men and women
- 45% of the population who were not currently pregnant or trying to get pregnant reported currently using modern contraception.

- Exposure to a family planning message from at least one activity from the campaign was associated with increased family planning intention among both men and women.
- Among current non-users of contraception, 81% of men and 69% of women intend to use contraception in the future.
- Women who were exposed to at least one campaign activity were significantly more likely to desire fewer children.

Maternal and Child Health

- Among women with a child ≤5 years old, 98% reported receiving antenatal care during their pregnancy.
- The mean number of ANC visits varied by *Moyo ndi Mpamba* participation or exposure: while non-participants reported an average of 3.1 visits, *Moyo ndi Mpamba* participants reported an average of 3.4 ANC visits, a statistically significant difference.
- Program participants were significantly more likely to use any bed net as well as more likely to use LLINs every night during their most recent pregnancy.
- Compared to baseline, a larger percentage of women at endline reported giving birth with the aide of a trained medical attendant, and that a physician or clinical officer attended their birth. There were no differences by program participation.

HIV & AIDS

- 35% of all respondents indicated that they had talked to at least one other person about HIV/AIDs topics compared with 44% at baseline. While endline rates were lower, exposure to the program was positively and significantly associated with such conversations.
- Just below 90% of women and 82% of men sampled reported being tested for HIV compared to two-thirds at baseline.
- Exposure to the program was significantly and positively associated with HIV testing (women: 79% unexposed vs. 93% exposed; men: 72% unexposed vs. 85% exposed).

Sexual Behavior

- 21% of the total sample reported having more than one sexual partner in the past 12 months
- Exposure to at least one campaign activity was associated with significantly reduced likelihood of having more than one sexual partner in the past 12 months.
- Overall, 14% of respondents reported using a condom at last sex.
- Exposure was not significantly associated with condom use at last sex.
- Women who were exposed to *Moyo ndi Mpamba* were significantly more likely to perceive that some/most of their peers would approve of their consistent condom use. There was no significant effect of exposure among men.

Gender Norms

- Exposure was associated with significantly higher gender equitable beliefs among both men and women.
- Program participants (both men and women) were more likely than non-participants to report greater levels of joint decision-making.

Conclusions

The findings reported herein point to the popularity and accessibility of the *Moyo ndi Mpamba* campaign. Given the clear associations between program exposure and positive outcomes, it is important to continue to use the MNM platform to convey health-related knowledge and positive attitudes, encourage social normative change and create an enabling environment for positive health practices. To improve program exposure, the findings suggest that it will be important to (1) increase radio ownership and access to radio programming and (2) expand community mobilization. Under SSDI, Malawi has made important strides in creating an enabling environment to sustain positive health practices and support positive behavior change. By continuing the successful MNM approach, these achievements can be sustained and furthered, ushering in a healthier future for the children, women and men of Malawi.

Chapter 1. Introduction

National Context

Malawi is a sub-Saharan African country located south of the equator. The country is divided into five zones: North, Central East, Central West, South East and South West. There are 28 districts in the country. Administratively, districts are subdivided into traditional authorities (TAs), presided over by chiefs. The TA is composed of villages, which are the smallest administrative units and the Village Head presides over the village.

During the 2008 Population and Housing Census, the population in Malawi was estimated at 13.1 million, with an intercensal population growth rate of 2.8 percent per year. Population density increased from 105 persons per square kilometer in 1998 to 139 persons per square kilometer in 2008 (NSO, 2008). The United Nations estimates that the population of Malawi as of 2016 was 17,750,000.

Life expectancy at birth in Malawi is estimated at 52.3 years for women and 49.6 years for men (NSO, 2008). According to the Malawi Demographic Health Survey (MDHS) in 2004 and 2010 there was a decrease in under-5 mortality rate from 133 deaths per 1,000 live births in 2000-2004 to 64 deaths per 1,000 live births in 2015-2016 (NSO and ORC Macro, 2005; NSO and ICF Macro 2016). The maternal mortality ratio has declined from 984 deaths per 100,000 live births in 1998-2004 (NSO and ORC Macro, 2005) to 574 deaths per 100,000 live births in 2008-2014 (NSO, 2014).

Malaria is endemic throughout Malawi and continues to be a major public health problem. It is the leading cause of morbidity and mortality in children under 5 and among pregnant women (HMIS, 2014). It is estimated that Malawi experiences about 4 million episodes of malaria annually.

Malnutrition among children remains high in Malawi though it has declined since 2004. Stunting rate has declined from 53 percent in 2004 to 42 percent in 2014 (NSO, 2014). Anemia prevalence among children has declined from 73 percent in 2004 to 63 percent in 2010 (NSO, 2011).

SSDI-Communication

Overview

SSDI-Communication was a five-year social and behavior change communication (SBCC) project (2011-2016) that promoted normative and behavior change in a range of health areas including

maternal, neonatal and child health (MNCH), family planning (FP), nutrition, malaria, water, sanitation and hygiene (WASH) and HIV & AIDS.

The Johns Hopkins Center for Communication Programs (CCP) implemented the project in partnership with Save the Children International (SCI) and several local organizations including CRECCOM, YONECO, Story Workshop, Galaxy Media and the University of Malawi. Funded by USAID, the project began on September 16, 2011 and ran through December 31, 2016. An important feature of this project was that it was one among three allied projects that collectively formed USAID's Support for Service Delivery Integration (SSDI) program. The other two projects focused on service delivery (SSDI-Services) and policy and systems strengthening (SSDI-Systems). SSDI-Services was an important collaborator on the project as SSDI-Communication's behavior change strategies and SSDI-Services' community mobilization strategies built on one another.

SSDI-Communication was implemented at the national level, but with special effort to disseminate messages through a range of communication platforms in the 15 SSDI target districts.

Goals and Objectives

The goal of all three Cooperative Agreements that constituted USAID's SSDI program, including SSDI-Communication, was to contribute to progress in three critical areas:

1. Reducing the total fertility rate and population growth, which are essential for attaining broad based economic growth;
2. Lowering the risk of HIV & AIDS to mitigate the enormous impact on human resources and productivity; and
3. Lowering maternal, infant and under-five mortality rates.

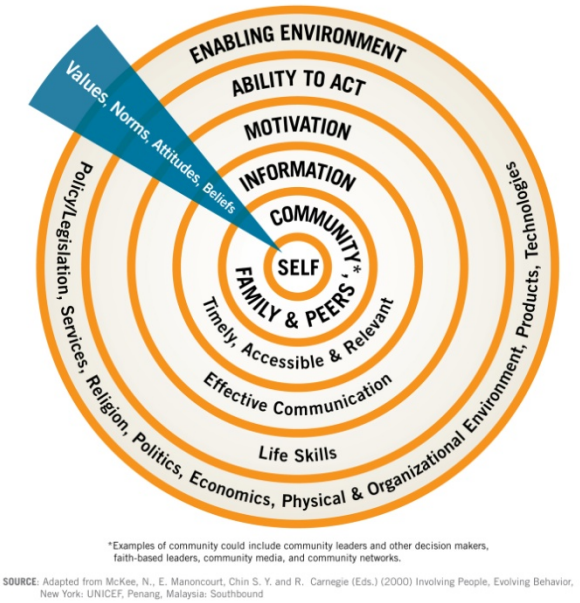
Four project-specific objectives provided focus for SSDI-Communication to contribute to the achievement of the overall SSDI goals:

1. Strengthen national and targeted district-level SBCC planning and coordination on Essential Health Package (EHP) priorities applied across health and resulting synergies.
2. Develop and produce evidence-based SBCC packages under a multi-level media campaign to support effective, integrated SBCC implementation through mass media and facility and community level.
3. Build capacity of key national institutional partners and targeted district SSDI- Services' partners for effective SBCC strategic planning and delivery through on-going technical assistance and monitoring on use of developed packaged interventions.
4. Identify best practices for SBCC implementation through formative research, testing new innovative approaches and materials and operational research, where appropriate.

SSDI-Communication's Strategic Approach for Social and Behavior Change Communication

SSDI-Communication used four overarching frameworks and approaches to guide the design and implementation of SBCC: a theoretical framework built on the foundation of the socio-ecological model, an umbrella theme and brand to unify all program activities, the utilization of a life stages approach, and the creation and use of integrated communication platforms and materials.

SSDI-Communication's interventions utilized a multilevel approach. At the individual level, SSDI-Communication utilized the extended parallel process model (EPPM). This model conceptualizes individual behavior change as being (a) motivated by people's desires to reduce their risk and (b) facilitated by enhancement of personal efficacy to bring about change. At the interpersonal level, communication incorporated principles from the theory of normative social behavior, which conceptualizes behavior change as being determined by interpersonal and social network influences. Finally, at the socio-cultural level, communication incorporated principles from social epidemiology, in which individuals' choices, decisions, and behaviors depend not only on their own characteristics, but also on group or community characteristics.



The broad range of health topics targeted by SSDI-Communication (MNCH, FP, nutrition, malaria, WASH, and HIV & AIDS) was woven together under the overarching theme and brand Moyo ndi Mpamba, Usamalireni! ("Life is Precious, Take Care of It!") In this way, all activities were associated with the foundational understanding that "life is precious – take care of it!," whether it was deciding when to have a child or how to improve child health outcomes, when to seek antenatal care or how to reduce the risk of HIV transmission, among other health-related concerns.

Additionally, the project designed communication packages using a life stages framework. This framework allowed for the prioritization of key messages based on the needs of each life stage. SSDI-Communication targeted four life stages through its activities: adolescents, young couples (just married or about to get married), parents of children under the age of five, and parents of older children (6-12 years). This approach also allowed for targeted messaging during significant changes in people's lives, marked by pivotal events such as birth, graduation, marriage, and first employment, among others, which then served as teachable moments when people become open to adopting new behaviors or changing harmful practices.

Finally, all of SSDI-Communication's communication platforms, packages, and vehicles strategically integrated messaging on all six of its focal health areas. This approach reflected the reality of the lives of the project's target audience: people do not worry about individual health issues in isolation; their lives are impacted by various health concerns and needs simultaneously.

Key Messages Promoted by SSDI-Communication

As mentioned previously, SSDI-Communication targeted behaviors across six health areas: FP; malaria; MNCH; nutrition; WASH, and HIV & AIDS. The messages in the table below are the key behaviors and related information communicated and promoted by SSDI-Communication throughout program implementation. Prior to developing these messages, the project conducted a formative research study, which informed the selection of the final messages. The project adapted these key messages to best fit the needs of each audience and to better suit

various communication platforms. Additional messages were incorporated into SBCC materials as needed and on an annual basis to accommodate needs related to emerging issues.

Table 1.1. Key messages promoted by SSDI-Communication
Family Planning • Family planning methods are safe. If you have side effects, go to the clinic. • Choose temporary or permanent family planning methods according to your needs. • Pregnancy after the age of 35 puts a woman at greater risk. • Getting pregnant when you are too young (younger than 18) puts your health and that of the baby at risk. • Discuss with your partner on how best to plan your family. • You have a right to decide when to get pregnant. • Make healthy choices as a couple. Talk about family planning. • Real men talk to their spouses about family planning.
Malaria • Anyone can get malaria. Sleep under a long lasting insecticide treated net (LLIN) every night, all year round to protect yourself. • Everyone in the family should sleep under an LLIN. • LLINs are safe for everyone in the family. • Visit the nearest health center as soon as you notice fever in any family member (within 24 hours). • Make sure to take all your malaria drugs as prescribed at the health center. • Keep your home's surroundings clean and dry to prevent mosquitoes from breeding.
Maternal, Neonatal, and Child Health • It is important to plan carefully for childbirth and have a birth plan that includes when to go to the clinic, how to get there and the resources that will be needed during that period. Having a birth preparedness plan will help ensure a healthy outcome for your pregnancy and delivery. • All couples should learn about, and know the danger signs of pregnancy, delivery and after delivery. • Pregnant women should attend ANC at least 4 times before delivery, including once within the first three months of pregnancy. • Pregnant women should deliver at the health center for safe and skilled delivery. • All children should be fully immunized by the age of one year. • Parents should take their under-five children to the health facility as soon as they observe any danger sign.
Nutrition • Eat foods from the six food groups: plant proteins, animal proteins, carbohydrates, fats and oils, minerals and vitamins to stay strong and healthy. • Pregnant and breastfeeding women need more food. Pregnant women should eat one extra meal per day, while breastfeeding women should eat two extra meals per day. • Breastfeed your baby exclusively for the first six months.
Water, Sanitation, and Hygiene • Leftover food should be covered properly and re-heated before eating to avoid disease. • Wash your hands with clean water and soap or ash before preparing or eating meals, after visiting the toilet and after changing baby nappies. • Drink only clean and safe water. Make water safe by boiling, or by treating with chlorine or other treatment agents.

• Use the toilet every time. Avoid open defecation to prevent disease.
HIV & AIDS • If you do not know your status, you cannot get treatment. Get tested for HIV, get treated. • STIs predispose you to HIV infection. Seek early treatment for STIs. • Unprotected sex puts you at risk of HIV infection. Use condoms each time, every time. • Partners who stay faithful to each other greatly reduce their risk of HIV infection. • HIV positive mothers can give birth to HIV negative babies. Find out how at the health center. • Talk to your partner about HIV and your options to protect each other. Take the test together.

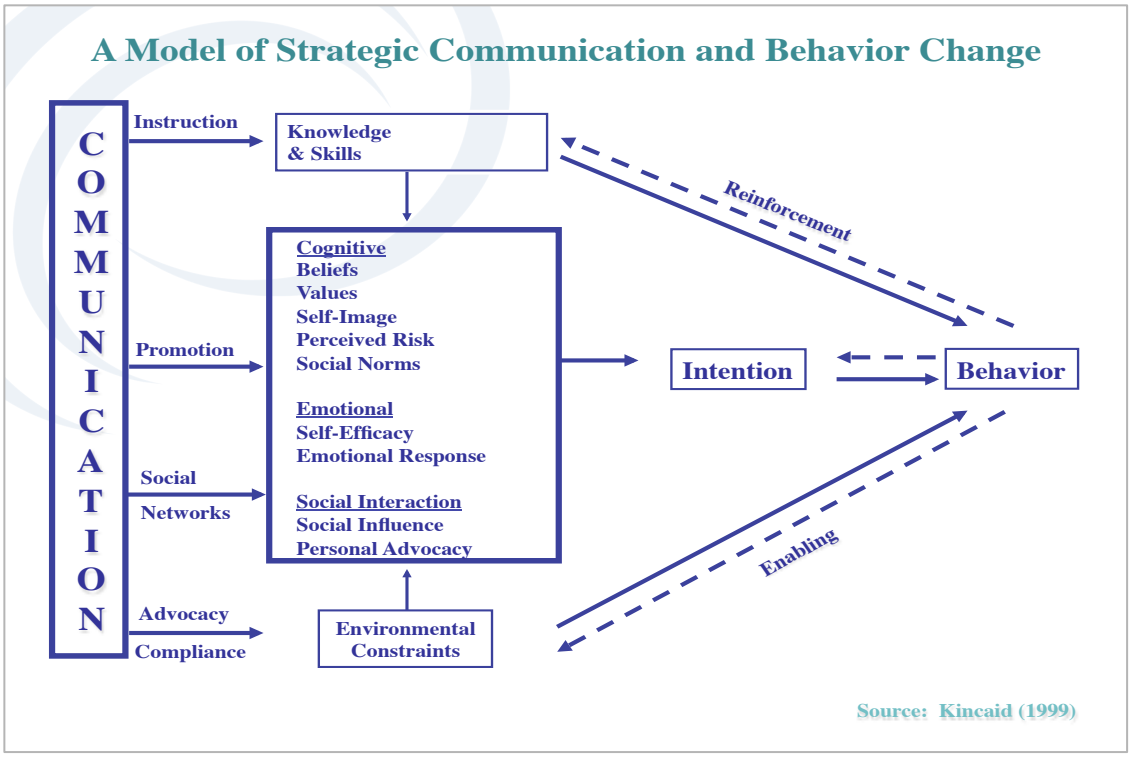
For detailed information on SSDI-Communication's SBCC products, materials, platforms, and interventions as well as specific distribution methods, please see Appendix 1.

Chapter 2. Endline Objectives, Methodology and Respondent Background Characteristics

Objectives of the Endline Survey

The primary objectives of this survey were to:

- To assess the endline levels of predictors of positive health practices (including knowledge, self-efficacy, risk perceptions, normative perceptions) as well as the health practices themselves (including with respect to nutrition, FP, ANC, perinatal care, LLIN use, vaccinations, voluntary counseling and testing [VCT], abstinence, condom use, etc.).
- To determine how the predictors of health practices and health-related actions as well as positive health practices changed since the baseline assessment.
- To examine the effects of the SSDI-Communication program by exploring associations between program participation, predictors of positive health practices, and specific health practices.



Conceptual Framework

Research demonstrates that communication interventions can introduce and promote new ways of thinking about specific health topics and specific health behaviors by influencing knowledge, attitudes, self-efficacy, social norms and communication. This understanding underpins the conceptual framework, presented below, that informs SSDI-Communication. Therefore, the findings in this report are organized according to the conceptual framework.

Methodology

Sampling

We used a stratified random sampling design, weighted by population, with 15 intervention and four control districts (see Table 2.1). Within each selected district, we randomly chose Enumeration Areas (EAs). From the selected EAs, we randomly chose households, and from each selected household, we chose one respondent for inclusion in the study. Respondents within households were chosen through a stratified random selection process based on sex. When more than one eligible respondent lived in a household, random selection was conducted using a random numbers table.

Table 2.1.
Sampled TAs by intervention and control sites

Zone	Intervention District						Control District
North	Chitipa Kameme	Karonga Kyungu Wasambo Mwirang'ombe	Karonga Town				Nkhata-bay Mkondowe Fukamalaza Kabunduli
Central East	Dowa Mkukula Chakhaza	Kasungu Kawamba Chilowamatambe M'nyanja	Salima Khombedza Karonga Maganga Kambalame	Nkhotakota Mwansambo Nkhotakota Town			Ntchisi Kasakula Nthondo
Central West	Lilongwe Chitekwere, Tsabango Chitukula, Chiseka Kalolo Kabudula	Chadza Mazengera Khongoni Area 7 Area 58					Dedza Kamenya Gwaza Tambala Pemba Dedza Town
South East	Balaka	Zomba Chikowi	Machinga Kawinga Liwonde Sitola Ngokwe Liwonde Town	Mangochi Mponda Chowe Mbwana Nyambi Makanjira Katuli	Phalombe	Mulanje Chikumbu Laston Njema	
South West	Chikhwawa Ngabu Makhwira Lundu Chikhwawa Boma	Nsanje Malemia Tengani					Chiradzulu Chitera Kadewere

Field Team

Supervisors and interviewers from Reach TRUST, a consultancy firm based in Lilongwe, collected the data. The firm's team together with JHU staff conducted a week-long training for the field staff team of interviewers and supervisors in April 2016. The training focused on survey methods, interview techniques and research ethics. Neighboring villages within Lilongwe District were identified to pilot test the survey instrument.

Data Entry and Analysis

Data was entered using CSPro. Statistical analyses were conducted using STATA version 13. Statistical significance was determined through Chi-square tests for differences in proportions and through ANOVA for differences in means.

Background characteristics of the sample

The total sample comprised of 2,205 respondents; 981 men and 1,224 women (see Table 1). The mean age among the total sample was 33.8 (range 16-78). On average, women were 32.9 years old and men were 34.7 years old. Over half of the sample (54.8%) attended some primary school, while 22.8% completed primary school and/or attended some secondary school. There were significant differences between men and women in terms of education level attained, with men being more likely to have completed primary, secondary and any post-secondary schooling. Nearly three-quarters (74.6%) of the total sample was married. Finally, over half of the sample was Protestant (58.9%), while 17.2% was Muslim and 15.1% was Catholic. We also found significant differences between exposed and non-exposed individuals in all demographic characteristics. Of note, exposed individuals were more likely to have attained a higher level of education, and were more likely to be married than their non-exposed counterparts. For zonal results by campaign exposure, please see Appendix 2, Table 2a.

Table 2.2. Percent distributions of background characteristics of baseline and endline participants, by sex and exposure

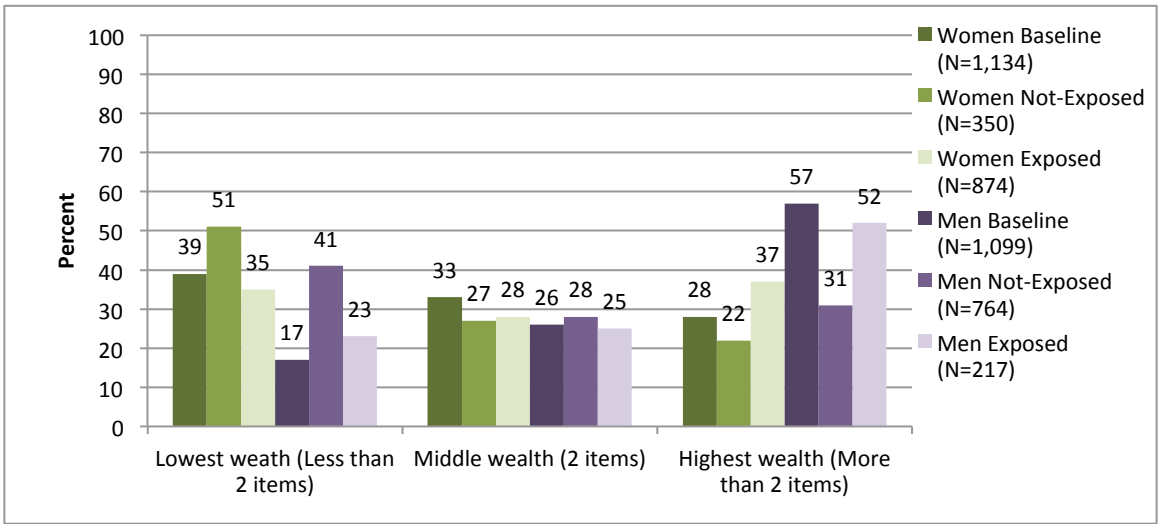
Characteristic	Baseline			Endline					
				Men (N=981)		Women (N=1,224)		Total (N=2,205)	
	Men (N=1,099)	Women (N=1,134)	Total (N=2,233)	Not-Exposed (N=764)	Exposed (N=217)	Not-Exposed (N=350)	Exposed (N=874)	Not-Exposed (N=567)	Exposed (N=1,638)
Age (Years)**									
16-24	34.3	36.9	35.6	22.5	24	24.8	30.5	23.9	27.4
25-34	31.8	34.7	33.2	33	29.7	28.9	33	30.5	31.4
35-44	18.6	17.8	17.8	18	24.5	21.1	22	19.9	23.2
45-60	15.1	11.2	13.1	26.5	21.8	25.2	14.5	25.7	17.9
Don't Know	0.3	0.3	0.3	--	--	--	--	--	--
Education***									
Never attended school	8.6	14.3	11.5	19.2	9.1	31.3	14.3	26.8	11.9
Attended primary school	51.7	61	56.4	58.6	49.2	53.9	59.3	55.6	54.6
Completed primary/Some secondary	31.1	19.9	25.4	13.1	30.5	13.1	21.9	13.1	25.9
Completed secondary/ Any post secondary	8.6	4.8	6.6	9.1	11.1	1.8	4.5	4.5	7.6
Residence***									
Rural	90.9	92.1	91.5	95.4	90.6	96.3	87.8	95.9	89.1
Urban	9.1	7.9	8.5	4.6	9.4	3.7	12.2	4.1	10.9

Religion**									
Catholic	15.3	15.3	15.3	13.1	15.7	14.6	15.3	14	15.5
Protestant	57.3	59.8	58.6	53.5	61.8	54.5	59.5	54.1	60.6
Muslim	21.8	23.5	22.7	19.2	13.2	21.1	18.8	20.4	16.2
Other	0.8	0.3	0.5	8.6	4.8	8	6.1	8.2	5.5
Not Religious	4.8	1.2	3	5.6	4.5	1.8	0.3	3.2	2.3
Marital Status***									
Single	21.2	14.3	17.7	22.7	13.9	8.9	9.2	14.1	11.4
In a relationship	5.4	1.5	3.4	0	0.9	0.9	0.9	0.6	0.9
Married	70.9	73.4	72.2	73.7	82.3	64.4	71.9	67.9	76.8
Formerly married or separated	2.6	10.8	6.7	3.5	2.9	25.8	17.9	17.5	10.9

Tests for significant differences between total exposed and non-exposed at endline
*p<0.05; **p<0.01; ***p<0.001

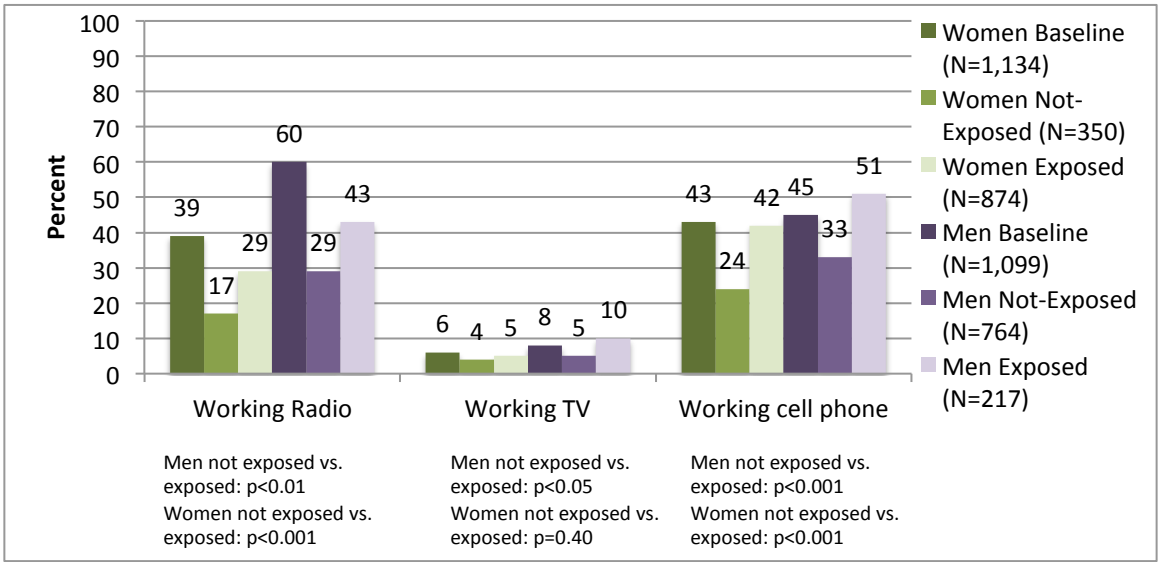
A wealth index was constructed by giving respondents one point for reporting ownership of each of the following 10 items and facilities: electricity, radio, TV, cellphone, landline phone, refrigerator, bicycle, car/motorcycle, potable water source (piped, protected well/spring or borehole), and adequate sewage disposal (flush toilet, covered pit or ventilated latrine). The data were split into three groups: "lowest," representing individuals who possessed 0-1 items; "middle," individuals who possessed 2 items; and "highest," individuals who possessed 3 or more items (Figure 2.1). There was a significant difference between men and women in terms of wealth, with men being more likely to fall into the highest wealth category, and women more likely to fall into the lowest wealth category. There was also a significant difference in wealth between those who were exposed and not exposed to the campaign. Specifically, individuals that were exposed to the campaign were more likely to fall into the highest wealth category, compared to those who were not exposed to at least one component of the campaign. Additionally, it is important to acknowledge that the fact that ownership of only three or more items placed individuals in the highest wealth tertile indicates that this population is impoverished. For results of household items by campaign exposure and sex, please see Appendix 2, Table 2b.

Figure 2.1 Wealth Index, by sex and exposure



In terms of ownership of communication devices (Figure 2.2), men reported owning more communication devices than women and individuals who were exposed to the campaign were also more likely to own communication devices, compared to those who were not exposed to the campaign.

Figure 2.2 Household Ownership of Communication Devices, by sex and exposure



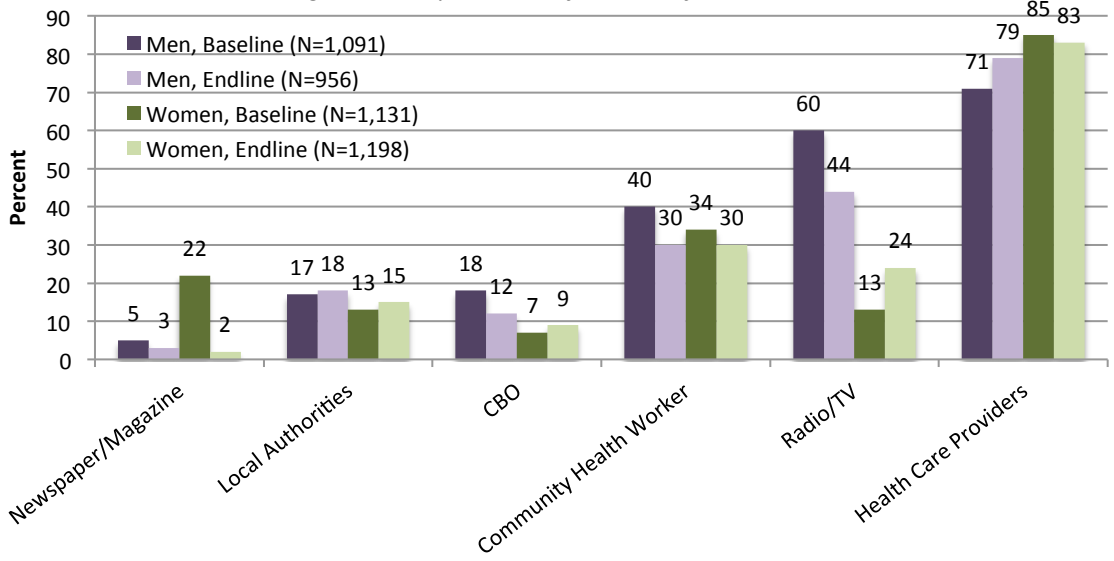
For results of household items by campaign exposure and zone, please see Appendix 2, Table 2c.

Chapter 3. Information Sources and Moyo ndi Mpamba Participation and Listenership

Top sources of health information

Malawi has many sources of health information. Health care providers, radio, TV and community health workers are the most common sources of health information (Figure 3.1). Men accessed more health information from radio/TV than women at endline (44% men; 24% women). Findings on radio listening habits suggest that men listen to more radio than women, with 40% of men vs. 5% of women reporting listening to the radio daily.

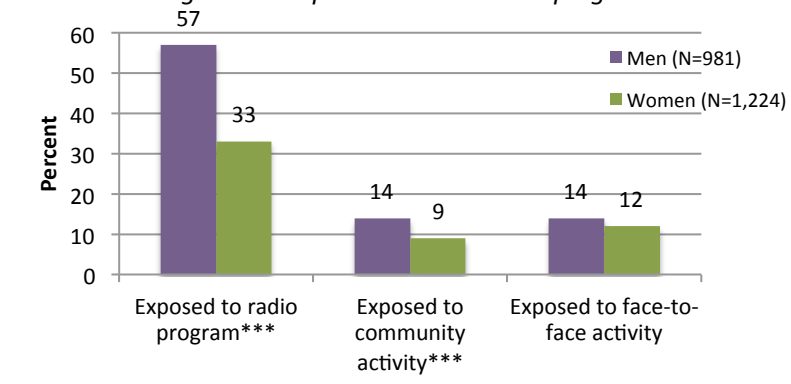
Figure 3.1 Top sources of health information



Exposure to Moyo ndi Mpamba (MnM) Campaign

Out of the total sample (N=2,205), 89% of men and 78% of women reported hearing of the *Moyo ndi Mpamba* campaign (for zonal results by sex please see Appendix II, Table a). Significantly more men were exposed to the *Moyo ndi Mpamba* radio program and community activities than women (Figure 3.2). Additionally, more people were exposed to the radio program than community or face-to-face activities (for zonal results by sex please see Appendix II, Table a).

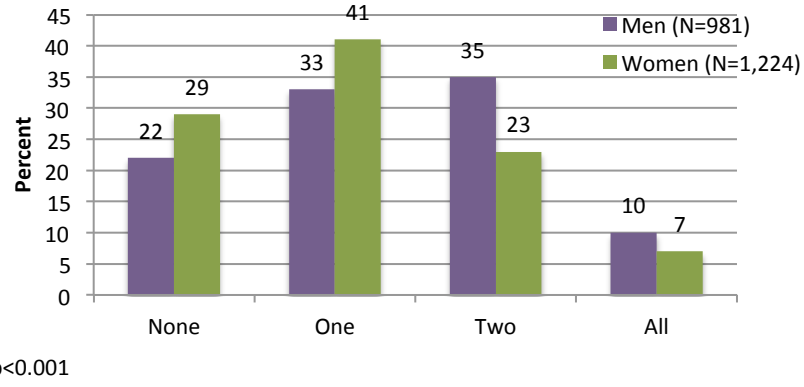
FIgure 3.2 Exposure to MnM campaign



Seventy-eight percent of men and 71% of women were exposed to at least one *Moyo ndi Mpamba* campaign activity. Figure 3.3 displays the number of campaign activities men and

women were exposed to. Men were exposed to significantly more campaign activities than women. For zonal results by sex, please see Appendix 3, Table 3a).

Figure 3.3 Exposure to communication program, dose



p<0.001

Chapter 4. Water, Sanitation and Hygiene

Knowledge and Perceptions

Since baseline, knowledge about the consequences of not washing hands increased: 83% of women surveyed at endline who reported exposure to the campaign responded that diarrhea is a potential consequence of not washing hands after key moments, compared to 76% of women surveyed at baseline. Sixty-seven percent of men and 63% of women exposed to the campaign also reported that one might get cholera as a consequence of not washing hands at key moments, compared to 52% of men and 45% of women surveyed at baseline. There were few significant changes between baseline and endline with respect to reported perceptions of why others do not wash their hands at key moments.

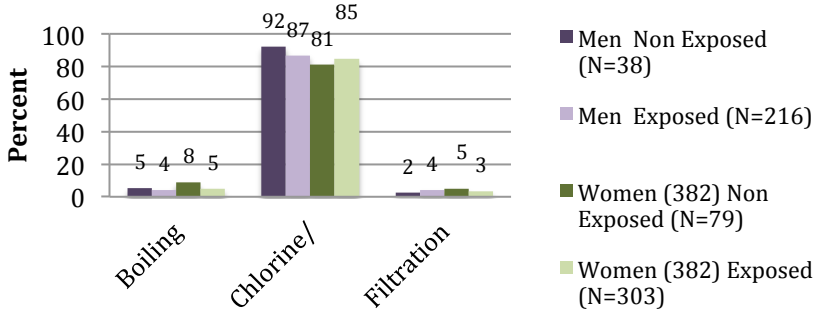
Table 4.1. **Percent distribution of hand washing knowledge and reasons for not washing hands, by sex and program exposure**

Knowledge and Reasons	Men			Women		
	Baseline (N=1,099)	Endline, Non Participants (N=961)	Endline, Participants (N=961)	Baseline (N=1,134)	Endline, Non participants (1,208)	Endline, Participants (N=1,208)
Consequences for not washing hands						
May get diarrhea*	77.5	85.3	83.0	76.1	75.8	82.7
May get Cholera	52.0	67.5	66.5	45.3	59.6	62.6
May get worms	4.8	22.8	24.2	8.0	15.0	18.3
Reasons for why some people do not wash their hands						
No water/soap/ash available	17	16.8	19.4	15.6	26.2	17.9
Doesn't know better	71.2	67	67.5	62.6	46.5	60.5
Others might think they're too cautious	0.5	0.52	0.4	0.18	0.93	0.93
Others	7.6	6.3	6.2	15.7	8	10.6
Don't know	3.8	9.4	6.5	5.6	16.4	10.1

Water Treatment

Nearly a third of the total sample reported that they'd treated their water in the past two weeks, an increase from 21% at baseline (data not shown). Among those who reported that they treat their water at endline, most relied on chlorine

Figure 4.1: Among those who reported treating their water, percent distribution of participants' selected method of treating water in past two weeks by exposure, sex

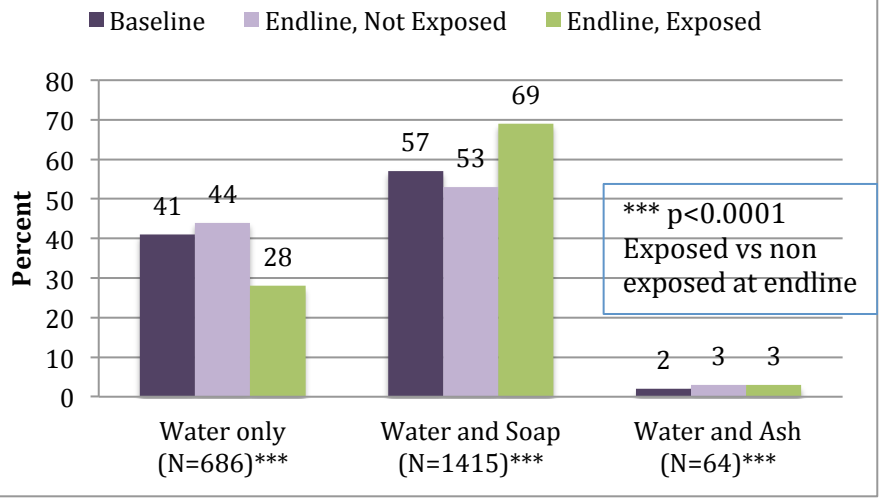


treatment as shown in Figure 4.1 Very few respondents at baseline and endline reported using filtration, straining through cloth, solar disinfection, water filters or boiling. Differences were not significant by exposure. However, when comparing different geographical zones, significant differences were noted in terms of type of water treatment used ((p<0.003; see appendix 4).

Hand-washing Behaviors

Nearly 70% of all exposed respondents reported that they wash their hands using soap and water at endline compared to 57% during the baseline. (The percent of non-exposed respondents who reported behavior was slightly lower than the overall rate at baseline.) Additionally, there was a considerable decrease in those who reported only using water (41% at baseline and 28% at endline). Compared to non-exposed participants, exposed participants were significantly more likely to report washing their hands with soap and water and less likely to report using water only (p<0.0001). There were no significant differences between men and women at endline, so the data are not shown by sex. Only 3% of all the respondents reported using water and ash to wash their hands at endline as shown in figure 4.2.

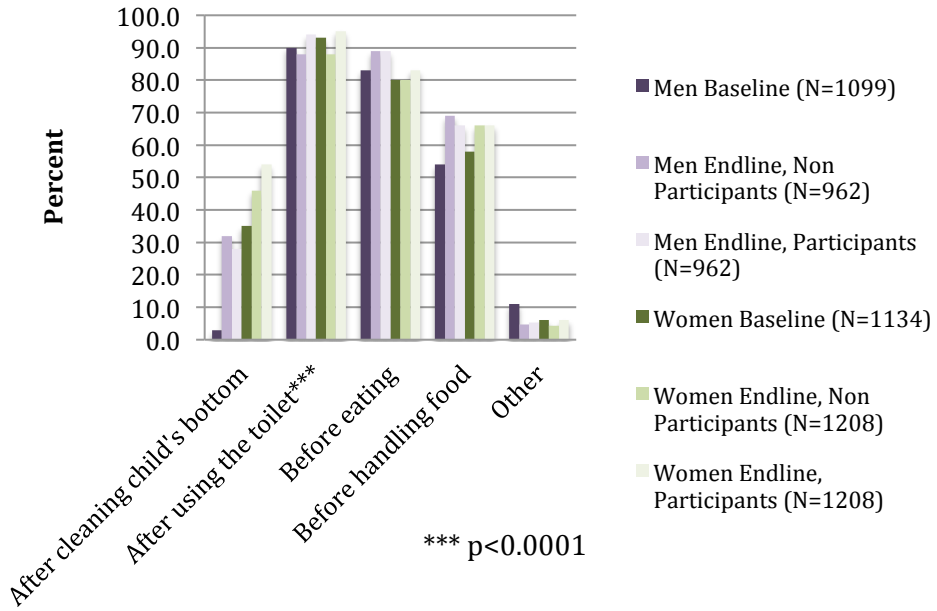
Figure 4.2: Percent distribution of resources used to wash hands by exposure



Comparing the zones, the differences varied significantly (p<0.0001), with 55% of respondents in the South West compared with 72% in the North reporting washing hands with soap and water. Zonal data are reported in Appendix 4.

Regarding at what moments they washed their hands, 93% of all endline respondents (N=2,170) reported that they wash "after using the toilet," compared to 90% at baseline. When asked about washing hands before eating, 83% of baseline survey respondents reported doing so compared to 85% at endline. Additionally, the percentage of respondents reporting washing hands before handling food increased from 56% at baseline to 66% at endline. Comparing those exposed and not exposed to the program, a statistically significant difference is noted related to washing hands after using the toilet (p<0.0001). Reports of washing hands after cleaning a baby's bottom increased for both men and women from 3% at baseline to over 28% at endline for men, and from 35% to 51% for women (see figure 4.3). Women exposed to the program were more likely to wash their hands after cleaning a child's bottom compared to those who were not exposed (p<0.01). The only statistically significant difference at the zonal level was for "washing hands before handling food" (p<0.0001), so zonal data are not reported in the appendices.

Figure 4.3: Handwashing Behavior, by sex, program exposure



Chapter 5. Malaria

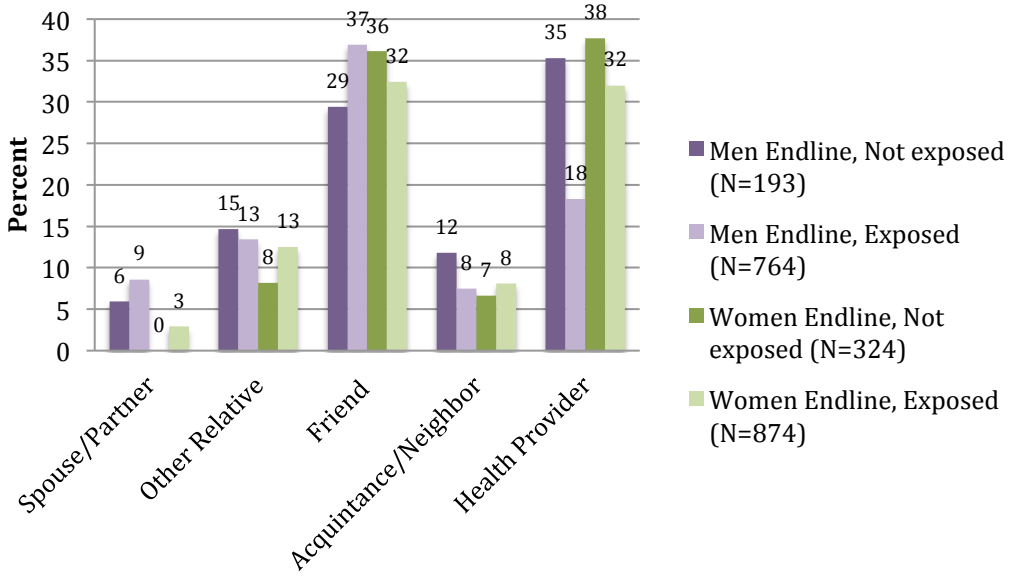
Knowledge and Attitudes

At baseline, knowledge of malaria transmission, prevention, symptoms and treatment were quite high. As such, these questions were not included in the endline survey.

Malaria Communication

Of the total sample, about a third (32% men and 28% women) had discussed ways to prevent and treat malaria with others over the past six months. Communication about malaria varied by exposure to the program ($p<0.0001$) with 19% of those not exposed compared to 33% of those exposed reporting having discussed this topic in the past six months (data not shown).

Figure 5.1: Among those who talked with anyone about ways to prevent and treat malaria, percent who spoke with specific types of people, by sex and exposure



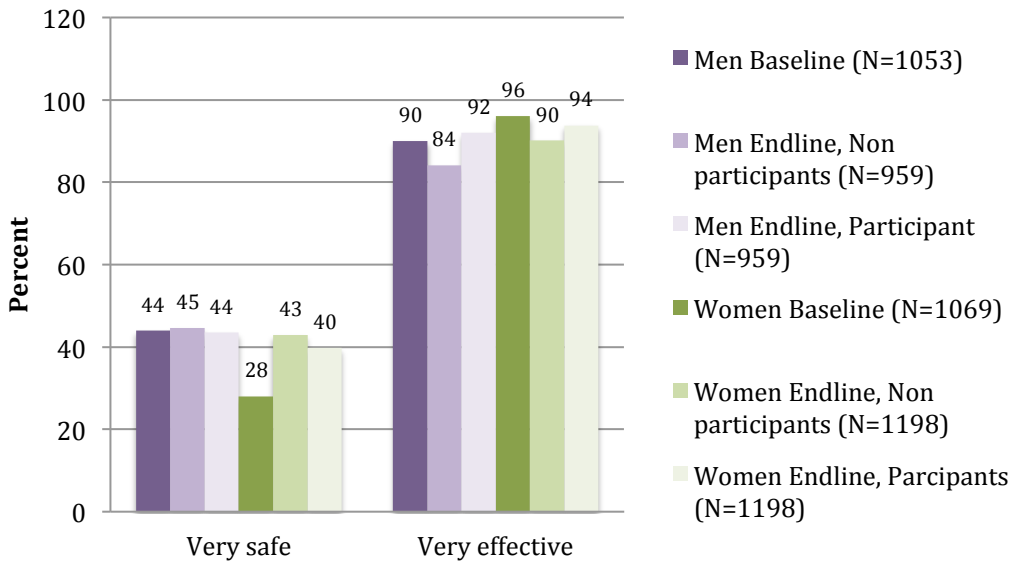
Over a third of those who talked to anyone about ways to prevent and treat malaria talked to a friend and about a third of women spoke with providers. While the percent of non-exposed men who reported speaking to providers was higher than exposed men, the N of not exposed men was very small.) Only 5% reported talking to their spouse or partner. See figure 5.1. Women (33%) were more likely than men (20%) to discuss malaria prevention and treatment with a health provider. With respect to malaria-related communication, results were not significant by exposure status. No statistically significant zonal differences were found.

Perceptions of Net Effectiveness and Safety

As shown in Figure 5.2 below, less than 50% of men and women believe that bed nets are safe. There was a secular increase in the percent of women who believe nets are safe between baseline and endline, but the differences by exposure were minimal. When comparing beliefs between different geographical zones, perceptions varied greatly: 32% in the Central West believed nets to be very safe compared to 60% in the North. Differences are reported in Appendix 5.

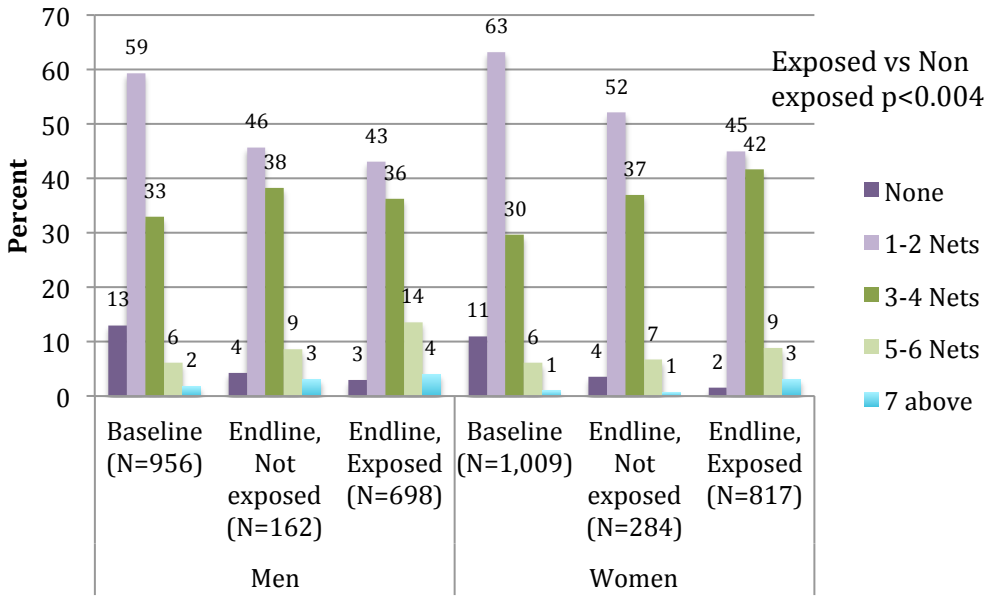
Over 90% of respondents at both endlne and baseline reported that mosquito nets treated with insecticide are very effective. See Appendix 5 for differences across the zones in beliefs about net safety and effectiveness.

Figure 5.2: Perception of net safety and effectiveness, by sex and program exposure



Mosquito Net Ownership

Figure 5.3: Percent distribution of bed nets per household by sex and program exposure



Of the total sample for the endline, 4% reported having no bed nets in their households compared to over a tenth at baseline. At endline, those **not** exposed to the program were more likely to report **not** having a net than those exposed to the program ($p<0.0001$). There were no differences found when comparing men and women. When comparing reported net use in different geographic zones, significant differences were observed: 3.7% in the South West zone reported having no nets in the household compared to 19% in the Central West zone.

Households were most likely to report owning one or two nets, followed closely by ownership of three to four nets (see Figure 5.3). Among those who reported having a net in the household, the mean number of nets was 2.9. Comparing respondents based on exposure to the program, those exposed reported having 3.0 and those not exposed reported having 2.6. Across the

zones, the mean number of nets owned per household (endline/baseline) were: 3.5/1.9 in the North, 2.9/1.8 in the Central East, 3.0/2.1 in the Central West, 2.8/1.5 in the South East, and 2.6/1.8 in the South West. See Appendix 5 for more detail.

Bed Net Use

Among under-five children in surveyed households, 91% had slept under a net the night prior to the survey. Children living in households exposed to the program were more likely (92%) than those who were not exposed (84%) to sleep under a bed net the night prior to the survey ($p<0.0001$).

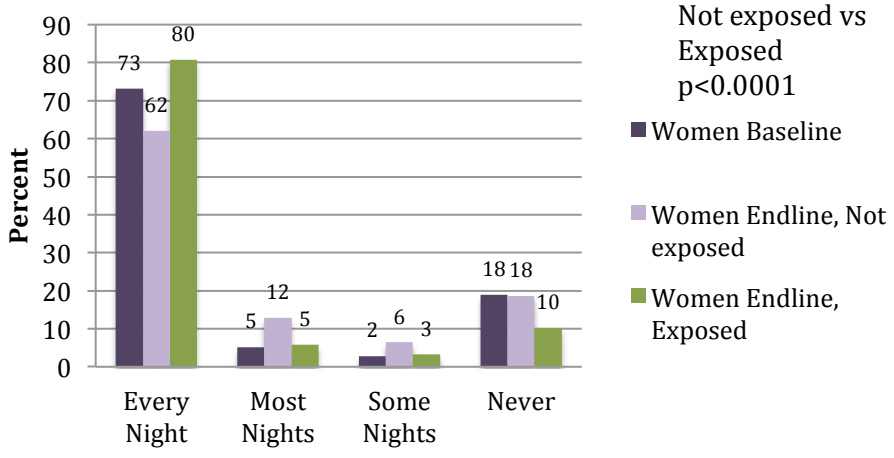
Behavior: Treatment of Children with a Fever

Just below half (48%) of respondents with under-five children reported that their children had a fever in the previous two weeks compared to 35% during the baseline. Ninety-one percent of the mothers whose child had a fever had the child tested for malaria (88.4% not exposed versus 91.4% exposed). At baseline, three-quarters reported having children with fevers tested for malaria. Of those tested for malaria, 79% at endline compared to 70% at baseline reported that the child had a positive test for malaria. Almost all children who tested positive for malaria were given medication to treat their malaria (95% at endline compared to 90% at baseline); 69% at endline compared to 85% at baseline were specifically given LA to treat their malaria.

Malaria Prevention Practices Among Mothers

About 90% of women who gave birth in the previous five years at both baseline and endline took medication to protect them from malaria. Over two thirds took the medication more than once. The majority of women who reported taking medication reported taking Fansidar (82%). About 81% of mothers exposed to program activities reported sleeping under a mosquito net during their most recent pregnancy compared to 62% of mothers who were not exposed ($p<0.0001$). A tenth of mothers who were exposed and a fifth of mothers who were not exposed reported never sleeping under a net (see Figure 5.4). Of mothers who reported sleeping under a bed net, 91% at endline compared to 83% at baseline reported using an insecticide treated net. A decrease was noted in the percentage of pregnant women reporting use of an untreated bed net from 13% at baseline to 6% at endline. There are no significant differences found when comparing data from different zones.

Figure 5.4: Percent of women pregnant in past five years who slept under a net, by exposure



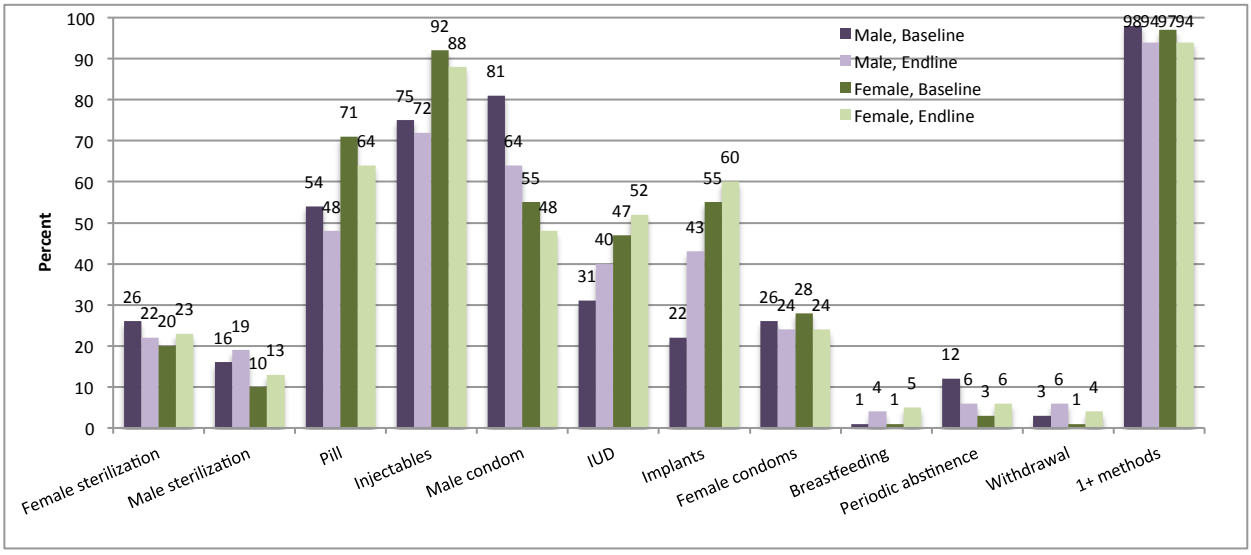
Chapter 6. Fertility Preferences and Contraceptive Use

Family Planning

Knowledge

Knowledge of one or more FP methods was nearly universal with 94% of men and women at endline reporting knowing at least one FP method (Figure 6.1). However, the endline sample had slightly lower likelihood of knowing one or more FP methods than the baseline sample. At endline, injectables (80%), pills (57%), male condoms (55%) and implants (52%) were the most commonly cited forms of contraception. Women in the endline sample were more aware of injectables (88%), pills (64%), implants (60%) and IUDs (52%) than men (72%, 48%, 43%, and 40%, respectively). Men in the endline sample were more aware of male condoms (64%) than women (48%).

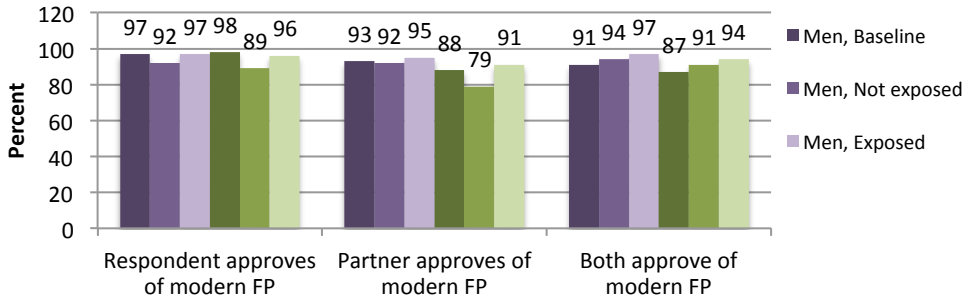
Figure 6.1: Awareness of family planning methods, by sex (Baseline: N=2,233; Endline: N=2,205)



Approval and Social Norms

Among couples in union, approval of modern contraceptive methods was high, with 96% of men and 94% of the women reporting approval. Both men and

Figure 6.2 Percent approval of contraception among couples in union, by sex and exposure (Baseline: N=1,662; Endline: N=2,160)



Men not exposed vs. exposed: p<0.01
Women not exposed vs. exposed: p<0.001

Men not exposed vs. exposed: p=0.26
Women not exposed vs. exposed: p<0.001

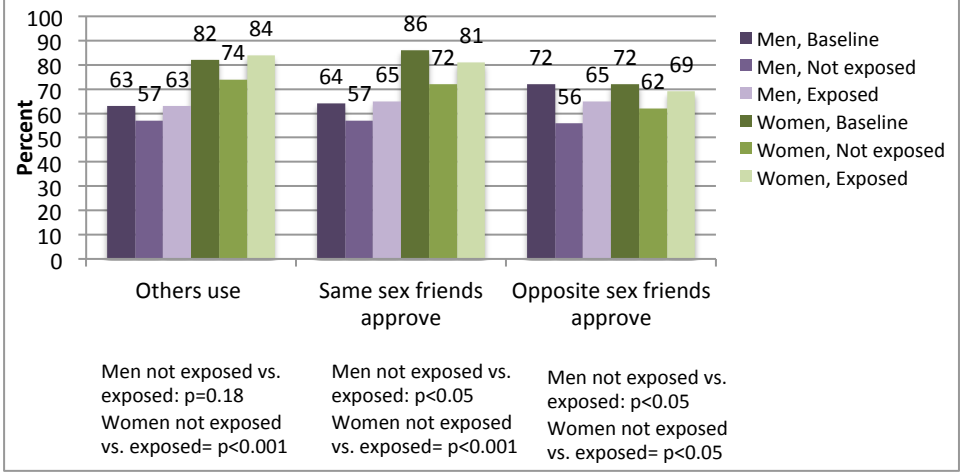
Men not exposed vs. exposed: p=0.16
Women not exposed vs. exposed: p=0.12

women who were exposed to the campaign were more likely to report personal, partner and mutual (both partners) approval of modern contraceptive methods (Figure 6.2). Compared to women who were not exposed to the campaign, women who were exposed were significantly more likely to report personal ($p<0.001$) and partner ($p<0.001$) approval of modern contraceptives. Among men, those who were exposed to the campaign were significantly more likely to report personal approval of modern contraceptive methods compared to those who were not exposed ($p<0.001$).

In terms of descriptive norms—or perceptions of modern contraceptive use among peers—women were more likely than men to believe that their peers used modern contraception ($p<0.001$). Women were also significantly more likely to believe their same sex friends approved of modern contraceptive use, compared to men ($p<0.001$). Although more women than men reported believing that their opposite sex friends approved of modern contraceptive use, this difference was not significantly different.

Women who were exposed to the campaign were significantly more likely than those who were not exposed to believe that others used modern contraceptives ($p<0.001$) and that their same sex friends approved of modern contraceptive methods ($p<0.001$) (Figure 6.3). There was no significant difference between exposed and non-exposed men in regards to perceptions about others' use of modern contraceptives or same sex peers' approval for modern contraceptive use. Finally, among both men and women, those who were exposed to the campaign were significantly more likely to believe opposite sex friends approved of modern contraceptive use ($p<0.05$ for both men and women).

Figure 6.3 Perceptions of the use and approval of contraception by others, by sex and exposure (Baseline: N=2,233; Endline: N=2,160)



Family Planning Communication

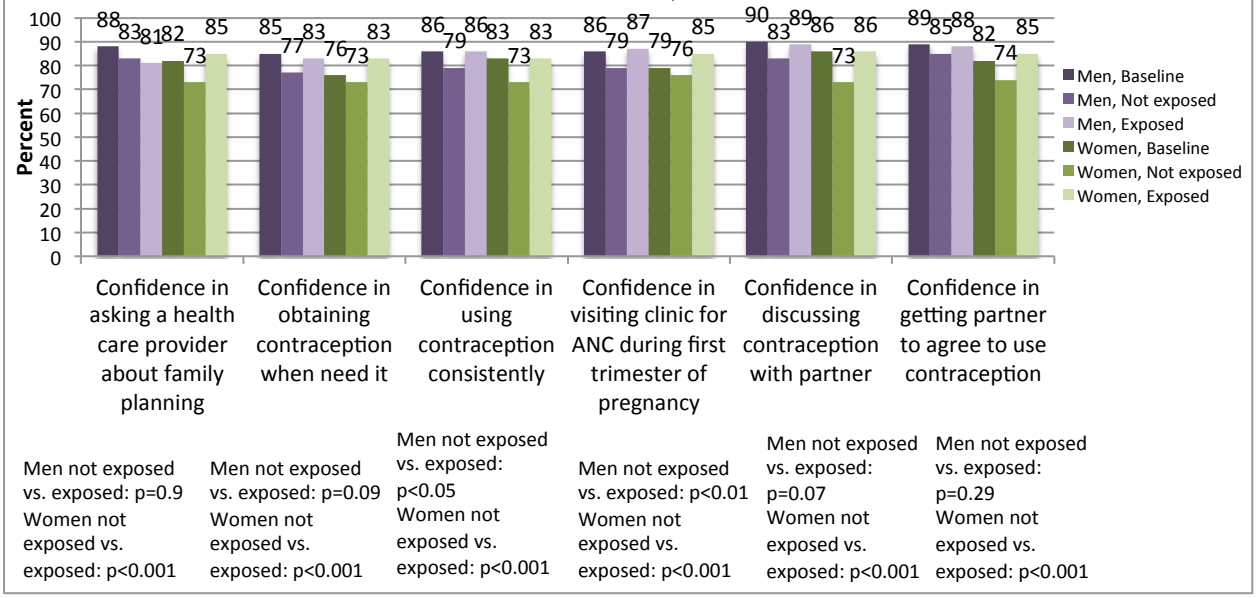
Approximately 41% of men and 33% of women reported speaking with at least one person about FP in the previous 6 months ($p<0.001$). Of those, 24% of men and 23% of women spoke with their partner about FP in the previous 6 months. Exposure to the campaign was associated with significantly increased likelihood of discussing FP with at least one person for women but not for men ($p<0.001$ and $p=0.52$, respectively). However, both men and women who were exposed to the campaign were significantly more likely to have discussed FP with their partner in the past 6 months than their counterparts who were not exposed ($p<0.001$ for both men and women).

Efficacy

The majority of participants (82.4%) were very confident that they could speak with a health care provider about FP. In general, men had slightly higher levels of FP self-efficacy than women. However, this difference was only significant for confidence in using contraceptives consistently ($p<0.05$), discussing contraceptives with one's partner ($p<0.01$) and getting one's partner to agree to use contraceptives ($p<0.01$). It is possible that this difference in self-efficacy may reflect underlying power dynamics in the relationships.

Compared to women who were not exposed to the campaign, women who were exposed were significantly more likely to report being very confident in their ability to ask a health care provider about FP, obtain contraception when needed, use contraception consistently, visit a clinic for ANC during the first trimester of pregnancy, discuss contraception with one's partner and get their partner to agree to use contraception (Figure 6.4). Men who were exposed to the campaign were significantly more likely to report confidence in their ability to use contraception consistently and visit a clinic for ANC during their partner's first trimester of pregnancy, compared to men who were not exposed to the campaign.

Figure 6.4 Contraceptive self-efficacy, by sex and exposure (Baseline: N=2,228; Endline: N=2,205)

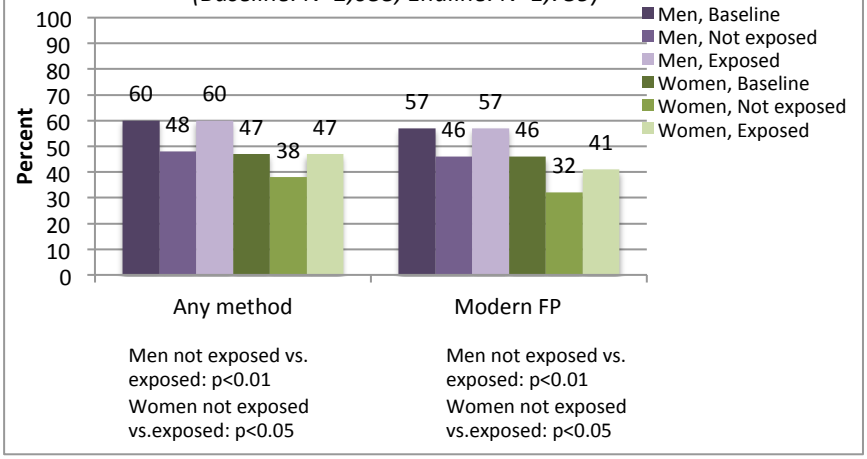


Contraceptive Use

More than half of the sample (69%) reported having ever used a form of contraception to avoid pregnancy. However, less than half of the sample (45%) reported currently using a modern contraceptive method. Men reported significantly higher levels of current contraceptive use, compared to women (54% men, 37% women). The most common forms of modern contraception that participants reported were injectables (50% men, 63% women), implants (17% men, 21% women), and the male condom (15% men, 3% women). Exposure to the campaign was associated with a greater likelihood of currently using any form or a modern form of contraception for both men and women (Figure 6.5). (For sex-specific and zonal results by campaign exposure, please see Appendix IV, Tables a & b).

The most common places people obtained their contraceptive method include: Government health facilities (59%), government hospitals (20%), and health surveillance assistants (7%).

Figure 6.5 Current contraceptive use, by sex and exposure (Baseline: N=2,088; Endline: N=1,759)



Among individuals not currently using contraception (N=172), the primary reasons for non-use are related to real or perceived insusceptibility to pregnancy as 17% reported that they are not married, and 38% are not having sex. Additionally, 11% reported that menopause/infertility was why they are not using contraception, while 9% said they were not using contraception because they or their partner was breastfeeding.

Intention to Use Contraceptives

Among current non-users of contraception, 81% of men and 69% of women intend to use contraception in the future. Exposure to a FP message from at least one activity from the campaign was associated with increased FP intention among both men and women (p<0.05).

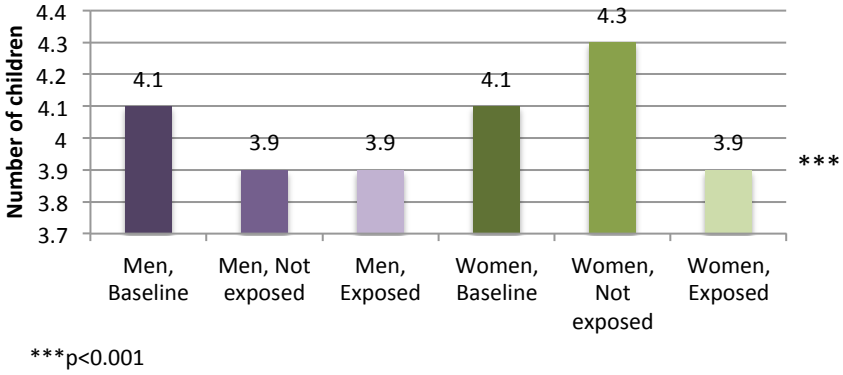
The most common reasons cited for lack of FP intention was being unmarried (17%), not having sex/infrequent sex (16%) and menopause/hysterectomy (22%). For results by sex and campaign exposure, please see Appendix IV, Table c.

Desired Family Size

In the prior year, 50% of the sample had spoken with their partner about the number of children they would like to have. Furthermore, 64% of participants reported agreeing with their partner on the total number of children they wanted.

Exposure to one or more of the campaign activities was associated with speaking with one's partner about the desired number of children in the past year (p<0.001). On average, the desired number of children was 4 children. Women who were exposed to at least one campaign activity were significantly more likely to desire fewer children, compared to women that were not exposed to the campaign (p<0.001) (Figure 6.6).

Figure 6.6 Desired number of children (mean), by sex and exposure (Baseline: N=2,242; Endline: N=2,158)



In terms of timing and spacing of children, the mean birth interval was approximately 4 years. Exposure to FP messages from the campaign was associated with increased birth intervals, though this difference was not statistically significant.

Chapter 7. Maternal and Child Health

Pregnancy-related knowledge and attitudes

Respondents were asked what signs or symptoms indicated that a woman's health and/or that of her unborn child might be at risk. Among the signs most commonly mentioned were:

- Swollen hands & feet (data not shown)
  - Women (Baseline: 18%; Endline nonparticipants: 44%; Endline participants: 43%)
  - Men (Baseline: 19%; Endline nonparticipants: 42%; Endline participants: 49%)
- Severe vaginal bleeding (data not shown)
  - Women (Baseline: 45%; Endline nonparticipants: 50%; Endline participants: 57%)
  - Men (Baseline: 23%; Endline nonparticipants: 33%; Endline participants: 45%)

At baseline, knowledge levels for both men and women were low, with less than one danger sign spontaneously mentioned, on average, by either sex. Women's knowledge levels increased among non-participants and participants alike between baseline and endline, with no significant differences by exposure as shown in Figure 7.1. Men's mean knowledge levels increased over time, or between baseline and endline; among men, there were also clearly demonstrated program effects (Figure 7.1).

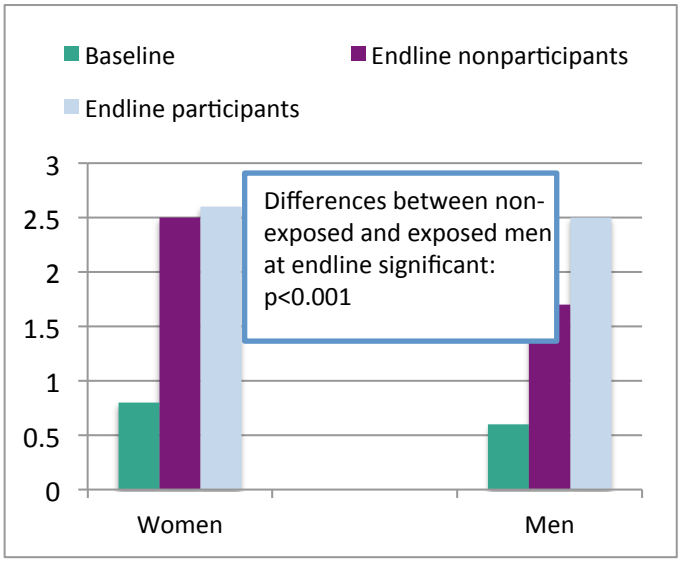


Figure 7.1. Mean number of danger signs spontaneously mentioned, by time, sex and program exposure. (Baseline: n=2224; Endline: n=2205)

ANC visits

Among endline respondents, 603 women had a child aged five years or younger; these mothers were asked about perinatal care for their youngest child. Of those women, 98% received antenatal care. This did not vary by zone.

While nearly 63% of baseline respondents reported four or more antenatal visits, about 56% endline respondents reported this number of antenatal visits as shown in Figure 7.2. The mean number of ANC visits varied by *Moyo ndi Mpamba* participation or exposure: while non-participants reported an average of 3.1 visits, *Moyo ndi Mpamba* participants reported an average of 3.4 ANC visits, a statistically significant difference (p=0.05); data not shown.

When asked what ANC services they received, mothers of under-five children, on average reported slightly higher rates of health services received at baseline than at endline. Compared with those not exposed to *Moyo ndi Mpamba*, women who listened to or participated in *Moyo ndi Mpamba* activities were significantly more likely at endline to have visited a clinic while pregnant, and among those women, to have had their blood pressure measured and blood samples taken (see Table 7.1). Only two of these services varied by zone at endline so zonal results are not reported in the appendix.

Table 7.1. Clinic visits and services received during pregnancy among women with at least one under-five child, by time and program participation			
	Baseline (n=651)	Endline Not exposed (n= 140)	Endline Exposed (n=462)
Visited a clinic while pregnant	98%	83%	90%*
	n=639	n=117	n=413
Weighed	98%	86%	91%
Blood pressure measure	88%	75%	84%*
Urine samples taken	35%	40%	46%
Blood samples taken	89%	71%	82%**
Tested for HIV	93%	91%	94%
Received HIV test results	(n=596) 99%	(n=106) n=96%	(n=388) 98%
Differences between endline non-participants and endline participants significant: *p<0.05; ** p<0.01			

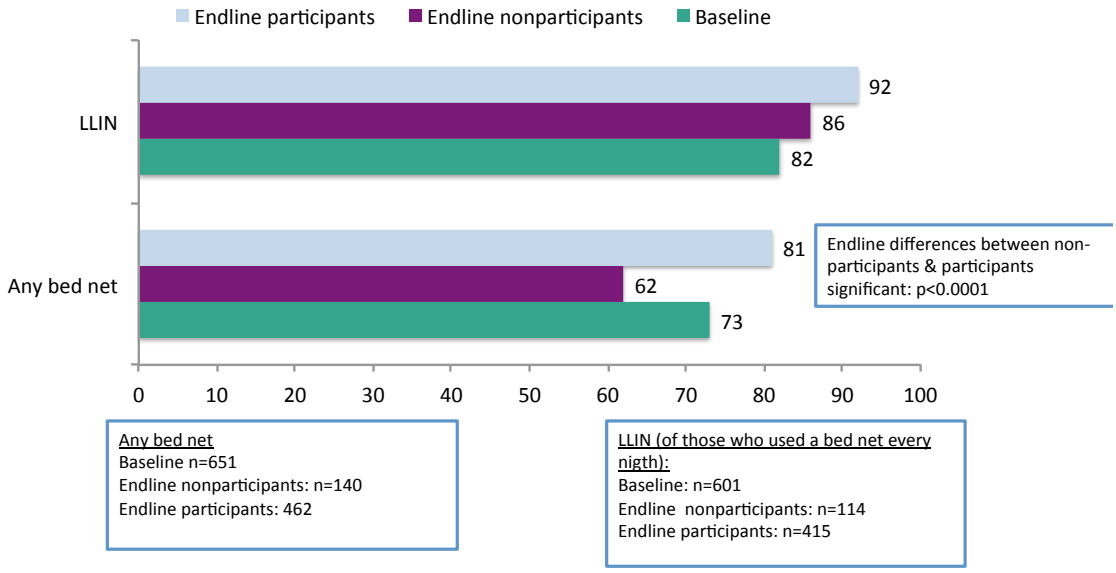
This pattern was also true among women with at least one under-five child with respect to other pregnancy-related services during their most recent pregnancy: baseline women were slightly more likely to have received the services. *Moyo ndi Mpamba* exposure was positively associated with taking iron tablets or syrup during the most recent pregnancy (Table 7.2).

Table 7.2. Among women with at least one under-5 child, % who received the following services			
	Baseline (n=651)	Endline Non-participants (n= 140)	Endline Participants (n=462)
Had a tetanus shot	94%	81%	90%
Took iron tablets or syrup Of those, % took all prescribed	86% 77%	78% 56%	80% 75***
Received IPTp (prevent malaria)	90%	83%	89%
Differences between endline non-participants and endline participants significant: ****p<0.0001			

Bed Net Use During Pregnancy

Consistent LLIN use was higher at endline than was true at baseline among mothers of under-five children (Figure 7.3). Differences at endline between program participants and non-participants was highly significant with program participants much more likely to use any bed net as well as more likely to use LLINs. Zonal results are reported in Appendix 7.X.

Figure 7.3. Percent of mothers of under-5 children who report sleeping under any bed net or LLIN every night during most recent pregnancy



Any bed net use was higher at baseline than at endline among non-participants, but of the three groups, it was highest among endline participants (as shown in Figure 7.3).

Childbirth

Between baseline and endline, not only did a larger percentage of pregnant women report giving birth with the aide of trained medical assistance, they also were more likely to report that a physician or clinical officer attended their birth (Figure 7.4). There were no differences by program participation so all results reported herein are baseline and endline with no breakdown at endline between participants and non-participants. There were significant zonal differences (reported in Appendix 7).

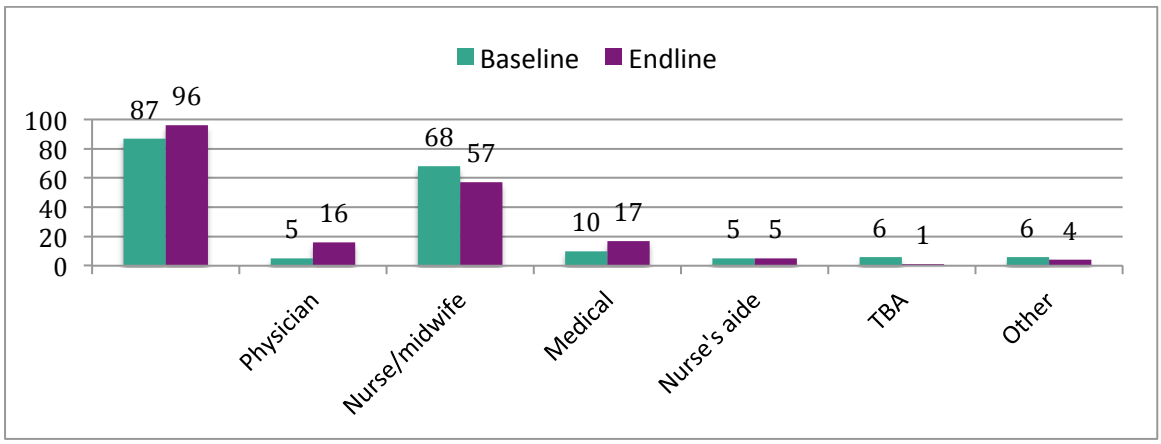


Figure 7.4. Medical assistance at most recent birth among women with under-five child (Baseline: n=651; Endline: n=603).

Women reported that the most recent delivery took place in the following locations (baseline/endline): government hospital (23%/25%); government health facility (44%/58%); government health post (6%/1%); CHAM hospital (11%/7%); private hospital/clinic/midwife's practice (6%); respondents' home (6%/4%); trained birth attendants' (TBA) home (2%/1%); and other (2%/2%).

Knowledge and Treatment of Diarrhea

When asked how one could prevent diarrhea, respondents reported the following primary preventative behaviors: washing hands after defecation (68% baseline/77% endline men; 68% endline women), washing hands before eating (46% baseline/68% endline men, 60% endline women), and using toilets/latrines for defecation (40% baseline/60% endline men, 76% endline women).

Regarding treatment for diarrhea, the most common responses given by female survey respondents were: take child to a health professional (80% baseline/84% endline) and/or given ORS (60% baseline/66% endline). While less than 1% mentioned zinc at baseline, 14% did so at endline.

Chapter 8. HIV & AIDS

Knowledge

At baseline, knowledge on levels on HIV/AIDS transmission, prevention and treatment were very high. Knowledge regarding the prevention of HIV transmission from mother to child was relatively low. Therefore, this section focuses on whether there were changes in this area of knowledge associated with implementation of the program.

Of the total sample, about three-quarters of both men and women who were **not** exposed to the program (77%) reported that HIV can be transmitted from mother to child. Those who were exposed to the program were more likely to mention that HIV can be transmitted from mother to child ($p<0.0001$). These figures are slightly lower than baseline values of more than 92% of both women and men. No significant differences in this knowledge were noted at the zonal level.

The majority of participants believed that mother to child transmission of HIV could be prevented: over 90% of the both men and women during the baseline compared to 89% of men exposed and 94% of women exposed surveyed at endline. Women exposed to the program were significantly more likely to believe that transmission of HIV from mother to child could be prevented when compared those who were not exposed ($p<0.002$). When comparing responses from different zones, data analysis revealed significant variations between those exposed and those unexposed to the program. See Appendix 8.1.

When asked how to prevent mother to child transmission, participants mentioned avoiding breastfeeding and the use of special drugs both at baseline and endline. However, at endline, more respondents mentioned the use of special drugs and giving birth via cesarean section. See Table 8.1.

When comparing data collected in different geographic zones, the only difference noted is related to the number of individuals naming avoiding breastfeeding as a strategy to prevent the transmission of HIV (14% in the North versus 3.7 in the South West).

Table 8.1: PMTCT knowledge, by sex and program exposure

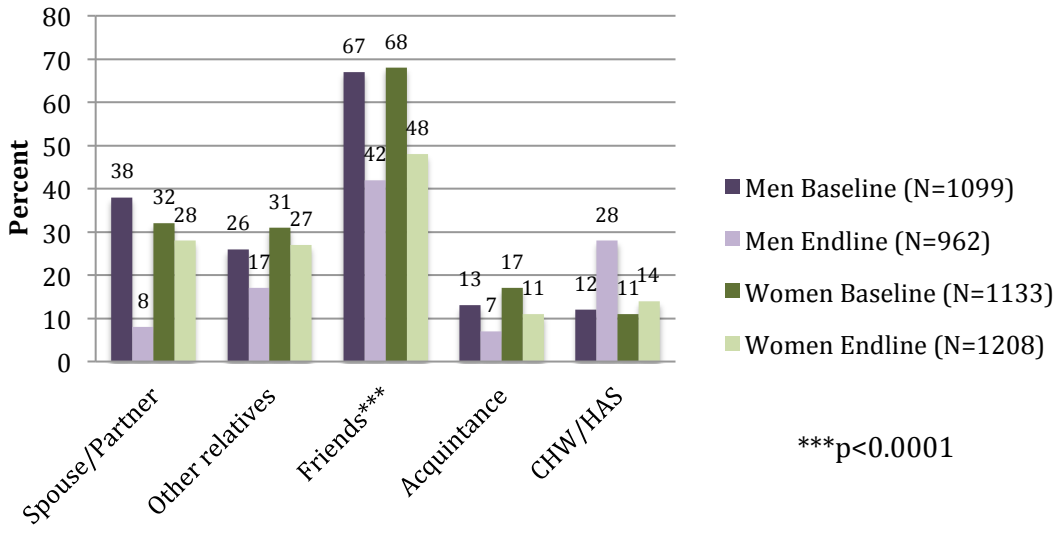
	Men			Women		
	Baseline (N=1,089)	Endline, Not exposed (N=193)	Endline, Exposed (N=764)	Baseline (N=1,127)	Endline, Not Exposed (N=324)	Endline, Exposed (N=874)
HIV can be transmitted from mother to child***	93%	79%	89%	94%	77%	90%
Ways to prevent transmission of HIV from mother to child:						
Avoid Breastfeeding	66%	52%	49%	64%	53%	44%
Cesarean section	5.1%	15%	12%	7%	13%	9%
Use special drugs (AVRs, Niviripine)	48%	59%	52%	49%	62%	59%
Other**	5%	16%	18%	10%	10%	18%

Don't Know	6%	9%	8%	2%	3%	5%
Note: Exposed vs. non Exposed ** p<0.003, *** p<0.0001						

HIV Communication

When asked about discussion of HIV prevention and treatment during the past six months, 35% of all respondents indicated that they had talked to at least one other person about these topics during that time frame compared to 44% at baseline (see Figure 8.1). Men were more likely than women to report such conversations at both baseline and endline (p<0.0001). Comparing those exposed and not exposed to the program, those exposed were more likely to report such conversations (p<0.0001). There were no differences at zonal level.

Figure 8.1: Person respondents talked to in the last six months about preventing/treating HIV/AIDS, sex, program exposure



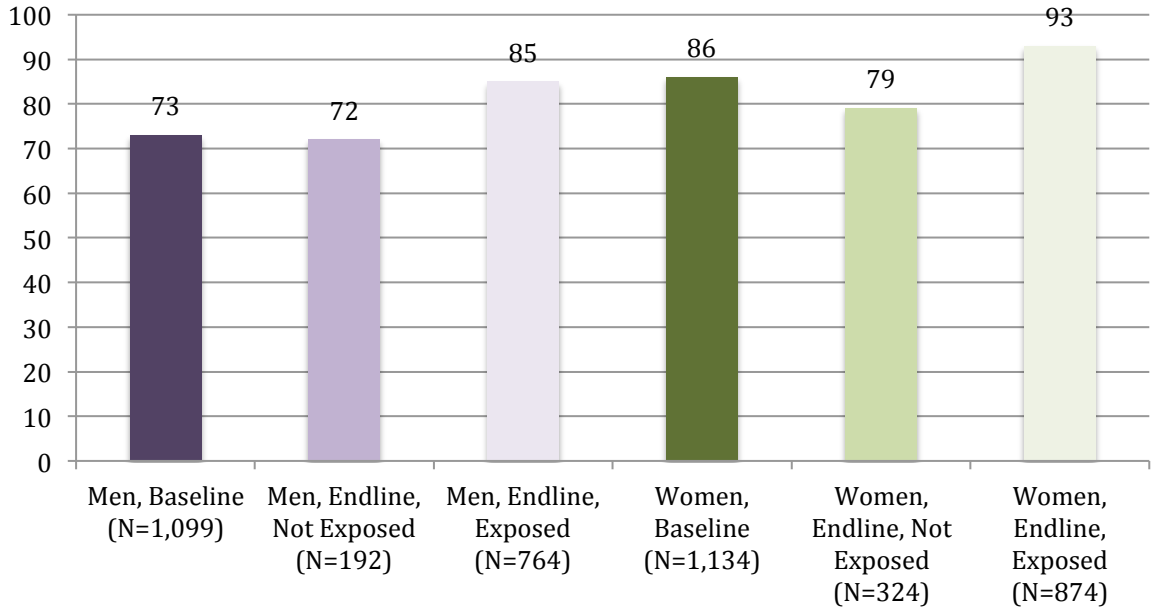
HIV Testing

Just below 90% of women and 82% of men sampled reported being tested for HIV compared to two-thirds at baseline (see Figure 8.2). Those who were exposed to the program were significantly more likely than those who were not exposed to report that they had been tested (women: 79% unexposed vs. 93% exposed; men: 72% unexposed vs. 85% exposed) (p<0.0001). A significant variation is seen among those who have been tested for HIV by zone, ranging from 82% in the Central East to 89% in the North (p<0.005). See Appendix 8.1.

When respondents who reported ever been tested for HIV were asked how long ago they were tested, just below two-thirds indicated that their most recent HIV test was within the past 12 months. The remaining third had been tested within the past 3 years.

Almost all participants exposed to the program (96%) indicated that it would be easy to get tested for HIV in the next two weeks compared to just above 90% of those not exposed (p<0.005). Across the zones, the differences were significant ranging from 1% in the South East to 4.7% in the North stated that it would be difficult to get tested for HIV. Of these who found it at all difficult to get tested, the most commonly cited reason was that the test site was too far away. There were no differences between those exposed and not exposed to the program nor any significant differences across the different zones.

Figure 8.2: Percent of respondents who have ever been tested for HIV/AIDS, by sex and program exposure



Chapter 9. Sexual Behavior

Sexual Debut

The mean sexual debut for both men and women was 17 years. Respondents were asked if they had undergone ritual or cultural sexual debut (chinamwali or kuchotsa fumbi); rates were highest in the north (22%) and southwest (21%) zones.

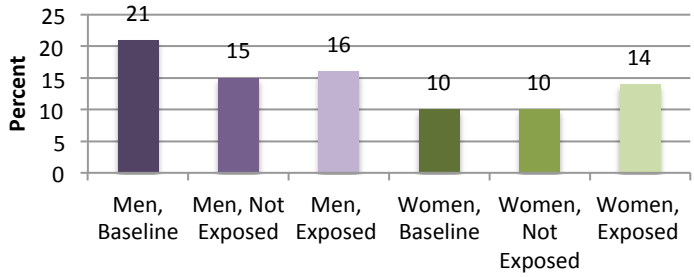
Sexual Partners

Twenty-one percent of the total sample reported having more than one sexual partner in the past 12 months. Men were significantly more likely to report having more than one sexual partner in the past 12 months, compared to women (Men: 29%; Women: 15%) ($p<0.001$). Exposure to at least one campaign activity was associated with significantly reduced likelihood of having more than one sexual partner in the past 12 months ($p<0.001$). This association was found in four out of the five zones, as can be seen in Appendix 7 Table 7 (a).

Condom Use

Overall, only 14% of respondents reported using a condom at last sex. Men were more likely to report using a condom at last sex, compared to women (16% and 13%, respectively), however, this difference was not statistically significant. Men and women who were exposed to at least one campaign activity were more likely to report using a condom at last sex, but this was not statistically significant (Figure 9.1).

Figure 9.1 Condom use at last sex, by sex and exposure
(Baseline: N=1,885; Endline: N=1,813)



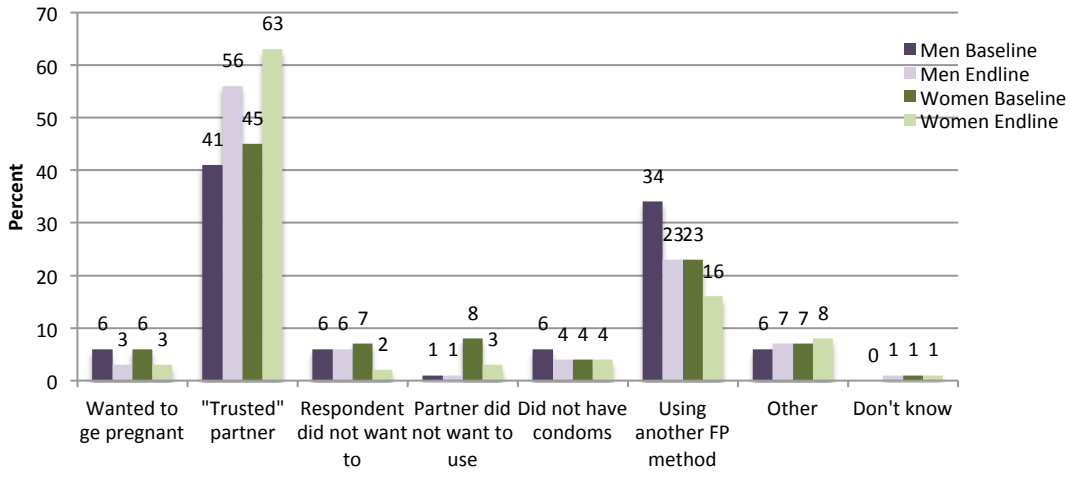
Respondents who reported having more than one sexual partner in the past 12 months were more likely to report using a condom at last sex compared to those who reported one or no sexual partner in the past 6 months (Multiple partners: 22%, One or no partners: 13%, $p<0.001$).

Barriers to Condom Use

The main reason cited for not using a condom at last sex, reported at endline, was "trusting" one's partner (Figure 9.2). Women were more likely to report "trusting" their partner as the reason for not using a condom at last sex than men (Women: 63%, Men: 56%), however this difference was not statistically significant. The second most common reason for not using a condom at last sex, reported at endline, was the use of another FP method. Access to condoms was not a major barrier to condom use at last sex, with only 4% of men and 4% women reporting that as the reason for not using a condom at last sex. Additionally, when asked if how difficult it was to access condoms in general, 74% of all respondents reported that it was easy to access condoms. Persuading one's partner to use a condom was also not a major barrier to condom use, with 81% of the total sample reporting that it was easy to persuade one's partner. However, men were more likely to find it easy to persuade their partner to use a condom, compared to women (Men: 85%, Women: 77%, $p<0.001$). Additionally, respondents who were exposed to one or more intervention activity were significantly more likely to report finding it

easy to persuade their partner to use condoms (Not exposed: 76%, Exposed: 82%, p<0.01). Zonal data can be found in Appendix 7 Table 7(b).

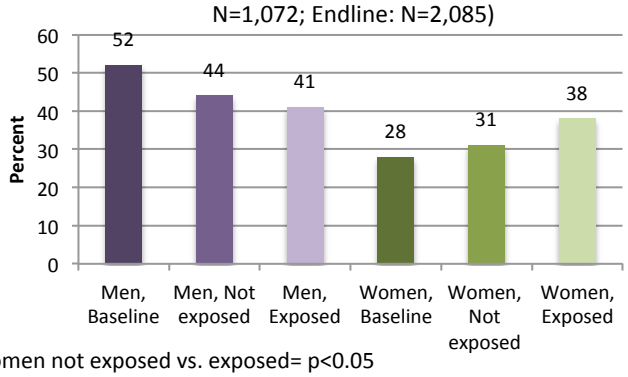
Graph 9.2 Reasons for no condom at last sex (Baseline: N=1,598; Endline: N=1,555)



Descriptive Norms Pertaining to Condom Use with a Casual Partner

Descriptive norms, or the perception of whether one's peers are engaging in a certain behavior, were measured by asking participants how many of their peers use a condom every time when they have sex with a casual partner. Overall, 39% of respondents reported that some/most of their peers use a condom all the time with their casual partner. Women were significantly less likely to report that some or most of their peers use a condom all the time with their casual partners, compared to men (women: 36%, men: 42%; p<0.01). However, findings also suggest that among women, those who were exposed to at least one campaign activity were significantly more likely to believe that some or most of their peers used condoms consistently with their casual partners, compared to women who weren't exposed to the campaign (p<0.001) (Figure 9.3). Exposure to the campaign was not associated with significant differences among men. Zonal data can be found in Appendix 7 Table 7(b).

Figure 9.3 Perceptions regarding peers' condom use with a casual partner (descriptive norms), by sex and exposure (Baseline: N=1,072; Endline: N=2,085)



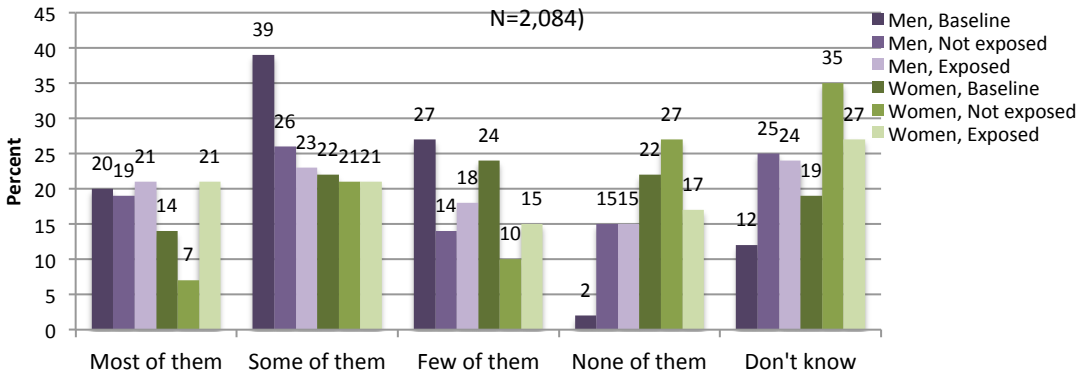
Women not exposed vs. exposed= p<0.05

Injunctive Norms Pertaining to Consistent Condom Use

Injunctive norms, or the perception of peer approval of a certain behavior, were measured by asking participants how many of their peers would approve of their consistent condom use. Overall, 41% of participants believed that some or most of their peers would approve of their consistent condom use as shown in Figure 9.4. More men than women perceived that their peers would approve of their consistent condom use (Men: 44%, Women: 38%, p<0.01). Women who were exposed to at least one campaign activity were significantly more likely than

women who were not exposed to the campaign to perceive that some/most of their peers would approve of their consistent condom use (p<0.001). No significant differences were found among men, based on exposure. Zonal data can be found in Appendix 7 Table 7(b).

Figure 9.4 Perceptions regarding others' approval of respondent's consistent condom use (injunctive norms), by sex and exposure (Baseline: N=2,073; Endline: N=2,084)



Women exposed vs. not exposed: p<0.001

Chapter 10. Gender Norms

Empirical evidence demonstrates that inequitable gender constructs have detrimental consequences that are both personal and political. These consequences can limit the life chances of individual men and women, affect communities, and influence outcomes across the social ecological framework. Inequitable gender norms impair the health of women, men and children (Kawachi, Kennedy, Gupta, & Prothrow-Stith, 1999), hinder poverty reduction (Beneria 1995), limit girls' access to schooling (Klassen, 2002) and contribute to ongoing violence against women (Heise, Ellsberg, & Gottemoeller, 1999).

Gender Equity

To assess normative gender beliefs, 15 gender-related questions were read to respondents, who were then asked to indicate whether they "strongly agree, agree, disagree or strongly disagree" with each statement. To examine this issue more systematically, we created a gender equity score by giving respondents the following 0-4 points, with 0 for "strongly disagree," 1 for "disagree," 2 for "neither agree nor disagree," 3 for "agree" and 4 for "strongly agree." Negative statements were reversed before applying scores. As shown in Figure 10.1, on average, women scored slightly, but significantly higher than did men (34 and 33, respectively; data not shown). More importantly, participants scored higher than non-participants among men and women alike. Zonal-level data for mean gender-equity scores are available in Appendix 10 Table 10(a).

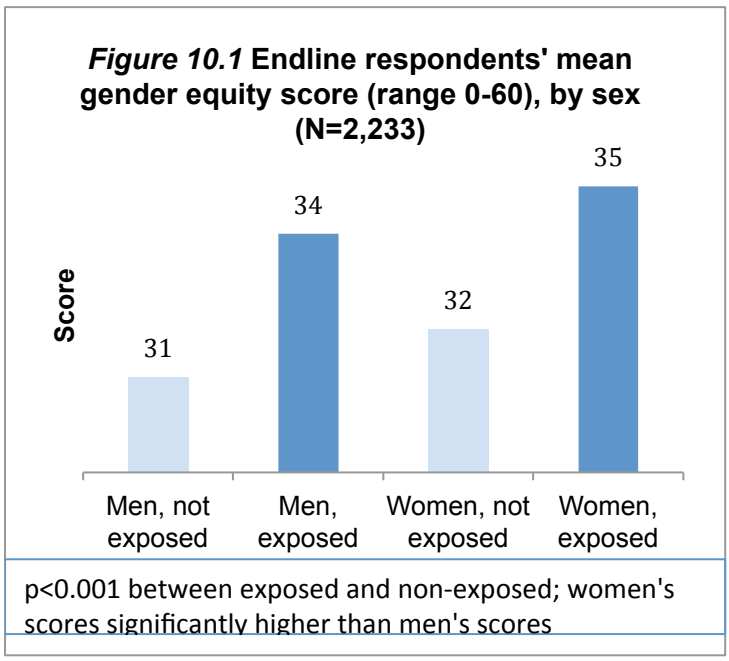


Figure 10.1 **Endline respondents' mean gender equity score (range 0-60), by sex (N=2,233)**

p<0.001 between exposed and non-exposed; women's scores significantly higher than men's scores

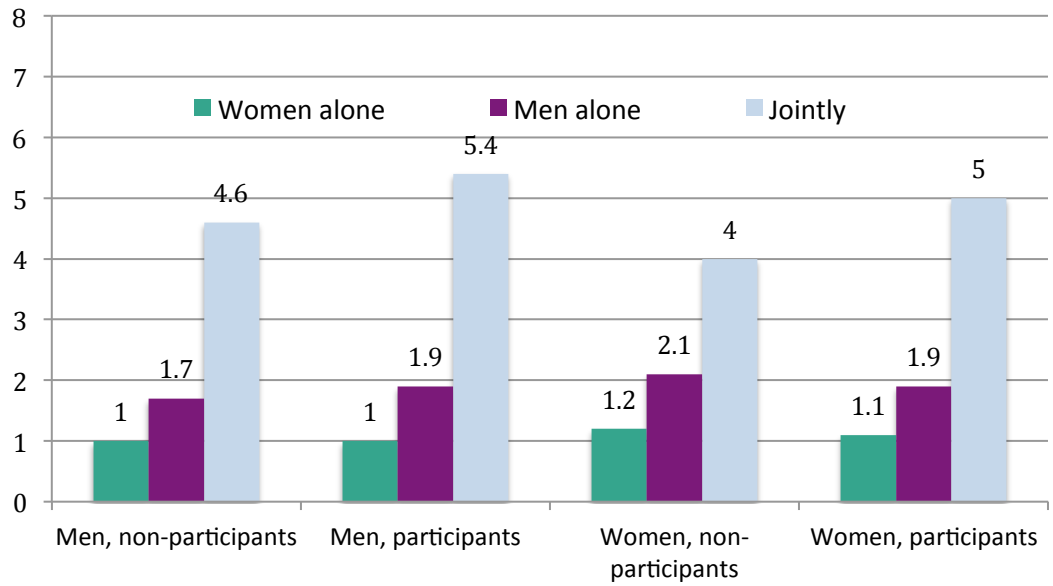
Decision-making

An important way in which gender norms are manifested is through decision-making within the household, an important measure of agency. Respondents were asked which of the following decisions are made by the wife/female partner alone, the husband/male partner alone, the couple together or by someone else:

- Spending the respondent's income
- Spending the partner's income
- Healthcare for the respondent
- Healthcare for female children
- Healthcare for male children
- Major household purchases
- Daily household needs
- Visits to family and relatives

We created three separate scores: one for the number of decisions made by the man alone, one by the woman alone and another for decisions made jointly by the couple.

Figure *10.2.* Mean number of decisions made by women alone, men alone or as a couple, by sex and program participation (Endline Survey only, N=



Differences by program participation among men significant (p<.001).
Differences by program participation among women significant (p<.001).

As seen in Figure 10.2, most decisions were reported to be mutual, with male participants reporting slightly more joint decisions than was true of female participants (5.4 and 5.0, respectively). At least half of the decisions were reported to be mutual in all groups. Program participants were more likely than non-participants, among men as well as among women, to report greater levels of joint decision making (p<.001).

Since the levels of reported joint decision-making at baseline were almost identical to those reported by program participants at endline, these results are not shown. For more detailed findings on decision-making by zone at endline, see Appendix X Table X(b).

Chapter 11. Conclusions & Recommendations

Moya Ndi Mpamba (MNM) was widely accessible to Malawian men and women of reproductive ages as reflected in the findings. Moreover, exposure to the campaign was positively and significantly associated with positive knowledge, attitudes, social norms and health practices. While this association was not universal, it was more often true than not. As noted above, changes between baseline and endline were largely, although not universally, positive. These findings point to the predominantly positive effects of exposure to MNM media programming and other activities.

Exposure to Moyo Ndi Mpamba

- Seventy-eight percent of men and 71% of women were exposed to at least one *Moyo ndi Mpamba* campaign activity.
- Men were exposed to significantly more campaign activities than women.
- More people in general were exposed to the radio program than the community or face-to-face activities.

WASH

Water treatment

- Nearly a third of the total sample reported that they'd treated their water in the past two weeks, an increase from 21% at baseline.

Hand washing

- Nearly 70% of all exposed respondents reported that they wash their hands using soap and water at endline compared to 57% during the baseline. (The percent of non-exposed respondents who reported behavior was slightly lower than the overall rate at baseline.) Additionally, there was a considerable decrease in those who reported only using water (41% at baseline and 28% at endline).
- Compared to non-exposed participants, exposed participants were significantly more likely to report washing their hands with soap and water and less likely to report using water only.

Malaria

Communication

- Communication about malaria varied significantly by exposure to the program with 19% of those not exposed compared to 33% of those exposed reporting having discussed this topic in the past six months

Bed net attitudes

- Less than 50% of men and women believe that bed nets are safe. There was a secular increase in the percent of women who believe nets are safe between baseline and endline, but the differences by exposure were minimal.

Bed net use

- At endline, under-five children living in households exposed to the program were more likely (92%) than those who were not exposed (84%) to sleep under a bed net the night prior to the survey.
- A tenth of mothers who were exposed and a fifth of mothers who were not exposed reported never sleeping under a net.

- Of mothers who reported sleeping under a bed net, 91% at endline compared to 83% at baseline reported using an insecticide-treated net.

IPTp
- About 90% of women who gave birth in the previous five years at both baseline and endline took medication to protect them from malaria.

Fertility Preferences and Contraception

Knowledge
- 94% of men and women reported knowing at least one FP method.
- The common forms of contraception people reported knowing were injectables (80%), pills (57%), male condoms (55%) and implants (52%).

Approval and norms
- Couples in union reported high approval of modern contraceptive methods (96% men, 94% women).
- Women were significantly more likely than men to believe that their peers used modern contraception and that their same sex friends approved of modern contraceptive methods. There was no significant difference among men.
- Exposure & norms
    - Exposure to *Moyo ndi Mpamba* was associated with significantly increased personal and perceived partner approval of modern contraceptives among women.
    - Among men, exposure was associated with significantly increased personal approval of modern contraceptive methods only.
    - Among both men and women, those who were exposed to *Moyo ndi Mpamba* were significantly more likely to believe opposite sex friends approved of modern contraceptive use.

FP communication
- Significantly more men than women reported speaking with at least one person about family planning in the past 6 months.
    - Of those, less than 25% of men and women spoke with their partner about family planning in the past 6 months.
- Exposure to the campaign was associated with significantly increased likelihood of discussing family planning with one's partner in the past 6 months for both men and women.

Contraceptive efficacy
- Compared to women, men reported significantly higher levels of confidence in using contraceptives consistently, discussing contraceptives with their partner and getting their partner to agree to use contraceptives.
- Women who were exposed were significantly more likely to report being confident in their ability to ask a health care provider about family planning, obtain contraception when needed, use contraception consistently, visit a clinic for ANC during the first trimester of pregnancy, discuss contraception with one's partner, and get their partner to agree to use contraception.

- Men who were exposed to the campaign were significantly more likely to report confidence in their ability to use contraception consistently and visit a clinic for ANC during their partner's first trimester of pregnancy.

Contraceptive use
- Exposure to the campaign was associated with greater likelihood of currently using any form or a modern form of contraception for both men and women
- 69% of the total sample had used a form of contraception in their lifetime
- 45% of the population who were not currently pregnant or trying to get pregnant reported currently using modern contraception.
- Men reported significantly higher levels of current contraceptive use, compared to women.
- The most common forms of modern contraception that participants reported were injectables, implants, and the male condom.

Intention to use contraception
- Exposure to a family planning message from at least one activity from the campaign was associated with increased family planning intention among both men and women.
- Among current non-users of contraception, 81% of men and 69% of women intend to use contraception in the future.

Desired family size
- In the past year, 50% of the sample spoke with their partner about the number of children they would like to have.
- Exposure to one or more of the campaign activities was associated with speaking with one's partner about the desired number of children in the past year
- On average, the desired number of children was 4 children.
- Women who were exposed to at least one campaign activity were significantly more likely to desire fewer children.
- The mean birth interval was approximately 4 years.

Maternal and Child Health

Pregnancy-related knowledge and attitudes
- Women's knowledge of pregnancy-related danger signs increased among non-participants and participants alike between baseline & endline, with no significant differences by exposure.
- Men's mean knowledge of pregnancy-related danger signs also increased over time, or between baseline and endline; with clearly demonstrated program effects.

Antenatal visits
- Among women with a child ≤5 years old, 98% reported receiving antenatal care during their pregnancy.
- The mean number of ANC visits varied by *Moyo ndi Mpamba* participation or exposure: while non-participants reported an average of 3.1 visits, *Moyo ndi Mpamba* participants reported an average of 3.4 ANC visits, a statistically significant difference.
- Compared with those not exposed to *Moyo ndi Mpamba*, women who listened to or participated in *Moyo ndi Mpamba* activities were significantly more likely at endline to have

visited a clinic while pregnant, and among those women, to have had their blood pressure measured and blood samples taken.

Bed net use during pregnancy

- Program participants were significantly more likely to use any bed net as well as more likely to use LLINs every night during their most recent pregnancy.

Childbirth

- Compared to baseline, a larger percentage of women at endline reported giving birth with the aide of a trained medical attendant, and that a physician or clinical officer attended their birth. There were no differences by program participation.

Knowledge and treatment of diarrhea

- The most commonly cited behaviors to prevent diarrhea were: washing hands after defecation, washing hands before eating, and using toilets/latrines for defecation.
- The most common forms of treatment for diarrhea were: take child to a health professional, and/or give ORS. Of note, while less than 1% mentioned zinc at baseline, 14% did so at endline.

HIV & AIDS

- 35% of all respondents indicated that they had talked to at least one other person about HIV/AIDs topics compared with 44% at baseline. While endline rates were lower, exposure to the program was positively and significantly associated with such conversations.
- Just below 90% of women and 82% of men sampled reported being tested for HIV compared to two-thirds at baseline.
- Exposure to the program was significantly and positively associated with HIV testing (women: 79% unexposed vs. 93% exposed; men: 72% unexposed vs. 85% exposed).

Sexual Behavior

Sexual debut and sexual partners

- The mean sexual debut for both men and women was 17 years.
- 21% of the total sample reported having more than one sexual partner in the past 12 months
- Men were significantly more likely to report having more than one sexual partner in the past 12 months.
- Exposure to at least one campaign activity was associated with significantly reduced likelihood of having more than one sexual partner in the past 12 months.

Condom use

- Overall, 14% of respondents reported using a condom at last sex.
- Exposure was not significantly associated with condom use at last sex.

Barriers to condom use

- "Trusting" one's partner was the main reason participant's cited for not using a condom at last sex.
- Access to condoms did not seem to be a major barrier to condom use, with only 4% reporting that as the reason for not using a condom at last sex. Furthermore, 74% of all respondents reported that it was easy to access condoms.

- Persuading one's partner to use a condom was also not a major barrier to condom use, with 81% of the total sample reporting that it was easy to persuade one's partner.
- Respondents who were exposed *Moyo ndi Mpamba* were significantly more likely to report finding it easy to persuade their partner to use condoms.

Condom use norms

- Descriptive norms (perception of whether one's peers are engaging in a certain behavior)
    - Women were significantly less likely than men to report that some/most of their peers use a condom all the time with their casual partners.
    - However, exposure to *Moyo ndi Mpamba* was associated with significantly increased perceptions that some/most of one's peers used condoms consistently with their casual partners, among women, but not among men.
- Injunctive norms (perception of peer approval of a certain behavior)
    - More men than women perceived that their peers would approve of their consistent condom use.
    - However, women who were exposed to *Moyo ndi Mpamba* were significantly more likely to perceive that some/most of their peers would approve of their consistent condom use. There was no significant effect of exposure among men.

Gender Norms

Gender equitable beliefs

- Women had significantly higher gender equitable beliefs than men.
- Exposure was associated with significantly higher gender equitable beliefs among both men and women.

Decision-making

- Most decisions were reported to be mutual, with male participants reporting slightly more joint decisions than was true of female participants.
- Program participants (both men and women) were more likely than non-participants to report greater levels of joint decision-making.

The findings reported herein point to the popularity and accessibility of the *Moyo ndi Mpamba* campaign. Indeed, nearly 80% of men and over 70% of women interviewed for the endline survey reported exposure to one or more campaign messages and/or activities. Given the clear associations between program exposure and positive outcomes, it is important to continue to use the MNM platform to convey health-related knowledge and positive attitudes, encourage social normative change and create an enabling environment for positive health practices. Specifically, it is vital to find ways to increase program exposure by (1) increasing radio ownership and access to radio programming as well as by (2) expanding community mobilization. Malawi has made important strides in achieving positive behavior change and supporting positive health practices during SSDI. By continuing this approach, these achievements can be sustained and furthered, ushering in a brighter future for the children, women and men of Malawi.

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APPENDICES

APPENDIX 1.

SSDI-Communication's Platforms, Packages, and Vehicles for Social and Behavior Change Communication (SBCC)

SSDI-Communication developed and implemented a variety of platforms, packages, and vehicles for SBCC. These included two radio programs (one a serial drama, the other a reality radio show) and the radio-based National Dialogues initiative; various print materials targeting individuals and families including the Family Health Booklet, Newlyweds Booklet, Malaria Comic Book, posters, and pamphlets; a Community Health Worker Flipchart for use during community sessions and interpersonal communication; a couples marriage counseling initiative; mass media including radio spots; strategic and technical guidance and oversight to community mobilization groups; and district health campaigns.

These were accompanied by a variety of capacity strengthening initiatives for the Ministry of Health, the University of Malawi, and local journalists, which will not be detailed here.

Interactive Radio-Based Initiatives

Radio Drama

The Moyo ndi Mpamba radio serial drama was a weekly interactive program designed to inspire behavior change on priority health issues among adolescent and adult Malawians through radio, a trusted and easily accessible format. The program used an engaging drama as the key vehicle to address the health issues targeted by SSDI-Communication.

The drama had three main plotlines:

- A young married couple, Richi and Nasilina, struggle as Richi maintains his relationship with his old girlfriend Esmie.
- Ndaziona, a 16-year-old girl, has a terrible secret that she is hiding from her mother and two brothers.
- Mrs. Nabetha Gama, a very religious woman married to a very traditional man who strongly believes in traditional healers and superstitions.

The program encouraged interaction with listeners in a variety of ways. The hosts of the program asked listeners questions each week, and encouraged listeners to send responses via SMS. Additionally, they asked listeners to send SMS that detailed the impact of the program on their lives. The program also established a Facebook page where interactive content was posted regularly.

During the life span of the SSDI-Communication program, 52 serial drama episodes were broadcast on 14 radio stations (two national stations and 12 community radio stations) across the country. The program was essentially on air almost every day for a full year. Listeners sent in over 13,300 SMS, 12.3% of which acknowledged the impact of the drama on their lives. Additionally, the programs' Facebook page received over 5,000 followers during the 52 weeks of broadcasting.

Reality Radio

SSDI-Communication supported the production and airing of reality radio programming under the umbrella of the *Moyo ndi Mpamba* ("Life is Precious") campaign from 2012-2016. From 2012-2015, SSDI-Communication supported the production and airing of the *Chenicheni Nchiti?* ("What is the reality?") reality radio program initially developed under the BRIDGE II Project. In July 2015, SSDI-Communication rebranded the program to become the *Moyo ndi Mpamba* Reality Radio Program, fully aligning it with the *Moyo ndi Mpamba* campaign.

The program featured real life experiences and stories of people whose lives changed as a result of adopting healthy behaviors. The program also covered stories of people whose lives and families had suffered the consequences of not practicing healthy behaviors. The program aimed to inspire individuals and families to take action towards health seeking behaviors in addition to influencing communities to create a supportive environment for the prevention and control of health related problems.

The program collected listeners' feedback through SMS, Facebook, and paper mail. Radio producers used this feedback to ensure that future program episodes aligned to listener needs more closely. It also allowed interaction between producers and listeners, and provided an opportunity for people's voices to be incorporated into the program. Some individuals that gave feedback were then featured in subsequent program episodes. On the Facebook page of the program, followers would be asked questions, and then respond. By September 2016, the *Moyo ndi Mpamba* reality radio program's Facebook page had received 13,700 likes.

During the life span of SSDI-Communication, over 150 episodes broadcast weekly on 13 community and two national radio stations. SSDI-Communication trained and engaged 16 field producers in the 15 SSDI districts.

Additionally, listeners sent approximately 14,886 SMS between July 2015 and September 2016 alone, signaling high listener engagement in the program.

Text4Life

SSDI-Communication initiated "Text4Life" in July of 2015 at the same time that it launched the *Moyo ndi Mpamba* reality radio program. The Text4Life system allowed for radio program listeners to subscribe to a weekly message service that sent them messages on the health topics covered by the radio program. By September of 2016, more than 14,000 listeners were receiving these messages on a weekly basis. The health tips sent through the Text4Life platform were derived from the Family Health Booklet and therefore aligned with overall SSDI-Communication messaging. However, to promote consistency and repetition, the messages sent each week aligned with the topic of that week's reality radio program.

National Dialogues

SSDI-Communication worked with both national and community radio stations to hold two National Dialogues. First, the project brought together radio producers and presenters from various radio stations to an orientation workshop where participants were oriented on the guidelines of the National Dialogues approach. Participants also received mentorship on how to achieve the intended goals of the initiative, how to engage listeners as much as possible, and received guidance materials, including message guides, to support the developed of focused and targeted programs.

After the workshop, SSDI-Communication encouraged radio stations to incorporate dialogue topics into one of their most popular programs each week during the National Dialogue period. Thus, in any given week during the campaign, every radio station in the country was discussing the same issue, and inviting their regular listeners to contribute to the discussion by calling in, sending SMS messages, or writing letters. The topics chosen for discussion during the National Dialogues were broad, but the questions developed to stimulate the discussions were crafted in such a way that people were able to link social and behavioral issues with health outcomes.

SSDI-Communication held two rounds of National Dialogues under the broad theme of "Life Choices and Wellness." The choice of this theme was strategic, as it highlighted the significance of daily choices, decisions, and actions on health and wellness, aligning with SSDI-Communication's umbrella *Moyo Ndi Mpamba* campaign.
The first round of dialogues had a number of sub-themes, including:

- Cultural practices and beliefs: what is more important to uphold, our culture or our lives?
- Living our lives: what matters more, is it our life, or money and material things?
- The family and people's wellbeing: does the family do enough to give its members the best life?
- The community working together: communities as perpetrators of good life values.
- Disease treatment versus healthy living: taking responsibility for our own wellbeing and health.

The second dialogue expanded one of the sub themes and looked at "the role of the family and community in promoting the health and wellness of its members." In line with the prevailing mismanagement and theft of hospital commodities and drugs at the time of the campaign, this dialogue was designed to provoke debate and discussion on the role of the community in dealing with theft of hospital commodities, and whether it was "moral" for someone to steal hospital commodities that are meant to save peoples' lives.

Radio Spots

The project produced spots in five health areas (excluding HIV) as well as a spot on brand promotion for *Moyo ndi Mpamba*. These radio spots were aired more than 8,000 times during the project. This included 1,379 airings of brand promotion spots; 6,096 airings of malaria-related spots; 366 airings of spots on cholera; 1,517 airings of spots related to WASH; 2,183 airings of spots related to MNCH; 2,299 airings of spots related to family planning; 1,513 airings of spots on nutrition; 135 airings of spots related to Zinc usage; and 848 airings of spots related to complementary feeding.

To promote message consistency, the spots used the messages included in the SSDI-Communication SBCC strategy and other materials.

- Malaria: These spots promoted malaria prevention and care, including sleeping in a long-lasting insecticide-treated net (LLIN) every night all year round, tips on LLIN use and care, discouraging fishing using LLINs, and demanding testing before getting treatment for malaria.
- Cholera: These spots reminded people about cholera prevention and management practices including hand washing for prevention, detecting signs and symptoms, and management of cases at home and on the way to the hospital/health center.
- WASH: These spots encouraged hand washing after using the toilet, after changing babies' nappies, before preparing and eating food.

- MNCH: These spots encouraged couples to go early for ANC and to know danger signs during pregnancy.
- Nutrition: The nutrition spot encouraged pregnant mothers to eat nutritious foods from the six food groups during pregnancy.
- Zinc: This spot promoted the use of zinc with oral rehydration salts (ORS) for children with diarrhea, in the context of noticing diarrhea, seeking care within a day, and completing the dose of zinc alongside the ORS.
- Complementary feeding: This spot encouraged mothers to begin feeding their babies foods from the six food groups once they reached six months of age, along with continuing to breastfeed.

Broadcasting

The project developed a broadcasting matrix that was sent to national and community radio stations on a quarterly basis. To avoid message fatigue among the audience, a "flighting mode" was employed whereby there were breaks in messages at the end of each quarter. An effort was made to broadcast the spots during peak listening hours for both rural and urban communities.

Special Programs and Events

The project produced other special programs on national radio stations. These were programs produced on special days, such as Valentines Day and Mothers' Day. Using the special events as entry points, *Moyo ndi Mpamba* disseminated integrated health messages that blended with the theme of the holiday.

Moyo ndi Mpamba also utilized the power of football to disseminate messages of the campaign. For instance, during football tournaments and international matches, the brand and its messages went on air alongside football commentary. In some cases, *Moyo ndi Mpamba*-branded pitch side banners were mounted at the football grounds. The initiative enabled the campaign to reach men who are rarely reached with health messages.

Print Materials

Family Health Booklet

The Family Health Booklet is an easy-to-read, integrated health promotion material, which connects families to individual-level actions, community-based initiatives and clinical services. It covers essential household-based and clinic-based behaviors for six health topics: MNCH, FP, nutrition; malaria; HIV & AIDS; and WASH.

This pictorial booklet provides essential information on health to families to empower them to prevent illnesses and promote positive health behaviors. It provides a space for families to keep track of household-level behaviors (LLIN acquisition and use, hand washing with soap, etc.) and clinic-based behaviors (immunizations, HIV testing, family planning, child checkups and weigh-ins, etc.). Households refer to the booklet for information on how to prevent and treat illnesses. The booklet is available mainly in Chichewa, though a few copies were distributed in Tumbuka, Kyangonde and Yao.

The Family Health Booklet quickly became a trusted household reference for health. People of all ages accepted the booklet and expressed their appreciation for it. They enjoy the richness in its content as well as its pleasing pictorial presentation. SSDI-Communication distributed approximately 676,000 copies of the booklet from 2014 to 2016 to households in 13 districts,

reaching over three million people. Despite the low literacy level of most rural Malawians, the booklet proved to be an effective way of reaching households with key health messages.

Posters, Leaflets, and Billboards

Posters

SSDI-Communication produced a variety of posters on its six health areas of focus and disseminated them throughout its target districts.

5,675 posters on malaria were produced and distributed. These posters included the following key messages:

- Nets are safe for everyone. Sleep under an LLIN every night all year round.
- Conduct a Rapid Diagnostic Test before giving malaria medicine. *(this poster targeted service providers)*
- Make a difference! Report theft of malaria medicines. (The poster provided an 847 number, which was toll free, for people to report theft of medicine)
- Value your net! Prevent malaria. Do not sell your net to fishermen. Do not use it for fishing.

15,945 posters on nutrition were produced and distributed. These posters included the following key messages:

- Eat from the six food groups during pregnancy for good health of the pregnant woman and the unborn child. (10,609 posters)
- At six months, breast milk is not enough for the baby. Start feeding the child foods from the 6 food groups in addition to breast milk. (5,439 posters)

11,447 posters on FP were produced and distributed. These posters included the following key messages:

- Choose peace of mind! Choose family planning. (5,786 posters)
- Consider using long-acting family planning methods. They protect you from unwanted pregnancies for up to 3 years. (5,651 posters)

5,188 posters on WASH were produced and distributed. These posters included the following key messages:

- Prevent diarrheal disease. Wash hands with soap after using the toilet and after changing the baby's nappy.

6,161 posters on MNCH were produced and distributed. These posters included the following key messages:

- Protect the health of the child and the (unborn) baby. Go for ANC as soon as you realize you are pregnant.

Distribution

SSDI-Communication developed a distribution plan for the posters in collaboration with SSDI-Services. The two projects collaborated to determine how many posters would be distributed to each of the targeted SSDI districts, as well as recommended sites for distribution within each district. The posters were delivered to community mobilization sub-grantees, who were managed by SSDI-Services, because they had presence in the district and communities.

At district level, sub-grantees re-analyzed the distribution plan to further determine distribution quantities per TA. They also further identified distribution agents who would assist them in conducting the distribution beyond the traditionally identified Community Action Groups (CAGs) who were volunteers that conducted community mobilization activities. On routine visits to different sites, community mobilization sub-grantees pasted the posters at the pre-determined sites using the distribution criteria that SSDI-Communication shared with them. SSDI-Communication conducted intensive follows up with subgrantees to ensure that the posters were indeed distributed and pasted. During these follow up visits, SSDI-Communication staff provided support as needed to ensure that all posters were pasted in their designated locations.

The posters were distributed to health centers and other places frequented by community members including schools, market places, and agricultural development centers. Posters targeting health service providers were pasted in consultation rooms at health centers.

Leaflets

The project produced and distributed leaflets (trifold print materials) on:

- Malaria: Malaria prevention, tips on LLIN use and care, and proper use of LLINs including discouraging the use of LLINs for fishing. 403,741 leaflets produced.
- Cholera: Prevention of cholera and diarrheal diseases, management of cholera cases at home. 139,915 leaflets produced.
- Family planning: Covering Lactational Ammenorrhea Method (LAM) (exclusive breastfeeding as a family planning method), and Long Acting Reversible Contraception (LARC) methods. 20,142 leaflets on LARCs and 15,037 on LAM produced.
- ORS and Zinc: Management of diarrhea for children under five with ORS and zinc supplementation. 21,282 leaflets produced.

Distribution

The distribution process for leaflets was similar to that of posters. The only difference was that leaflets were mainly distributed to opinion and group leaders. Distribution agents, such as CAG members, were advised to encourage those that received the leaflets to share the leaflet or the information with others (friends, household members, colleagues). In a few cases, the leaflets were distributed to the public during open days on special health awareness holidays such as World Population Day, World Malaria Day and Child Health Days.

Billboards

Moyo ndi Mpamba billboards appeared in 11 locations throughout Malawi. The billboards were scattered across the three regions of the country. Billboards on various topics were interchangeably mounted on these sites for nearly three years. Messages on the billboards were consistent with the messages promoted through other SSDI-Communication platforms such as posters, leaflets, radio programs, and the family health booklet. The billboards that appeared included:

- Campaign promotion: Promoted the *Moyo ndi Mpamba* ("Life is Precious") concept.
- Malaria: Reinforced the message that nets are safe for everyone and encouraging people to sleep inside a net every night.
- FP: Reinforced that FP brings peace of mind, and encouraged people to choose an FP method. Another FP billboard also encouraged people to consider using a LAM while still promising peace of mind.
- WASH: Promoted handwashing after using the toilet and changing the baby's nappies.

- MNCH: Encouraged couples to attend ANC during as soon as they discover they are pregnant.
- Nutrition: Encouraged women to eat foods from 6 food groups during pregnancy.

Marriage Counseling

To better deliver health messages to newlyweds, SSDI-Communication engaged ecumenical marriage counselors to be champions of the *Moyo ndi Mpamba* campaign by promoting health as a necessity for strong families during marriage counseling sessions with newlyweds. Counseling sessions included health messages on maternal and child health, nutrition, family planning, malaria in pregnancy, and HIV & AIDS.

SSDI-Communication worked with the Ministry of Health and faith leaders to develop a booklet for young married couples (the *Takunyadirani* ["We Celebrate You"] booklet) containing messages on priority health topics. Some of the issues highlighted in the booklet included couple HIV testing before marriage; the healthy timing and spacing of pregnancies; nutrition during pregnancy and infancy; and malaria prevention during pregnancy and early childhood. SSDI-Communication trained marriage counselors on how to integrate health messages into counseling sessions. The counselors then reached out to young married couples through counseling sessions, small-group church meetings, door-to-door visits, marriage outreach sessions, mock weddings, and sermons.

Over 1,450 marriage counselors (males: 951; females: 505) were trained in six districts. Marriage counselors reached over 14,000 newlyweds with *Takunyadirani* booklets and counseling, representing over 90% coverage of all marriages that occurred in areas where counselors worked.

Community Health Workers Flipchart

The Community Health Worker Flipchart is an integrated SBCC support material that contains cue cards and corresponding content that outline key messages on malaria, nutrition, reproductive health, FP, HIV & AIDS, and WASH. The flipchart is simple and easy to use, even for low-literate audiences. The flipchart was designed for community volunteers to use as a reference during community and household outreach activities.

SSDI-Communication collaborated with SSDI-Services to distribute the flipcharts in 13 districts. SSDI-Communication oriented district level teams on its use and they in turn oriented CAGs, care group members, Health Surveillance Assistants (HSAs) and volunteers on how to use it at community level. The flipchart was given to volunteers that had a basic knowledge on the health topics, those who could read at least simple words in local language, and those who were motivated to conduct household visits.

The flipchart included both key health messages as well as guidance on interpersonal communication and counseling. During household visits, community volunteers followed a procedure as outlined in the flipchart to ensure a comprehensive counseling visit by instructing community volunteers to follow these steps:

- ✓ Greet the client and conduct introductions.
- ✓ Establish the life stage of the contacted person within the household by asking if there is a child in the household, the age of the child, the use of FP methods, etc.
- ✓ Tell the household contact about specific health topics they could discuss during the meeting based on the life stage of the particular household.

- ✓ Agree on a topic to discuss with the household contact and turn to the appropriate card in the flipchart.
- ✓ Ask the client to describe the picture(s) on the chosen card and relate it to the selected health topic. Cue cards include questions that help the CAG or care group member to understand what the client knows about the topic, and the norms and attitudes in that community around a particular topic. Questions are then answered by the key messages on the cue card.

In addition to the chosen cards, volunteers were encouraged to highlight the following messages to any contact person of a household with children younger than two years old:

- ✓ Importance of hygiene and sanitation to avoid infections
- ✓ Benefits of FP.
- ✓ Benefits of HIV couple counseling and testing.

After the discussion, the volunteer and the contact person agreed on day of their next meeting when another card would be selected and discussed.

During the lifespan of the project, SSDI-Communication printed and distributed over 12,000 flipcharts in 13 districts, and oriented over 8,500 community health workers and volunteers at the district and community level on how to use the flipchart.

District Health Campaigns

SSDI-Communication partnered with District Health Offices and other stakeholders in its 15 implementation districts to implement district health promotion campaigns as a part of the *Moyo ndi Mpamba* campaign platform. The district health campaigns, commonly referred to as roadshows, used an interactive approach to promote positive health behaviors and the utilization of health services to prevent and manage malaria, ensure maternal and child survival, promote good hygiene and nutrition, and the uptake of FP and HIV prevention. The campaigns also supported the dissemination of health messages to community members on these six EHP topics.

The campaigns employed an entertainment education approach, emphasizing the active participation of the local communities in discussing and sharing messages on health issues that were priorities for them. The campaigns were people-centered and optimized audience participation through quizzes, health talks, drama and dance performances by groups from the local communities as well as special performances by some of Malawi's popular musicians such as Skeffa Chimoto, Lulu and Katelele Ching'oma. Members of the communities who took part in the interactions received *Moyo ndi Mpamba*-branded t-shirts and zitenje.

At all venues, local traditional leaders and district health office representatives made remarks, reinforcing campaign health messages and encouraging communities to practice healthy behaviors and seek help from health centers in their locality.

In order to maximize the impact of the campaigns, SSDI-Communication worked with service delivery partners such as Malawi Blood Transfusion Services, Banja La Mtsogolo, and Family Planning Association of Malawi who offered their services, including HIV testing and counseling and family planning during the shows.

SSDI-Communication conducted a total of 86 district health campaigns in 15 districts in the northern, central and southern regions in Malawi. Approximately 101,085 people (50,907 men; 50,178 women) were engaged through entertainment education at these district campaigns. Collaborating service delivery partners reported that 1,878 people (1,676 men; 202 women) accessed family planning services, and 1,143 people (Men 537; Women 377) accessed HTC services provided at district health campaigns organized and implemented by SSDI-Communication.

Community Mobilization

SSDI-Communication worked with SSDI-Services to provide capacity strengthening support to CAGs, comprised of community health volunteers, as they implemented the stages of the community action cycle (CAC). Under the supportive supervision of SSDI-Communication and SSDI-Services staff, CAGs worked with communities to identify health problems and their root causes, prioritize health problems for action, and work together to develop solutions to those problems.

CAG members received training on priority health messages and conducted household visits to engage community members on health topics in their homes. In addition, HSAs and other volunteers conducted community meetings on health issues that included drama performances, songs, poems, and other health education activities.

CAGs worked diligently to achieve community-level change. They lobbied with local NGOs, community leaders, parliament members, and their District Health Offices for support to mobilize resources they needed to improve their communities. These included boreholes and shallow wells for safe water, bicycle ambulances to ease transport to a health facility during emergencies, and iron sheets to improve the roofs of shelters and clinics.

SSDI-Communication supported the creation of 557 CAGs comprised of 8,000 CAG members. Community mobilization specialists conducted 356 technical supportive supervisory visits to the CAGs. According to monitoring data, 2,357,470 people were reached with messages during community meetings including drama performances, poems, and songs with integrated messages on six health topics. Monitoring data also shows that 647,150 households were reached with messages on those six health topics using the Family Health Booklet and Community Health Workers' Flip Chart through community mobilization activities.

APPENDIX 2. BACKGROUND CHARACTERISTICS

Table 2(a)
Demographic characteristics, by exposure and zone (percent)

	North (N=272)		Central East (N=524)		Central West (N=499)		South East (N=745)		South West (N=165)		Total (N=2,205)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Age (Years)								*				***
16-24	25	27	24	27	24	26	24	29	18	26	24	27
25-34	30	33	24	29	30	36	35	30	29	28	30	31
35-44	12	20	21	22	23	22	18	25	26	25	20	23
45-60	33	20	30	22	23	15	22	16	26	20	26	18
Education		***		***		***		***		***		***
Never attended school	17	3	25	10	27	14	28	15	41	13	27	12
Attended primary school	55	49	54	55	59	50	57	60	44	52	56	55
Completed primary/Some secondary	25	41	14	26	7	26	14	20	9	28	13	26
Completed secondary/Any post secondary	4	7	7	9	6	11	2	5	6	7	4	8
Residence		*				**		**				***
Rural	100	91	93	87	94	82	99	95	92	88	96	89
Urban	0	9	7	13	6	18	1	5	8	12	4	11
Religion		**				*		**				**
Catholic	13	12	17	18	21	20	8	14	6	4	14	16

Protestant	77	81	70	65	49	63	38	44	65	81	54	61
Muslim	8	0	6	7	7	4	46	39	9	3	20	16
Other	0	5	5	7	14	6	7	3	18	12	8	5
Not Religious	2	1	2	3	9	6	0	0	3	1	3	2
Marital Status						**		**				***
Single	19	11	13	11	11	15	16	10	9	8	14	11
In a relationship	0	1	1	1	1	1	0	1	0	0	1	1
Married	68	76	71	80	68	76	63	75	79	81	68	77
Formerly married or separated	13	13	15	8	19	8	20	14	12	12	17	11
*p<0.05; **p<0.01; ***p<0.001												

Table 2(b)
Distribution of household items, by sex and exposure (percent)

	Men (N=962)		Women (N=1,208)		Total (N=2,170)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Electricity	3	6	3	6	3	6**
Koloboyi	11	9	9	10	9	9
Paraffin lamp	49	61	51	62	54	61**
Solar lamps	16	15	12	10	13	12
Radio	29	43***	17	29***	22	35***
TV	5	10*	4	5	4	7*
Cell phone	33	51***	24	42***	27	46***
Computer	1	3	1	1	1	2
Landline phone	1	1	1	1	1	1
Refrigerator	1	4	1	2	1	3*
Bed with mattress	15	29***	14	28***	14	29***
Mat	76	87***	84	84	81	85*
Sofa	5	12**	3	9***	4	11***
Tables and chairs	16	32***	9	23***	12	28***

Oxcart	2	4	2	4	2	4*
Bicycle	35	52***	28	38**	31	45***
Motorcycle/car	2	5	1	3	2	4**
*p<0.05; **p<0.01; ***p<0.001						

Table 2(c)
Distribution of household items, by zone and exposure (percent)

	North (N=272)		Central East (N=524)		Central West (N=499)		South East (N=745)		South West (N=165)		Total (N=2,205)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Electricity	0	9*	1	5	4	11*	3	3	12	8	3	6**
Koloboyi	4	1	8	6	10	11	11	14	15	9	9	9
Paraffin lamp	49	54	52	58	59	58	52	66***	56	70	54	61**
Solar lamps	4	15*	13	15	12	13	19	10**	6	6	13	12
Radio	25	40*	17	39***	16	33***	25	33	35	36	22	35***
TV	2	9	4	8	5	11*	3	4	12	5	4	7*
Cell phone	51	54	27	46***	19	44***	27	44***	32	43	27	46***
Computer	0	1	2	2	1	3	1	1	3	2	1	2
Landline phone	0	1	2	2	1	3	1	1	3	2	1	1
Refrigerator	0	3	0	1	1	7*	1	1	6	3	1	3*
Bed with mattress	32	43	13	25**	13	27**	11	28***	12	21	14	29***
Mat	83	84	76	85*	79	81	86	88	88	92	81	85*
Sofa	11	17	2	12**	4	15**	1	6	9	3	4	11***
Tables and chairs	19	37*	13	28**	8	28***	10	25***	18	21	12	28***
Oxcart	0	5	4	5	1	8**	1	1	0	3	2	4*
Bicycle	28	38	24	41**	23	43***	38	51**	47	44	31	45***
Motorcycle/car	0	2	2	6	1	7**	1	2	6	3	2	4**
*p<0.05; **p<0.01; ***p<0.001												

APPENDIX 3. EXPOSURE TO MOYO NDI MPAMBA CAMPAIGN

Table 3(a)
Exposure to MnM campaign, by zone and sex (percent)

	North (N=272)		Central East (N=524)		Central West (N=499)		South East (N=745)		South West (N=165)		Total (N=2,205)	
Characteristics	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Ever heard of MnM campaign	88	77*	91	82**	90	76***	87	75***	91	86	89	78***
Exposure to MnM radio	52	33**	60	40***	61	33***	54	30***	58	29***	57	33***
Exposed to MnM community activity	14	10	14	9	14	9*	16	9**	12	9	14	9***
Exposed to MnM face-to-face activity	14	14	14	13	14	10	16	13	12	11	14	12
Number of campaign activities exposed to				**		***		**				***
None	23	26	22	30	18	36	27	25	20	24	22	29
One	36	45	29	37	34	34	31	44	38	51	33	41
Two	35	23	39	25	37	23	30	24	34	16	35	23
All	5	6	10	8	10	7	12	7	8	9	10	7

*p<0.05; **p<0.01; ***p<0.001

APPENDIX 4. WATER, SANITATION AND HYGIENE

Table 4 (a)
Percent distribution of participants' selected method of treating water in past two weeks by zone and program exposure

	North (N=258)		Central East (N=516)		Central West (N=497)		South East (N=735)		South West (N=163)		Total (N=2,169)	
Water treatment	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed
Boil	16.7	4.8*	22.6	13.8*	12.5	21.9*	5.6	9*	25	10*	13.2	11*
Chlorinated	8.3	9.7***	12.9	10.6***	18.8	20.3***	38.9	30.2***	25	22.5***	25.6	22.5***
Water guard	16.7	35.5**	48.4	48.9**	50	46.9**	46.3	37.7**	50	65**	44.6	42.6**

Note: * p<0.017, ** p<0.007, *** p<0.0001

Table 4 (b)
Percent distribution of resources used to wash hands by zone and program exposure

Hand washing Resources	North		Central East		Central West		South East		South West		Total	
	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed
Water only***	41.5	28.8	42.1	28.7	48.9	43.5	41.5	24.5	41.2	45.2	43.5	31.8
Water and Soap***	56.6	70.3	54.8	66.1	47.4	54.1	55.2	70.8	55.9	49.3	53.3	64.4
Water and Ash***	0	0.9	3.2	4	3	2.4	3.3	4.8	2.9	5.5	2.8	3.7

Note: *** p<0.0001 the differences among the exposed are significant across the zones.

APPENDIX 5. MALARIA

Table 5 (a)
Percent distribution of bed nets per household by zone and program exposure

	North (N=272)		Central East (N=524)		Central West (N=499)		South East (N=745)		South West (N=165)	
Bed Net Ownership	**Non Exposed**	**Exposed**	**Non Exposed**	**Exposed**	**Non Exposed**	**Exposed**	**Non Exposed**	**Exposed**	**Non Exposed**	**Exposed**
None	0	0.5	7.1	2.7	3.4	3.5	3.6	1.7	0	0.8
1-2 Nets	44.2	35.8	41.6	43.8	59.6	44.7	50	44.4	57.6	55.7
3-4 Nets	37.2	33.2	44.3	38.1	31.5	37.7	37.5	43.6	30.3	36.3
5-6 Nets	11.6	23.2	6.2	11.2	4.5	11.2	8.3	7.8	9.1	5.7
7 above	7	7.4	0.88	4.1	1.1	2.9	0.6	2.5	3	1.6
Note: the observations are significant across the zones among those exposed to the program with a $p<0.0001$										

Table 5 (b)
Perceptions of net safety and effectiveness by zone and program exposure

Perception on Net safety and effectiveness	Noth (N=272)		Central East (N=524)		Central West (N=499)		South East (N=745)		South West (N=165)		Total (N=2,205)	
	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Non Exposed	Exposed	Not Exposed	Exposed
Safety												
Very Safe	52	61	36	43	38	36	50	36	45	43	44	42
Somewhat safe	6	9	18	8	6	8	4	6	0	3	8	7
Neither Safe nor unsafe	35	22	31	26	40	29	34	39	33	28	35	31
Somewhat unsafe	6	4	8	16	10	18	7	13	18	17	9	14
Very unsafe	2	2	7	7	6	9	4	5	3	9	5	7
Note: p<0.002 for those not exposed and p<0.0001 for those exposed to the program												
Effectiveness												
Very effective	79	92	76	89	92	92	94	96	97	98	88	93
Somewhat effective	10	5	13	6	4	4	3	2	0	1	6	4
Neither effective nor ineffective	10	3	10	4	2	2	1	1	0	1	4	1
somewhat ineffective	0	0	1	1	2	1	1	1	0	0	1	1
very ineffective	2	0	0	1	1	1	1	0	3	0	1	1
Note: p<0.0001 for those not exposed and p<0.005 for those exposed to the program												

APPENDIX 6. FERTILITY DESIRES AND CONTRACEPTIVE USE

Table 6(a)
Current and ever contraceptive use and type of contraceptive use, by sex and exposure (percent)

	Men (N=959)		Women (N=1,201)		Total (N=2,160)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Ever used contraception	63	74**	62	75***	63	74***
Current *modern* contraceptive use	45	56**	31	40*	37	49***
Types of contraception currently using	Men (N=443)		Women* (N=309)		Total* (N=752)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Female sterilization	8	9	12	9	11	9
Male sterilization	1	1	0	0	0	1
Oral pills	4	4	4	3	4	4
Injectables	54	49	64	63	59	54
Male condoms	19	15	3	3	11	10
IUDs	10	7	6	1	8	5
Implants	9	19	12	24	10	21
Breastfeeding (LAM)	0	0	1	0	1	0
Rhythm/Periodic abstinence	1	1	3	0	2	1
Withdrawal	0	1	0	0	0	1
Other	2	2	4	2	0	0

*p<0.05; ** p<0.01; ***p<0.001

Table 6(b)
Current and ever contraceptive use and type of contraceptive use, by zone and exposure (percent)

	North (N=242)		Central East (N=457)		Central West (N=450)		South East (N=695)		South West (N=148)		Total (N=1,992)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Ever used contraception	59	68	50	72***	62	73*	62	73**	75	72	60	72***
Current *modern* contraceptive use	37	43	29	53***	38	50*	38	47	58	51	37	49***
Type of contraception ever used	North (N=91)		Central East (N=177)		Central West (N=173)		South East (N=242)		South West (N=69)		Total (N=)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Female sterilization	9	6	20	13	11	12	4	7	19	6	11	9
Male sterilization	0	1	0	1	0	1	0	0	4	0	0	1
Oral pills	0	3	10	7	3	3	2	3	7	6	4	4
Injectables	63	45	31	45	78	57	60	65	53	44	59	54
Male condoms	19	16	10	12	5	4	14	12	7	9	11	10
IUDs	6	5	10	4	5	10	7	2	20	2	8	5
Implants	13	20	28	28	5	25	5	12	7	24	10	21
Breastfeeding (LAM)	0	0	3	0	0	0	0	0	0	0	1	0
Rhythm/Periodic abstinence	0	1	3	1	0	0	2	0	7	0	2	1
Withdrawal	0	1	0	1	0	0	0	0	0	2	0	1
Other	0	1	0	1	3	2	7	2	0	4	0	0

*p<0.05; **p<0.01; ***p<0.001

Table 6(c)

Family planning intention & Reason for not intending to use contraception in the future, by exposure and sex

	Men (N=545)		Women (N=711)		Total (N=2,160)	
Characteristics	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
FP intention	93	95	90	88	91	91
	Men (N=47)		Women (N=81)		Total** (N=128)	
Reason for no FP intention	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Unmarried	8	29	13	14	11	19
Not having sex	0	9	25	2	14	17
Infrequent sex	0	3	0	0	0	1
Respondent/partner menopausal/ hysterectomy	17	14	25	26	21	22
Sub fecund/infecund	8	6	6	5	7	5
Respondent/partner postpartum amenorrheic	8	3	0	0	4	1
Respondent/partner breastfeeding	8	0	13	3	11	2
Respondent opposed	0	6	0	2	0	3
Religious prohibition	8	3	0	0	4	1
Knows no method	0	0	0	2	0	1
Health concerns	0	9	0	0	0	3
Fear of side effects	8	0	19	2	14	1
Interferes with body's processes	17	20	0	0	7	7
Inconvenient to use	17	0	0	0	7	0
Other reason	0	0	0	26	0	17

*p<0.05; **p<0.01; ***p<0.001

APPENDIX 7. MATERNAL AND CHILD HEALTH

ANC visits, types of services received during most recent pregnancy among mothers of under-5 children

Please note that there were few significant ANC-related differences by zone; therefore ANC-related zonal results are not reported here.

Table 7(a). Percent of women with an under-5 child who slept under a bed net every night during the last pregnancy and among those who slept under a bed net every night, percent who slept under an LLIN every night

During this pregnancy, did you sleep under a mosquito net	North, no exposure	North, exposed	Central East, no exposure	Central East, exposed	Central West, no exposure	Central West, exposed	South East, no exposure	South East, exposed	South West, no exposure	South West, exposed	Total
Number	14	58	28	82	38	80	53	208	7	34	602
Any bed net every night	50%	78%	46%	76%	63%	75%	70%	86%	86%	82%	76%
Among women who used a bed net every night during their most recent pregnancy											
Number	12	53	24	71	26	66	46	195	6	30	529
LLIN every night	83.3%	88.7%	95.8%	88.7%	92.3%	93.9%	80.4%	93.3%	83.3%	96.7%	91.1%

P<0.0001 for any bed net use every night by exposure; among those with bed net use, differences by exposure of LLIN use is not significant.

Table 7(b) Location where women with an under-five child gave birth to their youngest child

Place child was born	North, no exposure	North, exposed	Central East, no exposure	Central East, exposed	Central West, no exposure	Central West, exposed	SE, no exposure	SE, exposed	SW, no exposure	SW, exposed	Total
Number	14	58	28	82	38	80	53	208	7	34	602
Gov't hospital	14.3%	29.3%	21.4%	37.8%	23.7%	26.2%	22.6%	22.6%	0.0%	14.7%	24.9%
Gov't health center	85.7%	62.1%	53.6%	52.4%	44.7%	52.5%	56.6%	59.6%	85.7%	67.6%	57.8%
Gov't health post	0.0%	3.4%	0.0%	3.7%	5.3%	2.5%	1.9%	0.5%	0.0%	0.0%	1.8%
CHAM facility	0.0%	0.0%	17.9%	1.2%	2.6%	8.8%	5.7%	10.1%	0.0%	11.8%	7.0%
Private hospital/clinic	0.0%	0.0%	0.0%	1.2%	18.4%	5.0%	7.5%	3.4%	14.3%	5.9%	4.3%
Private midwife	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	0.2%
TBA	0.0%	1.7%	0.0%	2.4%	2.6%	1.2%	0.0%	0.0%	0.0%	0.0%	0.8%
Respondent's home	0.0%	1.7%	3.6%	1.2%	2.6%	2.5%	5.7%	3.4%	0.0%	0.0%	2.7%
other	0.0%	1.7%	3.6%	0.0%	0.0%	0.0%	0.0%	0.5%	0.0%	0.0%	0.5%

*p=0.018

APPENDIX 8. SEXUAL BEHAVIOR

Table 8 (a)
Percent of people with more than one sexual partner in the past 12 months, by zone and exposure

	North* (N=272)		Central East (N=524)		Central West *** (N=499)		South East *** (N=745)		South West * (N=165)		Total *** (N=2,205)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
More than one sexual partner	39	25	25	24	34	18	31	13	28	11	31	18

* P<0.05; ** P<0.01; ***P<0.001

Table 8 (b)
Condom usage

	North (N=222)		Central East (N=427)		Central West (N=409)		South East (N=612)		South West (N=143)		Total (N=1,813)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Use of condom during last sexual encounter	26	16	9	14	10	9	12	19	7	14	12	15
Reason for not using condom during last sexual encounter	North (N=183)		Central East (N=371)		Central West (N=372)		South East (N=504)		South West (N=125)		Total (N=1,555)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Wanted to get pregnant	6	4	1	2	1	2	6	2	4	9	4	3
Trusted partner	61	59	58	56	72	51	73	64	52	54	66	58
Respondent did not want to use	3	4	6	3	7	5	1	3	7	1	4	4
Partner did not												

want to use	0	3	6	1	2	2	2	2	4	0	3	2
Did not have condoms	6	2	5	2	5	4	4	5	0	3	4	4
Was using another method	23	23	12	29	8	28	8	13	15	16	11	22
Other	0	5	9	5	2	6	7	10	19	16	6	8
Don't know	0	1	3	0	2	3	0	1	0	0	1	1
Respondent's access to condoms	North (N=222)		Central East (N=427)		Central West (N=409)		South East (N=612)		South West (N=143)		Total (N=1,813)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Easy	60	67	63	72	67	68	77	83	79	82	70	75
Difficult	12	12	17	18	21	23	17	11	17	15	17	16
Impossible	19	11	9	4	6	5	4	3	3	2	7	6
Don't know	10	11	10	6	6	4	2	3	0	1	6	5
Respondent's ability to persuade partner to use a condom	North (N=222)		Central East ** (N=427)		Central West (N=409)		South East (N=612)		South West (N=143)		Total * (N=1,813)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
Easy	55	72	63	80	74	73	75	82	90	81	71	78
Difficult	14	10	14	9	16	16	18	10	7	13	15	11
Impossible	12	7	14	4	3	7	5	5	3	4	7	5
Don't know	19	12	9	6	7	3	2	4	0	2	7	5
Peers consistent condom use with casual partners	North (N=251)		Central East (N=494)		Central West (N=471)		South East (N=710)		South West (N=159)		Total (N=2,085)	
	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
None/few	66	68	62	60	68	62	64	58	56	59	64	60
Some/most	34	32	38	40	33	38	36	42	44	41	36	40
Peers approval of respondent's	North (N=251)		Central East (N=494)		Central West (N=471)		South East (N=709)		South West (N=159)		Total *** (N=2,085)	

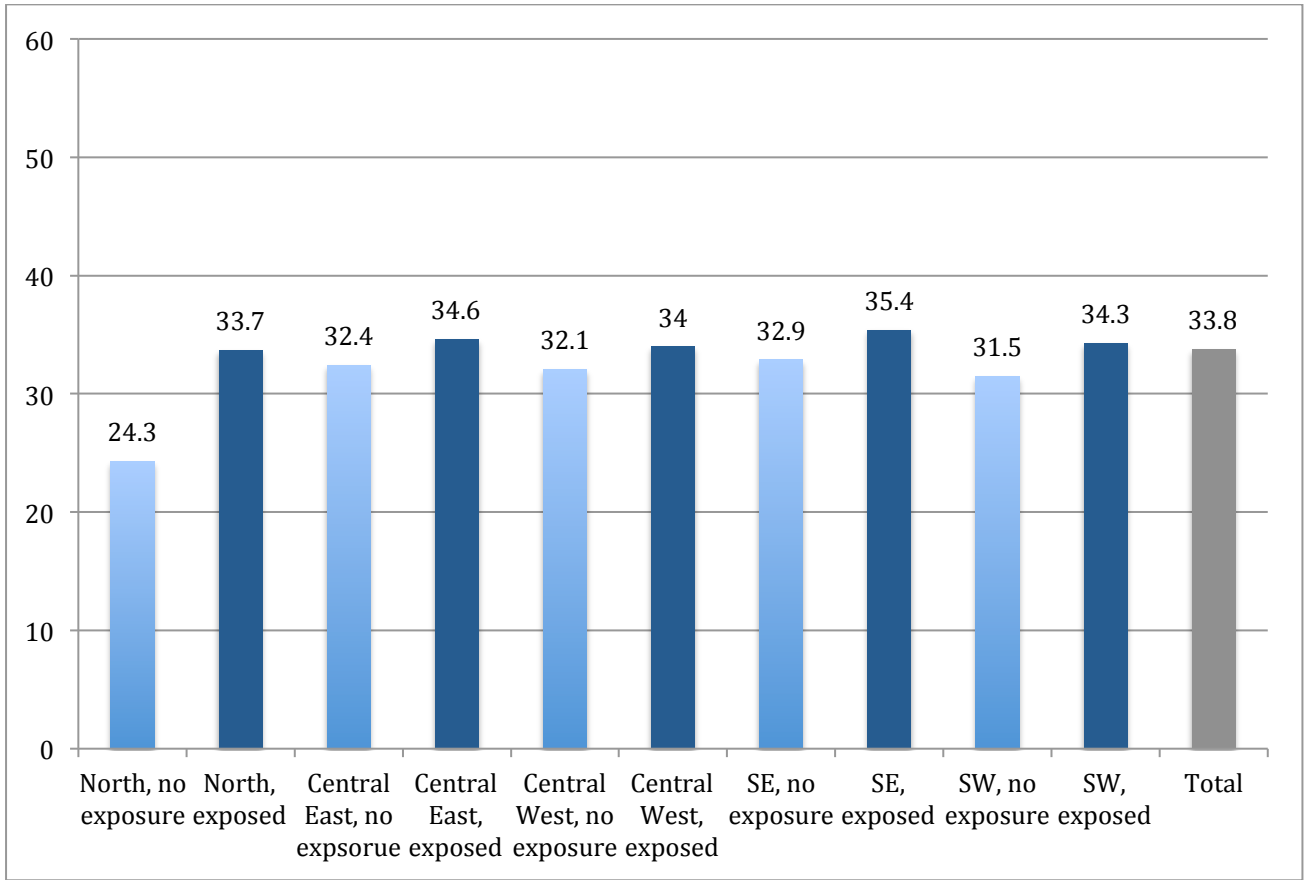
consistent condom use	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed	Non-Exposed	Exposed
None/few	64	60	63	55	70	60	64	57	66	52	66	57
Some/most	36	40	37	45	30	40	36	43	34	48	34	43
* P<0.05; ** P<0.01; ***P<0.001												

APPENDIX 9. HIV/AIDS

Differences in the reported variables did not vary by zones, so there are not zonal data reported in this appendix.

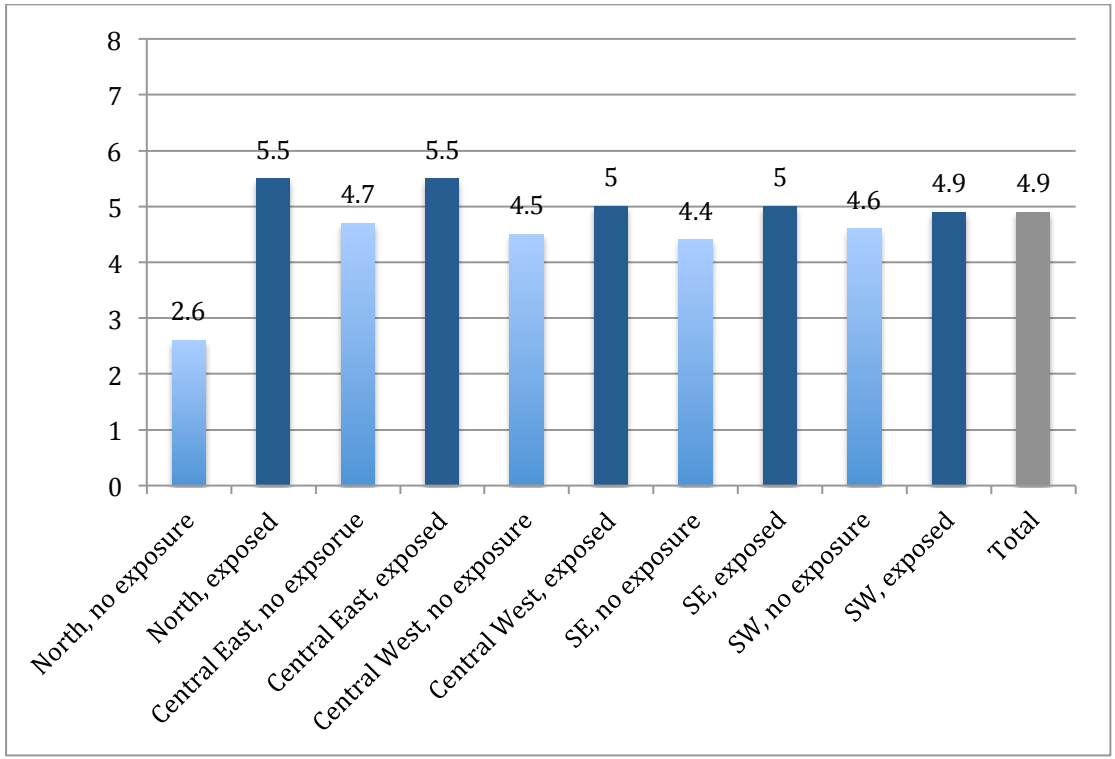
APPENDIX 10. GENDER NORMS

Table 10.a. Mean scores on gender normative statements (range 0-60), by zone and exposure status*
N=2205



*Higher scores are more gender equitable; differences significant: p<0.0001

Table 10.b. Mean number of decisions made jointly by couples (range 0-8), by zone and sex (N= 2205)*



* Differences significant: p<0.0001