External Evaluation of the Southern African Regional Social and Behavior Change Communication Program, as Implemented in Lesotho

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June 2012

ACKNOWLEDGEMENTS

This report was written by Paul Hutchinson, Jennifer Wheeler, Eva Silvestre, Philip Anglewicz, Evan Cole, and Dominique Meekers of the Tulane University School of Public Health and Tropical Medicine. Data were collected by Social Impact Assessment and Policy Analysis Corporation (SIAPAC) and Sechaba Consultants. The data collection team was led by David Cownie, Robin Weeks and Jeanette Bloem Lehasa. The authors would like to thank Mr. Tsui Litsiba of the Bureau of Statistics, Lesotho, for his guidance with respect to the sampling, and to Bureau of Statistics for preparing the enumeration area maps. We are indebted to Dr. John Lepele, and Thato Letsatsi at Sechaba Consultants in Maseru for their assistance implementing the fieldwork. We are particularly grateful to Esca Scheepers for her comments, suggestions, and guidance with the evaluation. We thank Soul City Institute colleagues Sue Goldstein, Michael Jana, and Renay Weiner, who contributed their regional experience to the evaluation, and DFID, for their support. We thank Lois Chingandu and Sara Page-Mtongwiza from SAfAIDS; Ms 'Mat'seliso Pulumo and Maseeng Chobokane from CMT/ADRA; and Hope Dolo and Ntsopa Mokitimi for detailed information on their programs, for insightful comments on the survey instruments and survey procedures and for assistance with training.

ACRONYMS

ADRA	Adventist Development and Relief Agency
ART	Antiretroviral Therapy
ARVs	Antiretroviral Drugs
CBO	Community Based Organization
CBV	Community Based Volunteer
CMT	Community Media Trust
DfID	Department for International Development
DHS	Demographic and Health Surveys
EA	Enumeration Area
GBV	Gender-based Violence
GIS	Geographic Information Systems
IKI	Invest in Knowledge
IV	Instrumental Variable
MCP	Multiple and Concurrent Partnerships
NGO	Nongovernmental Organization
PLHIV	People Living with HIV
PLWHA	People Living With HIV and AIDS
PSM	Propensity Score Matching
SADC	Southern African Development Community
SAfAIDS	Southern African HIV and AIDS Information and Dissemination Service
SBCC	Social and Behavioral Change Communication
SC IHDC	Soul City Institute for Health and Development Communication
SEM	Structural Equation Modeling
SIAPAC	Social Impact Assessment and Policy Analysis Corporation

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EXECUTIVE SUMMARY

This report describes the findings from the external evaluation of the Lesotho component of the Southern African Regional Social and Behavior Change Communication Program (BCCP). The program, implemented in eight countries in Southern Africa with funding from the British Department for International Development (DfID), aims to reduce HIV infection by increasing health awareness and by facilitating social and behavioral change through the use of both mass media and community-based activities. In Lesotho, the program is implemented by Phela Health and Development Communications, the Community Media Trust (CMT) and the Southern African HIV and AIDS Dissemination Service (SAfAIDS).

EVALUATION OBJECTIVE

The main objective of the evaluation is to assess the net effect of exposure to specific components of the program on key indicators of HIV knowledge, attitudes, and behaviors, after controlling for previous programmatic efforts and for other factors or programs that might also concurrently influence or determine those outcomes. A second objective is to determine the value added of the combined approach of the three-partner Regional Program. The results of the study will also be used for a separate analysis of the cost-effectiveness of the program.

DATA

The evaluation is based on a nationally representative survey of males and females aged 15-49. The survey was implemented by the Social Impact and Policy Analysis Corporation (SIAPAC) with technical support from Tulane University. The survey sample was drawn with the assistance of the Lesotho Bureau of Statistics, using a three-stage sampling design that involved stratification of the population into urban, rural, and border areas. Within each of those domains, areas of concentrated programmatic activities were identified and over-sampled to increase the statistical power for measuring the effects of these localized interventions.

The data collection instrument was developed from the questionnaire used for a similar evaluation in Malawi and adapted to the Lesotho context by Tulane, SIAPAC, Phela, the Soul City Institute for Health and Development Communication, CMT, and SAfAIDS. The instrument covers the eight health areas targeted by the program (multiple/concurrent sexual partnerships, other HIV risk factors, HIV communication, condom use, HIV testing, HIV treatment, HIV stigma, and gender-based violence). Approval for the study was granted by the Research and Ethics Committee of the Lesotho Ministry of Health and Social Welfare and by the Institutional Review Board of the Tulane Human Research Protection Program. Following extensive training in survey procedures and objectives, questionnaire content, and ethical conduct of research, fieldwork was conducted in 126 enumeration areas (EAs) by eight field teams, comprised of a supervisor and four enumerators. In total, 4,025 interviews were successfully completed.

METHODS

This evaluation uses a post-only cross-sectional design, given the national scope of the program. Multivariate statistical methods are used to control for differences between individuals who are exposed to the intervention and those individuals who are not exposed. Two different estimation methods are used to determine the existence of program effects: (1) multivariate regression analysis, and 2) propensity score matching (PSM). All analyses are weighted to account for the multi-stage sampling design.

KEY FINDINGS

DFID LOGFRAME INDICATORS

The DfID Logframe calls for measurement of progress toward "increased health awareness and related social and behavioral change." The current survey is compared with data from a prior survey to assess this progress, with a particular focus on adults older than age 17. Overall, there has been little change in the percentage of adults with more than one sexual partner in the past year. Approximately 30% of respondents report having multiple partners in the past year as compared with 29% who reported having multiple partners at baseline. However, men are many times more likely to report multiple partners than women – 48% versus 13% respectively. Importantly, even though there has been no change in multiple partnerships, there has been an increase in protective behaviors amongst those who engage in those partnerships. Condom use at last sex among those with multiple partners increased by 30 percentage points for males (from 41% to 71%) and by an even larger amount for females (from 19% to 58%), exceeding targets for both sexes. There has been an increase in stigma associated with HIV/AIDS; the percentage of people who do not think HIV/AIDS is a punishment for sinning actually declined from 78% at baseline to 66% in 2012. Again, differences are apparent between men and women with a higher percentage of women not believing that the disease is a punishment. The 2012 value falls short of the target of 90%. Finally, there is only a slight increase - from 70% to 72% - in the percentage of adults who know that HIV positive people can transmit HIV while on ARVs. A higher percentage of men know this but this still does not meet the target of 80%.

PHELA/ONELOVE

In Lesotho, Phela Health and Development Communications has focused on the production and distribution of mass communication materials based on OneLove branding. These efforts have focused on improving communication within relationships and understanding the risk of and reducing multiple concurrent partnerships as vital tools in the fight against HIV and AIDS. Key findings related to Phela activities and the OneLove campaign include the following:

- Exposure and Reach: The level of exposure and familiarity with Phela/Soul City has continued to grow as part of the Regional Program. Prior to the initiation of the Regional Program, approximately one in three adults in Lesotho had heard of Phela/Soul City. Just over half of those adults were regular listeners or watchers of Soul City programming.[1] In this survey, 58.9% of all respondents report that they had listened to at least one of the OneLove radio programs,

[1] Source: http://www.soulcity.org.za/projects/regional-project/lesotho

and almost 50% of respondents report having seen at least one source of OneLove print media. The OneLove phone-in radio program has the widest reach of all of the various interventions; an estimated 341,603 people (157,524 men and 184,079 women) have heard the program. Approximately one quarter of respondents have listened to the OneLove radio drama. Exposure to OneLove television programs is significantly lower, at 10.1%. Women are significantly more likely to report exposure to OneLove booklets (61.2%) as compared to men (37.5%; $p<0.01$), and people residing in rural areas are less likely (42.6%) to report exposure than those residing in border (59.2%) and urban areas (63.6%, $p<0.01$). Only 1.5% of respondents report having participated in a C-Change/OneLove Community Dialogue.

- Radio – both the phone-in shows and the drama – appear to have the largest effects on key behaviors such as condom use and HIV testing, particularly among young women aged 15-24. For example, respondents exposed to either the phone-in program or the drama are nearly nine percentage points more likely to have ever been tested for HIV and six percentage points more likely to have been tested in the past year. Similar effect sizes are observed for condom use at last sex and the acceptability of condoms within marriage. However, larger effects are observed for women 15-24 years old: 70.9% versus 57.3% for testing in last 12 months and 54.3% versus 36.4% for condom use at last sex. There is also evidence that exposure to the radio drama reduces the lifetime number of partners and the likelihood that a woman will engage in transactional sex (e.g., receive gifts in exchange for sex), as well as with knowledge that circumcised men are less likely to contract HIV. This latter result is particularly strong among exposed men, who are 14 percentage points more likely to know that being circumcised reduces HIV risk than unexposed men. However, there is little evidence that any of the OneLove media have decreased multiple partnerships in the 12 months preceding the survey or the likelihood that a respondent in the full sample currently has multiple partners. Further, propensity score matching results indicate that women expose to the radio drama are more likely to suspect their husbands of having other sexual partners.Women 15-24 years old who have been exposed to either the phone-in program or the drama are less likely to currently multiple partners (1.5% versus 4.6%) and considerably less likely to have an intergenerational partner who is ten or more years older (5.7% versus 12.7%).
- Print: Exposure to print materials is associated with a ten percentage point increase in testing in the past 12 months and a seven percentage point increase in ever testing. Results are even more pronounced among women aged 15-29 and young women aged 15-24, where there is a 12 and 14 percentage point increase in HIV testing in the past 12 months between those unexposed and exposed, respectively. Exposure to print materials also increases the willingness to care for someone on ART (but has no effect on the likelihood that a respondent has ever cared for someone on ART or on participation in PMTCT programs). Men exposed to pirnt materials are less likely to have multiple partners in the last year (51.3% versus 42.5%) and in the last month (21.2% and 13.8%) , though there is no statistically significant effect of print media is noted on condom use.
- Exposure to OneLove media – regardless of type – is associated with increased communication about HIV, sexual satisfaction, and condom use, particularly condom use with marital partners.

Respondents exposed to either the OneLove phone-in radio show or the radio drama are eight percentage points more likely (80.1% versus 72.6%) to have discussed HIV with family, friends or children, a result that is consistent across both males and females. Over 95% of males exposed to both the phone-in show and the radio drama (relative to 88% of unexposed males) agree that a person's sex life improves with communication between partners. Just over two-thirds of female respondents exposed to both the phone-in show and the radio drama (relative to 56% of unexposed women) agree that women can ask a casual partner to use a condom; this effect is even larger among females exposed to OneLove television programming. However, exposure to OneLove television programming seems to be associated with greater worry of being infected with HIV. This is true for exposure to television, print, and both one and two media channels. These effects appear stronger for women. For example, 52.7% of women exposed to OneLove television programs are worried about becoming infected as compared with 39.6% of unexposed women. Women exposed to any print materials are 6 percentage points more likely to report being worried about becoming infected with HIV (43.2% versus 37.1%). Similarly, 42.4% of women exposed to two or more media channels report being worried as compared with 32.5% of unexposed women

- Multimedia: There is evidence of greater dose-response effects of the program with exposure to more media channels. For example, 73.8% of respondents exposed to one media channel report having been tested for HIV as compared with 65.4% of unexposed respondents. This percentage is higher for exposure to two or more media channels (78.8%). The magnitude of the effects of exposure from no exposure to one media channel and from one media channel to two media channels are all statistically significant ($p<0.05$). A similar dose response effect of exposure to multiple media channels is also apparent for the indicator received an HIV test in the past 12 months. . In addition, the acceptability of condoms among regular partners is almost 20 percentage points higher among those exposed to either one or two OneLove media channels relative to those exposed to no OneLove media.
- Gender-based Violence: Approximately 2.6% of respondents – including 3.0% of all women and 4.7% of young women - report forced sex in the last 12 months. Of those who report forced sex, 40.5% reported the event: 88.4% reported it to a family, friend or neighbor, but only 17.4% reported it to the authorities. Just less than seven percent of respondents experienced physical violence in the last 12 months. Again, most of those who experienced physical violence reported it to someone, most commonly to family, friends, or neighbors (82.5%).
  By raising consciousness of the harmful effects of gender-based violence – both physical and sexual - exposure to media can increase the reported prevalence by increasing the likelihood that respondents will acknowledge that violence has occurred. That appears to be the case with exposure to OneLove media. For example, women exposed to one radio show are more likely to report experiencing physical violence in the last 12 months (8.2% versus 4.8%). This is also true for the whole population, men, and women exposed to any print material. Similarly, individuals exposed to any print materials are more likely to report forced sex in the last 12 months. The reported prevalence of forced sex is in fact twice as high among exposed women (3.8%) as among unexposed women (1.6%). However, there is little evidence of exposure to OneLove

programming on the reporting of violence to anyone, including friends, family, police or authorities.

SAfAIDS

- Exposure: Approximately one in five respondents report exposure to any SAfAIDS activities, including print materials, contact with a community based volunteer, a community dialogue, or the *Changing the River's Flow* campaign. Nonetheless, exposure to individual components of the SAfAIDS portfolio is low, necessitating the use of a single composite measure of exposure in the analysis.
- Norms and Attitudes: SAfAIDS programs have had impacts on norms and attitudes but have had few statistically significant effects on behaviors such as condom use and HIV testing. Among those exposed in border areas, there is an effect of exposure to SAfAIDS on the perception that leaders encourage HIV testing (54% among unexposed as compared with 68% among exposed) and leaders encourage people to seek treatment (53% among unexposed as compared with 67% among exposed). Exposed individuals are five percentage points and six percentage points more likely respectively to agree that condom use in marriage is acceptable and women can ask a regular partner to use a condom. Relative to unexposed respondents, exposed respondents are also more likely to report that people in the community are joining together to help people with HIV (56.1% versus 48.5%). Exposed individuals are also more likely to report that leaders discourage men from having younger partners. Nonetheless, exposed males are more likely to have a ten year age difference with their sexual partners, and exposed females are more likely to have received gifts for sex.
- Communication: Nearly one third of exposed individuals have discussed HIV with their children as compared with 27% of unexposed respondents. Exposed individuals are slightly more likely to agree that a person's sex life improves with communication with a partner (94.4% versus 92.2%).
- Violence: Individuals who have been exposed to SAfAIDS interventions are no more likely to have experienced physical or sexual violence and, among those who have, are no more likely to report it to authorities, friends or family. Exposed individuals, however, are more likely to agree that leaders speak out against gender-based violence. Among young women aged 15-24, there is a large effect of exposure to the program on this indicator (58% of unexposed young women agree with this statement, as compared with 71% of those exposed).

Community Media Trust

- Exposure: Approximately 7.8% of respondents report having been exposed to CMT interventions, as measured by a composite variable that includes awareness of the *Rea-e-hlola* logo (3.2%), exposure to the CMT/ADRA audiovisual kit (2.8%), and knowledge of the *Rea-e-hlola* program (2.1%). All other CMT exposure measures are under 2% for the general population. There are no differences in exposure by gender, but exposure is highest in urban areas (13.5%), followed by border areas (11.5%) and rural areas (5.0%).

- Testing and Treatment: In the areas of testing and treatment in which the expected impact would be largest, CMT programs appear to have limited measurable effects on behaviors. Only for males is there a statistically significant effect of exposure to CMT activities on the likelihood that the respondent has been tested in the past year – 53.7% versus 40.4%. On average exposed males have had approximately 1.3 more tests in their lifetime than unexposed males.
- Women aged 15-24 years: Among women aged 15-24 years, the acceptability of condom use with a regular partner is considerably higher for exposed women relative to unexposed women (76.9% versus 56.7%). On the other hand, exposed women are only half as likely as unexposed women to report consistent condom use with their most recent partner (12.2% versus 24.3%). No significant effects are observed among this group with respect to norms, attitudes, knowledge related to ART.
- Risk factors: Respondents exposed to CMT activities perceive themselves to be at higher risk for HIV than unexposed respondents, a reflection of the fact that the treatment literacy program is targeted towards HIV positive individuals Approximately 55% of exposed respondents (relative to 45% of unexposed respondents) are worried about becoming infected with HIV, while approximately 30% of exposed respondents (versus 19% of unexposed respondents) believe that they are currently infected. This is true as well for women aged 15-24 years; 23.5% of exposed women aged 15-24 believe that they are likely to be currently infected as compared with 11.1% of unexposed women.

VALUE ADDED OF THE REGIONAL APPROACH

A key objective of this evaluation is to assess the value-added of the combined interventions of the three Regional Program partners, that is, whether or not greater benefits in health impact are gained through the combination of Regional Program partner interventions, as compared with exposure to stand-alone interventions. The limited geographic scope of SAfAIDS and CMT activities, and the interpersonal nature of most of their interventions resulted in small samples of exposed individuals (even after over-sampling in the program domain for SAfAIDS/CMT), and low exposure to these two partners limit the extent to which the specific value-added of these localized interventions can be assessed. As a compromise, an analysis of value-added by type/mode of intervention is conducted in which comparisons are made between individuals who are exposed to the Regional Program through mass media (i.e., any of the Phela radio, TV, and or print materials), interpersonal communication (IPC) activities (including both SAfAIDS and CMT interventions), and a combination of both mass media and interpersonal communication activities.

Overall, there is only limited evidence that IPC combined with mass media yields larger dose-response effects. As one example, 71.7% of respondents exposed to both mass media and IPC agree that leaders speak out about the risk of HIV from having many partners versus 62.9% of those exposed to IPC alone, 63.7% of those exposed to mass media alone, and 59.9% of those not exposed to any program. Alternatively, mass media appears to increase the likelihood of discussion of HIV with anyone, regardless of whether there is concurrent IPC exposure. In fact, those exposed to mass media appear to have the greatest likelihood of using a condom at last sex, using a condom at last sex with a regular partner, and of using a condom at last sex among those with multiple partners in the last year. For other indicators,

such as having an HIV test in the last year, the source of exposure – IPC alone, mass media alone or mass media plus IPC – does not seem to matter as long as a person is exposed to at least one of them; approximately 55-57% of those exposed to one of these report having an HIV test in the past year as compared with 46.7% of those not exposed to any intervention. In short, there is evidence of value added from the combined program but the effects appear modest and limited to only a few indicators.

MARGINAL VERSUS CUMULATIVE EFFECTS

A key issue in this evaluation is distinguishing the impact of the current three-year program of partner activities from prior program activities and from the programs of other donors. This is referred to as the marginal impact of the program. Multivariate analyses were performed examining outcomes for those ever exposed to Phela activities and those exposed only during the most recent three-year period relative to those never exposed. The principal hypothesis is that changing behaviors, norms, and stigma require longer periods (and higher doses) of cumulative exposure than changing other outcomes such as HIV knowledge.

Surprisingly then, the largest effects of exposure to Phela activities seem to be among those who are only recently exposed. For example, 56.8% of respondents who were recently exposed report using a condom at last sex versus 52.0% of those cumulatively exposed over multiple periods and 46.6% of those never exposed. The recently exposed are also more likely to report more favorable norms surrounding condom use; 68.4% of the recently exposed report that condom use in marriage is acceptable versus 62.0% of the cumulatively exposed and 61.0% of the never exposed. The recently exposed are also more likely to have been tested for HIV in the last year (76.3%) than the cumulatively exposed (73.9%) and the never exposed (67.5%). For two other indicators of norms, however, cumulative exposure exhibits the strongest dose response effects. Approximately 60% of those cumulatively exposed agree that people in the community are joining together to help PLHIV versus 51.7% of those only recently exposed and 45.8% of those never exposed. Similarly, 77.8% of the cumulatively exposed report that leaders speak out against gender-based violence as compared with 66.8% of those only recently exposed and 60.1% of those never exposed.

CHAPTER 1: BACKGROUND AND OBJECTIVES

1.1 PROGRAM DESCRIPTION

In 2007, the Soul City Institute for Health and Development Communication (IHDC) formed a partnership with the Southern Africa HIV and AIDS Dissemination Information Services (SAfAIDS), and the Community Media Trust (CMT) to implement the Southern Africa Regional Behavior Change Communication Program in eight countries of Sub-Saharan Africa (Malawi, Zambia, Zimbabwe, South Africa, Mozambique, Lesotho, Namibia and Swaziland). This program, funded by the British Department for International Development (DfID), seeks to reduce HIV infection and related morbidity by enabling individuals and their communities to address the determinants of behavior, to promote individual behavior change, and to improve access to essential health commodities and services. A regional approach was developed to ensure consistent, coherent messaging given high inter-regional mobility. The focus of this report is on the activities of the partners that are active in Lesotho: Phela/Soul City, SAfAIDS, and CMT.

The program aims to increase health awareness and facilitate social and behavior change through the use of mass media, community and social mobilization, and face-to-face interactions surrounding priority themes and messaging. Various program activities were developed to strengthen community and organizational capacity in the areas of sexual and reproductive health, HIV prevention, gender-based violence, and HIV treatment literacy. As a whole, the regional program has multiple target groups: community-based organizations (CBOs), nongovernmental organizations (NGOs), social institutions, the general population, and specific vulnerable populations (including mobile populations, communities near border posts and along transport corridors, people living with HIV, hard to reach communities and young women).

In Lesotho, Phela seeks to build local capacity for effective health communication; to adapt South African Soul City media and methodology for use in the local context; and to expand a regional network across Southern Africa for sharing best practices. In partnership with the Soul City Institute of Health and Development Communication, Phela uses radio, newspapers and pamphlets and television to disseminate information on topics related to maternal and child health, HIV, and gender violence. This program has developed numerous mass media products, including several booklets that have been distributed nationwide in both English and Sesotho since 2004-07: a booklet on HIV/AIDS entitled “HIV and AIDS… Action Now” (890,000 copies distributed), a booklet on “Mother and Child Care” (670,000 copies distributed), and a booklet on violence against women entitled “Help Stop Women Abuse”

(850,000 copies distributed). Phela has also developed the 60-episode "Musa Pelo" radio series in Sesotho that was first broadcast in 2005-06, and two 13-part TV documentary series on key health issues affecting the population of Lesotho (HIV/AIDS, sexuality, breastfeeding, prevention, care and support, and community development) that were first broadcast on national television in 2004-05 (Phela 2007; Soul City Institute 2012). Additional HIV prevention information is being disseminated via messages aimed at reducing multiple and concurrent sexual partnerships (MCP) and increasing the consistent use of condoms, as well as mass media forums on HIV prevention messages focusing on MCP, but within the context of Sotho culture which traditionally allowed men to have extra-marital affairs ("bonyatsi" or "poko"), particularly when his wife is breastfeeding (Dolo 2010).

Phela has focused on the production and distribution of mass communication materials based on OneLove branding (Communication Initiative 2010). These efforts have focused on improving communication within relationships and reducing multiple concurrent partnerships as vital tools in the fight against HIV and AIDS. Phela published and disseminated a 40-page booklet entitled "Men, Women & HIV and AIDS" that aims to increase awareness of how gender issues are linked to the spread of HIV/AIDS, and that addresses gender roles, relationships, violence against women, and culture (Communication Initiative 2008; Phela 2008). The booklet is supplemented by a 4-page pamphlet that provides basic information about multiple concurrent partnerships that is inserted in the larger booklet. In 2009, another booklet entitled "Relationships Made Easy" was produced (460,000 copies distributed). Phela also produced a billboard campaign that addressed cultural issues related to multiple concurrent partnerships, such as intergenerational relationships and cultural practices related to extramarital affairs, alcohol abuse, and communication about sexuality, HIV, and sexually transmitted infections.

In addition to these print materials, Phela has been disseminating information through radio, television, and community outreach (Communication Initiative 2010). In 2010, a 45-episode OneLove radio drama was broadcast that encouraged people to reduce their number of sexual partners. The radio drama is promoted by a marketing campaign that includes announcements on the radio and at sports events, as well as newspaper adverts. From March through May 2010, Phela broadcast a series of short films, entitled *Love Stories in a Time of HIV and AIDS* on national television. The series focuses on creating awareness around multiple concurrent partners and encouraging individuals to take control of their lives. The series has since been rebroadcast. The broadcast of the TV series has been supplemented with a 15-minute radio talk show program. During the radio talk show a Phela officer summarized the film that was shown during the previous week, after which listeners could call in with questions and

comments. Another film series, *Untold Stories*, is a drama series for teens and adults. These nine films focus on creating awareness around the severity of the HIV epidemic in southern Africa.

The *Meet Joe* campaign consists of a pamphlet series focusing on the dangers of multiple concurrent partnerships and encourages individuals to make healthy sexual decisions. In Lesotho, the *Meet Joe* booklet was distributed in collaboration with two migrant worker recruitment agencies. *Meet Joe* public service announcements were also broadcast on national television. A radio and TV series titled *Champion for an HIV-free Generation* records and presents conversations with African leaders to promote HIV awareness; this series is currently airing across the region.

These media components have been supplemented with a community outreach program. Phela trained over 500 community dialogue facilitators in different parts of the country, who implemented dialogues in their communities over an eight-week period. The community dialogues have focused on those districts that have been most affected by HIV/AIDS (including Maseru, Leribe, Butha-Buthe, Mokhotlong, and Mafeteng).

The SAfAIDS approach to behavior change communication centers on the Cascade Model for targeted HIV, TB, and gender based violence prevention and information. This model uses community-based information, capacity building of national HIV trainers, and community-based volunteers to disseminate key messages and information. Pamphlets, toolkits, and training packs are used by volunteers as informational tools in face-to-face meetings with community members. A key component of this approach is the use of community volunteers. A second program titled *Changing the River's Flow* is designed to scale up health service delivery by using the inter-linkages between HIV, gender violence and culture to create programs that target women, girls, boys, and men affected by HIV (SAfAIDS 2012). A key component is the use of home-based care to address these inter-linkages. SAfAIDS uses "cultural dialogue" to engage community members and leaders to identify practices that contribute to increased gender-based violence and transmission of HIV and to strengthen their capacity to develop community driven strategies to eliminate these cultural practices. In Lesotho, SAfAIDS works in partnership with the Lesotho Catholic Bishops Conference (LCBC), the Lesotho Network of People Living with HIV and AIDS (LENEPWHA), Phelisanang Bophelong (PB), the Rural Self-Help Development Organization (RSDA), and the Society for Women and AIDS in Africa – Lesotho (SWAALES).

In 2009, the Community Media Trust (CMT) partnered with the Adventist Relief Agency (ADRA) in Lesotho to implement an outreach program intended to increase treatment literacy. The outreach program promotes and supports community preparedness for antiretroviral treatment. The program seeks to create a group of Treatment Literacy Prevention Practitioners (TLPPs) who are skilled in treatment literacy and who also have experience cascading treatment literacy at the community level. The outreach program uses the "Beat It" audiovisual kit, which consists of a manual and accompanying DVD series that provide information on HIV prevention, treatment, and care. The outreach program started in December 2009, and treatment literacy sessions have been conducted with numerous groups, including prisoners, schools, mobile clinics, youth groups, female support groups, local chiefs, and the police force (Soul Beat Africa 2010).

1.2 OBJECTIVES OF THE EVALUATION

This evaluation seeks to measure the effectiveness of the Southern Africa Regional Behavior Change Communication Program in Lesotho in affecting change in key indicators of HIV knowledge, attitudes, and individual HIV risk behaviors. Specific objectives of the evaluation in Lesotho include the following:

- To measure program reach and outcomes in the general population and in high risk populations;
- To assess the value-added of the combined interventions of the three partners;
- To investigate the extent to which relevant aspects of the intervention built the skills and resources of communities to respond to the HIV epidemic.

Importantly, the data collected as part of this evaluation are intended to serve as inputs into the assessment of the cost-effectiveness of the program activities of the regional partners. That analysis is described in a separate document.

CHAPTER 2: METHODS

The sections below describe in detail the methods used for the selection of the survey sample and the quantitative analysis of the survey data.

2.1 STUDY DESIGN

As is the case for the other country evaluations of the Southern Africa Regional Behavior Change Communication Program, the evaluation of the Lesotho component of the program relies upon a post-only, cross-sectional design in which individuals who self-report exposure to program interventions are compared with individuals who do not report such exposure. The fundamental issue to be addressed by the evaluation is whether differences in outcomes between these two groups can be attributed to program activities, or whether they instead reflect differences in the characteristics of exposed and unexposed individuals or differential history. In an ideal world, randomization of individuals to treatment (exposed) and control (unexposed) groups would remove this issue by creating a counterfactual group of unexposed individuals who are statistically equivalent on average to exposed individuals in all respects except program exposure. However, such a randomized design was not feasible in this case because the intervention areas had not been randomly selected by the partners (and in the case of the national media programs, could not be randomly selected), the program interventions had already been ongoing for several years at the time of this evaluation, and program specific baseline data – from which assessments of change across time could be made were not collected. [2]

The post-only cross sectional design has several inherent limitations that we attempt to address through the quantitative methods described below.

2.2 SAMPLING

The Lesotho evaluation survey called for a nationally representative sample of adults aged 15-49 years. The overall objective was to draw a stratified, random sample using the enumeration areas (EAs) of the 2006 Lesotho Census sampling frame, which is the most recent census available. The survey was designed to provide information on sexual behaviors, norms and attitudes towards HIV/AIDS and exposure to HIV prevention messages as diffused by (1) the three implementing partners of the regional

[2] In August-September 2007, CIETtrust conducted household and school surveys that potentially could have served as a baseline. However, after examining the raw data from those surveys, it was determined that they would not provide a suitable baseline for the present evaluation.

program and (2) other implementing organizations (to control for these exposures in a multivariate framework).

2.2.1 Sample Allocation

The target sample size for the survey was 4,100. The 2006 Lesotho census included a total of 4,104 EAs, of which 126 were selected for inclusion in the sample. The sample was designed to provide estimates in three different domains:

- Urban EAs ("urban")
- Rural EAs ("rural")
- Border post EAs ("border ")

The border post domain was defined as follows: First, all major border posts were listed based on information from the Bureau of Statistics. Using Geographic Information Systems (GIS) software, the border posts were identified on a map containing the boundaries of all census EAs. The software was then used to query all EAs that were located within a five kilometer radius from the border post center.[3] The query identified EAs that fell completely within the circle, but not EAs that were only partially within the circle. All EAs identified by this query were included in the border domain. In total, 260 of the 4,104 EAs in the census were classified as being in the border post domain.

The urban domain consisted of all EAs that were coded as urban in the 2006 census, but excluding any EAs that had been included in the border post domain. Similarly, the rural domain consisted of all EAs that were coded as rural in the 2006 census, but excluding any EAs that were included in the border post domain. Based on the census sampling frame, 891 EAs were classified as falling within the urban domain and 2,953 within the rural domain.

To achieve the targeted 126 EAs for the survey sample, and recognizing that Lesotho is largely rural, 63 EAs were selected for rural domain, 42 for the urban domain, and 21 for the border areas domain. Program areas were over-sampled to ensure a sufficient sample size for evaluation analysis. This was achieved by subdividing the existing geographical domains into a program sub-domain and a non-

[3] Initially, we explored defining the border domain using a 15km radius around the border posts (as had been done for the Namibia evaluation). However, the results showed that a 15km radius around the border posts would include all major urban areas. To avoid this, the radius was reduced to 5km.

program sub-domain (producing a total of 6 sub-domains).[4] Program areas were defined using information provided by the partners on the locations of their activities.

The aim was to over-sample program areas within each domain with a ratio of 2:1 (e.g., 28 program EAs and 14 non-program EAs in the urban domain). However, to ensure that all ecological zones (Lowland, Mountain, Foothills, and Senqu River valley) were included in the sample and that a sufficient number of EAs were selected from each domain, the following constraints were imposed on the selection of the EAs:

1. Within each sub-domain, at least one EA was selected from each ecological zone that was included in the sub-domain.
2. A total of 63 rural EAs, 42 urban EAs, and 21 border area EAs were selected from across the program and non-program sub-domains.

The resulting distribution of the 126 EAs across the sub-domains is shown in Table 1.

Table 1: Number of EAs to be selected, by domain and sub domain

	Urban	Rural	Border-post
Program Area	28	42	14
Non-Program Area	14	21	7
Total	42	63	21

2.2.2 Sampling Procedures

The survey sample was selected in three stages, with samples selected independently in each domain. In the first stage of selection, within each domain and each of Lesotho's ecological zones, EAs were selected with a probability proportional to the size of the EA[5].

In the second stage, households were selected within each EA using a sampling interval calculated by dividing the estimated number of households in the EA[6] by 20, a technique used when no list of

[4] Program areas were defined by asking SAfAIDS and CMT to identify the areas where they operate (Phela implements mass-media campaigns that are disseminated nationwide). For the purpose of the evaluation, the program area was defined as those Community Councils in which the implementing partners were reported to operate.

[5] Size was defined by the number of households listed in the census sampling frame.

households is available within EAs (Boesten and Chalabi 2006; Brogan et al. 1994; Grais et al. 2007; Henderson and Sundaresan 1982). If a selected household had no eligible respondents, or if there was a refusal at the household level, then the household was substituted with the household next-door.

In the third stage, individual respondents were selected within the selected households. After the interviewer listed all household members, one eligible male and one female (aged 15-49) were randomly selected using Kish grids (Figure 1).

Figure 1: Kish grid

Proportion of assigned tables	Table number	If the number of adults in household is: 1	2	3	4	5	6 or more
		Select adult numbered:					
1/6	A	1	1	1	1	1	1
1/12	B1	1	1	1	1	2	2
1/12	B2	1	1	1	2	2	2
1/6	C	1	1	2	2	3	3
1/6	D	1	2	2	3	4	4
1/12	E1	1	2	3	3	3	5
1/12	E2	1	2	3	4	5	5
1/6	F	1	2	3	4	5	6

If a selected respondent was not available for interviewing, up to two call-backs were made to the household in order to complete the interview. In the event that a household contained only one eligible household member, no substitutions were made. Similarly, if a household included both an eligible male and female, but one of them refused to participate, then no substitutions were made. In the event that a small EA contained too few households to complete the targeted 32 or 33 interviews, no substitutions were made.

The sampling strategy used in this study resulted in a sample that is not self-weighting (i.e., the probability of selection for all observations is not equal). To adjust the analysis for unequal probabilities of selection, three sets of weights were calculated: EA weights, household weights, and individual weights. The weighted analyses ensure that the survey results are representative at both the domain level and at the national level.

[6] The number of households in the EA was estimated based on the number of households listed in the census sampling frame and/or observation during a walk around the EA.

2.3 FIELDWORK

Tulane contracted with the Social Impact and Policy Analysis Corporation (SIAPAC), a survey firm based in Namibia, to implement the survey data collection. Fieldwork was implemented by Sechaba Consultants, a Lesotho-based firm with extensive experience in the implementation of household surveys. Data collection teams were recruited by the SIAPAC Senior Quality Control Officer and Country Manager/Survey Coordinator. Potential enumerators were selected based on the following criteria: previous experience as a survey enumerator, level of education, proficiency in English and Sesotho (with knowledge of other local languages being considered an added benefit), and gender.[7]

In total, eight field teams were used, each comprised of one supervisor and four enumerators (two males and females). The field teams were supervised by two field managers, each of whom was responsible for managing four field teams. All personnel were managed by the Country Manager/Survey Coordinator.

2.3.1 Training

Fieldwork training was conducted at a training facility in Maseru in February 2012. The six day training was facilitated by the SIAPAC Senior Quality Control Officer and Country Manager/Survey Coordinator. In addition, the training was attended by a representatives from the partner organizations in Lesotho - CMT/ADRA, SAfAIDS, and Phela/Soul City - who gave presentations outlining the key components of their programs, shared materials used by their respective programs, and answered questions by the trainees. All trainees were provided with a detailed field training manual and copies of the questionnaire.

The main objective of the training was to provide the field workers with the necessary skills to successfully implement a high quality survey. As such, the training covered a broad range of topics, including:

- Purpose of the study
- Basic research methods and concepts (reliability, validity)
- Sampling strategy
- Ethical protocols and cultural sensitivity

[7] Interviews were conducted by same-sex interviewers so a gender-balanced interview team was required.

- Detailed review of the survey instrument (questionnaire)
- Interviewing techniques, including role plays
- Techniques for quality assurance

The training format consisted of lectures, as well as extensive role-play to simulate interviews. All trainees role-played sections of the questionnaire in front of the larger group, after which the training coordinators as well as the larger group had an opportunity to provide comments, ask questions, and make suggestions for improvements. All trainees were required to role-play the entire questionnaire at least once as the mock respondent and at least once as the interviewer.

A second but equally important objective of the training was to have the entire group of training participants conduct a detailed review of the survey instrument, focusing on identifying potential problems that could occur during implementation. This included identifying questions that were culturally sensitive or could be misinterpreted in the local context. A detailed question-by-question review, as well as feedback from the role-play, resulted in further fine-tuning of the questionnaire.

The final part of the training consisted of a half-day live pretest of the survey instrument. Two EAs that were not part of the survey sample were selected as pretest sites. Survey teams were provided with census maps of these EAs and were taken to the outskirts of the EAs. During the pretest, survey teams practiced reading EA maps, selecting households using sampling intervals, conducting listing of household members and conducting the interview(s). Upon completion of the pretest, all teams reconvened and discussed problems and lessons learned from the pretest.

2.3.2 Questionnaire Development

The core survey instrument used for the study was adapted from an earlier instrument that had been developed for a similar evaluation of the Regional Program as implemented in Malawi by Invest in Knowledge (IKI). In October 2011, representatives from Tulane, SIAPAC, Freshly Ground Insights,[8] and Soul City met in Johannesburg to review the existing Malawi questionnaire and to draft a "core" questionnaire of standardized questions that could be used for the planned Soul City evaluations in other countries, with minor adaptations. This core questionnaire went through several rounds of review

[8] As part of the same evaluation of the Regional Program, Freshly Ground Insights is conducting an identical population-based survey in Mozambique based on the same methodology and data collection instrument.

by representatives from Tulane, SIAPAC, and the regional partners, and was revised based on that feedback.

The development of a Lesotho-specific version of the core questionnaire started in late 2011 using the same review process involving Tulane, SIAPAC, and the regional partners. The questionnaire was also reviewed and revised by representatives from PHELA, SAfAIDS and CMT in Lesotho. Further refinements of the instrument occurred during the interviewer training. Prior to the start of the actual fieldwork, the final version of the questionnaire was submitted to the regional partners for their final review and sign-off. Upon receipt of sign-off of this final version, the questionnaire was sent for printing.

2.3.3 Results of Fieldwork

Fieldwork was initiated first in Maseru district to ensure that the entire fieldwork management team was present to provide supervision and quality control. After two days of fieldwork, a retreat with the entire fieldwork team was held to discuss and resolve any issues encountered in the field. Subsequently, half of the interview teams worked in the southern districts (Qacha's Nek, Quthing, Mohale's Hoek and Mafeteng), as well as in the central district of Thaba-Tseka. The other four teams worked in the northern districts of Mokhotlong, Butha-Buthe, Leribe, and Berea. Each group of four teams was supervised by one of the field managers. During implementation, each questionnaire was first checked by the enumerator and then coded by the field supervisor. In addition, the responsible field manager checked randomly selected questionnaires before they were submitted for data entry.

A total of 4,025 interviews were completed. In most of the 126 EAs, the fieldworkers were able to complete the targeted 32 interviews. The greatest challenge to reaching the required number of interviews was the lack of availability of the selected respondents, thereby requiring call-backs. Rescheduling interviews was not always feasible, as several respondents refused to be interviewed on weekends. A second challenge was encountered in rural EAs where interview teams found insufficient households or respondents (particularly males), either due to migration or death. Of the 4,025 interviews collected in the field, all but four resulted in a fully completed questionnaire.

Table 2 compares the key characteristics of the weighted 2012 Lesotho SBCC sample with the weighted 2009 Lesotho Demographic and Health Survey (DHS) sample. The results show that the distribution of the samples across districts is very similar. The most notable exception is that the 2012 sample has a slightly lower percentage of respondents from Berea (10.9% vs. 14.7% for females, and 11.9% vs. 15.0% for males). The distribution of the samples by ecological zones is also very similar. The breakdown by

age group indicates that the two surveys have a fairly similar age distribution, with the exception of the youngest age group. The 2012 Lesotho SBCC survey has a substantially lower percentage of respondents who are aged 15-19 than the DHS survey. Specifically, 12.9% of females in the more recent survey are aged 15-19 as compared with 23.4% in the DHS survey. Similarly, 17.3% of males in the 2012 survey are aged 15-19 as compared with 27.8% in the DHS. To some extent, this lower percentage of adolescents in the 2009 and 2012 surveys is likely to reflect real demographic changes. In Lesotho, fertility levels have been declining significantly over the last two decades, which has resulted in smaller birth cohorts (Ministry of Health and Social Welfare, Lesotho, and ICF Macro, 2010).

Consistent with these differences in the age distribution between the two surveys, we find that females in the 2012 Lesotho SBCC survey are less likely to have never been married (28.1% vs. 34.3%). Because males tend to marry later, both surveys show that the majority of males have not been married. The percentage of males who are never married is higher in the 2012 Lesotho SBCC survey than in the DHS survey (67.2% vs. 56.2%). This was anticipated, as male age at first marriage has steadily been increasing. A comparison of the 2004 and 2009 DHS surveys shows that the percentage of never married males increased from 50.7% to 56.2% (Ministry of Health and Social Welfare, Lesotho, Bureau of Statistics, Lesotho, and ORC Macro, 2005; Ministry of Health and Social Welfare, Lesotho, and ICF Macro, 2010).

Table 2: Characteristics of the 2012 Lesotho SBCC and the 2009 DHS samples (weighted data)

	Women		Men	
	DHS 2009	Lesotho SBCC 2012	DHS 2009	Lesotho SBCC 2012
District				
Butha-Buthe	4.7%	7.1%	5.6%	8.4%
Leribe	17.8%	16.0%	16.6%	15.7%
Berea	14.7%	10.9%	15.0%	11.9%
Maseru	26.7%	28.9%	25.7%	27.1%
Mafeteng	8.9%	9.5%	9.8%	12.1%
Mohale's Hoek	7.9%	7.9%	8.3%	5.9%
Quthing	5.0%	3.6%	5.0%	3.7%
Qacha's Nek	2.9%	4.8%	2.6%	5.1%
Nokhotlong	4.7%	4.7%	4.6%	6.0%
Thaba-Tseka	6.8%	6.8%	6.8%	4.2%
Ecological Zone				
Lowlands	62.9%	59.6%	61.5%	60.0%
Foothills	9.5%	12.1%	10.6%	15.6%
Mountains	20.3%	20.1%	20.7%	14.4%
Senqu River Valley	7.3%	8.3%	7.2%	10.1%
Age Group				
15-19	23.4%	12.9%	27.8%	17.3%
20-24	20.4%	23.9%	21.1%	25.9%
25-29	16.3%	18.8%	15.4%	23.2%
30-34	12.9%	13.8%	13.2%	12.9%
35-39	10.0%	13.7%	9.7%	9.7%
40-44	8.6%	9.4%	6.5%	5.1%
45-49	8.4%	7.5%	6.4%	5.9%
Marital Status				
Never married	34.3%	28.1	56.2%	67.2%
Married	52.3%	62.7	38.1%	22.4%
Living together	0.8%	0.4	0.7%	0.1%
Div/separated	5.0%	3.1	2.8%	7.0%
Widowed	7.5%	5.7	2.1%	3.4%

2.4 DATA ANALYSIS

A principal objective of the quantitative analysis is to develop estimates of the statistical associations between exposure to partner interventions and the norms, attitudes, and behaviors upon which the regional program has focused its efforts. In order to effectively attribute differences in outcomes between exposed and unexposed individuals to the efforts of the Regional Program (and not to other confounders), the quantitative methods must:

1. Control for observable and unobservable differences between exposed and unexposed groups;
2. Control for other behavior change communication programs which may (differentially) influence the behaviors of these two groups;
3. Control for previous program efforts.

Measures of the above sets of factors are included as statistical control variables in each of the analytic methods described below in order to identify program effects.

2.4.1 Program Exposure Measures

We focus on the following measures of exposure to program interventions:

- Exposure to OneLove Radio Shows - This composite variable has three levels and includes exposure to the OneLove Radio Drama (*Hae e Bone Leraba*-PE6a)[9] and exposure to the OneLove Phone-in Program (PE6b). Respondents are categorized based on whether they were not exposed to either program, exposed to one program, or exposed to both programs.

- Exposure to the OneLove Radio Drama – This dichotomous variable measures whether or not respondents were exposed to the OneLove Radio Drama (PE6a).

- Exposure to any OneLove television program - This composite variable includes exposure to any of the Love Stories Film Series (PE12-PE12k), any of the Untold Stories Drama Series (PE14-PE14j), or the OneLove talk show (PE20). This variable is dichotomous (Yes/No).

- Exposure to any OneLove print materials – This variable was calculated by determining whether respondents were exposed to any of the OneLove booklets (PE8a-PE8f).

[9] Note that the codes (e.g., PE6a) refer to questions in the questionnaire. They are included in the report so that interested persons can refer directly to the questionnaire or so that subsequent analysts can follow what was done during this analysis.

- Multimedia exposure to OneLove – This variable measures the number of media channels through which the respondent was exposed to One Love interventions. It includes all exposure by way of radio (PE6a/b), television (PE12a-PE12k, PE13-PE13j, PE20), and/or print materials (PE8a-PE8f). Three categories were created for this variable – none, 1 channel, and 2+ channels.

One variable was created for exposure to SAfAIDS.

- Exposure to any SAfAIDS materials and programs – Exposure to SAfAIDS is measured by a composite variable that includes exposure to any of the following SAfAIDS variables: exposure to any of the SAfAIDS print materials (including manuals, flipcharts, posters, brochures, booklets, factsheets and other documents-SE4a-SE4l), receiving information about HIV and AIDS from a community based volunteer carrying a SAfAIDS badge (SE7), participating in a community dialogue (SE8), and participating in a *Changing the River's Flow* program (SE12). This variable is dichotomous (Yes/No).

One variable was created to measure exposure to CMT:

- Exposure to any CMT intervention—Exposure to CMT is measure by a composite variable that includes exposure to any of the following: knowledge of the Rea e Hlola ADRA/CMT program (CE2), exposure to the Rea e Hlola logo (CE3), correct recall of the *Protect Yourself, Protect Others* slogan (CE4), exposure to the ADRA/CMT audiovisual kit (CE5), exposure to any Rea e Hlola episode (either on DVD or TV Lesotho) (CE6, CE7), and participation in an ADRA/CMT Rea e Hlola treatment literacy workshop (CE8). This variable is also dichotomous (Yes/No).

Unadjusted (bivariate) associations between program exposure and targeted outcomes are presented in the appendices for each exposure measure and the programmatic outcomes they are intended to influence. We do not report on these bivariate associations in the text simply because these associations make no statistical controls for any of the above confounders. Absent such controls, there is a real possibility that any differences in outcomes between exposed and unexposed individuals may reflect underlying differences in those who are exposed rather than the effects of the program. This potential bias is reduced (but not eliminated) by adjusting – or controlling for – differences through matching methods or multivariate regression analysis. Regardless, because the data are cross-sectional and exposure to interventions is largely outside of the control of the researchers, assessments of

causality between exposure to partner interventions and improved norms, attitudes, and behaviors are difficult to make, an issue discussed in greater detail below.

2.4.2 Multivariate Regression Analysis

We attempt to determine the statistical association between exposure to program interventions and outcomes hypothesized to be influenced by those interventions using a multivariate regression model that includes measures of self-reported exposure to those interventions and a set of statistical control variables. All regression models contain the following control variables: 1) socio-demographic variables (including age, ethnicity, religion, marital status, etc.); 2) variables that capture access to media (English literacy, ownership of radio, radio and television listenership and viewership); 3) variables capturing relevant life experience (national/international travel and whether the respondent knows someone who is HIV positive).

An important objective of the evaluation is also to differentiate between exposure to interventions of Phela, SAfAIDS and CMT and exposure to other HIV/AIDS programs with similar objectives. To do this, data from the section of the questionnaire on exposure to other programs is used to construct measures of exposure to those programs. These exposure measures are divided into three types: (1) dichotomous variables that refer to specific programs such as the radio program "Selloane is getting married" or the television program "Your life;" (2) an index of exposure to generic HIV programs, such as community meetings, trainings, radio listening clubs; and (3) and index of exposure to sermons that address HIV and AIDS-related topics (such as those about supporting people who have AIDS). These variables are then included in the regression models – as well as in the propensity score models described below – to control for and distinguish their contributions to differences in outcomes.

We estimate the relationships between our outcomes of interest and our programmatic exposure measures using a probit model for binary outcomes and linear regression for continuous outcomes. For binary outcomes, logit (logistic) models have often been favored because of their computational ease and because the interpretation of odds ratios tends to be more straightforward, while probit models have been favored (mostly be economists) when there is a strong *a priori* assumption that the underlying distribution is normal as opposed to logistic. However, in this case, the choice of a probit model is motivated by its advantages in strategies to address unobserved heterogeneity (i.e., selection

bias) discussed below. Regardless, for most practical purposes and applications, results with logit and probit models are nearly indistinguishable (Greene 2002).

To calculate adjusted effects and adjusted proportions (akin to the treatment effects in the PSM models), the Stata command *margins* was employed, which calculates the marginal effect – the incremental change in the probability of an outcome due to an incremental change in an explanatory variable – for each explanatory variable, most notably the variables related to exposure to the programs. The *margins* command also permits calculations of the predicted probability of an outcome occurring as a function of exposure to program interventions.

2.4.3 Propensity Score Matching

An alternative method of estimating program effects is to match people based on the likelihood of exposure to program interventions, i.e., the propensity score, and then to compare mean outcomes for individuals with equal likelihoods of exposure. We calculate the propensity score in Stata using the *pscore* command, which estimates a probit model for each binary exposure measure. For exposure measures reflecting intensity of exposure (e.g., "no exposure," "1 Radio Show," "2 Radio Shows"), propensity scores are calculated for pairwise comparisons between the exposure category and the null ("no exposure") category.

Variables that are hypothesized to be associated with exposure are included as independent variables in the propensity score equation, including: 1) socio-demographic variables (age, education, wealth, religion, marital status, etc.); 2) variables that capture access to media (English, literacy, ownership of radio, radio and television listenership and viewership); 3) variables capturing relevant life experience (national/international travel and whether the respondent knows someone who died of AIDS).[10]

[10] All propensity scores included a basic set of respondent characteristics, including: age (continuous years), gender (female), domain of residence (urban and border), years of schooling, religion (Christian, LEC, other religion, marital status (never married), English literacy, schooling (secondary, university), wealth quintile, whether or not anyone in the respondent's household has salaried employment, and whether or not the respondent knew someone who had died of AIDS In addition, propensity scores were derived including variables that were hypothesized to affect exposure to communication activities but not outcomes. These included: ownership of a radio, ownership of a television, a binary variable for whether or not a respondent had traveled outside of their home region but within Lesotho for at least two weeks in the past year, whether or not a respondent had traveled outside of Lesotho in the last two years, the number of days per week that the respondent listens to the radio, the number of days per week that a respondent watches television, the number of days per week that a person reads the newspaper, an index of exposure to other HIV/AIDS behavior change communication activities and an index of exposure to sermons on HIV/AIDS related topics (about the risks of having more than one partner, about supporting people with AIDS, about fighting stigma and discrimination, and advising people to use condoms). To

We restrict our analysis to the area of common support (or overlap) of the propensity score for exposed and unexposed individuals. For the majority of exposure variables, over 95% of exposed respondents were able to be matched to a suitably similar non-exposed respondent based on the propensity score. To ensure sufficient comparability between matched exposed and unexposed individuals, we also test for covariate balance within blocks (or strata) of the propensity score.

We estimate the average treatment on the treated (ATT) effect using kernel matching based on a weighted average of all controls, where the weights are inversely proportional to the distance between the propensity score of treated and controls (Becker and Ichino 2002). The ATT is calculated using the Stata command *psmatch2* (Leuven and Sianesi 2003), which generates predictions of the *levels of an outcome* for exposed ("treatment") and unexposed ("control") individuals, as well as the treatment effect, reflecting the estimated difference in average outcomes between exposed and unexposed individuals.

The results of the matching estimations are shown in the appendices. In the summary tables in the main text of the report, columns are added to alert the reader to whether or not the multivariate regression results are confirmed in statistical significance by the PSM estimates.

2.4.4 Simultaneous Equations Modeling

A key limitation of both of the multivariate estimation methods described above is that they control only for observed confounders, i.e. information collected directly from respondents via the survey questionnaire (Rosenbaum and Rubin 1983; Rosenbaum 1991; Lu, Zanutto et al. 2001; Rosenbaum 2009; Silber, Lorch et al. 2009). Unobserved factors, may also affect estimates of the relationship between program interventions and outcomes. As noted in other studies (Guilkey, Hutchinson et al. 2006; Hutchinson and Wheeler 2006), exposed individuals likely differ from unexposed individuals in very measurable (exogenous) ways, such as levels of education, income, age, or geographic location. But they may also differ in other less easily measured ways – they may be more media savvy, be more efficient producers of health from available health inputs, or possess some other characteristics that are potentially correlated with both exposure and health outcomes. Failure to control for both observed and unobserved differences can lead to confounding and potentially biased estimates of intervention effects.

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achieve balance in the propensity score across blocks, interactions were selectively added to the propensity score estimations as necessary.

Under certain conditions, SEM can account for the simultaneous determination of exposure and outcomes due to unobserved covariates (Bollen and Long 1992; Bollen 2002; Kincaid and Parker 2008; Bollen and Davis 2009; Kirby and Bollen 2009). In this analysis, we rely upon bivariate and trivariate probit models containing one or two endogenous exposure measures. For each such model, a main outcome equation is specified as a function of a single exposure measure (e.g., self-reported exposure to any OneLove radio program) or dose-response exposure measured (e.g., one OneLove multimedia channel versus none; two or more OneLove multimedia channels versus none). We estimate our models in Stata using the *cmp* command for multi-equation, multi-level, conditional recursive mixed-process estimators (Roodman 2011).

Key explanatory variables for the SEM models include not only the socio-demographic variables described above but also variables hypothesized to uniquely affect exposure but not the outcomes under study. These variables – known as the excluded exogenous variables (or exclusion restrictions) - overlap with those that determined exposure in the calculation of the propensity score and include variables associated with access to media (primary language, literacy, ownership of radio, radio and television listenership and viewership).

A key component of the analysis is in determining the validity of the exclusion restrictions, both theoretically and technically. Several key statistical conditions are necessary for the exclusion restrictions to be valid (i.e., for model identification to be achieved) (Wooldridge 2009):

Condition 1. The excluded exogenous variables must be statistically significant explanatory factors determining exposure;
Condition 2. The excluded exogenous variables must <u>not</u> be statistically significant explanatory factors determining outcomes;
Condition 3. There must be at least as many excluded exogenous variables as exposure variables included in the model.

To assess whether these conditions are met, probit regressions were run in the first stage (as described above) and F tests calculated to identify those variables that would allow for the rejection of the null hypothesis that the exclusion restrictions were not jointly statistically significant different from zero (Condition 1). Different combinations of exclusion variables (e.g., number of days per week that respondent listened to the radio, number of days per week that a respondent read a newspaper) were included until the null hypothesis could be rejected. Once these variables were determined, they were included in the outcome equation and the joint F test was again calculated to demonstrate that these variables were not jointly significant determinants of the outcomes (Condition 2). Frequently, one or

several of these variables were individually significant, leading to the rejection of the null hypothesis, and the need to re-visit stage 1. This process was repeated for every program outcome and exposure variable until both conditions were met. In practice, it proved difficult for both conditions to be met. Often TV viewership, for example, was a significant determinant of both the exposure variable and the outcome under study, thereby rendering it unsuitable as an exclusion restriction.

2.4.5 Other Issues

For all of the quantitative analyses, the Stata 12.0 statistical software package is used. To address the multistage sample design described previously, Stata's *svy* routines are utilized, since these account for the differential probabilities of selection of EAs, households within EAs and respondents within households. The *svy* commands also address the sample stratification and the intracluster correlation associated with the multistage sample design and greater homogeneity of households within EAs relative to simple random sampling.[11] Details of Stata's procedures for complex survey designs are available here (Stata Corp. 2011).

[11] Recall that two respondents, a male and a female, were selected from each sampled household. The characteristics of such individuals tend to "cluster." That is, two respondents from the same household are likely to be more similar to each other than two respondents selected randomly from different households: they have the same household assets, they are likely to have similar levels of literacy and to be of similar ages, etc.

CHAPTER 3: SAMPLE DESCRIPTION AND LOGFRAME INDICATORS

The general description of the sample is found in Table 3. Results are presented for the total sample, for men and women, and for specific populations of interest to the program: women between the ages of 15 and 24, urban/rural, and border populations.

Table 3: Sample description

	National N=4026	Men N=2034	Women N=1992	Women (15-24) N=821	Urban N=1413	Rural N=1950	Border N=663
Age Groups							
15-19	16.8%	17.0%	16.5%	37.4%	18.7%	15.6%	20.3%
20-24	25.7%	23.7%	27.7%	62.6%	25.1%	26.1%	24.2%
25-29	18.7%	20.4%	17.0%	0.0%	19.9%	18.0%	20.1%
30-34	11.9%	12.9%	10.9%	0.0%	12.9%	11.4%	12.6%
35-39	11.1%	11.0%	11.2%	0.0%	9.9%	11.7%	10.4%
40-44	8.4%	8.0%	8.8%	0.0%	6.9%	9.3%	5.8%
45-49	7.4%	7.0%	7.9%	0.0%	6.6%	7.9%	6.5%
Education							
None	6.2%	11.9%	0.7%	0.2%	2.8%	8.2%	1.8%
Primary	42.7%	43.7%	41.7%	28.5%	26.0%	51.1%	30.7%
Secondary	44.7%	37.0%	52.1%	67.1%	58.7%	37.6%	54.8%
Higher	6.4%	7.4%	5.5%	4.2%	12.5%	3.1%	12.7%
Wealth Index (Quintiles)							
First quintile	20.1%	21.4%	18.8%	18.4%	1.8%	29.7%	3.4%
Second	20.4%	20.9%	19.9%	17.4%	5.3%	27.9%	9.5%
Third	19.7%	18.8%	20.5%	22.3%	9.5%	24.5%	15.1%
Fourth	19.9%	18.4%	21.4%	24.0%	33.8%	13.1%	28.7%
Fifth quintile	20.0%	20.5%	19.5%	18.0%	49.6%	4.9%	43.2%
Current Marital Status							
Married/union	48.4%	39.2%	57.2%	45.3%	45.1%	50.6%	40.7%
Div/sep/widow	9.2%	6.6%	11.7%	2.5%	7.5%	10.1%	7.8%
Never married	42.4%	54.1%	31.1%	52.3%	47.4%	39.3%	51.5%
Region							
Butha-Buthe	6.7%	6.8%	6.6%	5.6%	3.5%	7.9%	7.7%
Leribe	15.8%	16.1%	15.5%	15.9%	5.2%	18.7%	30.0%
Berea	10.1%	10.4%	9.8%	11.1%	7.6%	12.2%	0.7%
Maseru	31.0%	29.5%	32.4%	32.5%	62.6%	16.7%	38.5%
Mafeteng	9.9%	10.%	9.4%	11.0%	8.5%	10.4%	11.1%
Mohale's Hoek	6.7%	7.8%	5.7%	5.5%	5.0%	8.0%	1.7%
Quthing	3.6%	3.4%	3.8%	4.3%	1.9%	4.3%	3.6%
Qacha's Nek	5.8%	5.6%	5.9%	4.3%	0.3%	8.0%	6.6%
Mokhotlong	4.4%	4.8%	4.1%	2.7%	3.7%	5.2%	0.0%

	National	Men	Women	Women (15-24)	Urban	Rural	Border
Thaba-Tseka	6.1%	5.4%	6.8%	7.3%	1.6%	8.7%	0.0%
Language Spoken at Home							
Sesotho	99.0%	98.8%	99.1%	98.7%	99.7%	98.7%	98.4%
SeXhosa/Sethepu	0.9%	1.0%	0.9%	1.3%	0.2%	1.3%	0.9%
English	0.1%	0.2%	0.0%	0.0%	0.1%	0.0%	0.7%
Religion							
Catholic	39.7%	39.8%	39.7%	42.2%	41.0%	38.9%	41.7%
Christian	14.2%	12.6%	15.6%	13.8%	16.4%	12.5%	20.4%
LEC	20.7%	22.1%	19.5%	19.6%	21.9%	21.0%	13.9%
Other	25.4%	25.6%	25.2%	24.5%	20.7%	27.5%	24.0%
Ease of English Speaking							
Easily	39.9%	37.3%	42.5%	54.4%	62.2%	29.1%	52.9%
With difficulty	30.7%	25.6%	35.6%	33.7%	24.2%	33.4%	31.1%
Not at all	29.4%	37.1%	22.0%	11.9%	13.6%	37.6%	16.0%
Ownership of Radio and Television							
Household owns radio	70.5%	73.2%	67.8%	65.2%	81.4%	65.3%	75.7%
Household owns television	30.3%	29.7%	30.9%	31.6%	53.1%	19.0%	45.6%

The age distribution of men and women in the sample is similar and follows a standard population pyramid structure. Respondents between the ages of 15 and 24 years make up 42.5% of the sample, while respondents between the ages of 40 and 49 years constitute only 15.8% of the sample. Over half of respondents have attended secondary school or higher, and 48% report being married or in a union. A higher percentage of women (57.2%) report being married than men (39.2%). Sesotho is spoken by almost all of the respondents. Fluency in English differs by where people live with 62.9% of urban respondents and 29.1% of rural respondents indicating they speak English easily. Almost 40% of respondents are Catholic while a quarter identify with some other religion.

Access to media varies. Approximately 70.5% and 30.3% of the respondents in the national sample live in a household that owns a radio and a television, respectively. This result is consistent across the different sub-populations, though ownership of both radios and televisions is higher in urban areas. In fact, only one in five households in rural areas own a television versus just over half of urban households.

Two key vulnerable populations are included in the evaluation of the Regional program: young women aged 15-24 years and border populations. As can be seen in the table above, the sample sizes for these

populations are 821 and 663, respectively. The analysis for vulnerable populations uses the same set of exposure measures and outcomes as used for the general population, where sample sizes permitted.[12]

Estimates of the DfID Logframe indicators for Lesotho are presented below. Descriptive statistics for the complete set of indicators are provided in Appendix E.

The DfID Logframe calls for measurement of progress toward "Increased health awareness and related social and behavioral change," which is measured by the following indicators:

- *Safer sexual practices*: Percentage of male and female adults aged 17 years or older who had more than one sexual partner in the past year;
- *Safer sexual practices*: Percentage of men and women who reported use of a condom in last sexual intercourse, among those who had more than one partner in the past 12 months;
- *Stigmatizing attitudes*: Percentage of adults aged 17 years or older who do not think that HIV/AIDS is a punishment for sinning;
- *Correct knowledge of HIV management*: Percentage of adults aged 17 and older who know that people can transmit HIV while on ARVs.

The targets for these indicators, as well as estimates for a baseline[13] and the current survey are provided in the Table 4.

[12] The minimum sample size for regressions was set using a formula proposed by Green (1991) of N=104+p, where p are the predictor variables. For the present analysis N=146.

[13] Baseline numbers come from a presentation given by Ailie Clarkson, Statistics Adviser, DFID 28th April 2010 *DFID Southern Africa BCC Programme: Impact*

Table 4: Logframe indicators-Lesotho

Indicator		Target	Baseline	2012
Percentage of adults (aged 17+) who had more than one sexual partner in the past year	Total	9%	29%	30%
	Males	-		48%
	Females	-		13%
Percentage who used a condom in last sex, among those who had multiple partners in the past 12 months	Males	46%	41%	71%
	Females	24%	19%	58%
Percentage of adults (aged 17+) who do not think HIV/AIDS is a punishment for sinning	Total	90%	78%	66%
	Males	-		58%
	Females	-		74%
Percentage of adults (aged 17+) who know that people can transmit HIV while on ARVs	Total	80%	70%	72%
	Males	-		76%
	Females	-		69%

Since the baseline survey, there has been little change in the percentage of adults who had more than one sexual partner in the past year. Approximately 30% of respondents report having multiple partners in the past year as compared with 29% who reported having multiple partners at baseline. However, men are many times more likely to report multiple partners than women – 48% versus 13% respectively. Condom use at last sex (among those with multiple partners) increased by 30 percentage points for males (from 41% to 71%) and by an even larger amount for females (from 19% to 58%), exceeding targets for both sexes. There has been a decrease in the percentage of people who do not think HIV/AIDS is a punishment for sinning from 78% at baseline to 66% in 2012. Again, differences are apparent between men and women with a higher percentage of women not believing that the disease is a punishment. The 2012 value falls short of the target of 90%. Finally, there is only a slight increase - from 70% to 72% - in the percentage of adults who know that HIV positive people can transmit HIV while on ARVs. A higher percentage of men know this but this still does not meet the target of 80%.

CHAPTER 4: PHELA/ONELOVE

4.1 EXPOSURE MEASURES

Exposure to Phela activities and the OneLove campaign is analyzed using the following key indicators (for a detailed description of these indicators, see Section 2.4.1):

1. Exposure to OneLove radio shows (where respondents are exposed to neither radio show, the OneLove radio drama or OneLove phone-in talk show, or both the OneLove radio drama and the OneLove talk show)
2. Exposure to the OneLove radio drama
3. Exposure to any of the OneLove television programs (including Love Stories in the Time of HIV, Untold Stories or the OneLove Talk Show)
4. Exposure to any OneLove print materials (including Men, Women & HIV and AIDS, Relationships made easy, You Haven't Met Joe, *Banna, Basali le HIV le AIDS*, *Likamano lia bebofatsoa*, or *Hau eso u ka u kipane le Joe*.)
5. Exposure to OneLove through multimedia (where respondents can be exposed through no media, one media channel, or two or three media channels. The media channels include any of those mentioned above—radio, television or print.)

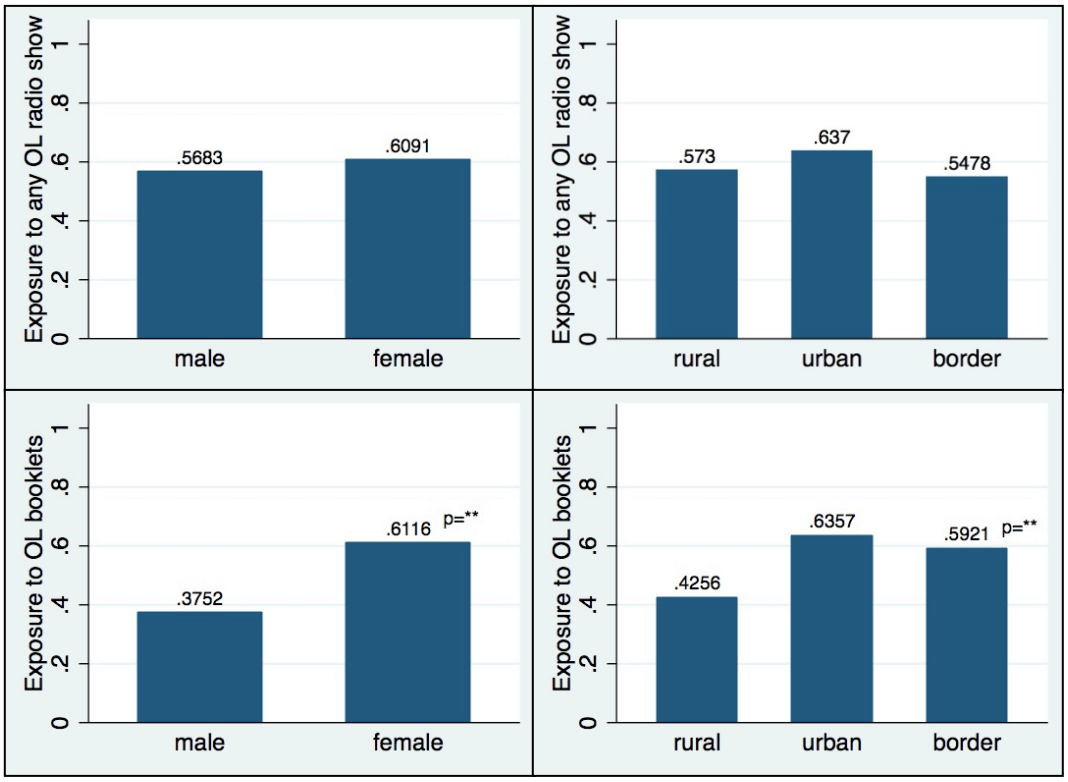
Estimates of exposure to program activities can be found in Figure 2 and in Table 5. Overall, 58.9% of all respondents have been exposed to at least one of the OneLove radio programs, with no notable differences in exposure across gender (56.8% of males; 60.9% of females) or domain (57.3% in rural, 63.7% in urban and 54.8% in border areas). About one quarter of the respondents were exposed to the OneLove radio drama but exposure to OneLove television programs is significantly lower, at 10.1%. While no significant differences in exposure to OneLove television programs are observed between men and women, there are notable differences by geographic domain; only 4.7% of respondents in rural areas were exposed, as compared with 16.5% in border areas and 21.3% in urban areas ($p<0.01$). Regarding the specific components of the OneLove television programs, 10.3% of respondents reported exposure to any of the Untold Stories drama series, 11.8% reported exposure to any of the *Love Stories in the Time of HIV* films, and 4.7% reported exposure to the OneLove television talk show.

Nearly half of respondents were exposed to at least one print material. Women were significantly more likely to report exposure to OneLove booklets (61.2%) as compared with men (37.5%; $p<0.01$) and people residing in rural areas were less likely (42.6%) to report exposure than those residing in border (59.2%) and urban areas (63.6%, $p<0.01$). The highest exposure was to the booklet *Banna, Basali le HIV*

le AIDS (39.3%) followed by *Men, Women and HIV and AIDS* (25.0%) and *Likamano lia bebofatsoa* (20.6%).

Examination of exposure to OneLove through different media channels (radio, television, or print) indicates that 26.3% were not exposed to any OneLove intervention, whereas 33.8% and 40.0% were exposed to the program through one and two or more media channels, respectively. Women were more likely than men to report exposure to two or more media channels (46.6% vs. 33.0%; p<0.01). Respondents residing in urban areas were also more likely to be exposed to more than one media channel (51.8%) as compared with those residing in rural and border areas (34.2% and 44.6%. respectively; p<0.01).

Figure 2: Exposure to OneLove, by gender and domain



Among young women aged 15-24 years, who are one of the key target groups, 55.8% reported exposure to a OneLove radio show, slightly less than for the full sample of women, and 7.8% reported exposure to OneLove television. Nearly 65% of young women aged 15-24 reported having read one of the OneLove booklets. This is comparable to the 61.2% of women of all ages who had seen at least one OneLove

booklet. Results for multimedia exposure show that 36.3% of young women were exposed to OneLove through a single media channel, while 44.1% were exposed through two or more media channels.

About half of the respondents reported having seen the OneLove logo, with greater recognition by women relative to men (58.2% vs. 44.0%; p<0.01), and in urban and border areas (62.8% and 63.8% as compared with 44.9% in rural areas; p<0.01). Spontaneous recall of the OneLove slogan was quite low; only 7% of respondents correctly and spontaneously recalled the slogan.

Exposure to the *Meet Joe* campaign was also quite low, as was participation in C-Change/OneLove community dialogues. Only 7.9% of respondents report having heard the Meet Joe advertisement on the radio, and 4.7% reporting seeing the *You Haven't Met Joe* booklet. Only 1.5% of the full sample of respondents had participated in a community discussion, reflecting the fact that such discussions were undertaken in only targeted parts of the country. Finally, only 3.7% reported seeing any of the Champions television adverts, and only 2.6% reported hearing any of the Champions radio adverts.

Table 5: Exposure to Phela/OneLove by gender and domain

	Men N=2034	Women N=1992	Women 15-24 N=821	Border N=663	Urban N=1413	Rural N=1950	Total N=4026
Composite Exposure Measures							
Exposure to No Radio Shows	43.2%	39.1%	44.2%	45.2%	36.3%	42.7%	41.1%
Exposure to One Radio Show	34.4%	37.9%	39.8%	38.0%	39.7%	34.4%	36.2%
Exposure to Two Radio Shows	22.5%	23.0%	16.0%	16.8%	24.0%	22.9%	22.7%
Exposure to Radio Drama	26.2%	24.8%	17.5%	19.3%	28.1%	25.1%	25.5%
Exposure to Any Television	11.2%	9.1%	7.8%	16.5%	21.3%	4.7%	10.1%
Exposure to Any Print	37.5%	61.2%	64.5%	59.2%	63.6%	42.6%	49.6%
Exposure to No Media Channels	33.1%	19.9%	19.6%	22.5%	16.3%	31.1%	26.3%
Exposure to One Media Channel	34.0%	33.5%	36.3%	32.9%	31.9%	34.7%	33.8%
Exposure to Two or More Media Channels	33.0%	46.6%	44.1%	44.6%	51.8%	34.2%	40.0%
Individual Exposure Measures							
OneLove Slogan: Spontaneous	7.1%	6.8%	7.5%	8.2%	9.3%	5.8%	7.0%
OneLove Slogan: Heard or Seen	40.1%	42.7%	40.2%	47.0%	51.0%	36.7%	41.4%
Ever Heard of OneLove	35.5%	36.1%	35.7%	42.9%	48.5%	29.6%	35.8%
Seen OneLove Logo	44.0%	58.2%	60.7%	63.8%	62.9%	44.9%	51.2%
Knows OneLove Has Campaign in Other Countries	53.6%	51.4%	48.5%	61.6%	55.7%	49.3%	52.4%
Saw OneLove Logo in Other Country	26.5%	22.8%	19.7%	23.9%	23.7%	26.0%	24.9%
Radio: OneLove Radio Drama	28.0%	27.6%	20.1%	20.7%	31.3%	27.1%	27.8%
Radio: OneLove Phone-In Program	51.2%	56.3%	51.7%	50.8%	56.5%	53.1%	53.9%
Radio: Heard OneLove Ad Meet Joe	8.1%	7.7%	6.5%	10.7%	13.3%	5.2%	7.9%
Read: Men, Women & HIV and AIDS	20.6%	29.2%	32.5%	31.7%	41.1%	17.3%	25.0%

	Men N=2034	Women N=1992	Women 15-24 N=821	Border N=663	Urban N=1413	Rural N=1950	Total N=4026
Read: Relationships Made Easy	10.2%	15.5%	17.3%	18.6%	19.6%	9.5%	12.9%
Read: You Havent Met Joe	5.4%	4.0%	4.1%	7.3%	8.1%	2.9%	4.7%
Read: Banna, Basali le HIV le AIDS	30.0%	48.2%	50.0%	45.1%	48.7%	34.6%	39.3%
Read: Likamano lia bebofatsoa	14.7%	26.2%	25.3%	25.9%	25.3%	18.0%	20.6%
Read: Hau eso u ka u kopane le Joe	5.9%	4.9%	4.6%	6.3%	9.0%	3.8%	5.4%
Saw OneLove TV AD Meet Joe	5.5%	4.3%	4.5%	7.2%	10.1%	2.4%	4.9%
Watched: Love Stories film series	13.0%	10.7%	10.6%	19.5%	24.4%	5.6%	11.8%
Watched film: When the Music Stops	2.3%	4.0%	4.1%	4.1%	7.5%	1.3%	3.2%
Watched film: Big House, Small House	2.4%	3.2%	3.2%	3.6%	6.1%	1.3%	2.8%
Watched film: Travelling Man	8.3%	9.5%	8.8%	12.8%	19.3%	4.0%	8.9%
Watched film: After the Honeymoon	2.9%	3.9%	4.5%	3.8%	7.4%	1.7%	3.4%
Watched film: Chaguo	2.1%	1.7%	1.7%	3.0%	3.9%	0.9%	1.9%
Watched film: Umshato	5.4%	4.8%	4.4%	6.6%	11.6%	2.2%	5.1%
Watched film: Bloodlines	1.4%	2.7%	3.3%	2.2%	5.3%	0.7%	2.1%
Watched film: Second Chances	3.1%	5.4%	6.4%	4.7%	10.0%	1.7%	4.2%
Watched film: Against the Odds	1.8%	2.2%	2.2%	2.8%	5.0%	0.6%	2.0%
Watched film: Betrayed	2.6%	2.0%	1.8%	4.2%	4.9%	1.0%	2.3%
Watched drama: Untold Stories Series	10.8%	9.8%	10.0%	15.2%	23.6%	4.1%	10.3%
Watched drama: Rebel Rhymes	1.3%	1.9%	1.7%	2.4%	3.0%	0.9%	1.6%
Watched drama: Mapule's Choice	7.4%	6.6%	6.7%	10.1%	15.9%	2.8%	7.0%
Watched drama: Secrets and Lies	3.8%	3.0%	3.1%	6.0%	7.6%	1.3%	3.4%
Watched drama: The Test	1.4%	1.8%	1.5%	2.2%	3.9%	0.6%	1.6%
Watched drama: Tempestade	1.1%	1.6%	1.7%	0.8%	3.1%	0.7%	1.4%
Watched drama: Ulendo waRose	1.2%	1.2%	1.2%	2.0%	2.5%	0.6%	1.2%
Watched drama: Batjele	2.2%	2.5%	2.8%	2.8%	5.1%	1.2%	2.4%
Watched drama: Chipo's Promise	1.7%	2.1%	2.5%	2.2%	4.4%	0.8%	1.9%
Watched drama: Between Friends	2.0%	2.4%	2.1%	4.1%	4.3%	1.1%	2.2%
Ever Heard: PHELA	61.2%	80.6%	82.2%	74.6%	84.6%	65.0%	71.1%
Knows: PHELA Logo	49.4%	72.1%	73.7%	70.5%	78.9%	52.4%	61.0%
Read: HIV and AIDS...Action Now!	17.4%	23.5%	26.9%	28.5%	33.3%	14.1%	20.5%
Read: Stop the Abuse Against Women	14.8%	21.4%	24.0%	23.5%	28.5%	13.2%	18.2%
Read: Mother & Child Care	10.0%	16.1%	16.6%	15.2%	22.6%	8.8%	13.1%
Read: HIV le AIDS Mohoma Temeng	15.5%	20.2%	20.7%	20.1%	27.2%	13.7%	17.9%
Read:Kenya letshoho ho felisa tlhekefesto ea Basali	17.5%	28.7%	29.6%	24.6%	30.3%	20.0%	23.2%
Read: Tihokomelo ea 'M'e le Ngoana	13.5%	21.9%	18.6%	20.6%	25.5%	14.2%	17.8%
Heard: Phela Drama on Radio	35.7%	45.7%	44.0%	37.2%	48.2%	38.0%	40.8%
Watched: Phela Television Show	8.6%	9.8%	8.8%	10.7%	18.8%	4.9%	9.2%
Watched: OneLove Talk Show	5.4%	4.0%	3.5%	6.4%	9.3%	2.5%	4.7%
Participated in C-Change/OneLove Community Dialogue	1.7%	1.3%	1.2%	3.4%	2.5%	0.9%	1.5%

	Men N=2034	Women N=1992	Women 15-24 N=821	Border N=663	Urban N=1413	Rural N=1950	Total N=4026
Saw: Champions Advert, Dr. Speciosa Wandira	1.4%	0.8%	0.8%	1.3%	2.0%	0.7%	1.1%
Saw: Champions Advert, Dr. Kenneth Kaunda	1.2%	1.5%	1.9%	3.0%	3.3%	0.4%	1.4%
Saw: Champions Advert, Bishop Desmond Tutu	3.4%	2.9%	2.9%	3.4%	7.4%	1.3%	3.1%
Heard: Champions Advert, Dr. Speciosa Wandira	1.0%	0.9%	1.3%	1.6%	1.7%	0.6%	1.0%
Heard: Champions Advert, Dr. Kenneth Kaunda	0.9%	1.0%	0.8%	1.7%	2.4%	0.3%	1.0%
Heard: Champions Advert, Bishop Desmond Tutu	2.3%	2.3%	2.0%	2.8%	5.5%	0.9%	2.3%

4.2 REACH

An important objective the evaluation is in estimating the total number of people reached by specific components of each partner's regimen of activities. This section discusses the estimated number of persons reached by components of the Phela program. The total number of people reached by various interventions – as determined by self-reports from the questionnaire - are estimated through extrapolation of the weighted percentage of people who reported being exposed to each intervention component. Stata's *total* command (StataCorp, 2007: 492-497) is used to estimate the total number of people exposed to the intervention in the population by taking into account the sampling weights (which in turn are the inverse of the probability of selection). Results for the total population and specific target groups can be found in Appendix D. Survey data can only provide very rough estimates of the number of people reached. Consequently, the confidence intervals for estimates tend to be very wide, and estimates should be interpreted with caution.

According to the U.S. Census Bureau, the projected mid-year population of Lesotho in 2012 is 1,930,000, of which less than half are adults aged 15-49 years. The results indicate that an estimated 466,622 people (196,693 men and 269,929 women) had heard of Phela and 400,496 knew the logo. Over 336,301 people had seen the OneLove logo and 207,368 know that OneLove has campaigns in other countries. An estimated 45,808 people could recall the OneLove logo spontaneously, and 47,507 saw the OneLove logo in another country.

The OneLove phone-in radio program had the widest reach of all of the various interventions; an estimated 341,603 people (157,524 men and 184,079 women) heard the program. The Phela radio

drama was heard by 267,927 people throughout the country while 176,404 people heard the OneLove radio drama. An estimated 20,044 people heard the OneLove radio ad *Meet Joe.*

Among print media, the most widely read booklet is *Banna, Basali le HIV le AIDS*, with an estimated 257,760 readers (96,299 men and 161,460 women). This is followed by *Men, Women, and HIV and AIDS (163,826)*, *Kenya letshoho ho felisa tlhekefesto ea Basali (152,426), and Likamano lia bebofatsoa (135,076).* The booklets with the lowest estimated reach are *You Haven't Met Joe (30,871), Hau eso u ka u kopane le Joe (35,405)*, and *Relationships Made Easy(84,809)*.

An estimated 77,597 (41,778 men and 35,817 women) people watched the Love Stories film series. The most widely seen film was *Travelling Man* (58,488), followed by *Umshato* (33,499). The Untold Stories series was viewed by 67,550 people, with *Mapule's Choice* having the largest viewership (45,609 total, 23,670 men, and 21,938 women). The second most watched drama series was *Secrets and Lies* (22,397 total, 12,232 men, and 10,165 women). It is also estimated that 60,422 people saw the Phela television show an 30,815 people saw the OneLove talk show.

The most widely seen Champions advertisement was the one featuring Bishop Desmond Tutu, viewed by approximately 20,831 people. This was followed by the advertisement featuring Dr. Kenneth Kaunda. The Champions radio ad most recalled was also the one that featured Bishop Tutu (15,136 listeners).

4.3 RESULTS FOR GENERAL POPULATION (TOTAL, MALE, FEMALE)

Multivariate regression was used to determine associations between the exposure measures described above and all identified program outcomes. Results for health measures that are significantly associated with exposure to Phela activities and a set of key programmatic outcomes, as well as non-significant results for key outcomes, are presented in this section. A full list of analyses for all measures for all health outcomes (i.e. including all non-significant measures) can be found in Appendix F.

The results from the multivariate models - including those for the full sample and then for men and women separately - are presented by health area (e.g., partnerships and sexual behavior, condom use), The results presented are for both the probit models that compare the measure of interest between those exposed and the unexposed group, and for the propensity score matching analysis, as described above. Propensity score matching results are for the total population only. Results are presented for all three populations even if the results are statistically significant for only one or two of the three populations. In the summary of results below the tables, however, only statistically significant results ($p<0.05$) are discussed. The only exceptions to this are multiple partners in the last 12 months, multiple

partners in the last month, condom at last sex with regular partner, reports currently having more than one partner, condom at last sex with casual partner, condom at last sex among those who report multiple partnerships, ever been tested for HIV, and tested for HIV in the last 12 months. These outcomes are included in the tables regardless of statistical significance. Results for vulnerable populations (women aged 15-24 years and border populations) can be found in a subsequent section.

The following section presents the summary of the multivariate results for primary outcomes by analysis types and exposure to the various OneLove materials. Results are presented in the following order: multiple sexual partnerships, other HIV risk factors, HIV communication, condom use, HIV testing, HIV treatment, HIV stigma, and gender-based violence. To ease readability, the tables contain adjusted proportions but these are presented in the text as percentages.

4.3.1 MULTIPLE PARTNERS

Table 6 presents estimates of the effects of exposure to OneLove radio[14] and multiple partnership outcomes. Overall, there is little observed effect of exposure to OneLove radio on partnerships, with the exception that exposed individuals report nearly one fewer lifetime sexual partners on average than unexposed individuals (4.5 partners versus 5.4 partners). This result appears largely driven by men exposed to both the OneLove radio drama and talk show, who report approximately 1.8 fewer lifetime partners than unexposed men. Men exposed to one radio show are also less likely to report receiving gifts from any of their three most recent sexual partners (within the past 12 months). There are no significant differences in the percent of respondents who report multiple partners in the last 12 or in the last month.

In terms of community norms, respondents exposed to radio shows are more likely to agree that leaders speak out about the risks of HIV from having multiple sexual partnerships (67.5% versus 61.9% for exposure to one radio show). Respondents exposed to any radio shows are also more likely to agree that leaders discourage men from having younger partners (33.1% versus 40.2% for one radio show and versus 47.4% for two shows). This result is confirmed in the PSM analysis.

While the difference between respondents exposed to one radio show is not significant in the probit analysis for the percentage of respondents who think that most men are faithful to their wives, this is negative and significant in the PSM results. Few women report that their husbands have, or are

[14] The OneLove radio exposure measure is categorical: no exposure, exposure to either the OneLove radio drama or the OneLove talk show, or exposure to both the OneLove radio drama and talk show.

suspected of having, another wife but fewer women report this if they have been exposed to either the radio talk show (6.0% for exposed to one radio show versus 13.0% for unexposed). Though not significant in the multivariate analysis, the PSM analysis showed a significant association between exposure to two radio shows and having a 10 or more year age difference with a partner. In this case, those exposed to two shows are more likely to have a large age gap with any partner and with their regular partner.

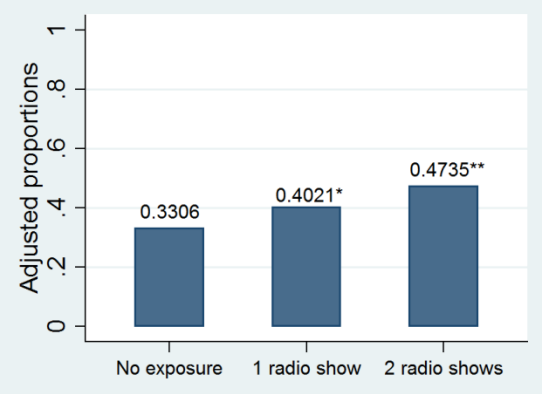
Table 6: Summary of multivariate results for radio exposure and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Multiple partners in the past 12 months	0.2865	0.3193	NS	0.4637	0.5251	0.1194	0.1239
Multiple partners in the last month	0.0955	0.1158	NS	0.1616	0.2159		
Multiple sexual partners increase HIV risk (%True)	0.9282	0.9569*	NS	0.8949	0.9387	0.9596	0.9721
Need someone to fill gap (%Disagree)	0.5424	0.4968	NS	0.3935	0.4101	0.6728	0.5966*
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.6188	0.6754*	NS	0.5900	0.6807*	0.6478	0.6666
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3306	0.4021*	+	0.3322	0.3963	0.3279	0.4136
Husband has other wife (%yes/suspect)	0.1296	0.0597*	NS			0.1296	0.0597
Most married men faithful to wives (%Agree)	0.2848	0.2472	-	0.3115	0.2730	0.2507	0.2266
Can resist temptation of sex with person besides main partner (%Agree)	0.7188	0.7402	+	0.5414	0.6247	0.8775	0.8670
Received gifts for sex from any partner	0.2164	0.1965	NS	0.2519	0.1731*	0.2014	0.2028
Reports currently having more than one partner	0.1398	0.1527	NS	0.2248	0.2887		
Exposure: Exposed to Two Radio Shows (Vs. None)							
Multiple partners in the past 12 months	0.2865	0.2668	NS	0.4637	0.4505	0.1194	0.1020
Multiple partners in the last month	0.0955	0.1008	NS	0.1616	0.1753		
Number of lifetime partners	5.4331	4.4704*	NS	8.6717	6.9229	2.4927	2.2735
Can resist temptation of sex with person besides main partner (%Agree)	0.7188	0.7547	+	0.5414	0.6389	0.8775	0.8506
Men with many women are real men (%Disagree)	0.9112	0.9516*	+	0.8762	0.9336	0.9486	0.9648
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.6188	0.6516	+	0.5900	0.6805*	0.6478	0.6318
Leaders discourage multiple partner (%Very often/sometimes)	0.3348	0.4581**	+	0.3161	0.4121	0.3449	0.5040

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3306	0.4735**	+	0.3322	0.4617*	0.3279	0.4787
Husband has other wife (%yes/suspect)	0.1296	0.0822*	-			0.1296	0.0822
Reports currently having more than one partner	0.1398	0.1516	NS	0.2248	0.2706		
10+ age difference between resp. and any partner	0.1381	0.1632	+	0.1501	0.1471	0.1320	0.1847
10+ age difference between resp. and regular partner	0.1207	0.1611	+	0.1179	0.1377	0.1313	0.1847
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

As seen in the figure below, there is evidence of dose-response effects corresponding to the number of radio shows respondents are exposed to; exposure to one and two radio shows is significantly associated with a greater likelihood of perceiving that leaders discourage men from having younger partners, as compared with the reference category of the unexposed (33.1% for no exposure, 40.2% for exposure to any radio program, and 47.4% for exposure to both radio programs, p=0.0423).

Figure 3: Effects of exposure to OneLove radio shows on the perception that leaders discourage men from having younger partners (%very often/sometimes), total population



The results for exposure to the OneLove radio drama can be seen in Table 7. Here again, those exposed to OneLove radio report nearly one fewer lifetime sexual partner relative to unexposed individuals. This result is most pronounced for exposed males, who report nearly 2 fewer lifetime sexual partners than unexposed males (7.2 partners versus 9.1 partners).

As seen above, exposure to radio is positively associated with community norms. Positive and significant results are observed in the percentage of exposed respondents who report that leaders in the

community discourage multiple sexual partners and discourage men from having younger sexual partners, as well as in the percentage of respondents who disagree with statements such as *men who have sex with many women are real men*. Seventy percent of men exposed to the radio drama disagree that men have a right to sex in exchange for gifts as compared with 58.5% for unexposed men. Among the general population, those exposed to the radio drama are less likely to report having received gifts from any partner (15.4%), as compared to those unexposed (20.7%). Most of these results are confirmed by the PSM results with one exception; the PSM results indicate that women exposed to the radio drama are more likely to say their husband has another partner. This adjusted proportion is lower but not statistically significant. There are no significant differences between exposed and unexposed in the proportion who report multiple partners in the last 12 or in the last month.

Finally, as with exposure to two radio shows, above, the PSM analysis shows a significant and positive association of exposure to the OneLove radio drama with having a 10 or more year age gap with any and with the most recent regular partner. These results, however, are not consistent in the multivariate probit analysis.

Table 7: Summary of multivariate results for radio drama exposure and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Radio Drama (Vs. None)							
Multiple partners in last 12 months	0.3037	0.2791	NS	0.4974	0.4556	0.1199	0.1153
Multiple partners in last month	0.1052	0.1055	NS	0.1867	0.1783		
Number of lifetime partners	5.5696	4.6454**	NS	9.0812	7.2236**	2.452	2.3085
Men who have sex with many women are real men (%Disagree)	0.9075	0.9443*	+	0.8867	0.9219	0.9297	0.9583
Men have right to get sex for gifts (%Disagree)	0.6208	0.6790	+	0.5850	0.7000*	0.6540	0.6588
Leaders speak out about risk if HIV if MP (%Strongly agree/agree)	0.6411	0.6474	+	0.6247	0.6668	0.6533	0.6361
Leaders discourage multiple partners (%Very often/sometimes)	0.3602	0.4147*	+	0.3316	0.3865	0.3866	0.4434
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3683	0.4369**	+	0.3556	0.4514*	0.3814	0.4204
Husband has other sexual partner (%yes/suspect)	0.2162	0.1634	-			0.2162	0.1634
Received gifts for sex from any partner	0.2075	0.1534*	+	0.2132	0.1619	0.1994	0.1480
10+ age difference between resp. and any partner	0.1288	0.1652	+	0.1385	0.1509	0.1200	0.1802

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
10+ age difference between resp. and regular partner	0.1197	0.1615	+	0.1195	0.1404	0.121	0.1804
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Exposure to any OneLove television program also yielded positive effects on several outcomes related to sexual partnerships but at the same time was associated in the wrong direction with several other partnership outcomes (Table 8). For example, respondents exposed to OneLove television are more likely to agree with the statement that *having multiple partners increases your risk for HIV.* Similarly, 94.4% of exposed respondents disagree with the statement that *men who have sex with many women are real men* as compared with 90.7% of unexposed respondents, a result that may be of limited practical importance given high levels of disagreement with the statement amongst both groups. On the other hand, exposed individuals are more likely to have more than one current partner. Television exposure had no significant effect on multiple partnerships within the past 12 months and one month; this is true for the total population and when analyzed separately for men and women. Though not significant in the multivariate probit analysis, PSM analysis shows a significant and negative association between exposure to television and having a 10 or more year age gap between the respondent and a recent partner. This means that those exposed are less likely to have such an age gap.

Table 8: Summary of multivariate results for television exposure and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Television (Vs. None)							
Multiple partners in last 12 months	0.3010	0.2724	NS	0.4833	0.4414	0.1261	0.1197
Multiple partners in the last month	0.1005	0.1394	NS	0.1794	0.2007		
Men who have sex with many women are real men (%Disagree)	0.9067	0.9447*	+	0.875	0.9245	0.937	0.9636
Reports currently having more than one partner	0.1425	0.1879*	NS	0.2494	0.3016		
Multiple sexual partners increase HIV risk (%True)	0.9334	0.9669	NS	0.9066	0.9386	0.9586	0.9960
10+ age difference between resp. and any partner	0.1432	0.1425	-	0.1462	0.1546	0.1320	0.1096
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Print materials have strong impacts on several key behaviors, such as having multiple partners in the past month and in the last 12 months (Table 9). However, these effects are evident solely among men. For example, exposed men are nearly 9 percentage points less likely to have had multiple partners in the past year (42.4% versus 51.3%) and approximately 7 percentage points less likely to have had multiple partners in the past 3 months (13.8% versus 21.2%) (Figure 4). They are 11 percentage points (66.6% versus 55.3%) more likely to say that they can resist the temptation of sex with a person beside their main partner. They are also less likely to agree that they men have the right to sex when they give gifts (63.3% versus 54.9%). However, relative to unexposed respondents, a lower percentage of all exposed respondents agreed that most married men are faithful to their wives. Among women, 20.7% of those exposed to print materials agree that married men are faithful to their wives as compared with 26.2% of unexposed women. This result is confirmed by PSM results.

Table 9: Summary of multivariate results for exposure to any print and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Print Material (Vs. None)							
Multiple partners in last 12 months	0.3195	0.2738	NS	0.5127	0.4247*	0.1429	0.1141
Multiple partners in last month	0.1243	0.0810**	NS	0.2124	0.1382*		
Most married men faithful to wives (%Agree)	0.2899	0.2339**	+	0.3213	0.2598	0.2617	0.2072*
Can resist temptation of sex with person besides main partner (%Agree)	0.7110	0.7609*	NS	0.5530	0.6661**	0.8574	0.8740
Men with many women are real men (%Disagree)	0.9086	0.9106	NS	0.8646	0.9122*	0.9527	0.9277*
Men have right to get sex for gifts (%Disagree)	0.6458	0.6061	NS	0.6331	0.5490*	0.6401	0.6567
Need someone to fill gap (%Disagree)	0.5039	0.5325	_	0.3919	0.4198	0.5939	0.6525

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Figure 4: Effects of exposure to OneLove print materials on multiple partners in the past 12 months (left) and multiple partners in the past month (right), men aged 15-49

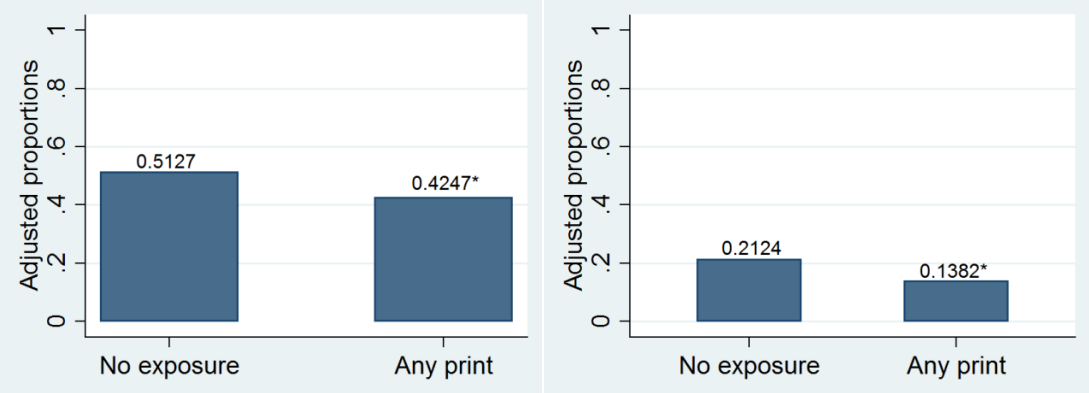


Table 10 presents the multivariate results from exposure to OneLove media channels on various partnership outcomes. For neither exposure to one media channel nor exposure to two or more media channels is there evidence of significant effects on behaviors, such as the number of current partners, multiple partnerships in the past year or multiple partnerships in the past 3 months. In fact, women exposed to one media channel are more likely to report currently having sex with two or more partners, though the overall proportions are low (5.1% versus 2.1%). Further, in the total population, exposed individuals are more likely to report currently having more than one sexual partner. This difference is highest (17.8% versus 12.0%) among individuals exposed to one media channel. Exposed men are less likely to report receiving gifts from any recent partner (26.4% for exposed versus 18.0% for unexposed).

The effects of multimedia exposure on other norms and attitudes are modest. Both men and women who are exposed to two or more media channels believe that they are better able to resist having sex with someone else who is not their main partner than unexposed respondents. It is perhaps surprising then that men exposed to both one and two or more media channels are less likely to agree that husbands are faithful to their wives. While the effect of exposure to two media channels is not significant in terms of leaders in the community speaking out against having multiple partners and men having younger partners in the probit results, these results are significant in the PSM results. Consistent with other results discussed in the previous sections, there are no significant effects of exposure on indicators of multiple partnerships, with the exception of print media on men . In some cases the observed differences are in the opposite direction. For example, a higher percentage of individuals exposed to one media channel report having multiple sexual partnerships in the last 12 months and in the last month. However, these differences are not statistically significant.

Table 10: Summary of multivariate results for exposure to media channels and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Media Channel (Vs. None)							
Multiple partners in last 12 months	0.2856	0.3246	NS	0.4834	0.5266	0.1065	0.1365
Multiple partners in last month	0.0949	0.1265	NS	0.1772	0.2161		
Reports currently having sex with 2 or more recent partners	0.1534	0.1766	NS	0.2868	0.3044	0.0209	0.0509*
Received gifts for sex from any partner	0.2128	0.174	NS	0.2638	0.1804*	0.1755	0.1671
Most married men faithful to wives (%Agree)	0.3100	0.2485*	-	0.3428	0.2567*	0.2704	0.2474
Men with many women are real men (%Disagree)	0.9157	0.9062	NS	0.8699	0.8820	0.9614	0.9303
Reports currently having more than one partner	0.1196	0.1770*	NS	0.2214	0.3041		
Can resist temptation of sex with person besides main partner (%Agree)	0.7065	0.7228	+	0.5217	0.5702	0.8720	0.8703
Age at first sex	18.0772	17.8693	NS	17.8953	17.3893*	17.9328	18.2932
Exposure: Exposed to Two or More Media Channels (Vs. None)							
Multiple partners in last 12 months	0.2856	0.2741	NS	0.4834	0.4413	0.1065	0.1071
Multiple partners in last month	0.0949	0.0905	NS	0.1772	0.1582		
Multiple sexual partners increase HIV risk (%True	0.9251	0.9500	NS	0.8958	0.9517*	0.9525	0.9583
Most married men faithful to wives (%Agree)	0.3100	0.2270**	-	0.3428	0.2535	0.2704	0.2015
Can resist temptation of sex with person besides main partner (%Agree)	0.7065	0.7649	+	0.5217	0.6822**	0.8720	0.8658
Men with many women are real men (%Disagree)	0.9157	0.9273	NS	0.8699	0.9414**	0.9614	0.9270
Reports currently having more than one partner	0.1196	0.1451*	NS	0.2214	0.2509		
Men have right to get sex for gifts (%Disagree)	0.6497	0.6026	NS	0.6512	0.5569*	0.6260	0.6513
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.6097	0.6753	+	0.5870	0.6863*	0.6303	0.6629
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3358	0.4188	+	0.3342	0.4065	0.3267	0.4245
Leaders discourage multiple partners(%Very often/sometimes)	0.3385	0.4007	+	0.3227	0.3560	0.3388	0.4350

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Can resist temptation of sex with person besides main partner (%Agree)	0.7065	0.7228	+	0.5217	0.5702	0.8720	0.8703

*=p<0.05 **=p<0.01
PSM: + significant/increasing ; - significant/decreasing ;NS not significant

4.3.2 OTHER HIV RISK FACTORS

This next section presents the multivariate regression and PSM results for the effect of program exposure on other HIV risk factors (Table 11), including risk perception and knowledge of the effects of circumcision on HIV risk. There is a consistent pattern across multiple exposure measures indicating that greater exposure is associated with greater worry of being infected with HIV. This is true for exposure to television, print, and both one and two media channels. These effects appear stronger for women. For example, 52.7% of women exposed to OneLove television programs are worried about becoming infected as compared with 39.6% of unexposed women. Women exposed to any print materials are 6 percentage points more likely to report being worried about becoming infected with HIV (43.2% versus 37.1%). Similarly, 42.4% of women exposed to two or more media channels report being worried as compared with 32.5% of unexposed women.

Table 11: Summary of multivariate results for OneLove exposure and other HIV risk factors

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
TB can't be cured if HIV+ (%False)	0.5055	0.4477*	-	0.4557	0.3728*	0.5639	0.5140
Exposure: Exposed to Any Television (Vs. None)							
Worried about becoming HIV infected (%Worried)	0.4532	0.5436**	+	0.5071	0.5801	0.3964	0.5267*
Risk of contracting HIV decreases for a circumcised man	0.3752	0.4531*	NS	0.4258	0.5661**	0.3251	0.3566
Exposure: Exposed to Any Print (Vs. None)							
Worried about becoming HIV infected (%Worried)	0.4511	0.4739	NS	0.5218	0.5038	0.3706	0.4320*
Risk of contracting HIV decreases for a circumcised man	0.3528	0.4140*	+	0.4163	0.4810	0.2915	0.3502
Exposure: Exposed to One Media (Vs. None)							
Worried about becoming HIV infected (%Worried)	0.4127	0.4868*	NS	0.5080	0.5171	0.3247	0.4357
Likely to be infected now (%Agree)	0.1716	0.2150	+	0.2230	0.1997	0.1306	0.2197**
TB can't be cured if HIV+ (%False)	0.5003	0.4452*	-	0.4416	0.3772	0.5752	0.5028
Risk of contracting HIV decreases for a	0.3259	0.3772		0.3838	0.2028	0.2594	0.3214

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
circumcised man			+				
Exposure: Exposed to Two or More Media Channels (Vs. None)							
Worried about becoming HIV infected (%Worried)	0.4127	0.4539	NS	0.5080	0.4752	0.3247	0.4237*
Likely to be infected now (%Agree)	0.1716	0.2105	NS	0.2230	0.2177	0.1306	0.1969*
Risk of contracting HIV decreases for a circumcised man	0.3259	0.4237**	+	0.3838	0.5020*	0.2594	0.3586*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Exposure to OneLove programming is also associated with an increased likelihood of knowing that the risk of contracting HIV is lower for circumcised men. This holds for OneLove print media, television, and multi-media. These effect sizes tend to be larger for men. For example, 56.6% of men exposed to OneLove television know that circumcised men face lower HIV risk as compared with 42.6% of unexposed men. For women, the effect size is only three percentage points – 35.7% versus 32.5% - and is not statistically significant. This result is mirrored by exposure to OneLove media (in this case two or more media channels).

For radio exposure, a negative association is observed between exposure and knowledge that tuberculosis can be cured if a person is HIV positive. This result is consistent in the PSM results.

4.3.3 CONDOM USE

The results of the effect of radio exposure on condom use behaviors can be found in Table 15. Overall, a positive treatment effect is apparent for measures of condoms use among women but not among men. Women exposed to one radio show report higher condom use at last sex (50.3% exposed versus 37.8% unexposed), condom use at last sex with a regular partner (48.8% exposed versus 38.5% unexposed), condom use at last sex among those with multiple partners in the last 12 months (70.0% exposed versus 50.0% unexposed), and always using a condom with the most recent partner (24.1% exposed versus 18.0% unexposed). A similar pattern is generally evident among women exposed to two radio shows, including higher condom use at last sex (53.7% versus 37.8%), condom use at last sex among those with multiple partners in the last year (73.0% versus 50.0%), condom use at last sex with the most recent partner (51.8% versus 38.3%), and consistent condom use with the most recent partner (29.8% versus 18.0%). As noted above, no effects of exposure to OneLove radio on condom use are apparent among men. There are also no effects of exposure on condom use at last sex with a regular partner for either type of exposure. The overall prevalence of casual partners is low. As a result, this analysis is restricted only to the total population, which presents no significant differences between exposed and unexposed in terms of using a condom at last sex with a casual partner.

Respondents exposed to one radio show are more likely to agree that condom use is accepted in marriage; this is true in the probit and PSM results. Similarly, almost 70% of individuals exposed to two radio shows agree that a woman can ask a casual partner to use a condom - nine percentage points higher than unexposed individuals. This latter effect is particularly strong among women exposed to two radio shows where 67.4% agree with this statement as compared with only 56.3% of unexposed women.

Table 12: Summary of multivariate results for exposure to radio shows and condom use

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Condom use at last sex	0.4817	0.5604*	NS	0.5962	0.6112	0.3775	0.5033*
Condom use at last sex with regular partner	0.4891	0.5467	NS	0.5986	0.5959	0.3849	0.4876*
Condom use at last sex with casual partner	0.7880	0.8048	NS				
Condom use at last sex among those with MP in past year	0.6625	0.7053	NS	0.6946	0.7088	0.5003	0.7001**
Condom use at last sex, most recent partner	0.4969	0.5487	NS	0.6171	0.5932	0.3831	0.4911*

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Condom use in marriage accepted (%Strongly agree/agree)	0.5948	0.6730**	+	0.6580	0.7248	0.5393	0.6194
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6150	0.6578	+	0.6719	0.6803	0.5634	0.6318
Exposure: Exposed to Two Radio Shows (Vs. None)							
Condom use at last sex	0.4817	0.5947**	+	0.5962	0.6570	0.3775	0.5373*
Condom use at last sex with regular partner	0.4891	0.5606	NS	0.5986	0.6149	0.3849	0.5161
Condom use at last sex with casual partner	0.7880	0.7973	NS				
Condom use at last sex among those with MP in past year	0.6625	0.7722	NS	0.6946	0.7961	0.5003	0.7304*
Always uses condom with most recent partner	0.2679	0.3733**	NS	0.3551	0.4622	0.1796	0.2981**
Condom use in marriage accepted (%Strongly agree/agree)	0.5948	0.7086**	+	0.6580	0.7192	0.5393	0.6951**
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6150	0.6962*	NS	0.6719	0.7152	0.5634	0.6737*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Exposure to the radio drama also has positive effects on condom use (Table 16). For example, individuals exposed to the radio drama are more likely to report condom use at last sex in both the probit and PSM analysis. However, there are no significant effects of radio drama exposure on condom use at last sex by types of partners (regular or casual). Additionally, 76.0% of exposed respondents with multiple partners in the last year report using a condom at last sex as compared with 68.1% of unexposed respondents. This effect is also observed among men who report having multiple partners in the last year (78.4% versus 69.8% report condom use). Women exposed to the radio drama are more likely to believe that a woman can ask a casual partner to use a condom.

Table 13: Summary of multivariate results for exposure to radio drama and condom use

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Radio Drama (Vs. None)							
Condom use at last sex	0.5156	0.5836*	+	0.5998	0.6508	0.4337	0.5227
Condom use at last sex with regular partner	0.5170	0.5560	NS	0.5968	0.6198	0.4353	0.5010

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Condom use at last sex with casual partner	0.7880	0.7760	NS				
Condom use at last sex among those with MP in past year	0.681	0.7595*	NS	0.6978	0.7841*	0.5965	0.7064
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6345	0.6831	NS	0.6768	0.7014	0.5951	0.6611*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Exposure to television programs yielded no statistically significant effects on condom use with regular partners, condom use with casual partners, nor condom use among those with multiple partners in the past year (Table 17). However, individuals exposed to the television programs are more likely to agree that condom use is accepted in marriage (71.7% versus 64.3% among unexposed). When disaggregated by gender, this indicator is also significant among exposed men (80.5% versus 68.0% among unexposed). Women exposed to OneLove television programs are more likely to agree that a woman can ask a casual partner to use a condom. This indicator is not significant for the total population nor among men.

Table 14: Summary of multivariate results for exposure to television and condom use

	Total			Male		Female	
	Unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Television (Vs. None)							
Condom use at last sex with regular partner	0.5282	0.4760	NS	0.6006	0.5673	0.4555	0.3951
Condom use at last sex with casual partner	0.7931	0.8136	NS				
Condom use at last sex among those with MP in past year	0.6849	0.7035	NS	0.7159	0.7086	0.5837	0.5692
Condom use in marriage accepted (%Strongly agree/agree)	0.6430	0.7169*	NS	0.6797	0.8046**	0.6061	0.6347
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6406	0.7007	NS	0.6733	0.6793	0.6071	0.7401*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Similarly, exposure to print materials does not have significant effects on condom use, although there is evidence of positive effects on perceived community norms (Table 18). For example, almost 70% of exposed respondents think that condom use in marriage is acceptable as compared with 60.8% of

unexposed respondents. A positive association is also evident between program exposure and the belief that women can ask a regular partner to use a condom. However, these outcomes are not significant in the PSM results. Relative to men, women exposed to print materials are more likely to agree that women can ask both regular and casual partners to use a condom. These differences are not significant among men.

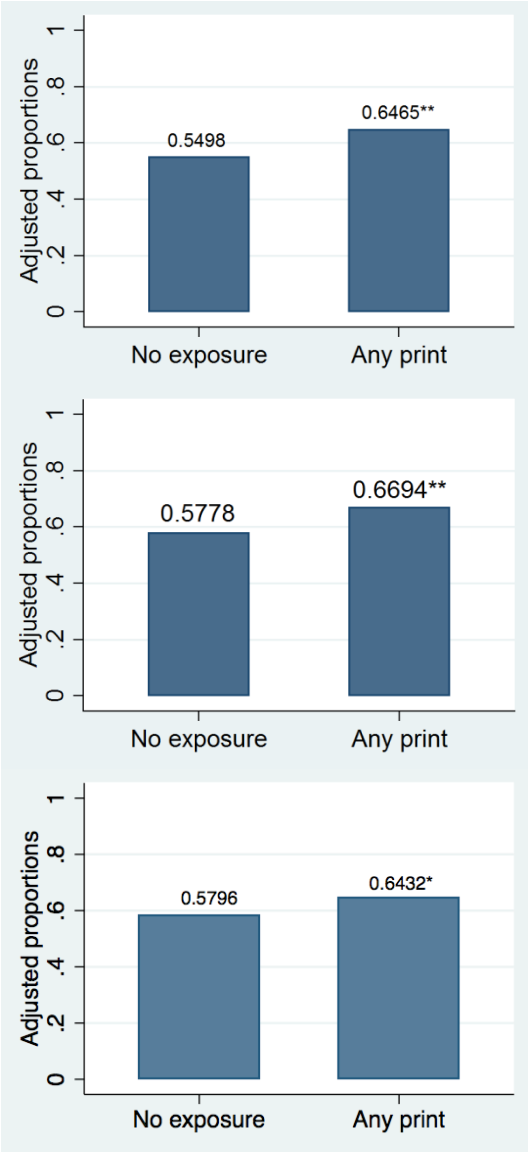
Table 15: Summary of multivariate results for exposure to any print and condom use

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Print (Vs. None)							
Condom use at last sex with regular partner	0.5307	0.5156	NS	0.6285	0.5433	0.4286	0.4633
Condom use at last sex with casual partner	0.8004	0.7901	NS				
Condom use at last sex among those with MP in past year	0.6989	0.6661	NS	0.7358	0.6702	0.5879	0.5776
Condom use in marriage accepted (%Strongly agree/agree)	0.6078	0.6932**	NS	0.6724	0.7286	0.5498	0.6465**
Women can ask regular partner to use condom (%Strongly agree/agree)	0.6256	0.6858*	NS	0.6693	0.6901	0.5778	0.6694**
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6268	0.6661	NS	0.672	0.6776	0.5796	0.6433*

*=p<0.05 **=p<0.01
PSM: + significant/increasing ; - significant/decreasing ;NS not significant

The figure below shows the effects of exposure to OneLove print materials on women's perceived community norms regarding condom use. Though not significant among men, women's exposure to print material produced several noteworthy treatment effects: 9.7 percentage points for perception that condom use in marriage is accepted (top); 9.2 percentage points for the perception that women can ask regular partners to use condoms (center); and 6.4 percentage points for the perception that women can ask casual partners to use condoms (bottom).

Figure 5: Effects of exposure to OneLove print materials on the perception that condom use in marriage is acceptable (top), women can ask regular partners to use condoms (center), and women can ask casual partners to use condoms (bottom), women aged 15-49



Positive effects of exposure to one or more media channels on condom use behaviors are evident among the total population, men, and women. Of specific note, 74.8% of the total population who report having multiple partners in the last year and who were exposed to one media channel used a condom at last sex as compared with 65.3% of unexposed. This is also true among men with multiple partners in the last year. A significantly higher percentage of the total population, and among men, exposed to one media channel report always using a condom with their most recent sexual partner. However, there are no significant effects of exposure to media channels (one or two or more) on condom use with regular or casual partners. Exposed individuals are also more likely to say that condom use in marriage is accepted and that women can ask either a regular or casual partner to use a condom, but again, this association is significant among women and not men. For example, 63.8% of exposed women agree that a woman can ask a regular partner to use a condom as compared with 49.8% of unexposed women (Table 19).

Table 16: Summary of multivariate results for exposure to media channels and condom use

	Total			Male		Female	
	unexposed	exposed	psm	Unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Media Channel (Vs. None)							
Condom use at last sex	0.4753	0.5626*	+	0.5828	0.6601	0.3757	0.4649
Condom use at last sex with regular partner	0.5006	0.5503	NS	0.6143	0.6427	0.3883	0.4535
Condom use at last sex with casual partner	0.7518	0.8360	NS				
Condom use at last sex among those with MP in past year	0.6532	0.7476*	NS	0.6767	0.7808*	0.5806	0.6291
Always uses condom with most recent partner	0.2652	0.3556**	+	0.3361	0.4671**	0.1879	0.2508
Condom use in marriage accepted (%Strongly agree/agree)	0.5551	0.6454*	NS	0.6480	0.6853	0.4792	0.5961*
Women can ask regular partner to use condom (%Strongly agree/agree)	0.5838	0.6648*	NS	0.6577	0.6927	0.4982	0.6384**
Women can ask casual partner to use condom (%Strongly agree/agree)	0.5851	0.6622**	+	0.6592	0.7129	0.5143	0.6039*
Exposure: Exposed to Two or More Media Channels (Vs. None)							
Condom use at last sex	0.4753	0.5550*	NS	0.5828	0.5986	0.3757	0.4968*
Condom use at last sex with regular partner	0.5006	0.5252	NS	0.6143	0.5454	0.3883	0.4820
Condom use at last sex with casual partner	0.7518	0.7902	NS				
Condom use at last sex among those with MP in past year	0.6532	0.6840	NS	0.6767	0.6782	0.5806	0.6399

	Total			Male		Female	
	unexposed	exposed	psm	Unexposed	exposed	unexposed	exposed
Condom use in marriage accepted (%Strongly agree/agree)	0.5551	0.7170**	+	0.6480	0.7604*	0.4792	0.6690**
Women can ask regular partner to use condom (%Strongly agree/agree)	0.5838	0.6951**	+	0.6577	0.6921	0.4982	0.6824**
Women can ask casual partner to use condom (%Strongly agree/agree)	0.5851	0.679**	NS	0.6592	0.6761	0.5143	0.6665**
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

The effect of exposure to two or more media channels is significant and positive on the use of condom at last sex for the total population and for women. There is a positive effect among exposed individuals and the belief that condom use in marriage is accepted; this is true for the total sample and for men and women separately. We again see that exposed respondents agree that women can ask sexual partners to use a condom, but this finding is significant for women and not for men.

4.3.4 HIV COMMUNICATION

This section presents the multivariate results examining whether or not exposure to OneLove communication activities increases the likelihood of interpersonal communication regarding HIV and sexual satisfaction among couples. Multiple forms of media appear to increase communication about HIV among spouses, friends and children. For example, exposure to one radio show is associated with an 8 percentage point increase in discussion of HIV with spouse, children, or friends (80.1% versus 72.6%). A dose-response effect is not apparent; those exposed to two radio shows are only 5.3 percentage points more likely to discuss HIV with a spouse, child or friends – a result that is not statistically significant. When disaggregating the analysis by gender, we see a significant effect of exposure to one radio show among women, but not among men. Exposure to two radio shows is associated with discussion of HIV/AIDS with the respondents' spouses or friends, where no significant effect of one radio show is apparent. These results are confirmed by PSM analysis.

Men exposed to one or more radio shows report less satisfaction with their regular sexual partner, but they report higher agreement that one's sex life improves with partner communication. For example, 95.1% of men exposed to two radio shows agree that sex can improve with communication as compared with 88.7% of unexposed men. There is also a positive treatment effect among men exposed to the

radio drama and their likelihood of discussing HIV/AIDS with their children (35.4% exposed versus 22.8% for unexposed).

Table 17: Summary of multivariate results for exposure to radio shows and drama and other HIV communication

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	Exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6152	0.6599	+	0.5633	0.6012	0.6657	0.7185
Discussed HIV/AIDS with spouse, children, and/or friends	0.7259	0.8006**	+	0.6852	0.7546	0.7687	0.8405*
Sex life improves with communication with partner (%Agree)	0.9219	0.9456	+	0.8868	0.9451*	0.9493	0.9512
Sexually satisfied with regular partner (%Very often/often)	0.9318	0.9183	NS	0.9754	0.9389*	0.8967	0.9018
Exposure: Exposed to Two Radio Shows (Vs. None)							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6152	0.7108*	+	0.5633	0.6812	0.6657	0.7398
Discussed HIV/AIDS with children (%Very often/often)	0.2502	0.3362	+	0.2183	0.3515*	0.2738	0.3253
Discussed HIV/AIDS with friends (%Very often/often)	0.5793	0.6670*	+	0.5700	0.6345	0.5921	0.7004
Discussed HIV/AIDS with spouse, children, and/or friends	0.7259	0.7782	+	0.6852	0.7253	0.7687	0.8226
Sex life improves with communication with partner (%Agree)	0.9219	0.9401	NS	0.8868	0.9508*	0.9493	0.9204
Sexually satisfied with regular partner (%Very often/often)	0.9318	0.9046	NS	0.9754	0.9151**	0.8967	0.9000
Exposure: Exposed to Any Radio Drama (Vs. None)							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6376	0.6697	+	0.5821	0.6506	0.6931	0.6864
Discussed HIV/AIDS with friends (%Very often/often)	0.5972	0.6502	+	0.5884	0.6211	0.6060	0.6796
Discussed HIV/AIDS with children (%Very often/often)	0.2589	0.3058	NS	0.2275	0.3535**	0.2743	0.2734

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Exposure to print materials is also associated with increased discussion about HIV with spouses, children, and friends. Again, men exposed to any print materials are more likely to report discussing HIV with their children (36.0% versus 22.3%). Exposed women report higher levels of discussion about HIV with their spouses than unexposed women (Table 13). All of these associations are not significant in the PSM results.

Table 18: Summary of multivariate results for exposure to print materials and other HIV communication

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	Exposed	unexposed	exposed
Exposure: Exposed to Any Print (Vs. None)							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6253	0.6671*	NS	0.6059	0.5917	0.6433	0.7207
Discussed HIV/AIDS with children (%Very often/often)	0.2629	0.3006	NS	0.2233	0.3597*	0.2867	0.2895
Discussed HIV/AIDS with spouse, children, and/or friends	0.7356	0.7773	NS	0.7096	0.7173	0.7578	0.8197*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

We next discuss the effect of exposure to multiple media channels on HIV communication (Table 14). In general, we see positive effects of exposure on increased discussions about HIV. For example, among men exposed to two or more media channels, the effect is significant on discussing HIV with their children (39.7% versus 20.7%). Among women, there is a significant effect of exposure on discussion with their friends (67.7% exposed to one media channel versus 53.3% unexposed).

Table 19: Summary of multivariate results for exposure to media channels and other HIV communication

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Media Channel (Vs. None)							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6010	0.6613*	+	0.5795	0.6010	0.6252	0.7109
Discussed HIV/AIDS with children (%Very often/often)	0.2463	0.2720	+	0.2073	0.2293	0.2701	0.2990
Discussed HIV/AIDS with friends (%Very often/often)	0.5651	0.6347**	+	0.5906	0.5868	0.5333	0.6772**
Discussed HIV/AIDS with spouse, children, and/or friends	0.7069	0.7770**	+	0.6832	0.7180	0.7258	0.8289**
Exposure: Exposed to Two or More Media Channels							
Discussed HIV/AIDS with spouse (%Very often/often)	0.6010	0.6798**	+	0.5795	0.6279	0.6252	0.7291
Discussed HIV/AIDS with children (%Very often/often)	0.2463	0.3148	+	0.2073	0.3967*	0.2701	0.2923
Discussed HIV/AIDS with friends (%Very often/often)	0.5651	0.6353*	+	0.5906	0.6289	0.5333	0.6391**
Discussed HIV/AIDS with spouse, children, and/or friends	0.7069	0.7974**	+	0.6832	0.7697*	0.7258	0.8260**
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

As summarized above, exposure to OneLove interventions has significant effects on several key HIV communication variables hypothesized to be precursors to behavior change. Some of these effects are found to be consistent across exposure to different media used in the OneLove program. Figure 5 below shows the significant effects of exposure to radio shows, print materials and any media on men's discussion of issues relating to HIV/AIDS with their children.

Figure 6: Effects of exposure to OneLove radio shows (top), print materials (center) and multimedia (bottom) on discussion of HIV/AIDS with children, men aged 15-49

4.3.5 HIV TESTING

The following table presents the summary results for the effects of exposure to radio shows and HIV testing outcomes.

Table 20: Summary of multivariate results for exposure to radio shows and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Ever been tested for HIV	0.6813	0.7670**	+	0.5362	0.6332*	0.8144	0.8917*
HIV test in the last 12 months	0.5038	0.5624*	+	0.3774	0.4530*	0.6137	0.6759
Pregnant woman should test for HIV (%True)	0.9001	0.9227	+	0.8596	0.8497	0.9450	0.9777**
Leaders encourage HIV testing (%Strongly agree/agree)	0.6465	0.7003*	NS	0.6555	0.6969	0.6349	0.6976
Only way to know status is by blood test (%Agree)	0.9659	0.9717	+	0.9551	0.9697	0.9803	0.9766
Lifetime number of HIV tests	2.5055	2.7088	NS	1.7084	2.2806*	3.2339	3.2185
Exposure: Exposed to Two Radio Shows (Vs. None)							
Ever been tested for HIV	0.6813	0.7786**	+	0.5362	0.6585*	0.8144	0.8908*
HIV test in the last 12 months	0.5038	0.5497	+	0.3774	0.4372	0.6137	0.6558
If one spouse positive, the other too (%False)	0.5459	0.5694	+	0.4800	0.5151	0.6101	0.6105
Pregnant woman should test for HIV (%True)	0.9001	0.9116	+	0.8596	0.8553	0.9450	0.9581
Leaders encourage HIV testing (%Strongly agree/agree)	0.6465	0.7160*	+	0.6555	0.7251	0.6349	0.7217
Lifetime number of HIV tests	2.5055	2.9873*	+	1.7084	2.4369*	3.2339	3.5081

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Respondents exposed to OneLove radio are more likely to have ever been tested for HIV, to have had more lifetime tests and to have been tested in the past year than unexposed individuals. For example, relative to those unexposed to OneLove radio, respondents exposed to one radio show are 8.6 percentage points more likely to have ever been tested for HIV (76.7% versus 68.1%), while those exposed to two radio shows are 9.7 percentage points more likely to be tested (77.9% versus 68.1%). Overall, ever testing for HIV is higher among women; nearly 90 percent of women exposed to either one or two radio shows report having ever been tested relative to 81 percent of unexposed women. In the last 12 months, 56.2% of respondents exposed to one radio show had been tested for HIV as compared with 50.4% of unexposed individuals, an effect mirrored amongst men but not women. Exposure to

radio programs is also associated with a higher average number of lifetime tests (2.4 versus 1.7 tests), though women have more lifetime tests on average regardless of exposure (3.2 tests). A higher proportion of exposed individuals (to one and two radio shows) believe that leaders encourage HIV testing in their communities - 71.6% of exposed to two radio shows versus 64.7% for unexposed.

Individuals exposed to the radio drama are also more likely to report ever being tested for HIV, among the total population and among men (Table 21). The difference in the adjusted proportions of individuals who were tested for HIV in the last 12 months for those exposed to the radio drama relative to those not exposed is not significant in the probit models but is positive and significant in the PSM analysis. Over 90% of all respondents agree that it is important to know your HIV status, but respondents exposed to the radio drama are more likely to agree than unexposed individuals. For example, 65.0% of exposed men agree that it is important to know your status as compared with 57.9% of unexposed men.

Table 21: Summary of multivariate results for exposure to radio drama and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Radio Drama (Vs. None)							
Ever been tested for HIV	0.7165	0.7679**	+	0.5788	0.6502*	0.8444	0.8793
HIV test in the last 12 months	0.5312	0.5508	+	0.4099	0.4477	0.6465	0.6453
Pregnant woman should test for HIV (%True)	0.9035	0.9219	+	0.8460	0.8863	0.9572	0.9559
It is important to know your HIV status (%Agree)	0.9497	0.9689	+	0.9301	0.9647*	0.9667	0.9700
Lifetime number of HIV tests	2.5983	2.9559*	+	1.9633	2.3734	3.2193	3.5235

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

OneLove television has little impact on testing behaviors, and women who are exposed to OneLove television are less likely to have discussed the results of their most recent HIV test (68.8% as compared with 83.3% of unexposed women). On the other hand, there is a positive and significant association between exposure to OneLove television and knowing that a pregnant woman should be tested for HIV for the total population and for men and women separately. There is high level of agreement among all

respondents that is important to know your HIV status but the difference between exposed and unexposed is only significant among women; 99.2% of exposed women think it is important to know their HIV status as compared with 96.1% of unexposed women (Table 22).

Table 22: Summary of multivariate results for exposure television and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Television (Vs. None)							
Ever been tested for HIV	0.7270	0.7145	NS	0.4833	0.4414	0.1261	0.1197
HIV test in the last 12 months	0.5357	0.5080	NS	0.1794	0.2007	0.0235	0.0722
Discussed results of most recent HIV test	0.8359	0.787	NS	0.8403	0.8769	0.8334	0.6884*
If one spouse positive, the other too (%False)	0.5313	0.5668	+	0.4900	0.4762	0.5725	0.6533
Pregnant woman should test for HIV (%True)	0.9003	0.9508**	NS	0.8406	0.9057	0.9582	0.9913*
It is important to know your HIV status (%Agree)	0.9454	0.9722	+	0.9265	0.9327	0.9608	0.9923**

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

There is a positive effect of exposure to print materials on HIV testing -both ever being tested and being tested in the last 12 months - for the total population and among women (Table 23). The effect size is largest - almost twelve percentage points – for HIV testing in the past 12 months among women. Exposed individuals agree more than unexposed individuals that leaders in their community encourage HIV testing (70.0% versus 65.6%).

Table 23: Summary of multivariate results for exposure to print materials and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Print Materials (Vs. None)							
Ever been tested for HIV	0.6942	0.7654**	+	0.5671	0.6249	0.8193	0.8828**
HIV test in the last 12 months	0.4866	0.5813**	+	0.3958	0.4450	0.5745	0.6942**
Received results of most recent HIV test	0.9535	0.9770*	NS	0.9562	0.9655	0.9479	0.9791**
Leaders encourage HIV testing (%Strongly agree/agree)	0.6561	0.6997*	NS	0.6657	0.6966	0.6535	0.6936

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Table 24 presents the significant associations between exposure to one or more media channels and HIV testing. Positive treatment effects are observed in both probit and PSM models. For example, 73.8% of respondents exposed to one media channel report having been tested for HIV as compared with 65.4% of unexposed respondents. This percentage is higher even for exposure to two or more media channels (78.8%). Here again, we see significant effects as compared to the unexposed category, but also a dose-response effect, given that the magnitude of the effect of exposure from one media channel to two media channels is also statistically significant (p=0.0429). Exposure to one media channel also has an effect on HIV testing in the last 12 months for the total population and for men. Among the total population, we observe a dose-response effect when comparing the magnitude of effects of one channel versus two (p=0.0413) (See Figure 7 below). Exposure to two or more channels is also statistically significant among women (71.2% versus 57.2%). In addition, women who have been exposed to one media channel are more likely to have discussed the result of their most recent HIV test with someone. Finally, respondents exposed to two or more media channels are more likely to agree that leaders in their community encourage HIV testing (71.3% versus 64.5%).

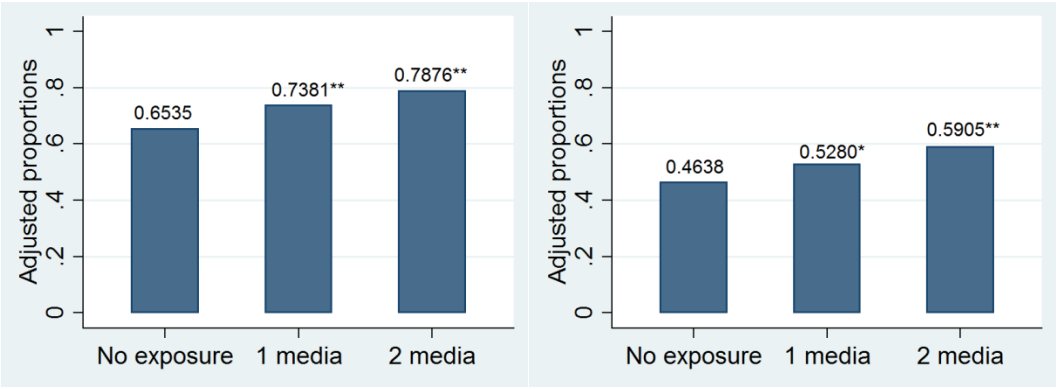
Table 24: Summary of multivariate results for exposure to media channels and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Media Channel							
Ever been tested for HIV	0.6535	0.7381**	+	0.5207	0.6243*	0.7773	0.8535*
HIV test in the last 12 months	0.4638	0.5281*	NS	0.3572	0.4359*	0.5718	0.6044
Discussed results of most recent HIV test	0.8104	0.8249	NS	0.8670	0.7946	0.7565	0.8522*
Leaders encourage HIV testing (%Strongly agree/agree)	0.6449	0.6712	NS	0.6514	0.7055	0.6404	0.6520
Lifetime number of HIV tests	2.3706	2.6867*	+	1.618	2.1936**	3.1797	3.1462
Exposure: Exposed to Two or More Media Channels							
Ever been tested for HIV	0.6535	0.7876**	+	0.5207	0.6432**	0.7773	0.9015**
HIV test in the last 12 months	0.4638	0.5905**	+	0.3572	0.4567	0.5718	0.7117**
Discussed results of most recent HIV test	0.8104	0.8468	+	0.8670	0.8733	0.7565	0.8306
If one spouse positive, the other too (%False)	0.5295	0.5546	+	0.4712	0.5218	0.5944	0.5989
Leaders encourage HIV testing (%Strongly agree/agree)	0.6449	0.7130*	+	0.6514	0.6943	0.6404	0.7129
Lifetime number of HIV tests	2.3706	2.8972*	+	1.618	2.3842**	3.1797	3.4441

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Figure 7: Effects of exposure to OneLove through one and two media channels on ever receiving an HIV test (left) and on receiving an HIV test in the past 12 months (right), total population aged 15-49.



4.3.6 HIV TREATMENT

This section discusses the results of exposure to the programs on outcomes related to HIV treatment. The first table focuses on exposure to radio shows and the radio drama (Table 25). In this case, we find that individuals exposed to the radio show are more likely to report having cared for someone on ART. It is also true that exposed individuals who have either been pregnant or their partners have been pregnant report higher participation in PMTCT programs. This is also significant among women, among whom 30.0% report participation in such a program as compared with 21.1% of unexposed women. We also observe that 76.5% of women exposed to two or more radio shows know that ARVs prevent mother-to-child transmission during breastfeeding as compared with 67.9% of unexposed women. Women exposed to the radio drama are also more likely to know that ARVs prevent mother-to-child transmission during pregnancy. Though not significant using multivariate probit regression, PSM results show a consistent effect of exposure to one radio show, two radio shows, and the radio drama on the perception that leaders encourage HIV treatment.

Table 25: Summary of multivariate results for exposure to radio shows and radio drama and HIV treatment

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Cared for someone on ART	0.2118	0.2499*	+	0.1689	0.1837	0.2584	0.3094
Willing to care for someone on ART	0.8124	0.8146	+	0.7753	0.7782	0.8431	0.8496
PLHIV on ART can transmit HIV (%True)	0.7042	0.7471	+	0.7251	0.7638	0.6917	0.7227
ARVs prevent MCT during childbirth	0.5814	0.5780	-	0.4716	0.4498	0.6813	0.6979
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6522	0.6896	+	0.6637	0.7056	0.6367	0.6725
Ever participated in PMTCT program (among ever pregnant)	0.1560	0.2161*	+	0.0873	0.1038	0.2111	0.2999*
Exposure: Exposed to Two Radio Shows (Vs. None)							
Cared for someone on ART	0.2118	0.2530	+	0.1689	0.2035	0.2584	0.2954
Willing to care for someone on ART	0.8124	0.7846	+	0.7753	0.7734	0.8431	0.8010
PLHIV on ART can transmit HIV (%True)	0.7042	0.7274	+	0.7251	0.8033	0.6917	0.6573
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6522	0.6990	+	0.6637	0.7073	0.6367	0.7038
Ever participated in PMTCT program (among ever pregnant)	0.1560	0.1952	+	0.0873	0.1078	0.2111	0.2514
ARVs prevent MCT during breastfeeding	0.5568	0.5901	+	0.4227	0.4064	0.6787	0.7654*
Exposure: Exposed to Any Radio Drama (Vs. None)							
Cared for someone on ART	0.2268	0.2526	+	0.1739	0.2051	0.2790	0.2939

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6668	0.6838	+	0.6777	0.6921	0.6536	0.6843
ARVs prevent MCT during pregnancy	0.6519	0.6710	NS	0.5053	0.4815	0.7907	0.8589**
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

Exposure to television appears to have gender-specific effects on several indicators related to treatment (Table 26). For example, 81.7% of women exposed to OneLove television programming know that someone who is HIV positive and on ARTs can still transmit HIV as compared with 67.8% for unexposed women. This difference is not significant in the total population or among men. But men exposed to the television programs are more likely to know that PLHIV still need to use condoms than unexposed men. A negative effect of exposure on knowledge that ARVs prevent MCT during breastfeeding is also observed, but this is only significant among women; 62.7% of exposed women report knowing this as compared with 73.5% of unexposed women.

Table 26: **Summary of multivariate results for exposure to any television and HIV treatment**

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Television (Vs. None)							
PLHIV on ART can transmit HIV (%True)	0.7131	0.7622	NS	0.7493	0.7294	0.6775	0.8173**
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.8478	0.8680	+	0.8177	0.8965*	0.8772	0.8517
ARVs prevent MCT during childbirth	0.5829	0.5847	+	0.4554	0.4733	0.7072	0.6728
ARVs prevent MCT during breastfeeding	0.5855	0.5384	NS	0.4322	0.4265	0.7346	0.6271*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

A higher proportion of individuals exposed to print materials are willing to care for someone on ART. This effect is also seen among women; 86.9% of exposed women are willing to care for someone on ART as compared with 80.6% of unexposed women. Men exposed to print materials are more likely to know that PLHIV can still transmit HIV and should use condoms than unexposed men. This difference is not significant for the total population or for women in the probit models but is significant for the total population in the PSM results (Table 27).

Table 27: Summary of multivariate results for exposure to any print materials and HIV treatment

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Print Materials(Vs. None)							
Willing to care for someone on ART	0.7852	0.8321*	+	0.7635	0.7722	0.8063	0.8692
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.8355	0.8686	+	0.8027	0.8709*	0.8681	0.8812
Ever participated in PMTCT program (among ever pregnant)	0.1865	0.179	+	0.0719	0.1161	0.2731	0.2383

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

The following table presents the results of exposure to one or more media channels. Women exposed to one media channel are more likely to care for someone on ART than unexposed women (86.1% versus 78.3%). There is a higher level of knowledge that PLHIV on ART can still transmit HIV among the total population who have been exposed to one media channel. However, men exposed to one media channel are less likely to know that ARTs prevent MCT during childbirth, 41.4% versus 50.3%. But exposed men are more likely to report that their pregnant partners participated in PMTCT; this is also true for men who have been exposed to two or more media channels. This is not significant for the total population or for women. We also see that a quarter of the total respondents exposed to two or more media channels have cared for someone on ART.

Table 28: Summary of multivariate results for exposure to media channels and HIV treatment

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Media Channel							
Willing to care for someone on ART	0.7791	0.8243	+	0.7629	0.7938	0.7830	0.8606*
PLHIV on ART can transmit HIV (%True)	0.6732	0.7478*	+	0.7080	0.7716	0.6336	0.7268
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6457	0.6722	+	0.6657	0.7018	0.6312	0.6513
ARVs prevent MCT during childbirth	0.6062	0.5557	NS	0.5029	0.4137*	0.7011	0.6882
Ever participated in PMTCT program (among ever pregnant)	0.1641	0.1958	+	0.0567	0.1027*	0.2380	0.2643
Exposure: Exposed to Two or More Media Channels							
Cared for someone on ART	0.2068	0.2536*	+	0.1586	0.2067	0.2665	0.2986
Willing to care for someone on ART	0.7791	0.8238	+	0.7629	0.7703	0.7830	0.8578
PLHIV on ART can transmit HIV (%True)	0.6732	0.7412	+	0.7080	0.7867	0.6336	0.7043
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6457	0.7000	+	0.6657	0.6944	0.6312	0.6900
Ever participated in PMTCT program (among ever pregnant)	0.1641	0.1922	+	0.0567	0.1192*	0.2380	0.2543

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

4.3.7 HIV STIGMA

There is limited evidence of impacts of exposure to OneLove activities on HIV-related stigma, particularly for television, for which no statistically significant associations are evident with any of the HIV stigma indicators. There is greater likelihood of disagreement with the statement that life is over if you are HIV+ for those exposed to two radio shows (87.5% versus 82.8%) and for men exposed to the radio drama (80.9% versus 75.6%). Relative to unexposed women, exposed women are more likely to agree that people in the community join together to help PLHIV (52.2% 43.3%). We also observe that a lower percentage of men exposed to two radio shows agree that you should keep it a secret if a family member has HIV (63.5% versus 77.0%). There is no evidence of an impact of exposure on the statement that *HIV is punishment for sinning*. We observe that women exposed to one radio show are less likely to disagree that telling people you are HIV+ doesn't help (Table 29).

Table 29: Summary of multivariate results for exposure to radio show and radio drama and HIV stigma

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Telling people you are HIV+ doesn't help (%Disagree)	0.6769	0.6046	NS	0.6609	0.6456	0.6839	0.5786*
People in the community join together to help PLHIV (%Strongly agree/agree)	0.4655	0.5169	NS	0.5072	0.5058	0.4332	0.5217*
HIV is punishment for sinning (%Disagree)	0.6566	0.6480	-	0.5949	0.5426	0.7205	0.7390
Exposure: Exposed to Two Radio Shows (Vs. None)							
When learn that you are HIV+, life is over (%Disagree)	0.8281	0.8749*	+	0.7487	0.8219*	0.9035	0.9288
Telling people you are HIV+ doesn't help (%Disagree)	0.6769	0.6102*	NS	0.6609	0.6784	0.6839	0.5477**
Keep secret if family member has HIV (%Strongly agree/agree)	0.7625	0.7106	NS	0.7704	0.6348**	0.7530	0.7770
People in the community join together to help PLHIV (%Strongly agree/agree)	0.4655	0.5363	+	0.5072	0.5315	0.4332	0.5344
Exposure: Exposed to Radio Drama (Vs. None)							
HIV is punishment for sinning (%Disagree)	0.6537	0.6806	+	0.5751	0.5923	0.7296	0.7595
When learn that you are HIV+, life is over (%Disagree)	0.8314	0.8619	NS	0.7557	0.8092*	0.9009	0.9176

*=p<0.05 **=p<0.01
PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Exposure to print materials is only significantly associated with one outcome and only among women, where 63.6% of exposed women disagree that it doesn't help to tell people that you are HIV positive as compared with 57.8% of unexposed women (Table 30).

Table 30: Summary of multivariate results for exposure any print materials and HIV stigma

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any Print Materials(Vs. None)							
Telling people you are HIV+ doesn't help (%Disagree)	0.6106	0.6574	+	0.6347	0.6888	0.5778	0.6364*
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

4.3.8 FORCED SEX AND PHYSICAL VIOLENCE

The overall prevalence of experiencing forced sex and personal physical violence is low in Lesotho (Table 31). Only 2.6% of the population report forced sex in the last 12 months; this is percentage is slightly higher among young women (4.7%). Of those who report forced sex, 40.5% reported the event: (?of these)88.4% reported it to a family, friend or neighbor, and 17.4% reported it to the authorities. Respondents were asked if "In the past 12 months, were you hit, slapped, kicked or otherwise physically hurt by a partner, friend or family member?" The percentage of respondents who experienced physical violence in the last 12 months is 6.8% with a slightly higher percentage of young women reporting physical violence in the last 12 months (7.4%). Almost 80% of respondents who experienced physical violence reported it to anyone, with a higher percentage of respondents reporting it to family, friends, or neighbors (82.5%) than to the police or other authorities (26.4%)[15].

[15] Please note that the small sample sizes for some of these indicators means they are not included in the multivariate analysis.

Table 31: Percentage of respondents who report forced sex and physical violence

	Percentage	N
Forced sex in the last 12 months	2.6%	4023
Females	3.0%	1992
Females 15-24	4.7%	821
Reported forced sex	40.5%	103
Reported forced sex to family, friends, neighbor	88.4%	50
Reported forced sex to authority	17.4%	50
Physical violence in last 12 months	6.8%	4025
Females	6.0%	1992
Females 15-24	7.4%	821
Reported physical violence	79.3%	316
Reported physical violence to family, friends, neighbor	82.5%	248
Reported physical violence to authority	26.4%	248

Exposure to OneLove media presents a conundrum for measuring impacts on gender-based violence outcomes. By raising consciousness of the harmful effects of such violence, exposure to media can increase the reported prevalence by increasing the likelihood that respondents will recognize acknowledge that violence has occurred. In addition violence is imposed by someone else, nto the person who is being measured.That could be the case with exposure to OneLove media. For example, women exposed to one radio show are more likely to report experiencing physical violence in the last 12 months (8.2% versus 4.8%). This is also true for the whole population, men, and women exposed to any print material. We also observe that individuals exposed to any print materials are more likely to report forced sex in the last 12 months. The reported prevalence of forced sex is in fact twice as high among exposed women (3.8%) as among unexposed women (1.6%). This pattern persists for exposure to one media channels and for two or more media channels. Higher reports of forced sex and physical violence are evident among the total population and among women exposed to these media channels. For example, 6.4% of women exposed to one media channel report violence as compared with 2.3% of unexposed women. This increases to 7.5% with exposure to two or more media channels.

Table 32: Summary of multivariate results for various exposures and GBV

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to One Radio Show (Vs. None)							
Leaders speak out against GBV (%Strongly agree/agree)	0.6272	0.6623	+	0.6141	0.6650	0.6439	0.6529
Physical violence in the last 12 months	0.0648	0.0845	NS	0.0848	0.0829	0.0476	0.0821*
Reported physical violence to authorities	0.3331	0.1919*	NS				
Exposure: Exposed to Radio Drama							
Reported physical violence	0.7829	0.8717	NS	0.7670	0.9814**	0.7569	0.7983
Exposure: Exposed to Any Television (Vs. None)							
Leaders speak out against GBV (%Strongly agree/agree)	0.6460	0.6462	+	0.6375	0.6252	0.6544	0.6635
Reported physical violence	0.8028	0.6693	NS	0.8022	0.9106	0.7937	0.5088*
Exposure: Exposed to Any Print Materials(Vs. None)							
Forced Sex in the last 12 months	0.0179	0.0340*	NS	0.0170	0.0330	0.0161	0.0378*
Physical violence in the last 12 months	0.0511	0.0856**	NS	0.0619	0.1038*	0.0411	0.0689*
Reported physical violence to family, friends, neighbors	0.8774	0.7638*	NS				
Exposure: Exposed to One Media Channel							
Forced Sex in the last 12 months	0.0153	0.0297	NS	0.0170	0.0309	0.0082	0.0296*
Physical violence in the last 12 months	0.0449	0.0726*	NS	0.0670	0.0818	0.0229	0.0639**
Reported physical violence	0.7667	0.8147	NS	0.6950	0.8768*	0.7515	0.7621
Exposure: Exposed to Two or More Media Channels							
Forced sex in the last 12 months	0.0153	0.0332	NS	0.0170	0.0239	0.0082	0.0422**
Leaders speak out against GBV (%Strongly agree/agree)	0.6258	0.6762	NS	0.6150	0.6779	0.6481	0.6695
Physical violence in the last 12 months	0.0449	0.0883**	+	0.0670	0.0945	0.0229	0.0754**
Reported physical violence to family, friends, neighbors	0.8855	0.7285*					

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

4.4 RESULTS FOR VULNERABLE POPULATIONS

The following sections present the results of the multivariate analysis for vulnerable populations, starting with the results for women between the ages of 15 and 24 years, followed by those for populations living in border areas. In this section, results are presented by exposure measure: exposure to radio shows, radio drama, television, print materials, and multiple channels.

4.4.1 YOUNG WOMEN AGED 15-24

4.4.1.1 EXPOSURE TO RADIO SHOWS

Women exposed to one radio show are less likely to report currently having more than one partner (Table 33). Exposed young women are also significantly less likely to report having a partner in the past 12 months with a 10 or more year age difference (5.7% versus 12.6% among unexposed), or a regular partner with a large age difference (5.8% versus 12.5% among unexposed). These patterns are not present with exposure to two radio shows. However, women exposed to two radio shows are less likely to suspect that their spouse has another sexual partner (6.7% versus 19.6%). There are also no significant effects of radio exposure on other indicators of multiple partnerships.

A dose-response effect is evident for exposure to radio shows on the likelihood of knowing that the risk of HIV decreases for a circumcised man - 36.3% for women exposed to one show and 39.4% for women exposed to two radio shows relative to 23.1% of unexposed women.

There is also a positive treatment effect on condom use behaviors among young women. For example, over half of the women exposed to one radio show used a condom at last sex (as compared with 36.4% of unexposed women), and this percentage rises to 59.3% for women exposed to two radio shows. Exposed women are also more likely to report using a condom with their most recent partner. While exposed women are more likely to report condom at last sex with a regular partner for both types of exposure, these differences are not significant.

Exposure to the radio shows is also associated with disagreement that HIV is a punishment for sinning. This association increases over the three exposure categories (64.3% for unexposed, 76.1% for those exposed to one radio show, and 80.8% among those exposed to two radio shows.)

Table 33: Summary of multivariate results for exposure to radio shows: Women 15-24

	Unexposed	Exposed
Exposure to One Radio Show		
Multiple Partners		
Multiple partners in the last 12 months	0.1116	0.1502
Reports currently having more than one partner	0.0459	0.0152**
10+ age difference between resp. and any partner	0.1265	0.0571*
10+ age difference between resp. and regular partner	0.1254	0.0582*
Other HIV Risk Factors		
Risk of contracting HIV decreases for a circumcised man	0.2309	0.3628*

	Unexposed	Exposed
Condom Use		
Condom use at last sex	0.3640	0.5429*
Condom use at last sex, regular partner	0.3661	0.5266
Always uses condom with most recent partner	0.1489	0.269*
HIV Testing		
Ever been tested for HIV	0.7355	0.8254
HIV test in the last 12 months	0.5730	0.7087*
HIV Stigma		
HIV is punishment for sinning (%Disagree)	0.6432	0.7607*
GBV		
Physical violence in the last 12 months	0.0509	0.1131*
Exposure to Two Radio Shows		
Multiple Partners		
Multiple partners (past 12 months)	0.1116	0.1351
Husband has other sexual partner (%yes/suspect)	0.1956	0.0670**
Age at first sex	17.0965	17.7401*
Other HIV Risk Factors		
Likely to be infected now (%High/Med)	0.1299	0.0503*
Risk of contracting HIV decreases for a circumcised man	0.2309	0.3942*
Condom Use		
Condom use at last sex	0.3640	0.5925*
Condom use at last sex, regular partner	0.3661	0.5187
HIV Testing		
Ever been tested for HIV	0.7355	0.8421
HIV test in the last 12 months	0.5730	0.7424
HIV Treatment		
Willing to care for someone on ART	0.8299	0.6672**
ARVs prevent MCT during breastfeeding	0.6149	0.7474*
HIV Stigma		
HIV is punishment for sinning (%Disagree)	0.6432	0.8083*
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

Women exposed to one radio show are more likely to have been tested for HIV in the last 12 months, but no such effect is apparent for exposure to two radio shows. As discussed previously, exposure to the program seems to increase the percentage of women who report experiencing violence; 11.3% of exposed women report experiencing physical violence in the last 12 months as compared with 5.1% of

unexposed women. We also observe that a lower proportion of women exposed to two radio shows are willing to care for someone on ART.

4.4.1.2 EXPOSURE TO RADIO DRAMA

Table 34 shows the results of the effect of exposure to the radio drama for women between the ages of 15 and 24. We observe that respondents in this subpopulation exposed to the radio drama are less likely to report that their husbands have, or suspect they have, another sexual partner (6.6% versus 16. 6%). Additionally, the women exposed to the radio drama are more likely to report being older at first sex (17.6 years versus 17.1 years). Exposed women are less likely to suspect that they are infected with HIV (6.4% versus 13.8%) and are more likely to report being sexually dissatisfied with their regular partner (29.5% versus 14.3%).

Table 34: Summary of multivariate results for exposure to radio drama: Women 15-24

	Unexposed	Exposed
Multiple Partners		
Multiple partners in the last 12 months	0.1341	0.1431
Husband has other sexual partner (%yes/suspect)	0.1656	0.0659**
Age at first sex	17.1038	17.56**
Other HIV Risk Factors		
Likely to be infected now (%High/Med)	0.1381	0.0638*
HIV Communication		
Sexually dissatisfied with regular partner (%Very often/often)	0.1427	0.2945*
Condom Use		
Condom use at last sex	0.4425	0.6206*
Condom use at last sex, regular partner	0.4323	0.5644
HIV Testing		
Ever been tested for HIV	0.7685	0.8321
HIV test in the last 12 months	0.6371	0.6881
HIV Treatment		
Willing to care for someone on ART	0.8195	0.6789**
ARVs prevent MCT during breastfeeding	0.6263	0.7518*
People on ART have to stay on treatment for rest of lives	0.7108	0.8282*
Ever participated in PMTCT program (among ever pregnant)	0.2541	0.1633*
HIV Stigma		
Only promiscuous people get HIV (%Disagree)	0.7970	0.8868*
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

We observe encouraging associations between condom use and exposure to radio dramas among young women. Women exposed to the drama are more likely to report that they used a condom at last sex (62.1% versus 44.3%). This association, however, is not significant with condom use at last sex with a regular partner.

Women exposed to the dramas also appear to have greater knowledge of HIV treatment than unexposed women. For example, exposed women are more likely to know that people on ART must stay on treatment for the rest of their lives (82.8% versus 71.1%). Further, 75.2% of young female respondents answered yes to the question of whether ARVs prevent MCT during breastfeeding, as opposed to just 62.6% in the unexposed population. Unexposed and exposed women appear to have different experiences with HIV treatment. When it comes to willingness to care for someone on ART, 82.0% of young women who were not exposed to radio dramas report that they would be willing to care for such a person, approximately 14 percentage points higher than exposed women. Additionally, unexposed women are more likely to report that they had ever participated in a PMTCT program (25.4% versus 16.3%).

The radio drama also appears to have significant effects on HIV stigma among this population group; 88.7% of exposed women disagree with the statement that only promiscuous people get HIV, whereas only 79.7% of unexposed women disagree. No significant effects are observed on several key program outcomes: multiple partners in the past 12 months, condom use at last sex with a regular partner, and HIV testing behaviors.

4.4.1.3 EXPOSURE TO PRINT MATERIALS

Table 35 shows the statistically significant associations between exposure to print materials and specific health outcomes among young women. Exposure to print materials appears to improve communication related to HIV. For example, 59.8% of women exposed to OneLove print materials have discussed HIV/AIDS with friends as compared with 48.2% of unexposed women. Young women exposed to any OL print materials are more likely to agree that women can ask their regular partner to use a condom (61.2% versus 51.4%). Additionally, a slightly greater percentage of exposed women (95.5%) agree that one's sex life improves with communication with their partner than those who were not exposed (91.5%).

Exposure to OneLove print also affects perceptions and norms. Over 95% of women exposed to print materials disagree with the statement that *Men with many women are real men* as compared with

89.7% of unexposed women. Similarly, exposed women are significantly more likely to disagree that *telling people you are HIV positive doesn't help* (67.18% versus 55.35%). On the other hand, women exposed to OneLove print materials are less likely to believe that most married men are faithful to their wives (14.4% versus 22.9%).

Regarding HIV testing, 70.8% of the exposed report being tested for HIV in the last 12 months, approximately 14 percentage points higher than the unexposed. The proportion of those who had received their HIV test results was generally high; however, a slightly greater proportion of those who were exposed had received these results (97.2%) than the unexposed (92.1%). There are no significant effects on whether a respondent has ever been tested for HIV.

As noted above, reporting of gender-based violence is positively associated with exposure to print materials. Just under 6% of exposed young women report being forced to have sex in the last 12 months as compared with 2.7% of the unexposed. Similarly, 9.0% of exposed respondents report physical violence in the last 12 months as compared with 4.6% of unexposed respondents.

Table 35: Summary of multivariate results for exposure to print: women 15-24

	Unexposed	Exposed
Multiple Partners		
Multiple partners in the last 12 months	0.1648	0.1271
Most married men faithful to wives (%Agree)	0.2292	0.1440**
Men with many women are real men (%Disagree)	0.9559	0.8969*
HIV Communication		
Discussed HIV/AIDS with friends (%Very often/often)	0.4819	0.5980*
Sex life improves with communication with partner (%Agree)	0.9146	0.9552*
Condom Use		
Condom use at last sex	0.4177	0.4940
Condom use at last sex, regular partner	0.4156	0.4678
Women can ask regular partner to use condom (% Strongly agree/agree)	0.5140	0.6115*
HIV Testing		
Ever been tested for HIV	0.7470	0.7694
HIV test in the last 12 months	0.5658	0.7083**
Received results of most recent HIV test	0.9205	0.9724**
HIV Stigma		
Telling people you are HIV+ doesn't help (%Disagree)	0.5535	0.6718*
GBV		
Forced Sex in the last 12 months	0.0272	0.0588*

	Unexposed	Exposed
Physical violence in the last 12 months	0.0457	0.0904*
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

4.4.1.4 EXPOSURE TO TELEVISION

Few significant associations are found for exposure to television among young women aged 15-24 (Table 36). Regarding multiple partners, we observe that exposed respondents are much less likely to report that their husband has, or is suspected to have, another sexual partner (4.4% versus 14.9%) but there is no significant difference in the reporting of having multiple partners in the last 12 months. Additionally, those who were exposed to any of these TV programs are more likely to have given gifts (7.1% versus 28.6%) for sex to a recent partner. In terms of risk perception, 52.8% of those exposed are worried about becoming HIV infected as compared with 32.8% in the unexposed population. We observe no significant effects of television exposure on key indicators such as condom use at last sex with a regular partner or on HIV testing behaviors.

Table 36: Summary of multivariate results for exposure to television: women 15-24

	Unexposed	Exposed
Multiple Partners		
Multiple partners in last month	0.1415	0.1232
Husband has other sexual partner (%yes/suspect)	0.1491	0.0435**
Gave gifts for sex to any partner	0.0715	0.2864**
Condom Use		
Condom use at last sex, regular partner	0.4518	0.4331
HIV Testing		
Ever been tested for HIV	0.7873	0.7528
HIV test in the last 12 months	0.6557	0.6726
Other HIV Risk Factors		
Worried about becoming HIV infected (%Worried)	0.3279	0.5281**
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

4.4.1.6 EXPOSURE TO MEDIA CHANNELS

The following section looks at the results for exposure to multiple media channels and health outcomes for young women (Tables 37 and 38). Of particular importance are the dose-response effects of

increased exposure on condom use outcomes, including condom use at last sex, condom use at last sex with regular partner, most recent partner, and consistent condom use with the most recent partner. The effect sizes of exposure to OneLove multimedia are considerably larger than those reported in the general population. For example, exposure to OneLove media increases the likelihood of using a condom at last sex by 19.7 percentage points for those exposed to one media channel (49.2% versus 29.6%) and by 24.0 percentage points for those exposed to two media channels (53.6% versus 29.6%). This result holds as well for condom use with regular partners – a 16.8 percentage point effect for exposure to one media channel (47.5%) and a 19.7 percentage point effect for exposure to two media channels (50.4%) relative to the unexposed (30.3%). Related to this, a higher percentage of exposed women say that a woman can ask a regular partner to use a condom given both exposure to one media channel (58.9% compared with 47.7%) and two media channels (60.9% versus 47.7%).

Table 37: Summary of multivariate results for exposure to one media channel: women 15-24

	Unexposed	Exposed
Multiple Partners		
Multiple partners in the last 12 months	0.1058	0.1421
Husband has other wife (%yes/suspect)	0.1327	0.0595**
Multiple sexual partners increase HIV risk (%True)	0.9475	0.9898**
Other HIV Risk Factors		
Worried about becoming HIV infected (%Worried)	0.2441	0.4002*
HIV Communication		
Discussed HIV/AIDS with friends (%Very often/often)	0.3948	0.5900**
Sexually satisfied with regular partner (%Very often/often)	0.8136	0.9509**
Condom Use		
Condom use at last sex	0.2959	0.4924**
Condom use at last sex with regular partner	0.3063	0.4745*
Always uses condom with most recent partner	0.1246	0.2539*
Women can ask regular partner to use condom (%Strongly agree/agree)	0.4672	0.5889*
HIV Testing		
Ever been tested for HIV	0.7685	0.8321
HIV test in the last 12 months	0.6371	0.6881
HIV Treatment		
People on ART have to stay on treatment for rest of lives	0.8071	0.6628**
HIV Stigma		
Telling people you are HIV+ doesn't help (%Disagree)	0.5207	0.6920**
GBV		

	Unexposed	Exposed
Physical violence in the last 12 months	0.0222	0.0789**
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

Positive effects of exposure to one media channel are also observed on two multiple partner intermediate outcomes but not on actual partnerships. For example, a lower percentage of women exposed to the program say that their husbands have, or they suspect they have, another wife (6.0% versus 13.3%). Exposed women are also more likely to know that having multiple sexual partners can increase the risk of HIV, and a higher percentage of exposed women (40.0%) are worried about becoming infected with HIV than unexposed women (24.4%).

Women exposed to one media channel are more likely to say that they discuss HIV/AIDS with friends often; this is also true for women exposed to two or more media channels (61.9% versus 39.5%). They are also more likely to be sexually satisfied with their sexual partner. The one negative association observed is between exposure and knowing that people on ART have to stay on treatment for the rest of their lives.

Table 38: Summary of multivariate results for exposure to two or more media channels: women 15-24

	Unexposed	Exposed
Multiple Partners		
Multiple partners in the last 12 months	0.1058	0.1302
Men with many women are real men (%Disagree)	0.9545	0.8822*
Leaders discourage men from having younger partners (%Very often/sometimes)	0.2353	0.3723*
Other HIV Risk Factors		
Risk of contracting HIV decreases for a circumcised man	0.2020	0.3797**
HIV Communication		
Discussed HIV/AIDS with friends (%Very often/often)	0.3948	0.6193**
Condom Use		
Condom use at last sex	0.2959	0.5356**
Condom use at last sex with regular partner	0.3063	0.5029*
Always uses condom with most recent partner	0.1246	0.2650*
Women can ask regular partner to use condom (%Strongly agree/agree)	0.4672	0.6091*
HIV Testing		
Ever been tested for HIV	0.7135	0.8458*
HIV test in the last 12 months	0.5357	0.7663**
HIV Stigma		

	Unexposed	Exposed
Only promiscuous people get HIV (%Disagree)	0.7513	0.8629*
GBV		
Physical violence in the last 12 months	0.0222	0.1060**
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

We see that women exposed to two or more media channels are more likely to ever have been tested for HIV and to have been tested in the past 12 months (76.6% versus 53.6%). However, there is no effect on HIV testing behaviors with exposure to one media channel. A higher percentage of women exposed to two or more media channels disagree with the belief that only promiscuous people get HIV. Once again, we see that a significantly higher proportion of women exposed to the program have experienced physical gender-based violence in the last 12 months.

4.4.2 BORDER AREAS

4.4.2.1 EXPOSURE TO RADIO SHOWS

This first section looks at the effect of radio exposure on various health outcomes among respondents who reside in border areas (Table 39). There are no significant effects of exposure to one radio show on multiple partner indicators among border area residents. Respondents exposed to one radio show are more likely to say that leaders in their communities speak about the increased risk of HIV of having multiple sexual partners. This effect is also observed with two radio shows. The percentage of respondents agreeing with this statement increases from 49.8% among unexposed, to 61.8% among those exposed to one radio show, and to 70.6% among those exposed to two. Exposed individuals also report a lower average number of sexual partners -5.3 for exposed respondents as compared with 7.5 for the unexposed. There is also a positive treatment effect of exposure to one radio show on discussing HIV with one's children. However, no treatment effects are observed on condom use and HIV testing behaviors and exposure to one radio show.

Table 39: Summary of multivariate results for exposure radio shows: border areas

	unexposed	exposed
One Radio Show		
Multiple Partners		

	unexposed	exposed
Multiple partners in last 12 months	0.2691	0.2855
Multiple partners last month	0.0809	0.1049
Reports currently having more than one partner	0.1447	0.1204
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.4981	0.6187*
Number of lifetime partners	7.5457	5.3062*
HIV Communication		
Discussed HIV/AIDS with Children (%Very often/often)	0.1531	0.4312**
Condom Use		
Condom use at last sex with regular partner	0.4666	0.5837
Condom use at last sex among those with MP in past year	0.7324	0.6669
HIV Testing		
Ever been tested for HIV	0.7144	0.7447
HIV test in the last 12 months	0.4503	0.5619
Leaders encourage HIV testing (%Strongly agree/agree)	0.5106	0.6161*
Two Radio Shows		
Multiple Partners		
Multiple partners in last 12 months	0.2691	0.4130*
Multiple partners last month	0.0809	0.1272
Reports currently having more than one partner	0.1447	0.2522*
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.4981	0.7056**
Leaders discourage men from having younger partners (%Very often/sometimes)	0.2529	0.4553**
10+ age difference between resp. and regular partner	0.1121	0.2418*
Number of lifetime partners	7.5457	4.4968*
Other HIV Risk Factors		
TB can't be cured if HIV+ (%False)	0.6349	0.4507*
HIV Communication		
Discussed HIV/AIDS with Children (%Very often/often)	0.1531	0.3997*
Condom Use		
Condom use at last sex	0.4885	0.7005**
Condom use at last sex with regular partner	0.4666	0.6810**
HIV Testing		
Ever been tested for HIV	0.7144	0.7590
HIV test in the last 12 months	0.4503	0.6248
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

There is an association between exposure to two radio shows and multiple partnerships that runs counter to the hypothesized direction. For example, 41.3% of exposed individuals report having multiple

partners in the past 12 months as compared with 26.9% of unexposed individuals. Additionally, a higher percentage of respondents exposed to two radio shows report currently having more than one sexual partner. The difference for having multiple partners in the last month is not significant.

Although a larger percentage of respondents who are exposed to two radio shows report that community leaders discourage men from having younger partners (45.5% of exposed respondents compared with 25.3% of unexposed respondents), a larger percentage of respondents who were exposed were also more likely to report a 10 or more year age gap with their most recent regular partner (11.2% among unexposed versus 24.2% among exposed).

Exposure to two radio shows has a positive effect on condom use behaviors. For example, 70.1% of exposed individuals report condom use at last sex as compared with 48.9% of unexposed individuals. Finally, there are no significant effects of exposure to two radio shows on HIV testing behaviors.

4.4.2.2 EXPOSURE TO RADIO DRAMA

Table 40 shows the results of the effect of exposure to the radio drama for populations that live near the borders of Lesotho. Here again, some of the associations observed between exposure to the radio drama and multiple partnership behaviors are contrary to the hypothesized direction. Those border residents who were exposed are more likely to report having multiple partners in the last 12 months (37.5% versus 28.0%), more likely to have currently more than one partner (22.2% versus 13.5%), and to have had sex with two or more recent partners in the last calendar year (24.1% versus 15.7%). An encouraging significant association is observed between leaders discouraging men from having younger partners and exposure to the radio drama; 43.7% of those exposed responded that this happened very often or sometimes, as compared with 27.9% among the unexposed. While this perception shows a positive effect of the program, the percentage of exposed respondents who report a 10 or more year age gap between themselves and any partner within the past 12 months or a regular partner is significantly greater than for those unexposed (exposed-23.8%, unexposed-10.5% for any recent partner; exposed-22.0%, unexposed-10.4% for most recent regular partner).

Two statistically significant associations are found for border populations between radio drama exposure and other HIV risk factors and HIV communication. For example, 47.4% of those exposed in this subpopulation report that the statement that *TB can't be cured if an individual is HIV positive* is false, compared with 59.3% of unexposed respondents. In terms of HIV communication, 93.4% of the

unexposed surveyed report being sexually satisfied with their regular partner very often or often, whereas 83.9% of exposed individuals reported the same.

Within the border population, there is a statistically significant treatment effect between exposure to the radio drama and condom use. Those exposed are significantly more likely to report using a condom at last sex (66.1% versus 54.4%), using a condom at last sex with their regular partner (68.2% versus 51.6%), and using a condom with their most recent partner (69.2% versus 52.0%).

Exposure to the radio drama has no effect on ever being tested for HIV and for being tested for HIV in the last year. Finally, we observed one statistically significant association between HIV stigma variables and exposure to radio drama for the border populations. However, it was in the opposite direction than anticipated. Those who were unexposed to radio drama are more likely to disagree with the statement that only the promiscuous get HIV as compared to those were exposed (85.5% versus 76.6%).

Table 40: Summary of multivariate results for exposure to radio drama: border areas

	Unexposed	Exposed
Multiple Partners		
Multiple partners in last 12 months	0.2796	0.3746*
Multiple partners in last month	0.0901	0.1065
Reports currently having more than one partner	0.1349	0.2217*
Reports currently having sex with 2 or more recent partners	0.1574	0.2411*
Leaders discourage men from having younger partners	0.2787	0.4372**
10+ age difference between resp. and any partner	0.1052	0.2381**
10+ age difference between resp. and regular partner	0.1043	0.2197**
Other HIV Risk Factors		
TB can't be cured if HIV+ (%False)	0.5930	0.4738*
HIV Communication		
Sexually satisfied with regular partner (%Very often/often)	0.9380	0.8389*
Condom Use		
Condom use at last sex	0.5440	0.6609*
Condom use at last sex with regular partner	0.5163	0.6816**
HIV Testing		
Ever been tested for HIV	0.7310	0.7097
HIV test in the last 12 months	0.5156	0.5464
HIV Stigma		
Only promiscuous people get HIV (%Disagree)	0.8545	0.7660*
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

4.4.2.3 EXPOSURE TO TELEVISION

Table 41 shows the associations for exposure to any television programs for border populations. Those that were exposed to any television programming tended to be older at first sex than the unexposed population (18.4 years versus 17.8 years), although there are no other significant associations between exposure to television and the various multiple partnership indicators such as having multiple partners in the past month. Other associations are evident related to HIV treatment. For example, 83.4% of exposed respondents know that a PLHIV on ART can transmit HIV, whereas 72.5% of unexposed respondents believe the same. Furthermore, those who were exposed are more likely to know that the statement *A PLHIV does not need to use condoms because they cannot transmit HIV* is false (95.4% versus 88.7%). We observe that 64.2% of those border residents who were exposed strongly agree or agree that their leaders encourage HIV treatment, as compared with 54.4% of the unexposed population. Finally, exposure to television has no significant effect on condom use and HIV testing behaviors among border populations.

Table 41: Summary of multivariate results for exposure to television: border areas

	unexposed	exposed
Multiple Partners		
Multiple partners (past 12 months)	0.3109	0.2732
Multiple partners (past month)	0.0928	0.1034
Reports currently having more than one partner	0.1611	0.1388
Age at first sex	17.7602	18.4041*
HIV Treatment		
PLHIV on ART can transmit HIV (%True)	0.7247	0.8339*
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.8867	0.9539*
Leaders encourage HIV treatment (%Strongly agree/agree)	0.5443	0.6421*
Condom Use		
Condom use at last sex	0.5830	0.5656
Condom use at last sex with regular partner	0.5595	0.5545
HIV Testing		
Ever been tested for HIV	0.7384	0.6978
HIV test in the last 12 months	0.5256	0.5141
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

4.4.2.4 EXPOSURE TO PRINT

In Table 42, we present statistically significant associations for exposure to any OneLove print materials for border populations. No significant program effect is observed on actual multiple partnership behaviors, but 8.1% of those respondents exposed to the print materials report or suspect that their husband has another wife as compared with 31.7% of the unexposed population. Additionally, those who were exposed are more skeptical that married men are faithful to their wives. Related to other HIV risk factors, those who were exposed are more likely to know that the risk of contracting HIV decreases for a circumcised man (53.8% versus 38.9%). Exposed individuals in the border populations are also more likely to have received an HIV test in the last 12 months (55.9%) than the unexposed (47.3%), but this is not true for having ever been tested for HIV. There are no significant effects of exposure on condom use among the border population.

Table 42: Summary of multivariate results for exposure to print: border areas

	unexposed	exposed
Multiple Partners		
Multiple partners (past 12 months)	0.2930	0.3114
Multiple partners (past month)	0.0964	0.0935
Reports currently having more than one partner	0.1319	0.1755
Husband has other wife (%yes/suspect)	0.3167	0.0806**
Most married men faithful to wives (%Agree)	0.2072	0.1318**
Other HIV Risk Factors		
Risk of contracting HIV decreases for a circumcised man	0.3888	0.5384**
Condom Use		
Condom use at last sex with regular partner	0.5214	0.5834
Condom use at last sex among those with MP in past year	0.7047	0.7336
HIV Testing		
Ever been tested for HIV	0.7048	0.7552
HIV test in the last 12 months	0.4728	0.5588*
HIV Treatment		
PLHIV on ART can transmit HIV (%True)	0.6792	0.7836*
Has ever taken ARVs	0.0367	0.0909*
HIV Stigma		
When learn that you are HIV+, life is over (%Disagree)	0.8922	0.9497**
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

Those exposed to print materials are more likely to report that they have ever taken ARVs (9.1% versus 3.7%). Additionally, 78.4% of those exposed correctly identified that a PLHIV on ART can transmit HIV as compared with 67.9% of the unexposed. Regarding HIV stigma, 95.0% of exposed individuals in border areas disagree with the statement that *when you learn that you are HIV positive, your life is over* as compared with 89.2% disagreeing in the unexposed population.

4.4.2.5 EXPOSURE TO MEDIA CHANNELS

The results found for exposure to various media channels are shown in Table 43. Exposure to media channels (one or two or more) do not appear to have a significant effect on key behaviors such as reduced multiple partnerships, whether in the last year, last month, or currently. Positive treatment effects are observed between exposure to one media channel and attitudes towards multiple partners, such as lower reports of needing someone to fill the gap. However, 61.5% of exposed individuals say they can resist the temptation of sex with a person besides their main partner compared with 72.7% of unexposed individuals. A higher percentage of exposed respondents (73.6%) report discussing HIV with their spouse as compared with unexposed individuals (60.5%). Exposed individuals are also more likely to know that HIV risk decreases for a circumcised man. This is also observed for people exposed to two or more media channels.

Table 43: Summary of multivariate results for exposure to media channels: border areas

	unexposed	exposed
One Media Channel		
Multiple Partners		
Multiple partners (past 12 months)	0.2443	0.3530
Multiple partners (past month)	0.0834	0.0749
Reports currently having more than one partner	0.1248	0.1415
Can resist temptation of sex with person besides main partner (%Agree)	0.7267	0.6153*
Need someone to fill gap (%Disagree)	0.6702	0.4412**
Leaders discourage men from having younger partners (%Very often/sometimes)	0.2029	0.3152*
Other HIV Risk Factors		
Risk of contracting HIV decreases for a circumcised man	0.3438	0.4830**
HIV Communication		
Discussed HIV/AIDS with Spouse (%Very often/often)	0.6051	0.7358*
Condom Use		
Condom use at last sex	0.4140	0.6373*
Condom use at last sex with regular partner	0.4294	0.5869*
Condom use at last sex among those with MP in past year	0.7242	0.7123

	unexposed	exposed
HIV Testing		
Ever been tested for HIV	0.7393	0.7231
HIV test in the last 12 months	0.4875	0.4881
Two or More Media Channels		
Multiple Partners		
Multiple partners (past 12 months)	0.2443	0.2965
Multiple partners (past month)	0.0834	0.1221
Reports currently having more than one partner	0.1248	0.1815
Most married men faithful to wives (%Agree)	0.2106	0.1270*
Need someone to fill gap (%Disagree)	0.6702	0.5218*
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.4862	0.6417*
Leaders discourage men from having younger partners (%Very often/sometimes)	0.2029	0.3587*
Other HIV Risk Factors		
Risk of contracting HIV decreases for a circumcised man	0.3438	0.5309**
Condom Use		
Condom use at last sex	0.414	0.6089*
Condom use at last sex with regular partner	0.4294	0.5887
Condom use at last sex among those with MP in past year	0.7242	0.6908
HIV Testing		
Ever been tested for HIV	0.7393	0.7335
HIV test in the last 12 months	0.4875	0.5655
HIV Treatment		
PLHIV on ART can transmit HIV (%True)	0.6096	0.8241**
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

We continue to observe positive effects of program exposure and condom use at last sex; 63.7% of respondents exposed to one media channel report condom use at last sex as compared with 41.4% of unexposed individuals. A similar magnitude of effect is found among those exposed to two media channels (60.9% versus 41.4%). There is no effect of media channel exposure and condom use at last among the respondents who report having multiple partnerships in the last year. Those exposed to two media channels are more likely to know that PLHIV on ART can still transmit HIV (82.4% versus 61.0%). We also observe no treatment effect on HIV testing behaviors among populations residing in border areas.

CHAPTER 5: SAFAIDS

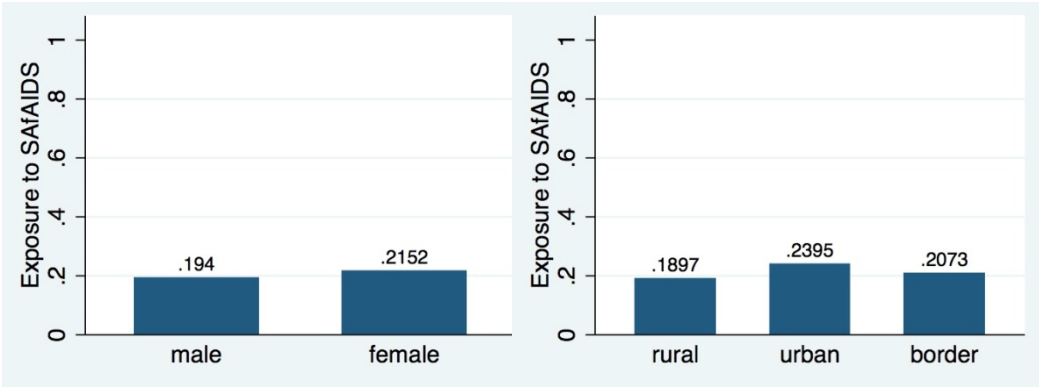
5.1 EXPOSURE MEASURES

Exposure to SAfAIDS materials and programs is measured by a composite variable that includes exposure to any of the following SAfAIDS itemss: any of the SAfAIDS print materials (including manuals, flipcharts, posters, brochures, booklets, factsheets and other documents), receiving information about HIV and AIDS from a community based volunteer carrying a SAfAIDS badge, participating in a community dialogue, and participating in the *Changing the River's Flow* program. The overall percentage of individuals who report any exposure to SAfAIDS programs is 20.5%. The largest component of this exposure measure is receiving HIV and AIDS information from a community volunteer with a SAfAIDS badge (17.8%), followed by exposure to any SAfAIDS print material (3.5%). There is minimal reported participation in community dialogues (1%) or in the *Changing the River's Flow* program (0.1%).

Exposure to SAfAIDS activities varies across sex, domain, age group, and other measures, as found in Table 44 and in Figures 8 and 9. More information on exposure to the SAfAIDS program by each of the specific SAfAIDS variables listed above can be found in Appendix C.

Figure 8 presents the results of exposure to SAfAIDS by sex. There are no significant differences in exposure to SAfAIDS between men and women (21.5% of women report exposure to at least one of the SAfAIDS variables as compared with 19.4% of men) nor across geographic domains (exposure in rural, urban and border areas is 19.0%, 23.9% and 20.7%, respectively).

Figure 8: SAfAIDS exposure by sex and domain



The sampling plan for this evaluation included a program area domain corresponding to the districts in which SAfAIDS focused program activities. No statistically significant differences in exposure to SAfAIDS activities were noted across SAfAIDS program and non-program areas (23.6% as compared with 17.6%,

respectively). This is also true for participation in a community dialogue, the *Changing the River's Flow* program or in exposure to a SAfAIDS volunteer. Exposure to print materials, however, is higher in program areas (4.7%) as compared with non-program areas (2.4%).

Figure 9: SAfAIDS exposure by program areas

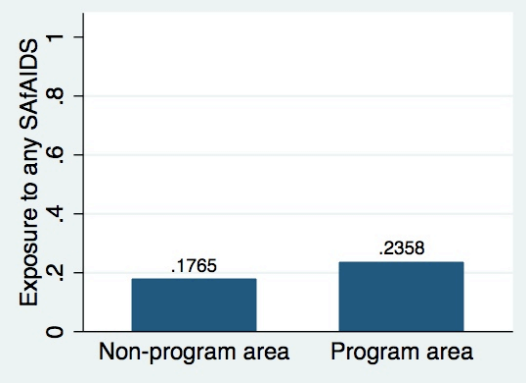


Table 44: Exposure to SAfAIDS by gender and domain

	Men N=2034	Women N=1992	Women 15-24 N=821	Border N=663	Urban N=1413	Rural N=1950	Program Area N=2655	Total N=4026
Any SAfAIDS Exposure	19.4%	21.5%	19.6%	20.7%	23.9%	19.0%	23.6%	20.5%
Ever Heard of SAfAIDS	2.4%	2.7%	2.8%	4.5%	3.8%	1.8%	3.2%	2.5%
Know: SAfAIDS Logo	2.3%	3.7%	3.0%	4.0%	4.8%	2.1%	4.0%	3.0%
Read: Any SAfAIDS Materials	0.8%	1.1%	0.6%	1.4%	1.5%	0.7%	1.3%	1.0%
Read: SAfAIDS Treatment Literacy	0.8%	1.0%	0.6%	1.5%	1.0%	0.7%	1.0%	0.9%
Read: Therapy Community Preparedness	0.6%	0.8%	0.2%	0.9%	0.6%	0.7%	0.6%	0.7%
Read: Reference Manual	0.9%	1.0%	0.5%	1.0%	1.7%	0.5%	1.2%	0.9%
Read: Flipchart	0.4%	0.5%	0.4%	0.1%	0.8%	0.3%	0.6%	0.4%
Read: Poster	1.1%	3.0%	2.4%	2.6%	4.1%	1.1%	3.1%	2.1%
Read: Brochure on Staying Healthy	1.2%	1.5%	0.8%	1.3%	2.7%	0.8%	1.8%	1.3%
Read: Brochure What You Need to Know About HIV/AIDS	0.8%	0.7%	0.3%	0.5%	1.7%	0.4%	1.2%	0.7%
Read: Booklet on Nutrition	0.7%	1.2%	1.0%	1.1%	2.3%	0.4%	1.5%	1.0%
Read: How to Card	0.3%	0.4%	0.2%	0.1%	0.6%	0.3%	0.4%	0.4%
Read: Factsheet		0.3%	0.0%	0.1%	0.2%	0.1%	0.2%	0.2%
Read: Documentation of 3 Best Practices	0.0%	0.4%	0.2%	0.1%	0.3%	0.1%	0.2%	0.2%
Received Information from CBV	17.1%	18.5%	16.8%	16.8%	19.9%	17.0%	20.2%	17.8%

	Men	Women	Women 15-24	Border	Urban	Rural	Program Area	Total
Participated in Policy Dialogue	1.6%	0.5%	0.2%	0.2%	1.8%	0.8%	1.3%	1.0%
Heard: Changing the River's Flow	0.6%	0.3%	0.2%	0.7%	1.2%	0.2%	0.9%	0.5%
Seen: Changing the River's Flow Logo	1.0%	0.3%	0.3%	1.2%	1.2%	0.3%	1.1%	0.6%
Seen: Changing the River's Flow Bag	0.4%	0.1%	0.2%	0.3%	0.3%	0.2%	0.3%	0.3%
Participated in Changing River's Flow Programme	0.2%	0.1%	0.0%	0.2%	0.1%	0.1%	0.0%	0.1%

5.2 REACH

An estimated 16,728 know of SAfAIDS but higher numbers of people recognize the logo; 19,660 recognized the SAfAIDS logo (7,420 men and 12,240 women). The SAfAIDS intervention with the widest reach is the community-based volunteers as 116,913 (54,858 men and 62,055 women) people received information from a community based volunteer. The two most read SAfAIDS materials include the SAfAIDS poster (13,515) and a SAfAIDS brochure on staying healthy (8,853). The reach results indicate that 6,797 people participated in a community dialogue organized by SAfAIDS in the past two years.

The results indicate that 3,105 people had heard of *Changing the River's Flow* but 4,131 had seen the logo and 1,706 had seen the bag. An estimated 832 people participated in *Changing the River's Flow* program.

5.3 RESULTS FOR GENERAL POPULATION (TOTAL, MALE, FEMALE)

5.3.1 MULTIPLE PARTNERSHIPS

The following table presents the results of SAfAIDS exposure and its associations with outcomes related to multiple and concurrent partnerships. A positive effect of SAfAIDS exposure was estimated on certain attitude and community norm indicators (e.g., 69.7% of exposed individuals as compared with 63.0% of unexposed individuals agree that leaders in the community speak out about the heightened HIV risk and having multiple sexual partners; see Figure 10 below), there are also some negative associations between self-reported behaviors and exposure. For example, 23.8% of exposed individuals report having more than one sexual partner in the past three months as compared with 19.1% of unexposed individuals. This difference is higher among men (a ten percentage point difference between exposed and unexposed). Over 30% of women exposed to SAfAIDS received gifts for sex from a recent sexual

partner, while only 15.8% of unexposed women report this. A similar pattern is seen among the total population, where 27.8% of exposed individuals and 18.7% of unexposed individuals report receiving gifts from a partner. Among men, there is a strong association between exposure to SAfAIDS and having a partner with a 10 or more year age difference: 20.1% and 19.8% of exposed men report a 10 or more year age gap with any partner and their most recent regular partner, as compared with 13.3% and 11.5% of unexposed men respectively.

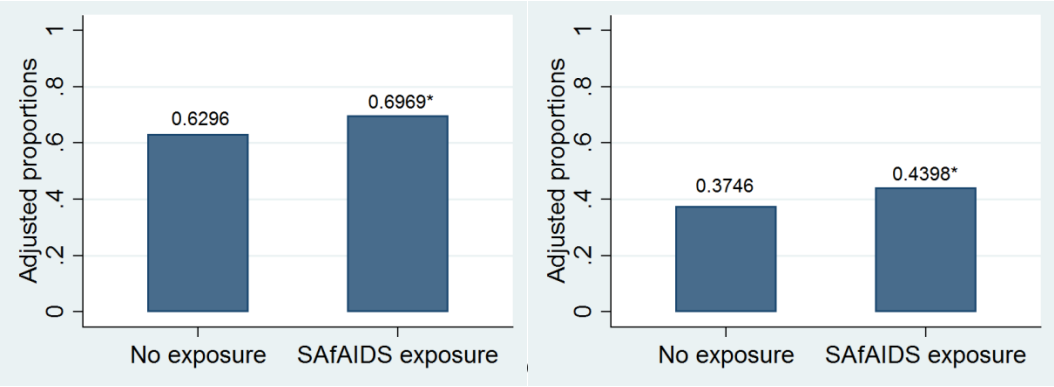
Table 45: Summary of multivariate results for SAfAIDS and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to SAfAIDS (Vs. None)							
More than one partner within 3 months period (past 12 months)	0.1906	0.2378*	NS	0.2785	0.3753*	0.1011	0.1079
Need someone to fill gap (%Disagree)	0.5298	0.4727	-	0.4154	0.3438	0.6356	0.6061
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.6296	0.6969*	+	0.6163	0.6999*	0.6433	0.6913
Leaders discourage multiple partners (%Very often/sometimes)	0.3674	0.4075	+	0.3387	0.3749	0.3964	0.4322
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3746	0.4398*	+	0.3653	0.4369*	0.3846	0.4410
Husband has other wife (%yes/suspect)						0.0918	0.1081
Husband has other sexual partner (%yes/suspect)						0.1914	0.2354
Received gifts for sex from any partner	0.1868	0.2788**	+	0.2123	0.2256	0.1584	0.3329
Gave gifts for sex to any partner	0.1542	0.1955	+	0.2507	0.2368	0.0598	0.1444
10+ age difference between respondent and any partner	0.1370	0.1648	NS	0.1331	0.2006**	0.1372	0.1425
10+ age difference between respondent and regular partner	0.1276	0.1653	NS	0.115	0.1983**	0.1379	0.1429

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Figure 10: Effects of exposure to SAfAIDS materials and programs on perceptions that leaders speak out about the risk of HIV if having multiple partners (left) and that leaders discourage men from having younger partners (right), total population aged 15-49



bout HIV with a respondents' children. This is evident in the total population and among men (35.4% of exposed men versus 24.1% unexposed). Exposed individuals are also more likely to agree that one's sex life can improve with communication with one's partner. In general, agreement with this statement is high, but the difference is statistically significant (Table 46).

Table 46: Summary of multivariate results for SAfAIDS and HIV communication

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to SAfAIDS (Vs. None)							
Discussed HIV/AIDS with Children (%Very often/often)	0.2660	0.3308*	NS	0.2408	0.3543*	0.2776	0.3180
Sex life improves with communication with partner (%Agree)	0.9218	0.9443*	NS	0.9000	0.9345	0.9441	0.9517
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

5.3.3 CONDOM USE

Table 47 presents the results of exposure to SAfAIDS and condom use behaviors. The association between SAfAIDS exposure and some condom use behaviors among men are contrary to the hypothesized direction. For example, 51.3% of exposed men report using a condom at last sex with a regular partner as compared with 61.9% of unexposed men. Use of condoms is also lower among men who report having multiple partners in the last year. Respondents exposed to SAfAIDS are more likely to agree that a woman can ask a regular partner to use a condom, though this finding is only significant among the general population.

Table 47: Summary of multivariate results for SAfAIDS and condom use

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to SAfAIDS (Vs. None)							
Condom use at last sex with regular partner	0.5320	0.4916	NS	0.6187	0.5128**	0.4464	0.4622
Condom use at last sex among those with MP in past year	0.7032	0.6259	NS	0.7360	0.6348*	0.5587	0.6573
Condom use in marriage accepted (%Strongly agree/agree)	0.6450	0.6957	+	0.6630	0.7416	0.6269	0.6562
Women can ask regular partner to use condom (%Strongly agree/agree)	0.6342	0.6939*	+	0.6638	0.7231	0.6086	0.6534
Women can ask casual partner to use condom (%Strongly agree/agree)	0.7254	0.7527	+	0.7568	0.7086		

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

5.3.4 HIV TESTING

There are no significant effects on testing behaviors (i.e. tested in the last 12 months). Respondents exposed to SAfAIDS are more likely to agree that leaders encourage HIV testing. As can be seen in Figure 11 below, this is particularly true for men exposed to SAfAIDS; 76.5% of male respondents agree with this statement as compared with 65.9% of unexposed men.

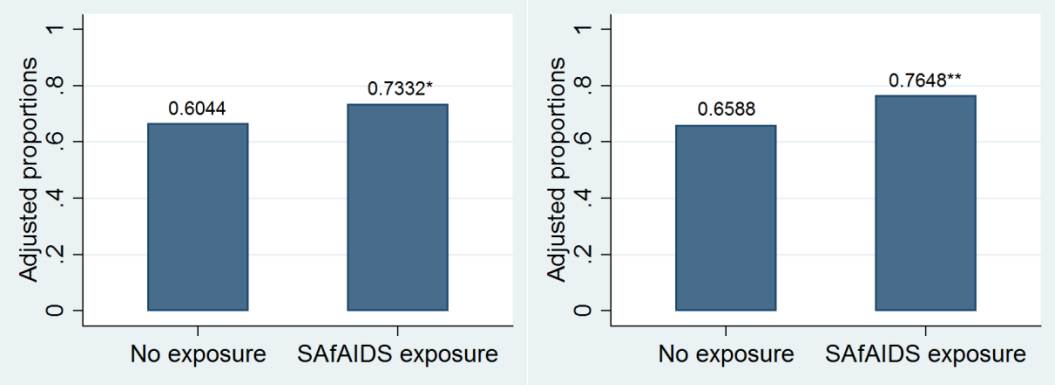
Table 48: Summary of multivariate results for SAfAIDS and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any SAfAIDS (Vs. None)							
Leaders encourage HIV testing (%Strongly agree/agree)	0.6641	0.7332*	NS	0.6588	0.7648**	0.6677	0.7142

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Figure 11: Effects of exposure to SAfAIDS materials and programs on perceptions that leaders encourage HIV testing, among total population aged 15-49 (left) and men aged 15-49 (right)



5.3.5 HIV TREATMENT

Several negative associations are noted between SAfAIDS exposure and treatment outcomes. For example, women exposed to SAfAIDS activities are less likely to say that they are willing to care for someone on ART than unexposed women (78.8% versus 85.3%). A lower proportion of exposed women know that PLHIV on ART can still transmit HIV. However, a higher proportion of exposed individuals report that leaders encourage HIV treatment. This effect is also seen among men where 75. 8% of exposed me agree with this statement as compared with 65.5% of unexposed men.

Table 49: Summary of multivariate results for SAfAIDS and HIV treatment

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any SAfAIDS (Vs. None)							
Willing to care for someone on ART	0.8099	0.7804	NS	0.7645	0.7752	0.8531	0.7879*
PLHIV on ART can transmit HIV (%True)	0.7243	0.6848	NS	0.7463	0.7542	0.7037	0.6258*
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6575	0.723*	+	0.6595	0.7578	0.6549	0.6974
Ever participated in PMTCT program (among ever pregnant)	0.1727	0.2105	NS	0.0806	0.1294**	0.2430	0.2778

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

5.3.6 HIV STIGMA

Several questions attempted to capture attitudes and behaviors related to stigma surrounding HIV. There are no significant associations between SAfAIDS exposure and indicators such as believing HIV is a punishment for sinning or your life is over when you find out that you are HIV positive. However, one

significant and positive association is observed; among people exposed to SAfAIDS, 56.1% of exposed individuals believe that people in the community join together to help people living with HIV as compared with 48.5% of unexposed individuals. This is not significant for men and women separately but the differences are in the positive direction.

Table 50: Summary of multivariate results for SAfAIDS and HIV stigma

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any SAfAIDS (Vs. None)							
People in the community join together to help PLHIV (%Strongly agree/agree)	0.4851	0.5608*	+	0.4975	0.5606	0.4792	0.5418
*=p<0.05 **=p<0.01							
PSM: + significant/increasing ; - significant/decreasing ;NS not significant							

5.3.7 FORCED SEX AND PHYSICAL VIOLENCE

As discussed in the section above, reported forced sex is low (less than 3%) in this population; reports of physical violence are slightly higher at 6.8%. These low numbers make it difficult to detect meaningful changes between exposed and unexposed individuals. No significant effects of exposure to SAfAIDS are detected on reports of forced sex or physical violence. In terms of reporting physical violence, women exposed to the program are more likely to report physical violence although the difference is not significant. There is one significant association between SAfAIDS exposure and an indicator of community norms about gender-based violence. Individuals exposed to SAfAIDS are more likely to agree that leaders in their communities speak out against gender-based violence (71.6% versus 63.0%).

Table 51: Summary of multivariate results for SAfAIDS and GBV

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any SAfAIDS (Vs. None)							
Forced sex in the last 12 months	0.0268	0.0216	NS	0.0239	0.0095	0.0290	0.0364
Physical violence in the last 12 months	0.0696	0.0458	NS	0.0797	0.0545	0.0595	0.0396
Reported physical violence	0.7869	0.8093	NS	0.7857	0.8966	0.7486	0.8057
Reported physical violence to family, friends, neighbors	0.8134	0.8281	NS				
Reported physical violence to authority	0.2811	0.223	NS				
Leaders speak out against GBV (%Strongly agree/agree)	0.6302	0.7165*	+	0.6227	0.7071	0.6400	0.7156
*=p<0.05 **=p<0.01							

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

5.4 RESULTS FOR VULNERABLE POPULATIONS

5.4.1 YOUNG WOMEN AGED 15-24

Significant associations between exposure to any SAfAIDS activities and outcomes for young women aged 15 to 49 years can be found in Table 52. No effects are detected between exposure and any behavioral outcome related to partnerships, testing or condom use but several statistically significant associations are noted for norms and attitudes. However, these relationships are often contrary to program objectives. For example, two statistically significant associations were estimated surrounding gift giving and receiving for sex. Young women who were exposed to SAfAIDS are more likely to report that they had received gifts for sex (34.5% versus 16.7%). Furthermore, 16.2% of exposed respondents reported that they gave gifts for sex, approximately 10 percentage points higher than those who were unexposed (6.7%). Approximately 5% of those respondents that were exposed to any SAfAIDS reported that their husband has, or is suspected to have, another wife as compared with 8.8% of the unexposed population. In addition, a significantly greater proportion of the exposed respondents (83.9%) either strongly agreed or agreed that it should be kept a secret if a family member has HIV as compared with unexposed respondents (69.9%).

In support of programmatic objectives, a greater proportion of those that were exposed to SAfAIDS disagreed that only promiscuous people get HIV than (88.7% as compared 80.2%). A considerably higher proportion of exposed respondents (71.4%) say that that leaders in their communities speak out against gender-based violence than unexposed respondents (58.0%). However, there is no effect of exposure to SAfAIDS on reported forced sex in the last 12 months and experiencing physical violence in the last 12 months. As discussed earlier, the reports of forced sex and physical violence are relatively low in this population.

Table 52: Summary of multivariate results for SAfAIDS and health outcomes: women 15-24

	unexposed	exposed
Multiple Partners		
Husband has other wife (%yes/suspect)	0.0881	0.0476*
Received gifts for sex from any partner	0.1667	0.345**
Gave gifts for sex to any partner	0.0673	0.1622*
HIV Stigma		
Only promiscuous people get HIV (%Disagree)	0.8022	0.8873*

	unexposed	exposed
Keep secret if family member has HIV (%Strongly agree/agree)	0.6988	0.8389*
GBV		
Forced sex in the last 12 months	0.0462	0.0525
Physical violence in the last 12 months	0.0763	0.0678
Leaders speak out against GBV (%Strongly agree/agree)	0.5797	0.7144*
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

5.4.2 BORDER POPULATIONS

Table 53 shows the associations between the various health outcomes of interest and exposure to any SAfAIDS intervention for border populations. A number of statistically significant associations were detected for this population but generally in the opposite direction from that intended. Those who were exposed to SAfAIDS interventions are more likely to have multiple partners in the past month (13.2% versus 8.5%), to have received gifts for sex with their most recent partner (35.7% versus 20.9%), and to report a 10 or more year age gap between themselves and a recent partner (21.6% versus 10.5%). Also, fewer of those exposed individuals surveyed (63.1%) report that they can resist the temptation of sex with a person besides their main partner relative to unexposed individuals (73.0%). Finally, 42.8% of those who were exposed to any SAFAIDS intervention disagree that they needsomeone to fill a gap as compared with 56.1% in the unexposed population.

Regarding other HIV risk factor variables, fewer individuals in the exposed group believe that the statement that *TB can't be cured if you are HIV positive* is false. Additionally, among those exposed in the border population, 33.3% know that the risk of contracting HIV decreases for a circumcised man as compared with 51.5% in the unexposed population.

Table 53: Summary of multivariate results for SAfAIDS and health outcomes: border areas

	unexposed	exposed
Multiple Partners		
Multiple partners (past month)	0.0845	0.1322*
Received gifts for sex from any partner	0.2089	0.3566**
10+ age difference between resp. and any partner	0.1047	0.2163*
Can resist temptation of sex with person besides main partner (%Agree)	0.7299	0.6314*
Need someone to fill gap (%Disagree)	0.5614	0.4275*
Other HIV Risk Factors		
TB can't be cured if HIV+ (%False)	0.5891	0.4874**

	unexposed	exposed
Risk of contracting HIV decreases for a circumcised man	0.5146	0.3328**
Condom Use		
Women can ask regular partner to use condom (%Strongly agree/agree)	0.6863	0.7697*
HIV Testing		
Discussed results of most recent HIV test	0.9178	0.8612*
If one spouse positive, the other too (%False)	0.6475	0.4998**
Leaders encourage HIV testing (%Strongly agree/agree)	0.5445	0.6798**
HIV Treatment		
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.9162	0.7973**
People on ART have to stay on treatment for rest of lives	0.7713	0.6772*
Leaders encourage HIV treatment (%Strongly agree/agree)	0.5322	0.6692**
Ever participated in PMTCT program (among ever pregnant)	0.1319	0.2834**
*=p<0.05 **=p<0.01 PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

Only one statistically significant association was found between condom use and exposure to SAfAIDS activities for this population. Those who were exposed are more likely to agree that women can ask their regular partner to use a condom (77.0% versus 68.6%).

Regarding HIV testing, two significant associations are notable. Those who were exposed to SAfAIDS are less likely to have discussed the results of their most recent HIV test (86.1% versus 91.8%). Further, those who were exposed are more likely to agree that their leaders encourage HIV testing (68.0% versus 54.5%).

Several statistically significant and negative associations were noted between exposure and HIV treatment variables. For example, a lower percentage (79.7%) of exposed individuals know that a *PLHIV does not need to use condoms because they cannot transmit HIV* is a false statement as compared with 91.6% in the unexposed population. Exposed individuals are also less likely to know the people on ART have to stay on treatment for the rest of their lives. Those who are exposed to SAfAIDS are more likely to agree that their leaders encourage HIV treatment (66.9% versus 53.2%). Finally, exposed individuals in this subpopulation are more likely to have ever participated in a PMTCT program.

CHAPTER 6: COMMUNITY MEDIA TRUST

6.1 EXPOSURE MEASURES

Exposure to the CMT interventions is measured by a composite variable that includes exposure to any of the following: knowledge of the *Rea e Hlola* ADRA/CMT program, exposure to the *Rea e Hlola* logo, correct recall of the *Protect yourself, protect others* slogan, exposure to the ADRA/CMT audiovisual kit, exposure to any *Rea e Hlola* episode (either on DVD or TV Lesotho), and participation in an ADRA/CMT *Rea e Hlola* treatment literacy workshop. The overall percentage of individuals who report any exposure to CMT programs is 7.8%. When disaggregating the composite variable into its components, the greatest contribution to exposure is through exposure to the *Rea and Hlola* logo (3.2%), followed by exposure to CMT/ADRA audiovisual kit (2.8%), and knowledge of the *Rea and Hlola* program (2.1%). All other CMT exposure measures are under 2% for the general population. Exposure measures by gender and domain can be found in Table 54.

Figure 12 presents the results of exposure to CMT by sex. There are no significant differences in exposure to CMT between men and women (7.0% of women report exposure to any CMT as compared with 8.7% of men). There are significant differences, however, in exposure to CMT by geographic domain. For example, exposure in rural areas is much lower (5.0%) than in urban (13.5%) and border areas (11.5%, $p<0.01$). More information on exposure to CMT program by each of the specific CMT variables listed above can be found in Appendix C.

Figure 12: CMT exposure by sex and domain

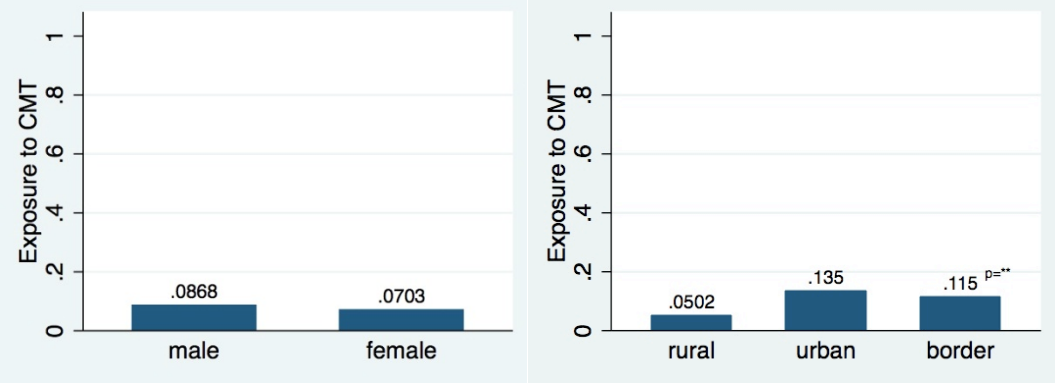


Table 54: Exposure to CMT by gender and domain

	Men N=2034	Women N=1992	Women 15-24 N=821	Border N=663	Urban N=1413	Rural N=1950	Total N=4026
Any CMT Exposure	8.7%	7.0%	6.3%	11.5%	13.5%	5.0%	7.8%
Ever Heard of Community Media Trust	3.5%	1.6%	1.1%	5.6%	4.3%	1.4%	2.5%
Heard: Rea-e-hlola	2.2%	1.9%	1.5%	6.0%	3.7%	0.9%	2.1%
Seen: Rea-e-hlola Logo	3.6%	2.9%	3.1%	6.5%	5.9%	1.7%	3.2%
Know: Rea-e-hlola Slogan	2.6%	0.6%	0.4%	1.6%	3.2%	0.9%	1.6%
Seen: ADRA/CMT Audiovisual Kit	2.4%	3.2%	3.1%	2.3%	3.9%	2.3%	2.8%
Seen:Rea-e-hlola DVD in Clinic	1.6%	1.4%	1.0%	1.4%	2.5%	1.1%	1.5%
Watched:Rea-e-hlola on TV Lesotho	0.8%	0.9%	1.2%	1.2%	1.9%	0.3%	0.8%
Participated in ADRA Treatment Literacy Session	0.4%	0.1%	0.0%	0.5%	0.3%	0.2%	0.3%

6.2 REACH: CMT

Apprximately 16,609 people (11,319 men and 5,289 women) had heard of CMT, while 13,610 people had heard of *Rea e Hlola* and 21,223 had seen the logo. The *Rea e Hlola* program on TV Lesotho was watched by 5,276 people and 10,032 people saw the *Rea e Hlola* DVD in a clinic. An estimated 18,204 people had seen the ADRA/CMT audiovisual kit (7,591 men and 10,612 women). Finally, 1,653 people participated in an ADRA treatment literacy session.

6.3 RESULTS FOR GENERAL POPULATION (TOTAL, MALE, FEMALE)

6.3.1 MULTIPLE PARTNERSHIPS

Respondents exposed to CMT are more likely to report a 10 or more year age gap between themselves and any partner (18.7% versus 13.9% among unexposed) and their regular partner (19.2% versus 13.1%).

Table 55: Summary of multivariate results for CMT and MCP

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to CMT (Vs. None)							
Can resist temptation of sex with person besides main partner (%Agree)	0.7370	0.7015	-	0.5984	0.5691	0.8691	0.8383
Need someone to fill gap (%Disagree)	0.5204	0.4888	-	0.4031	0.3909	0.6311	0.6031
10+ age difference between resp. and any partner	0.1392	0.1871*	NS	0.1424	0.1934	0.1364	0.1605
10+ age difference between resp. and regular partner	0.1311	0.1916*	NS	0.1254	0.2009	0.1368	0.1635

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.3.2 OTHER HIV RISK FACTORS

Individuals exposed to CMT are more likely to be worried about becoming infected with HIV (Table 56). Among women, 56.6% of exposed women report being worried as compared with 39.7% of unexposed women. Further, exposed individuals – both men and women - are twelve percentage points more likely to believe that they are currently infected.

Table 56: Summary of multivariate results for CMT and other HIV risk factors

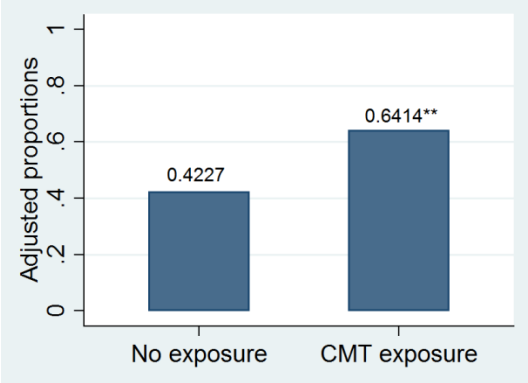
	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any CMT (Vs. None)							
Worried about becoming HIV infected (%Worried)	0.4550	0.5501*	NS	0.5144	0.5236	0.3966	0.5660*
Likely to be infected now (%Agree)	0.1887	0.2999**	+	0.1970	0.3009*	0.1801	0.2996**
Risk of contracting HIV decreases for a circumcised man	0.3741	0.4932**	+	0.4227	0.6414**	0.3261	0.3558

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

Knowledge of the link between male circumcision and decrease HIV risk is also higher among exposed individuals. Again, the difference (22 percentage points) is greatest among men (Figure 13).

Figure 13: Effects of exposure to CMT on knowledge that risk of HIV decreases with male circumcision, men aged 15-49



6.3.3 HIV COMMUNICATION

Individuals exposed to CMT report less dissatisfaction with their regular sexual partner. This is true for the total population and for men and women separately. For example, 4.5% of exposed women report dissatisfaction as compared with 9.3% of unexposed women (Table 57).

Table 57: Summary of multivariate results for CMT and other HIV risk factors

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to CMT (Vs. None)							
Sexually dissatisfied with regular partner (%Very often/often)	0.1591	0.0827**	NS	0.1456	0.0724	0.1678	0.0934*
Sexually satisfied with regular partner (%Very often/often)	0.9193	0.9646	NS	0.9555	0.9589	0.8962	0.9809**

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.3.4 CONDOM USE

Exposure to CMT yields mixed results on several key behaviors (Table 58). For example, men exposed to CMT report lower condom use at last and at last sex with a regular partner. Among men who report having multiple partners in the last 12 months, only 56.0% report using a condom at last sex as compared with 72.7% of unexposed men. However, women who report having multiple partners in the last 12 months report higher use of condom at last sex (85.2% versus 56.0%). Women exposed to CMT do report more agreement that condom use in marriage is accepted.

Table 58: Summary of multivariate results for CMT and condom use

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to CMT (Vs. None)							
Condom use at last sex	0.5390	0.4460	NS	0.6172	0.5075*	0.4648	0.3600
Condom use at last sex with regular partner	0.5326	0.4131**	NS	0.6072	0.4832*	0.4604	0.3284
Condom use at last sex among those with MP in past year	0.6905	0.6357	NS	0.7268	0.5597*	0.5598	0.8523*
Always uses condom with most recent partner	0.5862	0.4077**	NS	0.5923	0.3608**	0.5733	0.5059
Condom use in marriage accepted (%Strongly agree/agree)	0.6539	0.6671	NS	0.6837	0.5896	0.6259	0.7486*

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.3.5 HIV TESTING

This next section looks at the effect of CMT on HIV testing behaviors and attitudes. Men exposed to CMT are more likely to have been tested for HIV in the past 12 months than unexposed men - 53.7% versus 40.4%. This difference is not significant for the total population or for women. Although not significant in the probit results, the PSM results indicate a significant and positive effect on the total population who know it is false that if one spouse is positive the other is, too. Men exposed to CMT also have higher lifetime number of HIV tests on average than unexposed men.

Table 59: Summary of multivariate results for CMT and HIV testing

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any CMT (Vs. None)							
HIV test in the last 12 months	0.5281	0.5940	NS	0.4039	0.5372*	0.6467	0.6466
If one spouse positive, the other too (%False)	0.5300	0.5948	+	0.4836	0.5473	0.5752	0.6377
Lifetime number of HIV tests	2.5999	3.2189	NS	1.9035	3.2318*	3.2888	3.1122

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.3.6 HIV TREATMENT

This next section discusses the results of CMT exposure on HIV treatment outcomes. Program exposure does not have significant effects on variables such as *willing to care for someone on ART,* although the PSM results indicate that a higher percentage of exposed individuals have cared for someone on ART in the past. Respondents exposed to CMT are more likely to know that ARVs prevent mother-to-child transmission during pregnancy and that ARVS prevent mother-to-child transmission during childbirth. This effect is also significant among men; 57.4% of exposed men know ARVs prevent mother-to-child transmission during childbirth as compared with 44.7% of unexposed men. This difference is not significant for knowledge that ARTs prevent mother-to-child transmission during breastfeeding. However, only 48.5% of men exposed to CMT know that people on ART have to stay in treatment for their rest of their lives as compared with 61.5% of unexposed men. There is no statistically significant effect of exposure to CMT interventions on knowledge that people with HIV and on ARTs can still transmit HIV nor on the likelihood that the person has taken ARVs in the past. A higher percentage of exposed respondents report participating in a PMTCT program; this is significant in the PSM results but not in the probit results.

Table 60: Summary of multivariate results for CMT and HIV treatment

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any CMT (Vs. None)							
Cared for someone on ART	0.2331	0.2646	+	0.1723	0.2275	0.2916	0.2948
Willing to care for someone on ART	0.8069	0.7743	NS	0.7670	0.7508	0.8440	0.7981
PLHIV on ART can transmit HIV (%True)	0.7144	0.7562	NS	0.7449	0.7849	0.6858	0.7203
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.8461	0.8998	NS	0.8178	0.8917	0.8736	0.9067
ARVs prevent MTCT during pregnancy	0.6579	0.7407	+	0.5022	0.6263	0.8084	0.8466
ARVs prevent MTCT during childbirth	0.5763	0.6653*	+	0.4473	0.5741*	0.7022	0.7288
ARVs prevent MCT during breastfeeding	0.5771	0.6267	NS	0.4225	0.5408	0.7273	0.6948
People on ART have to stay on treatment for rest of lives	0.7054	0.6535	NS	0.6148	0.4854**	0.7941	0.8267
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6676	0.7000	NS	0.6757	0.6751	0.6611	0.7035
Has ever taken ARVs	0.0617	0.0817	NS	0.0468	0.0331	0.0780	0.1254
Ever participated in PMTCT program (among ever pregnant)	0.1758	0.2389	+	0.0920	0.1042	0.2439	0.3323

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.3.7 HIV STIGMA

We observe positive effects of exposure to CMT on stigma-related variables. For example, 74.0% of exposed women disagree with the statement that telling people you are HIV positive doesn't help. This is significantly higher than unexposed women. However, men exposed to CMT are less likely to believe that people in the community join together to help PLHIV (Table 60).

Table 61: Summary of multivariate results for CMT and HIV stigma

	Total			Male		Female	
	unexposed	exposed	psm	unexposed	exposed	unexposed	exposed
Exposure: Exposed to Any CMT (Vs. None)							
Telling people you are HIV+ doesn't help (%Disagree)	0.6324	0.6404	NS	0.6617	0.5589	0.6047	0.7396*
People in the community join together to help PLHIV (%Strongly agree/agree)	0.5071	0.4141	NS	0.5189	0.3969*	0.4976	0.4225

*=p<0.05 **=p<0.01 ; PSM: + significant/increasing ; - significant/decreasing ;NS not significant

6.4 RESULTS FOR VULNERABLE POPULATIONS

6.4.1 YOUNG WOMEN AGED 15-24

Table 61 shows the results of the effect of exposure to any CMT intervention on various health outcomes among young women. A limited number of statistically significant associations are found for this subpopulation and exposure. Regarding multiple partners, those who were exposed are more likely to report that they had given gifts for sex to a partner (20.1% versus 7.9%). Respondents who were exposed are more likely to report that there was a high or medium chance that they were likely to be infected with HIV now (23.5% versus 11.1%). As with the full sample, a negative association was observed between condom use and exposure to CMT, as just 12.2% of young women exposed to CMT report that they always used a condom with their most recent partner as compared with 24.3% of unexposed young women. On the other hand, exposed women are more likely (76.9%) to strongly agree or agree with the statement that *Women can ask their regular partner to use a condom* than the unexposed (56.7%).

Young women exposed to any CMT activities are less likely to report being willing to care for someone on ART (61.2% versus 81.6%). This is the only significant association observed between CMT exposure and HIV treatment outcomes. While we observe change in the desired direction for several of the indicators (e.g. knowledge variables), the differences are not significant. Individuals exposed to CMT are more likely to agree that leaders in their community encourage HIV treatment, although this difference is not significant. Regarding HIV stigma, 86.8% of exposed women either strongly agreed or agreed that it should be kept a secret if a family member has HIV, whereas only 71.9% of unexposed women agreed.

Table 62: Summary of multivariate results for CMT and various health outcomes: women 15-24

	Unexposed	Exposed
Multiple Partners		
Gave gifts for sex to any partner	0.0790	0.2007*
Other HIV Risk Factors		
Likely to be infected now (%High/Med)	0.1106	0.2345*
Condom Use		
Always use condom with most recent partner	0.2426	0.1220*
Women can ask regular partner to use condom (% Strongly agree/agree)	0.5666	0.7687*
HIV Treatment		
Cared for someone on ART	0.2180	0.1945
Willing to Care for Someone on ART	0.8160	0.6116*
PLHIV on ART can transmit HIV (%True)	0.6704	0.7546

	Unexposed	Exposed
ARVs prevent MCT during pregnancy	0.7369	0.8524
ARVs prevent MCT during childbirth	0.6304	0.7010
ARVs prevent MCT during breastfeeding	0.6613	0.6303
People on ART have to stay on treatment for rest of lives	0.7259	0.8215
Leaders encourage HIV treatment (%Strongly agree/agree)	0.5943	0.6808
Ever participated in PMTCT program (among ever pregnant)	0.2442	0.2695
HIV Stigma		
Keep secret if family member has HIV (%Strongly agree/agree)	0.7185	0.8677*
*=p<0.05 **=p<0.01		
PSM: + significant/increasing ; - significant/decreasing ;NS not significant		

6.4.2 BORDER POPULATIONS

As seen in Table 63, four statistically significant associations of the effect of exposure to any CMT intervention are noted for the border populations. Border population respondents exposed to CMT are more likely to agree that their leaders speak out about the risk of HIV and multiple partners (67.3%) than the unexposed (56.8%). Those exposed to any CMT are also more likely to report having a 10 or more year age gap between themselves and any recent partner, and their most recent regular partner (27.3% versus 11.1 and 10.7% versus 26.9% for exposed and unexposed respondents, respectively). Interestingly, regarding HIV stigma, border respondents who were exposed are less likely to disagree with the statement that *telling people you are HIV positive doesn't help* than the unexposed (58.1% versus 68.7%). Finally, 87.0% of those exposed to any CMT in this subpopulation either strongly agreed or agreed that it should be kept a secret if a family member has HIV, whereas only 74.3% among unexposed respondents agreed.

No statistically significant relationships were identified between exposure to CMT activities and any of the HIV treatment variables. In some cases, there is a positive change in the desired direction (*leaders encouraging HIV treatment and participation in a PMTCT program*) but in other cases – such as for measures of HIV treatment knowledge – the effects are in the opposite direction.

Table 63: Summary of multivariate results for CMT and various health outcomes: border areas

	Unexposed	Exposed
Multiple Partners		
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.5681	0.6734*
10+ age difference between resp. and any partner	0.1108	0.2730*
10+ age difference between resp. and regular partner	0.1069	0.2687*

	Unexposed	Exposed
HIV Treatment		
Cared for someone on ART	0.2141	0.2452
Willing to care for someone on ART	0.8432	0.8485
PLHIV on ART can transmit HIV (%True)	0.7418	0.7361
PLHIV does not need to use condoms because cannot transmit HIV (%False)	0.8987	0.8822
ARVs prevent MCT during pregnancy	0.6831	0.6440
ARVs prevent MCT during childbirth	0.5694	0.6005
ARVs prevent MCT during breastfeeding	0.5607	0.6215
People on ART have to stay on treatment for rest of lives	0.7590	0.7082
Leaders encourage HIV treatment (%Strongly agree/agree)	0.5543	0.6029
Ever participated in PMTCT program (among ever pregnant)	0.1552	0.2316
HIV Stigma		
Telling people you are HIV+ doesn't help (%Disagree)	0.6872	0.5813*
Keep secret if family member has HIV (%Strongly agree/agree)	0.7432	0.8701*

*=p<0.05 **=p<0.01

PSM: + significant/increasing ; - significant/decreasing ;NS not significant

CHAPTER 7: MARGINAL AND CUMULATIVE EFFECTS

As noted by West (2010), a key issue in this evaluation is distinguishing the impact of the current three-year program of partner activities from prior program activities and from the programs of other donors. This is referred to by West as the marginal impact, "the additional reach and effect of further rounds of BCC in an environment where multiple sources of information exist and where many exposed to BCC programs may have had previous exposure" (West, p. 7). Marginal impact is held to be distinct from cumulative impact, the effects of exposure to program activities over multiple rounds of funding.

Ideally, the marginal impact of the program would be calculated as the change in mean outcomes from baseline to endline for those exposed to the program relative to those not exposed, controlling at the same time for exposure to other programs. This would address the issue of cumulative exposure, as the influence of previous programs would already be determined in baseline outcomes, and changes across time for sampled respondents would reflect only the effects of recent programs (using suitable controls for other programs).

However, the baseline data collected in 2007 had several drawbacks which limited their usefulness, namely insufficient comparability - at least for many of the indicators being examined here – and questions about overall data quality. Further, many of the key data – including measures of exposure to other programs – were collected using open-ended responses, which had not been fully coded. Hence, we sought a compromise that attempted to distinguish between current exposure and prior exposure using this single wave of data.

The compromise involved inserting several questions into the survey instrument about the timing of first exposure to PHELA and SAfAIDS interventions. Specifically, respondents were asked:

- If they had ever heard of Phela and, if so, when they first heard of it;
- If they had ever seen the Phela logo and, if so, when they first saw it;
- If they had ever listened to a Phela radio drama and, if so, when they first heard it;
- If they had ever watched a Phela television show and, if so, when they first saw it;
- If they had ever seen the SAfAIDS logo and, if so, when they first saw it;
- If they had ever read informational materials on HIV&AIDS produced by SAfAIDS and, if so, when

Coded responses included time periods that distinguished between recent exposure (either in the past year or past 12-36 months) from earlier exposure (more than 36 months ago) and from no exposure.

Measures of intensity of exposure (e.g., number of episodes watched or radio programs listened to) during each of these time periods were not included in the questionnaire as they were considered to be too prone to error and recall bias. For similar reasons, a timeline of exposure (e.g., "Were you exposed to a Phela radio drama in 2008? 2009? 2010? 2011?") was also omitted.

To address the issue of marginal versus cumulative effect, we distinguish between two types of marginal effects: (1) the marginal effect of exposure to program interventions for those exposed *only during the most recent 3 years* of program activities (relative to those not exposed at all) and (2) the marginal effect for those first exposed *prior to the most recent 3 years* netting out the effects of previous exposure.

For those exposed only during the most recent three years, our counterfactual is straightforward. We use as a comparison group the sample of respondents not exposed to program activities during the current period (nor in prior periods), and then examine differences in mean outcomes through bivariate and multivariate analyses that control for observable differences in these two groups.

For those with prior exposure, the comparison is less straightforward. Ideally we would use as the counterfactual the group of respondents who report exposure to program activities in previous periods but not the current period. This group – we assume – represents what would have happened to those who continued to be exposed had they not in fact been exposed further, i.e., their baseline outcomes. The pattern of exposure to OneLove programs in Lesotho disallows for this comparison as most respondents who were exposed previously continued to be exposed during the current period. We are therefore only able to compare the cumulatively exposed group (respondents exposed previously and currently) to the unexposed group, which does not allow us to tease out the effects of previous exposure. Where relevant, we are also able to determine whether the magnitude of the effect of recent exposure is significantly different than the magnitude of the effect of cumulative exposure, which would indicate an additive effect of previous exposure.

We focus here on exposure to Phela / OneLove radio programs because these have relatively large samples reporting exposure both during and prior to the most recent round of partner activities. The samples corresponding to exposure to Phela television programs and SAfAIDS logo and informational materials are too small to conduct the marginal versus cumulative analysis.

As described in the Phela/OneLove section above, a person was characterized as having current exposure to Phela radio activities if they reported listening to either the OneLove radio drama or the OneLove Phone-in program. Prior exposure is determined from the question about whether or not a

person heard a Phela radio drama prior to the current round of activities. In both bivariate and multivariate analyses, we look at the differences in mean outcomes for three groups:

(1) Never Exposed: Those never exposed to Phela / OneLove radio programs in either the previous 36 months or earlier;
(2) Recently Exposed: Those who report exposure to Phela/OneLove radio only in the most recent three years but not prior;
(3) Previously Exposed: Those exposed to Phela radio drama prior to three years ago who were also exposed during the current period. Ideally, this third category would be compared with a fourth category of individual who were exposed previously, but no longer exposed during the current project period. The exposure distribution for the Lesotho data does not allow for this disaggregation (only 16% of those exposed previously, were not exposed currently. This amounts to 46 observations.)

For simplicity, we focus principally on whether there are statistically significant differences in mean outcomes (adjusted and unadjusted) between each of the exposed groups (based on the timing of exposure) relative to the never exposed group. Differences between the recently exposed (Group 2) and the never exposed (Group 1) would be an indication of significant recent marginal effects. Differences between those exposed during both the previous and current period (Group 3) and the never exposed (Group 1) would be indicative of significant cumulative effects. We then compare the effects for the recently exposed (Group 2) and the cumulatively exposed (Group 3). If they are similar, then that would be an indication that exposure in the most recent period would have had little impact amongst those previously exposed (except to the extent that current exposure prevented deterioration of effects). If mean outcomes for the cumulatively exposed (Group 3) are significantly better than those for the respondents exposed only in the current period (Group 2), then that would tend to indicate a significant contribution of the program even for those previously exposed.

During analysis we control in multivariate probit regression models for the standard set of characteristics of respondents, as well as contemporaneous exposure to other programs. We hypothesize that:

(1) The effect of cumulative exposure for the cumulatively exposed (Group 3) will exceed the marginal effect for the recently exposed (Group 2), reflecting the additive effect of multiple Phela programs across time.

(2) The marginal effect for the recently exposed (Group 2) will exceed that for the cumulatively exposed (Group 3), reflecting diminishing marginal returns for the latter group.

7.1 MULTIPLE AND CONCURRENT PARTNERSHIPS

Table 63 below presents the marginal and cumulative effects of exposure to Phela/OneLove radio on variables relating to multiple and concurrent partnerships. Only those variables for which significant results were found are presented below.

Table 64: Marginal and cumulative effects of the OneLove program on multiple and concurrent partnerships outcomes

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
Multiple and concurrent partnerships			
Husband has other wife (%yes/suspect)	0.1189	0.0845	0.0436*
Husband has other sexual partner (%yes/suspect)	0.2312	0.1967	0.0958*
Most married men faithful to wives (%Agree)	0.3093	0.2433*	0.2171*
Leaders discourage multiple partners (%Very often/sometimes)	0.3368	0.387	0.5053**
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3513	0.4014	0.4841*

As hypothesized above, the effect of exposure for those cumulatively exposed (Group 3) is found to be significant in some indicators, where no significant results are found for the marginal effect of recent exposure (Group 2). This trend is apparent in two indicators collected among women who were asked whether their regular/cohabitating partners had 1) another wife or 2) another sexual partner. For these indicators, cumulative exposure to the program presents significant adjusted effects in the hypothesized direction; adjusted effects are -7.5 percentage points (11.9% versus 4.4%) and -13.5 percentage points (23.1% versus 9.6%), respectively. No significant effects are found for the group that was only exposed during the current project period (Group 2). A similar trend is observed in two indicators measuring community norms regarding multiple partners and transgenerational sex. As compared with the unexposed group, those cumulatively exposed are more likely to agree that community leaders discourage multiple partners (adjusted effect=16.8 percentage points) and that they discourage men

from having partners who are younger (adjusted effect=13.3 percentage points). No such significant marginal effects are found for those who were only currently exposed.

A significant effect opposite to the hypothesized direction was found for the variable *Most married men are faithful to wives (%Agree)*. For this indicator, those cumulatively exposed and those recently exposed are less likely to agree with this statement (adjusted effects=-9.2 and -6.6 percentage points, respectively.)

7.2 OTHER RISK FACTORS

A significant effect opposite to the hypothesized direction was found for the variable *TB can't be cured if HIV+ (%False).* For this indicator, those recently exposed are less likely to respond to that statement correctly.

Table 65: Marginal and cumulative effects of the OneLove program on other HIV risk factors

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
Other HIV Risk Factors			
TB can't be cured if HIV+ (%False)	0.5112	0.4436*	0.4304

7.3 HIV COMMUNICATION

One of the objectives of this program was to foster dialogue regarding HIV/AIDS. Questions were included to measure interpersonal communication about HIV/AIDS with: a spouse, children, friends and community members. The analysis found both cumulative and marginal effects of exposure on discussion of HIV with spouse and either spouse, children or friends. Though significant effects were found for both the recently exposed and the cumulatively exposed groups when comparing to the unexposed groups, no significant differences were found between the magnitude of effect of those recently exposed and those cumulatively exposed (the corresponding p values are 0.13 and 0.39 for these variables, not shown). This could either indicate that there is no additional benefit of recent exposure to those who were previously exposed, or that an effect of the program can be found as long as recent exposure has occurred (Table 65).

Table 66: Marginal and cumulative effects of the OneLove program on HIV communication

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
HIV Communication			
Discussed HIV/AIDS with Spouse (%Very often/often)	0.5979	0.6708**	0.7272**
Discussed HIV/AIDS with friends (%Very often/often)	0.5706	0.6334*	0.614
Discussed HIV/AIDS with Spouse, Children, and/or Friends	0.7222	0.7766*	0.8034*
Sex life improves with communication with partner (%Agree)	0.9112	0.9399*	0.9168
Sexually dissatisfied with regular partner (%Very often/often)	0.1128	0.1574	0.2353*

7.4 CONDOM USE

Recent exposure to Phela/OneLove interventions was found to have significant marginal effects on several key condom use behavioral indicators and indicators measuring community norms regarding condom use/negotiation. Those recently exposed to the program are significantly more likely to report using a condom at last sex with any partner (adjusted effect=10.1 percentage points) and using a condom use at last sex with a regular partner (adjusted effect=9.2 percentage points). A similar effect was found for condom use at last sex with any partner, among respondents who reported having more than on partner in the previous year (adjusted effect=10.6 percentage points). Respondents who are recently exposed were also more likely to report always using condoms with their two most recent partners (adjusted effects are around 9 percentage points for both partners).

The magnitudes of effect of recent exposure to the OneLove program on the community norm variables *Condom use in marriage accepted (%Strongly agree/agree)* and *Women can ask casual partner to use condom (%Strongly agree/agree)* are 4.9 and 7.3 percentage points, respectively.

It is important to note that no effects of cumulative exposure (Group 3) were found on any of the condom use indicators. This finding may demonstrate that the marginal returns of recent exposure among those previously exposed are diminished to the point of insignificance.

Table 67: Marginal and cumulative effects of the OneLove program on condom use

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
Condom use			
Condom use at last sex	0.4660	0.5679**	0.5203
Condom use at last sex with regular partner	0.4669	0.5589**	0.4609
Condom use at last sex among those with MP in past year	0.6151	0.7206*	0.7308
Condom use at last sex, most recent partner	0.4733	0.5609**	0.4694
Always uses condom with most recent partner	0.2632	0.3529**	0.2588
Always uses condom with 2nd most recent partner	0.5105	0.5976*	0.5654
Condom use in marriage accepted (%Strongly agree/agree)	0.6114	0.6840**	0.6198
Women can ask casual partner to use condom (%Strongly agree/agree)	0.6008	0.6737*	0.6377

7.5 HIV TESTING

Among HIV testing variables, we found a marginal effect of recent exposure on HIV testing (ever and within the past 12 months—adjusted effects=8.8 and 4.4 percentage points, respectively). A similar marginal effect of exposure was found on the variable *It is important to know your HIV status (%Agree*), with an adjusted effect of 3.5 percentage points. A cumulative effect of exposure is also apparent for the knowledge variable *If one spouse positive, the other too (%False)* (adjusted effect= 14 percentage points), where no marginal effect of recent exposure was found. For the community norm variable *Leaders encourage HIV testing (%Strongly agree/agree)* both marginal effects of recent exposure and cumulative effects of exposure were found. The adjusted percentages for this variable are 63.8% among the unexposed (Group 1), 69.9% among those recently exposed (Group 2), and 75.8% among those cumulatively exposed (Group 3). These adjusted proportions are significant when making comparisons between the exposed groups against the unexposed group, however, there is no significant difference between the recently exposed and the cumulatively exposed (Groups 2 and 3, p-value= 0.1213).

Table 68: Marginal and cumulative effects of the OneLove program on HIV testing

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
HIV testing			
Ever been tested for HIV	0.6750	0.7630**	0.7388
HIV test in the last 12 months	0.5079	0.5518*	0.5569
If one spouse positive, the other too (%False)	0.5081	0.5364	0.6477*
It is important to know your HIV status (%Agree)	0.9294	0.9644**	0.9283
Leaders encourage HIV testing (%Strongly agree/agree)	0.6385	0.6995*	0.7585**

7.6 HIV TREATMENT

A single HIV treatment-related variable was found to be significant for recent and cumulative exposure to Phela/OneLove: *Leaders encourage HIV treatment (%Strongly* agree/agree). Here again, while comparisons between the exposed groups and the unexposed are significant (adjusted effects=7.1 for recent exposure only, and 12.5 for cumulative exposure), there is no significant difference between the two exposed groups (p-value=0.196.)

Table 69: Marginal and cumulative effects of the OneLove program on HIV treatment

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
HIV treatment			
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6258	0.6967*	0.7509*

7.7 HIV STIGMA

Though the evaluation collected data on a number of stigma attitude-related variables, the only variable found to be significant in this analysis is the community norm indicator p*eople in the community join together to help PLHIV* (%Agree). A cumulative effect of exposure (Group 3) was found for this variable, where no marginal effect of recent exposure was found. Unfortunately, we are unable to determine whether it is the exposure to the program during both time periods, or previous exposure to the program, that is responsible for this effect.

Table 70: Marginal and cumulative effects of the OneLove program on HIV stigma

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
HIV stigma			
People in the community join together to help PLHIV (%Strongly	0.4581	0.5166	0.5997**

7.8 FORCED SEX AND PHYSICAL VIOLENCE

Those recently exposed to the program are more likely to have experienced physical violence within the past 12 months, whereas those cumulatively exposed are not (adjusted effect=3.2 percentage points). A marginal effect of recent exposure and an effect of cumulative exposure were found on a variable capturing whether respondents agree with the statement *Leaders speak out against GBV.* The marginal effect of recent exposure is 6.7 percentage points, while the cumulative effect of exposure is 17.7 percentage points. In this case, the effects between the two exposure groups (Group 2 and Group 3) are significantly different, indicating that there are additive effects of previous exposure to the program, beyond the marginal effects of recent exposure.

Table 71: Marginal and cumulative effects of the OneLove program on HIV treatment

	%Unexposed (Group 1)	% Exposed <3yrs (Group 2)	%Exposed >3yrs and <3yrs (Group 3)
Gender based violence			
Physical violence in the last 12 months	0.0514	0.0836*	0.0351
Leaders speak out against VIOLENCE (%Strongly agree/agree)	0.6008	0.6683*	0.7777**

CHAPTER 8: VALUE-ADDED OF THE REGIONAL PROGRAM PARTNERS

A key objective of this evaluation is to assess the value-added of the combined interventions of the three Regional Program partners. This objective intends to measure whether greater benefits in health impact are gained through the combination of Regional Program partner interventions, as compared with exposure to stand-alone interventions. The central hypothesis is that synergies exist between the interventions of all three partners and that these synergies amplify the potential effects of exposure. The post-only evaluation design allows for the examination of the effects of different exposure patterns by categorizing respondents based on their exposure to the three partners and then examining differences in mean outcomes through multivariate analyses that control for observable differences between the groups.

As was presented in the previous partner-specific sections, when looking at a single exposure we take a straightforward approach to the counterfactual and use as the comparison group the sample of respondents who are unexposed to that partner's activities. When looking at combined interventions, we have a numerous comparisons to make and counterfactuals to identify. In the case of Lesotho, it becomes necessary to isolate the sample of respondents who: 1) remained unexposed to any of the three partner's interventions; 2) were exposed to only one of the partner's interventions, but not the others; 3) were exposed to any of the three combinations of exposure to two partners; and 4) were exposed to all three of the partners' interventions.

The limitations of this design are that: 1) we are unable to determine whether any additive effects of exposure to combined interventions are due to the synergies between the partners or simply a greater intensity of exposure; and 2) the feasibility of the analysis relies heavily on the existing exposure patterns within the data. As described earlier, the mode, scope and content focus of all three intervening partners differed significantly during implementation: PHELA's interventions were national in scope, implemented through mass media channels (radio, TV, and print) with a content focus on MCP, youth, and TB/HIV. SAfAIDS interventions had a geographic coverage of seven districts, were implemented through community dialogues and interpersonal communication activities (IPC), and had a content focus on prevention, treatment literacy, and GBV. Similarly, CMT activities were not all national in scope. The Sesotho Treatment Literacy Series was broadcast on national television, but presentation of the DVDS and distribution of print through partners and workshops was localized. These activities had a content focus on treatment literacy and social and behavior change.

As described in previous sections, the limited geographic scope of SAfAIDS and CMT activities, and the interpersonal nature of most of their interventions resulted in small samples of exposed individuals (even after over-sampling in the program domain for SAfAIDS/CMT). Low exposure to these two partners limited the extent to which we can examine the specific value-added of these localized interventions. As a compromise, we present an analysis of value-added by type/mode of intervention where we create comparisons of individuals who are exposed to the Regional Program through mass media (i.e., any of the Phela radio, TV, and or print materials), interpersonal communication activities (including both SAfAIDS and CMT interventions) and a combination of both mass media and interpersonal communication activities. Using this categorization of respondents, we first compare each of the exposed groups (mass media only, IPC only, and both mass media and IPC) to the group that remained unexposed to any of the interventions. Where significant differences are found between the exposed groups and the unexposed group, we determine whether any differences exist between the three patterns of exposure (this results in three comparisons: 1) mass media only vs. IPC only; 2) mass media only vs. mass media and IPC; and 3) IPC only vs. mass media and IPC). Results for this analysis are presented below.

8.1 MULTIPLE AND CONCURRENT PARTNERSHIPS

Table 72 presents the results of the value-added analysis on outcomes relating to multiple and concurrent partnerships. The first two indicators in the table are proxy indicators that are intended to measure partner concurrency. Both of these variables show an effect that is contrary to the hypothesized direction for the groups exposed to both mass media and IPC. No such effect is found for the other two exposure groups. Three other indicators are found to be significantly associated with the dual exposure to mass media and IPC, and not significant in the mass media only and IPC only groups. These include: an indicator measuring knowledge that *Multiple sexual partners increase HIV risk (%True)* and two community norms indicators measuring whether respondents perceive that *Leaders speak out about risk of HIV if having multiple partners* and *Leaders discourage men from having younger partners*. These three indicators present adjusted effects in the hypothesized direction, but of varying magnitudes: 4.5 percentage points for the knowledge indicator, and 11.7 and 12.2 percentage points for the two community norm variables, respectively.

Two attitude indicators also show significant effects of exposure. However, these effects are also contrary to the hypothesized direction. Exposure to mass media alone, and mass media and IPC together show a significant and negative effect on the perception that *Most married men faithful to*

wives. Exposure to IPC shows a negative effect on disagreement with the statement *"I need someone to fill the sexual gap in case I break up with my main partner."*

Table 72: Value added of the combined interventions on multiple and concurrent partnerships outcomes

	No exposure	Mass media only	IPC only	Mass media + IPC
Sexual behavior and multiple partners				
More than one partner within 3 months period (past 12 months)	0.1751	0.1913	0.1971	0.2514*
Reports currently having more than one partner	0.117	0.1552	0.1179	0.1756*
Multiple sexual partners increase HIV risk (%True)	0.9177	0.9394	0.9501	0.9626**
Most married men faithful to wives (%Agree)	0.3314	0.2477**	0.2184	0.223**
Need someone to fill gap (%Disagree)	0.5585	0.5154	0.3775*	0.4984
Leaders speak out about risk of HIV if MP (%Strongly agree/agree)	0.5992	0.6371	0.6286	0.7165**
Leaders discourage men from having younger partners (%Very often/sometimes)	0.3336	0.3853	0.373	0.4557**

8.2 OTHER RISK FACTORS

Table 73 presents two indicators measuring risk perception and knowledge of other HIV risk factors. Respondents exposed to both mass media and IPC were more likely to feel that there is a high or medium likelihood that they are currently infected. No such significant effect was found for mass media or IPC alone. Respondents exposed to mass media and exposed to both mass media and IPC are more likely to have correct knowledge regarding the decreased risk of HIV infection with circumcision. To determine whether the adjusted effects are significantly different between the mass media only and the dual exposure group, we conducted a test of the null hypothesis that there is no difference between the regression coefficients for the two exposure variables. This test showed no significant difference between the groups (p=0.5494), which indicates that, although a significant effect of exposure was found when comparing to the unexposed group, there is no added value of exposure to mass media and IPC, over mass media alone.

Table 73: Value added of the combined interventions on other HIV risk factors

	No exposure	Mass media only	IPC only	Mass media + IPC
Other risk variables				
Likely to be infected now (%High/Med)	0.1481	0.1944	0.2355	0.258**
Risk of contracting HIV decreases for a circumcised man	0.3376	0.3931*	0.3995	0.4085*

8.3 HIV COMMUNICATION

Four indicators measuring discussion of HIV/AIDS with 1) spouse, 2) children, 3) friends or 4) any of the above, were found to be significant in the value-added analysis, but with different patterns for effects of exposure. Discussion of HIV/AIDS with the respondent's spouse is significantly associated with exposure to mass media alone (66.8% vs. 60.9%), but not significant for IPC or for mass media and IPC together. Discussion of HIV/AIDS with friends is positively and significantly associated with exposure to mass media and with exposure to mass media and IPC together. Further analysis shows that the effect of mass media does not significantly differ in magnitude from that of the dual exposure measure (p=0.2134). Finally, discussion with any of the above is positively associated with mass media and the dual exposure measure, but negatively associated with exposure to IPC alone. Here again, the difference between the two exposure groups that include mass media is not significantly different (p=0.6782). Discussion of HIV/AIDS with children is significantly associated with the dual exposure to mass media and IPC, but not with any of the other measures, which may provide some evidence of a combined effect. A similar pattern is seen with an indicator measuring whether respondents agree that *a person's sex life can improve with communication with their partner*. No significant effect is evident for mass media and IPC alone, but a significant and positive effect was found for the dual exposure measure (adjusted effect=3.8 percentage points).

Table 74: Value added of the combined interventions on HIV communication

	No exposure	Mass media only	IPC only	Mass media + IPC
Communication variables				
Discussed HIV/AIDS with Spouse (%Very often/often)	0.6092	0.6676**	0.5045	0.6596
Discussed HIV/AIDS with Children (%Very often/often)	0.2411	0.2584	0.2899	0.3532*
Discussed HIV/AIDS with friends (%Very often/often)	0.5684	0.6206*	0.4919	0.6571*
Discussed HIV/AIDS with Spouse, Children, and/or Friends	0.7144	0.7786**	0.6213*	0.7876*
Sex life improves with communication with partner (%Agree)	0.9111	0.9289	0.9155	0.9487*

8.4 CONDOM USE

Exposure to the Regional Program shows strong effect of exposure to mass media alone on several behavioral indicators related to condom use. Those exposed to mass media alone are more likely to use a condom at last sex (adjusted effect=10 percentage points), use a condom as last sex with a regular

partner (7.3 percentage points), and always use a condom with most recent (8.4 percentage points) and second most recent partner (11.3 percentage points). Exposure to mass media and dual exposure to IPC and mass media were found to have significant effects on two community norm variables when comparing to the unexposed group: *Condom use in marriage is accepted* and *Women can ask a casual partner to use condom.* The difference between the two effects, however, was not found to be significant, which fails to provide evidence that IPC and mass media together provide any value-added over mass media alone. A third community norm variable, *Women can ask their regular partner to use a condom*, only showed a significant effect among the dual exposed group, but not those exposed only to mass media or IPC.

Table 75: Value added of the combined interventions on condom use

	No exposure	Mass media only	IPC only	Mass media + IPC
Condom Use				
Condom use at last sex	0.4692	0.5704*	0.4779	0.5224
Condom use at last sex with regular partner	0.4876	0.561*	0.5449	0.474
Condom use at last sex among those with MP in past year	0.6312	0.733*	0.5831	0.6742
Always uses condom with most recent partner	0.2686	0.3522**	0.2743	0.3027
Always uses condom with 2nd most recent partner	0.4957	0.6091*	0.5978	0.5759
Condom use in marriage accepted (%Strongly agree/agree)	0.5791	0.6679*	0.5951	0.7019*
Women can ask regular partner to use condom (%Strongly agree/agree)	0.6009	0.6646	0.6028	0.7081**
Women can ask casual partner to use condom (%Strongly agree/agree)	0.5878	0.6588*	0.6236	0.6907**

8.5 HIV TESTING

Three key HIV testing behavioral indicators are significantly associated with mass media alone and mass media and IPC together: *Number of lifetime HIV tests*, *Ever been tested for HIV*, and *Received and HIV test in the last 12 months*. No evidence of a combined effect, however, was found, as the magnitude of the effect for mass media alone and that of mass media and IPC together is not significantly different. An effect for mass media was also found for the variable *The only way to know one's HIV status is through a blood test.* The magnitude of effect of exposure, however, is quite small (under 2 percentage points) given the high levels of reported agreement with this statement for all groups (>95%). As with the outcomes associated with multiple partners, the community norm variable measuring whether

leaders encourage HIV testing is the only indicator to suggest a combined effect of the program: dual exposure provides an adjusted effect of 9 percentage points on this variable, where no effect is found for mass media or IPC alone.

Table 76: Value added of the combined interventions on HIV testing

	No exposure	Mass media only	IPC only	Mass media + IPC
HIV testing				
Lifetime number of HIV tests	2.3594	2.7105*	2.4414	2.8739*
Ever been tested for HIV	0.665	0.7531**	0.6859	0.7593**
HIV test in the last 12 months	0.4669	0.5491**	0.5612	0.5689*
Only way to know status is by blood test (%Agree)	0.9536	0.9718*	0.9693	0.9771
Leaders encourage HIV testing (%Strongly agree/agree)	0.6404	0.6751	0.691	0.7307**

8.6 HIV TREATMENT

The analysis showed effects of exposure to mass media alone on two knowledge variables: *PLHIV on ART can transmit HIV (%True)* and *ARVs prevent mother-to-child transmission during childbirth*. Exposure to IPC or dual exposure was not found to have a significant effect on these variables. As with HIV testing, the community norm variable measuring whether leaders encourage HIV treatment is the only variable that provides an indication of a combined effect of the program: exposure to mass media and IPC together shows an adjusted effect of almost 10 percentage points, whereas exposure to mass media alone and IPC alone show no significant effects.

Table 77: Value added of the combined interventions on HIV treatment

	No exposure	Mass media only	IPC only	Mass media + IPC
HIV treatment				
PLHIV on ART can transmit HIV (%True)	0.6642	0.7478*	0.6135	0.7312
ARVs prevent MCT during childbirth	0.6292	0.5424**	0.5698	0.6225
Leaders encourage HIV treatment (%Strongly agree/agree)	0.6305	0.6675	0.6794	0.7301**
Ever participated in PMTCT program (among ever pregnant)	0.1573	0.1667	0.0841*	0.2409**

8.7 HIV STIGMA

No significant effects of exposure to mass media, IPC or mass media and IPC together were found on any of the indicators relating to HIV stigma.

8.8 FORCED SEX AND PHYSICAL VIOLENCE

Only one outcome related to physical or sexual violence is found to be statistically associated with exposure to the activities of the Regional Program. Consistent with the findings above, exposure to both mass media and IPC is significantly associated with the community norm variable *Leaders speak out against GBV (%Strongly agree/agree)*. While dual exposure showed a significant different of 9.3 percentage points as compared with the unexposed, no such significant difference is evident among the mass media, and IPC only groups.

Table 78: Value added of the combined interventions on gender based violence

	No exposure	Mass media only	IPC only	Mass media + IPC
Gender-based violence				
Leaders speak out against GBV (%Strongly agree/agree)	0.622	0.6339	0.6302	0.7159*

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