

**HIV/AIDS PREVENTION KNOWLEDGE AND BEHAVIORS OF RURAL
WOMEN WHO ARE RECIPIENTS OF A COMMUNITY HEALTH WORKER
PROGRAM IN NAMPULA PROVINCE, MOZAMBIQUE**

by

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ABSTRACT

Background: Mozambique has an HIV/AIDS prevalence of 11%. A number of educational programs that promote condom use have been implemented to reduce transmission, but the impact of these programs has not been well documented. A better understanding of the relationship between these programs and the knowledge and behavior of program recipients is of great public health significance.

Methods: Data from a 2012 cross-sectional survey evaluating the coverage of Community Health Worker (CHW) programs in Mozambique was analyzed. Logistic regression analysis was used to determine the relationship between discussing prevention of HIV with a CHW and, a) recipient knowledge of a condom source; and, b) recipient use of condoms at last sexual intercourse. Sharing of HIV messages between the recipient and others in the community was also analyzed.

Results: Among women who discussed prevention of HIV with a CHW, 57% (n=377) reported knowing a condom source. Ninety-five percent (n=635) of the women reported sexual experience, but only 9% (n=55) of these women reported condom use at their last sexual encounter. Approximately 55% (n=148) of women shared HIV prevention information with someone else in their community. The odds of knowing a condom source are five times greater for women who spoke to a CHW about HIV compared to women who did not speak to a CHW about HIV (OR=5.12, 95% CI: 2.89-9.09). Women who spoke to a CHW about HIV were no more likely to

use a condom at last sexual encounter than women who did not speak to a CHW about HIV (OR=1.20, 95% CI: 0.50-2.88).

Conclusions: The HIV epidemic in Mozambique is extremely complex due to the social, cultural, and economic aspects of the environment. An astounding amount of money has gone towards prevention but the epidemic has not abated. CHW programs are one approach to mitigating the epidemic, but more research needs to be done to better understand the role of CHWs in changing behavior around sexual health. Finally, it is essential that we discover new and innovative ways of implementing HIV educational programs in Mozambique to have a positive impact on HIV prevention behaviors.

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PREFACE

This thesis would not have been possible without the generosity of Pathfinder International. During my first year as a Peace Corps Volunteer in Mozambique, I was fortunate to participate in their Community Health Worker and family planning study. This opportunity was invaluable as a MPH student and further developed my interest in working in global health. In addition to all those responsible from Pathfinder International in Boston and Mozambique, I would especially like to thank the following people: Elizabeth Oliveras, Laura Subramanian, Alicia Mehl, Ana Jacinto and Baltazar Chilundo.

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
APE	<i>Agente Polivalente Elementar</i> (Elementary Multipurpose Agent)
CBD	Community-Based Distribution
CHW	Community Health Worker
CLC	<i>Conselho de Líderes Comunitários</i> (Committee of Local Leaders)
CSM	Condom Social Marketing
DHS	Demographic and Health Surveys
GFATM	Global Fund for AIDS, Tuberculosis and Malaria
GHI	Global Health Initiatives
HIV	Human Immunodeficiency Virus
MISAU	<i>Ministério da Saúde</i> (Ministry of Health)
NGO	Non-governmental Organization
PEPFAR	President's Emergency Plan for AIDS Relief
PLWHA	People Living with HIV/AIDS
SCIP	Strengthening Communities through Integrated Programming
STI	Sexually Transmitted Infection
VCT	Voluntary Counseling and Testing

1.0 INTRODUCTION

Mozambique, one of the poorest and most underdeveloped countries in the world, also has one of the world's highest HIV/AIDS prevalence rates. After gaining independence from Portugal in 1975, Mozambique endured a 16-year civil war that completely devastated the country's healthcare infrastructure. International aid agencies infiltrated the nation in an attempt to strengthen the crippled healthcare system. Despite noble intentions, HIV/AIDS intervention programs funded by international aid agencies have not always succeeded in overcoming Mozambique's unique sociocultural environment to prevent disease transmission. Increasingly, community health workers (CHWs) are being utilized in Mozambique to scale-up HIV prevention, treatment and care efforts.

The sexual and cultural practices and socioeconomic status of Mozambicans, which vary by region, have a contributing effect on HIV prevalence, knowledge and beliefs in Mozambique. The country can be divided into three regions: South, Central and North (see Figure 1). The southern region comprises Maputo city, and Maputo, Gaza, and Inhambane provinces. The central region comprises Sofala, Manica, Tete and Zambézia provinces. The northern region comprises Nampula, Niassa and Cabo Delgado provinces. In general, the southern provinces, with access to neighboring South Africa and the capital city of Maputo, are more developed and have greater resources than the northern provinces. The research for this thesis was conducted in the northern region in Nampula province.

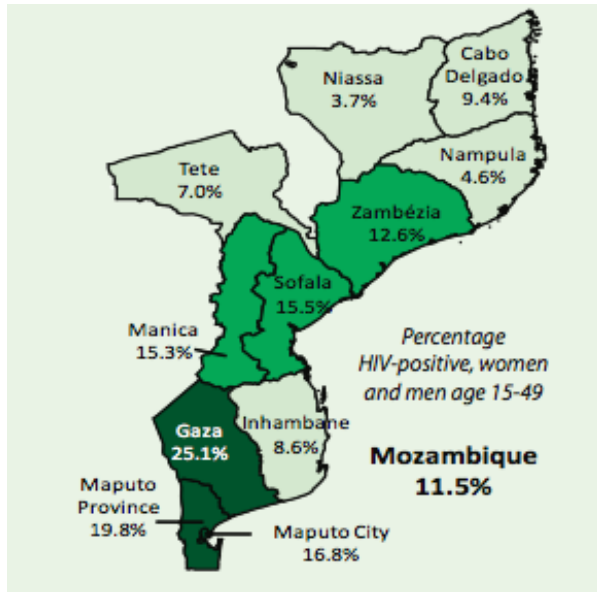


Figure 1. HIV Prevalence in Mozambique by Province

(Instituto Nacional de Saúde, 2009)

Although a considerable amount of research has been conducted in Mozambique around HIV/AIDS and sexual knowledge, beliefs and practices, the literature is focused on the southern and central regions of the country. Because the HIV epidemic and population's socio-demographic characteristics vary by region, the findings from previous research cannot be generalized to rural populations in Nampula province. Additionally, little research has been conducted in Mozambique to examine the effectiveness of CHW programs on HIV transmission. This thesis aims to determine the relationship between discussing prevention of HIV with a CHW and, a) recipient knowledge of a condom source; and, b) recipient use of condoms at last sexual intercourse. Sharing of HIV messages between program recipients and others in the community will also be analyzed.

2.0 BACKGROUND

2.1 THE HISTORY OF NGO PROLIFERATION IN POST-INDEPENDENCE MOZAMBIQUE

After gaining independence from Portugal in 1975, Mozambique endured a brutal 16-year civil war that devastated the country just as the HIV epidemic began sweeping across southern Africa in the late 1980s (Audet et al., 2010). The war, initiated by the Mozambican National Resistance (RENAMO) against the governing political party, FRELIMO, exacerbated already existing deficiencies in the newly independent country (E. Pavignani & A. Colombo, 2001). Local economies completely collapsed and the national educational and healthcare systems were destroyed (Maes & Kalofonos, 2013). Rural-urban variations in resources that were prevalent during colonial times were further exacerbated during the war. For example, the RENAMO rebel forces consistently targeted the healthcare system where it was least protected and most vulnerable, mainly rural areas. In some provinces, nearly 50% of the rural areas were completely desolate of any health services (J. Pfeiffer, 2003). It was reported “between 1981 and 1988, 291 health units were destroyed and a further 687 looted or temporarily closed” (E. Pavignani & A. Colombo, 2001).

Three million people were displaced from their homes during the civil war. Approximately half of those displaced became refugees in neighboring countries, particularly Malawi and Zimbabwe. Countries that took in the majority of Mozambican refugees reported high levels of HIV prevalence during the 1980s (Agha, Karlyn, & Meekers, 2001). However, HIV was not reported in Mozambique until the late 1980s (Audet et al., 2010). Thus, it is

believed that the return of refugees after the 1992 ceasefire greatly contributed to the spread of HIV in Mozambique (Agha et al., 2001; Maes & Kalofonos, 2013).

The devastating consequences of the civil war, coupled with a widespread drought, led Mozambique to adopt an International Monetary Fund-promoted structural adjustment program in 1987 (J. Pfeiffer, 2003). This economic reform drastically cut state funding for social services, mainly healthcare and education, privatized many state enterprises, promoted free market policies, and reduced funding for community organizations (J. Pfeiffer, 2004). By 1990, Mozambique, with a per capita income of US \$80, had become the world's poorest and most aid-dependent country (E. Pavignani & A. Colombo, 2001). In 1997, government spending on health was a mere 2% of the national budget (J. Pfeiffer, 2003).

Aid agencies and non-governmental organizations (NGOs) poured into Mozambique in the late 1980s to provide humanitarian assistance to a country devastated by war, drought, famine and disease (E. Pavignani & A. Colombo, 2001). Additionally, Mozambique was becoming even further crippled by the HIV/AIDS pandemic (Maes & Kalofonos, 2013). Feeling uncertain about the political future of the country, global health initiatives (GHIs) such as the President's Emergency Plan For AIDS Relief (PEPFAR) and the Global Fund for AIDS, Tuberculosis and Malaria (GFATM) questioned the legitimacy of the government and delivered aid only through international implementers and NGOs (Cailhol et al., 2013). Further, it is argued that NGOs have a comparative advantage over host country public sector services because of their ability to reach poor and marginalized communities more effectively and efficiently (J. Pfeiffer, 2004). The number of international NGOs rose from 7 in 1980 to 70 in 1985, and later to 180 in 1990; national/local NGOs proliferated from 4 in 1984 to over 200 in 1996 (E. Pavignani & A. Colombo, 2001). By 2001, there were 145 international NGOs and 465

national NGOs operating in Mozambique (J. Pfeiffer, 2004). A study by Belucci in 2000 found that international NGOs were the primary source of funding for nearly 60% of Mozambican NGOs in two provinces of Mozambique. Only four of 57 NGOs reported the Mozambican government (at both the national and local levels) to be a primary source of funding (Bellucci, 2002).

2.1.1 The Impact of GHIs and NGO Interventions on the HIV/AIDS Epidemic

2.1.1.1 Health Care Workforce Changes

During the influx of humanitarian aid into Mozambique, many NGOs were forced to move to the country's developed, urban areas instead of resource-poor areas with greater need. Donors' choices, influenced by personal political priorities and social networks, prevailed over health-related needs. For example, NGOs tend to situate themselves in program countries with regard to the donors' underlying social and institutional relationships. While it is logical for an NGO to be located close to its donor agency to facilitate communication, the geographical clustering of NGOs can have negative consequences. In Mozambique, the uneven distribution of NGOs resulted in overcrowding of initiatives in urban areas around the capital, Maputo, and second largest city, Beira, and neglect of other rural provinces. The inequities resulting from this uneven distribution of NGOs are still visible (E. Pavignani & A. Colombo, 2001).

Although some NGO projects were incorporated into the National Health System, Mozambicans often did not have control over budgets or project developments (Cailhol et al., 2013; J. Pfeiffer et al., 2010). Eventually, the nature of NGOs changed from channeling home-country assistance and integrating actions into the National Health System to launching independent projects, each with its own staff, supplies, budget, and logistics. As a result, NGOs

became responsible for an internal “brain drain” of health workers (Cailhol et al., 2013; J. Pfeiffer, 2003; Sherr et al., 2012). The public sector lost skilled healthcare professionals to NGOs who were motivated by higher salaries, better working conditions and career advancement opportunities. Managers, including practicing physicians and those with public health experience, left the public sector for international aid agencies. A study conducted by Sherr et al. found that from 1980-2006, 25.5% (181) of the Mozambican physicians in the sample had left the public sector, of which 62.4% (113) continued working in-country while 37.6% (68) emigrated from Mozambique. Of those internal migration cases, 66.4% (75) left to work for NGOs, 21.2% (24) for donor agencies, and 12.4% (14) for the private sector. An estimated 36.3% (41 of 113) of the internal migration cases had previously held senior-level management positions in the public sector. Furthermore, by 2010, nearly half of the physicians (49.4%) were found to be working in the capital city, Maputo, where only five percent of the country resides (Sherr et al., 2012).

2.1.1.2 Lack of Cultural Competence

GHIs and NGO projects have also been criticized for not being sensitive to cultural beliefs and practices in the development of intervention programs. For example, PEPFAR’s abstinence, be faithful, and always use a condom campaign, or the “ABC” approach, has been criticized for undermining local practices and cultural beliefs (Monteiro, 2009; Passador, 2009). While this approach may be applicable in a developed nation like the United States, the idea of focusing on “high risk” groups in Africa is unreasonable since a married woman’s greatest risk for contracting HIV is engaging in sex with her husband.

In a study of inequalities of the AIDS epidemic in Africa, Baylies admits that many donors and international organizations focus on those with the “riskiest behavior” in order to be

cost-effective (Baylies, 2000). Yet in Mozambique, the HIV epidemic is considered generalized; that is, “HIV infects individuals outside of high-risk communities such as injecting drug users and commercial sex workers” (Prata, Sreenivas, & Bellows, 2008). In Mozambique, the term “risk group” takes on a new meaning. Many of the millions of people at risk for HIV in Mozambique do not exhibit behaviors that are considered “risky” by Western standards. Mozambican women who do not use condoms with their partner out of trust are at risk of contracting the virus (Bandali, 2013; Manuel, 2005). A study conducted in rural areas of central Mozambique found that married women reported virtually no casual sexual partners but had the highest sexually transmitted infection (STI) rates compared to previously married women. The authors concluded that their husbands were the most likely sources of infection. Married men engage in multiple casual partnerships while they are away from their families trying to earn an income (Noden, Gomes, & Ferreira, 2009).

HIV prevention programs in resource-poor countries support the idea that certain groups only have themselves to blame for contracting HIV because of their immoral and unacceptable behavior (E. Benotsch, 2008; Gupta, 2008; Manuel, 2005; Monteiro, 2009; Turshen, 1992). Targeting specific groups excludes the “mainstream” population from educational HIV prevention campaigns. Worldwide, many programs do not reach the majority of women in the community, even though epidemiological data indicate that women of all ages and socioeconomic backgrounds are being infected with HIV through sexual intercourse (Gupta, 2008). In sub-Saharan Africa, female sex workers and injection drug users are not the only female populations at risk for contracting HIV. Additionally, such stereotypical images of risk groups lead many young people to believe that condoms are only necessary for sex with occasional partners (Manuel, 2005). Because young people cannot identify with the targeted

messages designed for people with “risky behavior,” they do not see a need to use condoms with a steady partner.

The non-association of condoms with steady relationships built on love and trust is deeply embedded in a script that equates love with protection. The credibility students give to trust derives from such a script and also from previous HIV/AIDS awareness campaigns in Mozambique that linked condom use to occasional sexual encounters and not to steady relationships (Manuel, 2005).

For a Mozambican female, asking a steady partner to use a condom is to imply that she is not a decent woman (Bove & Valeggia, 2009; Manuel, 2005). “Women who demand the use of a condom run the risk of being marked as promiscuous, not very trustworthy, and associated with risk groups” (Passador, 2009). Consequently, women are less inclined to negotiate condom use with their stable partners. This phenomenon puts married women, or those in steady relationships, at risk for contracting HIV and other STIs.

Many biomedical prevention messages undermine the cultural tenets of traditional African societies (Liddell, Barrett, & Bydowell, 2005). Abstinence is a particularly challenging concept as it denies people opportunity for sexual release, which is thought to be essential for health, and stifles the expression of fertility. Condom use can be viewed as a way of wasting sperm; a treasured resource in societies where value is placed on a woman’s duty to produce children (Passador, 2009). Additionally, condoms tend to be less commonly used in societies where men are dominant sexual partners (Graham-Silverman, 2005). They are also less frequently used in cultures where promiscuity is tolerated, and even less frequently in cultures where male promiscuity is respected. In some regions of Mozambique, when a man dies, his wife must sleep with the man’s relatives to be sexually cleansed (Audet et al., 2010; Graham-Silverman, 2005). Thus, ignoring indigenous beliefs seems counterproductive to development of culturally grounded and responsive AIDS prevention programs (Liddell et al., 2005; Poku, 2005).

2.1.1.3 A Focus on Behavioral Rather than Structural Interventions

Many NGO programs working in the context of HIV focus on behavioral interventions that target culturally accepted traditions and behavior rather than structural issues. Structural factors have been defined as the “physical, social, cultural, organizational, community, economic, legal, or policy aspects of the environment that impede or facilitate efforts to avoid HIV infection” (Gupta, 1993). Structural and cultural factors act as barriers and prevent individuals from participating in prevention and treatment efforts. For example, the fear of HIV-related stigma and discrimination discourages Mozambicans from seeking voluntary counseling and testing (VCT) (Micek et al., 2009; Poku, 2005) and from disclosing their status to their family, friends, and sexual partners (Pearson et al., 2009) for fear of community stigmatization and family abandonment (Audet et al., 2010). Additionally, African women who experience intimate partner violence might be unable to negotiate condom use (Gupta, 1993). For women and young people, two groups greatly affected by HIV in Mozambique, the ability to protect themselves is highly affected by their position of economic dependency (Baylies, 2000; Gilbert & Walker, 2002).

In Mozambique, women only earn 18% of the typical salary for men; women have fewer opportunities to improve their financial situation because they are less educated and unable to take hard-labor jobs such as mining (Audet et al., 2010). The lack of financial options in an insecure environment can push people to activities or situations that make them extremely vulnerable to contracting HIV (Drimie & Mullins, 2006; Kim & Watts, 2005; Poku, 2005). A study looking at AIDS prevention among women notes that “economic impoverishment is the root cause of women entering into multiple or temporary partnerships and for bartering sex for economic gain and survival” (Gupta, 2008). Similar to women in other sub-Saharan African countries, Mozambican women participate in transactional sex and intergenerational sex between

older men and younger women (Karlyn, 2005). The relationship between intergenerational sex and HIV infection among young Mozambican women has not been documented. However, sexually active young women in Zambia reported having sex with older partners who were potentially at higher risk of HIV infection. It is possible that the same is true for young Mozambican girls who engage in intergenerational sex (Audet et al., 2010). Indeed, both female youth and adults have higher HIV prevalence than men (13% and 9%, respectively, among 15-49 year olds) (Instituto Nacional de Saúde, 2009). The 2009 national INSIDA survey also found a higher HIV prevalence among young, rural females compared to young, rural males (9% and 6%, respectively, among 15-24 year olds) (Instituto Nacional de Saúde, 2009).

2.2 THE CURRENT HIV/AIDS EPIDEMIC IN MOZAMBIQUE

Despite the well-intentioned efforts and huge monetary disbursements of the GHIs, HIV continues to be a critical health issue in Mozambique. By 2004, HIV prevalence among 15-49 year olds was estimated to be 16.2% and the Mozambican government declared HIV/AIDS to be a national emergency (The United Nations Children's Fund [UNICEF]). HIV prevalence estimates reported by UNAIDS in 2008 ranked Mozambique as the eighth most HIV-afflicted nation (Audet et al., 2010). In 2011, HIV prevalence was 5,827 per 100,000 in Mozambique, compared to a regional average of 2,725 per 100,000 and a global average of 499 per 100,000 (World Health Organization [WHO], 2013b).

A systematic literature review of the sociocultural and epidemiological aspects of HIV/AIDS in Mozambique showed that the epidemic is “characterized by a preponderance of heterosexual infections, among the world’s most severe health worker shortages, relatively poor

knowledge of HIV/AIDS in the general population, and lagging access to HIV preventive and therapeutic services compared to counterpart nations in southern Africa. Poor education systems, high levels of poverty and gender inequality further exacerbate HIV incidence” (Audet et al., 2010). Ranking 185 out of 187 countries on the United Nations Development Programme’s (UNDP) Human Development Index, Mozambique continues to be one of the poorest and most undeveloped countries in the world (United Nations Development Programme [UNDP], 2013). There are only three medical doctors per 100,000, which is seven times less than the minimum standard set by the World Health Organization (Simon et al., 2009). Furthermore, the sexual and cultural practices and socioeconomic status of Mozambicans, which vary by region, have a contributing effect on HIV prevalence, knowledge and beliefs in Mozambique.

2.2.1 Regional Variations

Social, economic and cultural factors divide Mozambique into three regions: South, Central and North. In general, the southern provinces, with access to neighboring South Africa and the capital city of Maputo, are more developed and have greater resources than the North. The central provinces hold the second largest city in the country, Beira, an important seaport with railway connections to neighboring countries Malawi, Zambia, and Zimbabwe (Parreira et al., 2006). The northern provinces contain the third largest city, Nampula. Nampula province is the most populous province in Mozambique with a little over 4 million inhabitants (Ministério da Saúde [MISAU], 2011). The North is known for its poor road conditions and inferior access to education and rural populations. Among the local ethnic groups in Mozambique, the Tsonga (who live in the South) are the most educated and urbanized, followed by the Sena/Ndau of the

central region. The Macua (who live in the North) are the least educated and the Lomwe/Chuwabo (who also live in the North) the least urbanized (Arnaldo, 2004).

Based on a national survey assessing prevalence, risky behaviors and other information on HIV, VCT rates are highest in the South (50%) and lowest in the North (23%); residence in the North is associated with a disadvantage in terms of being tested for HIV even after adjusting for urban residence, education, wealth and marital status (Agha, 2012). The authors conclude that the overall lower level of service utilization in the North is due to both the healthcare infrastructure (fewer resources than the central and southern provinces) and barriers to access (greater distances and transportation costs to health facilities than the central and southern provinces). (Agha, 2012). Overall, the HIV prevalence is highest in the southern (21%) and central provinces (18%) and lowest in the northern provinces (9%) (see Figure 1) (Audet et al., 2010). Mozambicans living in the southern and central provinces are most likely to migrate to neighboring countries, which may contribute to their higher HIV prevalence (Audet et al., 2010). Gaza province, in the South, has the highest HIV prevalence in the country at 25%. This is likely due to the high number of males who migrate to South Africa to work in the mines. The migrant workers practice risky sexual behaviors in South Africa and infect their wives upon returning to Mozambique (Avogo & Agadjanian, 2013).

2.2.1.1 Religious Variations by Region

The three regions of Mozambique have different religious compositions. The majority of the people in the South and Central are Christian while the North has a high percentage of Muslims. Six out of seven studies in Africa found a negative relationship between HIV prevalence and Islam (Gray, 2004). This phenomenon may be due to Islamic religious practices such as the closed nature of polygamous social networks, a lower incidence of premarital sex, and

circumcision (Gray, 2004). In fact, rates of circumcision in the northern provinces of Mozambique are higher than in the central and southern provinces. In Nampula province, 82% of males aged 15-49 years are circumcised (Ministério da Saúde [MISAU], 2011).

A study conducted in southern Mozambique found that women with any religious affiliation were more likely to be practicing modern contraception than women who had no religious affiliation (24% and 14%, respectively) (Agadjanian, 2013). The highest percentages of women practicing modern contraception identified themselves as Roman Catholic (32%) or Protestant (30%). The authors argue that women of Catholic and Protestant religions are more receptive to contraceptive technologies because of “their connections to the state and especially the local medical establishment” where modern contraception can be obtained at no cost (Agadjanian, 2013). Further, research has shown that churches in central Mozambique disapprove of condoms because they believe their use promotes prostitution and immorality (J. Pfeiffer, 2004). Research focused on the sexual health practices and beliefs of northern Mozambican women has not been conducted. Thus, while it is known that Islam discourages condom use (Gray, 2004), the condom knowledge and use of northern Mozambican women based on religious affiliation is not known.

2.2.1.2 Inequalities in Women’s Education and Literacy

In general, the northern provinces have the lowest averages of school years completed and the highest percentages of women with no education (Ministério da Saúde [MISAU], 2011). Only 28% of women in Nampula province are literate. Although Nampula province contains the country’s third largest city (Nampula), women living in Nampula province average only 0.9 years of schooling completed among women compared to the national average of 1.2 years. Maputo and Sofala provinces, home to the country’s largest and second largest cities, have an

average of 4.3 and 1.3 years, respectively. Additionally, Nampula province has the fourth highest percentage of women with no education (Ministério da Saúde [MISAU], 2011).

Similarly, literature shows that matrilineal societies in the northern provinces have high female illiteracy rates (85%-88%) compared to the patrilineal societies in the southern provinces (48%-77%) (Arnaldo, 2004). This difference may impact age at marriage as matrilineal societies averaged earlier than expected ages for marriage (15-17 years) compared to the slightly higher average age at marriage for patrilineal societies (18-21 years) (Arnaldo, 2004).

In addition to age at marriage, literacy levels have been associated with level of health knowledge and health practices. A study by Ciampa et al. showed that for women in Mozambique, both Portuguese and non-Portuguese speakers, poorer literacy and numeracy skills were associated with less HIV knowledge but not lower self-reported utilization of HIV testing or prenatal care (Ciampa, Vaz, et al., 2012). These data suggest that women, regardless of literacy, care about their health enough to seek out VCT and prenatal services. However, there is evidence that individuals with low literacy have difficulty communicating with healthcare providers (Ciampa, Vaz, et al., 2012). The authors conclude health literacy could be a particular problem in rural areas of Mozambique, where the language of the healthcare provider (often Portuguese) differs from the local language used by the patients (Ciampa, Vaz, et al., 2012).

2.2.1.3 Differences in Age at Sexual Debut

Women who have a sexual debut at a young age are more at risk for contracting HIV and other STIs than women who delay sexual intercourse (Clark, Bruce, & Dude, 2006; Nour, 2006; Walker, 2012). In Mozambique, age at first sexual intercourse varies by level of education and place of residence. Approximately 27% of rural women aged 15-49 have had sex before age 15 compared to 21% of urban women. While only 14% of women with a secondary education or

higher report sex before age 15, nearly 31% of women with no education have had sex before age 15 (Ministério da Saúde [MISAU], 2011).

Differences in age at sexual debut may be a result of differences in age at marriage. As mentioned previously, the matrilineal societies in the North have earlier than expected ages for marriage (15-17 years) (Arnaldo, 2004). The literature shows that married girls are more likely than unmarried girls to become infected with STIs (Nour, 2006). Several studies of African populations have shown that marriage before age 20 has become a risk factor for HIV infection for adolescent girls due to the age difference between men and their wives (Nour, 2006). Among Mozambican girls aged 15-19 years that have had sexual relations in the past 12 months, 14% of married girls have had sexual relations with a partner who is at least 10 years older, compared to less than 4% of unmarried girls (Ministério da Saúde [MISAU], 2011). Because of their age, husbands have had numerous sexual partners by the time they get married (Nour, 2006). Additionally, “a young girl may be physiologically more prone to HIV infection because her vagina is not yet well lined with protective cells and her cervix may be more easily eroded. Risk for HIV transmission is also heightened because hymenal, vaginal, or cervical lacerations increase the transmission rate, and many of these young girls lose their virginity to HIV-infected husbands” (Nour, 2006). Research suggests that delayed sexual initiation and condom use is especially important for adolescent girls who may have a higher biological risk for contracting HIV and STIs (Audet et al., 2010).

2.2.2 HIV Knowledge, Beliefs and Sexual Practices

2.2.2.1 Stigma towards HIV/AIDS and PLWHA

A lack of knowledge and understanding of HIV transmission results in several misconceptions around the disease and those infected. These misconceptions can cause stigma and discrimination towards people living with HIV/AIDS (PLWHA). For example, the belief that shaking hands or sharing utensils with an infected person can spread HIV may contribute to stigma towards PLWHA (Ciampa, Skinner, et al., 2012). Additionally, many men and women do not get tested for HIV because they are afraid of a positive test result and being abandoned (Bandali, 2013; Mola et al., 2006).

HIV knowledge is higher among men and people living in urban areas and increases with education and wealth status. Comprehensive HIV knowledge for Nampula women is lower than the national total (21% compared to 31%, respectively). However, comprehensive HIV knowledge for Nampula males (72%) is higher than the national total (51%). In fact, Nampula is the second lowest province for comprehensive HIV knowledge among women (Ministério da Saúde [MISAU], 2011). Previous research states that Mozambican males may know more about HIV prevention than females because of their experience in urban areas and greater opportunity to attend HIV prevention seminars (Noden et al., 2009).

Only about 12% of Mozambicans report accepting attitudes towards PLWHA. While this is similar for Nampula females, Nampula males report lower acceptance (12% and 1%, respectively). Further, rates of acceptance are higher for urban residence and increase with educational and wealth status (Ministério da Saúde [MISAU], 2011).

2.2.2.2 Introduction of Condoms: Social Marketing

The Mozambican Ministry of Health (MISAU) began promoting condom use in the 1990s as part of the HIV/AIDS awareness campaigns (Agha, 2012). In 1994, the National AIDS Control Program implemented condom social marketing (CSM) as a component of the HIV/AIDS prevention strategy; a strategy based on promoting safer sex through information, education and communications campaigns (Agha et al., 2001). There are two components to CSM: supply and demand.

On the supply side, condom branding and commodity logistics are designed to increase the availability of desirable and affordable quality condoms. On the demand side, the sustained marketing campaigns are designed to increase the desire for and use of condoms. The increased demand for condoms, coupled with enhanced condom availability, promotes condom sales and use, and this should ultimately reduce the transmission of human immunodeficiency virus (HIV) infection, sexually transmitted infections and unwanted pregnancies (Sweat, Denison, Kennedy, Tedrow, & O'Reilly, 2012).

Before CSM, condoms were only available in government health facilities and government and private pharmacies. This restricted access to those living in the capital, provincial capital cities and few other urban areas. CSM campaigns, implemented by the American NGO Population Services International (PSI), made access to condoms more prevalent in urban areas through distribution at hotels, bars, restaurants and nightclubs (Agha et al., 2001).

As PSI subsidizes the cost of condoms, pricing is set so that it is affordable for target groups to buy condoms yet high enough to allow private vendors to make a profit. The campaign was designed not only to make condoms available but also to promote behavior change. The brand developed from this campaign is called “Jeito,” which means talent, flair, or style in the local Portuguese dialect. Billboards, radio messages, TV commercials, community theater, and vendors on bicycles advertise the condoms in communities (J. Pfeiffer, 2004).

A study by Agha et al. evaluated the results of a national CSM program in Mozambique that promoted Jeito condoms. In Nampula province, only 28% of respondents knew of Jeito condoms, the lowest percentage of all ten provinces. This increased to 40% after introducing socioeconomic controls, indicating that Nampula province's urban residents have socioeconomic characteristics that limit their exposure to CSM campaigns (Agha et al., 2001). Additionally, only 30% of respondents in Nampula were aware of a source of condoms. Even after adjusting for socioeconomic and demographic factors, Nampula remained the province with the lowest percentage of awareness, 32%. The authors concluded that it would likely take longer for CSM campaigns to change behavior in Nampula compared to the other provinces. Overall, exposure to CSM and communication and knowledge of a condom source were associated with higher reports of condom use with non-stable partners (Agha et al., 2001).

Studies of CSM programs have resulted in various implications for HIV/AIDS programs in Mozambique. In a later study, Agha found that the price of condoms or the costs associated with obtaining condoms, such as transportation costs, are a potential barrier to condom use. This barrier is even more problematic among rural populations, where poverty is more prevalent and transportation costs more prohibitive. Thus, Agha suggests that programs should ensure widespread condom availability (Agha, 2012).

2.2.2.3 Attitudes and Beliefs around Condom Use

CSM campaigns have been criticized for not only being ineffective, but also harmful, as genuine community participation, dialogue, and monitoring are excluded from the process (J. Pfeiffer, 2004). CSM programs are associated with impacting Mozambican's perceptions on condom use. The literature shows that Mozambicans believe condoms are only necessary for sex with occasional partners or commercial sex workers (Bandali, 2013). In addition, married women or

women in a committed partnership are perceived culturally as having no reason to ask their partner to use a condom (Agha, 2012; Manuel, 2005). Condom use is associated with sex with casual rather than primary partners as protection against HIV is not seen as necessary in relationships because of love, trust, desire to conceive, or emotional intimacy (Bandali, 2013; Manuel, 2005). A woman is deemed untrustworthy if she asks her regular partner to use a condom during sex (Bove & Valeggia, 2009). Therefore, female-initiated methods of HIV protection such as microbicides and barrier methods are particularly emphasized for women in long-term relationships since these women are less likely to be able to negotiate condom use (MacPhail et al., 2009). Additionally, because many Mozambicans believe that condom use promotes promiscuity and promiscuity causes HIV infection, the promotion of condoms became associated with HIV infection (J. Pfeiffer, 2004). This association has led young Mozambicans to adopt the myth that condoms actually carry and transmit HIV (E. Benotsch, 2008; E. G. Benotsch et al., 2008; Manuel, 2005; Parker, Easton, & Klein, 2000; J. Pfeiffer, 2004). Consequently, many young males and females will not use free condoms distributed by agencies and hospitals (Machel, 2001; Manuel, 2005).

In a study by Noden et al., one in five women from rural districts in central Mozambique found it acceptable for men to be unfaithful. Additionally, 57% of the female respondents agreed that a woman could do nothing to protect herself from an STI-infected partner. The authors found that a woman's inability to negotiate condom use or refuse sex with her husband was associated with strong cultural values related to the sexual rules within a marriage. "The cultural values placed on the sexual relationship between men and women mean that few husbands and wives discuss their sexual relationships unless it is absolutely obvious and unavoidable" (Noden et al., 2009). This lack of communication between spouses about sexual health matters, including

important symptoms and treatment issues, may have serious implications for HIV transmission (Bove & Valeggia, 2009).

Data from the most recent demographic health survey (DHS) confirms this phenomenon. Only 43% of women believe it is justifiable for a woman to refuse to have sex with her husband if she knows he is having sexual relations with other women. When stratified by province, only 36% of women in Nampula province agree that it is justifiable for a woman to refuse sex. Fifty-six percent of women agreed that a woman could propose use of a condom if she knows that her husband is infected with a STI. Rates differed by level of education, place of residence and economic status. Overall, more women agree with the statements as educational level increases. While the ratios have minimal fluctuations by wealth quintile, there is an overall increase in the percentage of women and men who agree with the statements from the lowest to highest wealth quintile. More urban women and men agree with the statements compared to rural men and women (Ministério da Saúde [MISAU], 2011).

Interestingly, the percent of male respondents who agreed with the statements were greater than for female respondents. Fifty-one percent of all men and 70% of Nampula men agree that it is justifiable for a woman to refuse to have sex with her husband if she knows he is having sexual relations with other women. Even more impressive, 75% of all men and 90% of Nampula men agree that a woman can propose condom use if she knows her husband has a STI (Ministério da Saúde [MISAU], 2011).

While the evidence on the relationship between HIV knowledge and sexual behavior is inconsistent (Prata, Morris, Mazive, Vahidnia, & Stehr, 2006), a study by Prata et al. showed that accurate HIV risk assessment was positively associated with condom use among 15-24 year olds in Mozambique (Prata et al., 2006). The majority of women, especially those of low

socioeconomic status, are less likely than men to accurately assess their risk of HIV infection and, as will be discussed later, are less likely than men to use condoms.

2.2.2.4 Prevalence of Condom Knowledge and Use

Prevalence of both condom knowledge and use varies among studies conducted in Mozambique. In general, most men and women have heard of condoms but few men and especially few women actually report their use (Audet et al., 2012; Font, Puigpinos, Chichango, Cabrero, & Borrell, 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009). Condom use is higher in sexual relations with non-stable partners (Noden et al., 2009) and varies by socioeconomic factors like educational level, place of residence and wealth (Ministério da Saúde [MISAU], 2011; Noden et al., 2009; Prata et al., 2006). People who have undergone VCT are more likely to report greater use of condoms (Mola et al., 2006).

In a study conducted among men and women in rural districts in Zambézia province, Audet et al. found that while 66% of respondents perceived that condoms were protective during sex, only 61% reported using condoms to protect themselves from HIV. Among those not using condoms, many indicated that they did not like using them because they did not like the feel of it during sex, were unable to negotiate condom use with their partner, or felt they were too old to be using condoms (Audet et al., 2012). However, the percentage of people who reported using condoms (61%) is different from what has been reported in other studies and the most recent DHS (from 3-14% for women and 21-27% for men) (Agha et al., 2001; Font et al., 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009; Prata et al., 2006).

In the evaluation of the Jeito CSM campaign, Agha, Karlyn and Meekers found rates of condom use that are similar to other studies and DHS data. It is important to note, however, that this data represents both male and female respondents aged 15-49 years who reported condom

use at last sexual encounter with a non-stable partner. Even after adjusting for socio-demographic factors, exposure to CSM campaign communication and access to condoms, Nampula has the fourth lowest percentage of condom use (22% for men and women) (Agha et al., 2001).

Data from a study conducted by Prata et al. illustrate variations in condom use for 15-24 year olds by sex and socioeconomic factors. Only 9.5% of women reported condom use compared to 21.7% of men. For both men and women, condom use was positively related to residence in an urban area and a secondary or higher level of education. Statistically significant differences were found for condom use of men and women in urban areas (36.5% and 22.1%, respectively) and for condom use of men and women with a secondary or higher level of education (48.8% and 41.9%, respectively) (Prata et al., 2006).

Studies conducted in different African countries have shown that greater knowledge of HIV preventive methods does not result in greater condom use (Font et al., 2006). This is also true for Mozambique, as evidenced in a study by Font et al. among adults in an urban district in Gaza province, southern Mozambique. While 99.5% of men and 99.8% of women knew about condoms, only 27.1% of men and 8.7% of women, a statistically significant difference, reported condom use in the last 12 months. In this study, condom use was shown to be low for everyone, but the better educated had more knowledge of preventive methods and reported higher condom use. There could be several reasons for this. People with a higher level of education may use condoms because they have a better understanding of their importance in preventing HIV and other STIs. They also may be more likely to live in urban environments where condoms are more widely sold and distributed. Respondents with non-stable partners reported higher condom use. The study determined that a person was less likely to use condoms if they are female, reside in a

less privileged village, have no education or a primary education, have a stable partner, and have not had an HIV test (Font et al., 2006).

Finally, condom use among urban men and women in central Mozambique was found to be higher among those that underwent VCT for HIV. A study by Mola et al. found that reported use of condoms at last sex increased significantly with repeated visits to the health facility for VCT (71% for the VCT group and 47% for the non-VCT group). Additionally, reported condom use was higher in sex with a friend or a sex worker than at last sex with any partner (88% vs. 71% for the VCT group and 47% vs. 73% for the non-VCT group) (Mola et al., 2006).

One of the most important results of the study is that behavior change was greatest among people within the VCT group who were not literate. There was an increase of always/sometimes use of condoms from 10% at baseline to 64% at the second visit in the illiterate VCT group compared to 21% at baseline and 17% at the second visit in the illiterate non-VCT group. According to the authors, “this finding is an important indication of the value of interpersonal communication for people with no education in changing behaviors in sensitive areas such as risky sexual activities” (Mola et al., 2006).

Noden et al. state that methods for measuring condom use may be flawed because they found different levels of reported condom use in their study population compared to Mola et al. It is important to note, however, that their target population included men and women from rural districts in central Mozambique. Reported levels of condom use among this population should be lower than those for urban residents due to factors previously mentioned. Similar to the other studies, the authors found that both men and women (98.7% and 86.6%, respectively) know about condoms but few report condom use (21% and 14%, respectively). Additionally, condom use was greater at last sexual encounter with a casual partner (34% for men and 5% for women)

than with a spouse (2% of men and 1% of women). Finally, condom use was associated with a secondary or higher level of education. Interestingly, living in a rural community was associated with knowledge about condoms but condom usage was associated with living in an urban area (Noden et al., 2009).

Data from the most recent DHS confirms that while knowledge of condoms is high in Mozambique, condom use is low (Ministério da Saúde [MISAU], 2011). Ninety-six percent of all women aged 15-49 years report knowledge of a modern contraceptive method (pill, intrauterine device, injection, implant, male and female condom, female sterilization and lactational amenorrhea) and 86% reported knowledge of condoms. However, while 12% of all women aged 15-49 years report use of a modern contraceptive method, only 3% report condom use. Sixteen percent of unmarried, sexually active women report condom use compared to only 1% of married women (Ministério da Saúde [MISAU], 2011).

Also consistent with previous findings, the DHS found that place of residence, education and wealth have an effect on condom use. Among married women aged 15-49 years, condom use is higher in urban settings (3% compared to 0.3% in rural settings) and among those with a secondary or higher level of education (6% compared to 0% for no education) and in the highest wealth quintile (4% compared to 0% for the lowest wealth quintile) (Ministério da Saúde [MISAU], 2011).

Evidence shows that although the majority of Mozambicans have knowledge of condoms, few report condom use (Audet et al., 2012; Font et al., 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009). Condom use is higher among urban women of higher socioeconomic status compared to rural women of low socioeconomic status (Ministério da Saúde [MISAU], 2011; Noden et al., 2009; Prata et al., 2006). CSM campaigns are not an

appropriate intervention to increase condom use among rural populations who have extremely limited access and means of purchasing condoms at restaurants, hotels, stores and other places where they are sold (Agha, 2012). Additionally, condom use is higher among non-stable partners (Font et al., 2006; Noden et al., 2009) possibly due to the belief that condoms are only necessary for sex with occasional partners or commercial sex workers (Bandali, 2013). Thus, married women or women in committed relationships are seen as having no reason to ask their partner to use a condom (Agha, 2012; Manuel, 2005). Finally, the cultural factors involved in sexual relationships in Mozambique limit the communication between spouses about sexual health matters (Bove & Vallengia, 2009). The attitudes, beliefs and practices surrounding condom knowledge and use must be better understood for rural, married women of low socioeconomic status to create culturally appropriate and effective HIV prevention interventions.

2.3 COMMUNITY HEALTH WORKER (CHW) PROGRAMS

NGOs in Africa began implementing small CHW programs in the 1980s after the Alma Ata Declaration (Perry, Zulliger, & Rogers, 2014; White & Speizer, 2007) which states that primary health care “relies at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community” (Tulenko et al., 2013). CHWs began to be utilized in HIV programs in sub-Saharan Africa as an attempt to scale-up HIV treatment and care. They hold a variety of responsibilities including serving as peer educators, home-based caregivers, lay counselors, adherence counselors, health extension workers and community caregivers (Mwai et

al., 2013). Despite the proliferation of CHWs in HIV programs, their effectiveness is not well understood or documented (Mwai et al., 2013). There has been extensive documentation, however, of their effectiveness in low-income countries with other diseases and practices including tuberculosis, malaria, pneumonia, breastfeeding and immunizations (Mwai et al., 2013; Pallas et al., 2013; Perry et al., 2014; Tulenko et al., 2013).

A systematic review of 21 studies in nine sub-Saharan African countries looked at the roles and outcomes of CHWs in HIV care and found that CHWs perform a range of tasks in both patient support and health systems support (Mwai et al., 2013). Patient-oriented activities include HIV and stigma education, and partner/couples counseling and behavior change counseling; health systems-oriented activities include HIV testing and condom distribution, among others (Mwai et al., 2013).

The use of CHWs for condom distribution is typically done through community-based distribution (CBD) programs which are considered the “recommended contraceptive delivery method in rural communities in developing countries because they offer accessibility, convenience and affordability to the client than other modes of service delivery” (Prata, Vahidnia, Potts, & Dries-Daffner, 2005). However, evidence evaluating the success of CBD efforts has been mixed. A study by White and Speizer showed that a household visit from a CHW was associated with use of a modern contraceptive only among women living in rural areas of Zambia (White & Speizer, 2007). While this evidence is not positive for CBD programs in urban areas, it supports other evidence for CBD in rural settings. In a study by Charania et al., interventions in both the United States and international settings that increased the availability of or accessibility to condoms or included additional individual, small group or community-level components along with condom distribution were shown to be efficacious in increasing condom

use behaviors (Charania et al., 2011). The authors concluded that increasing accessibility to condoms was a particularly attractive option for marginalized populations that face social inequities in access to HIV and STI prevention tools (Charania et al., 2011).

2.3.1 Benefits to Using CHWs in Health Programs

There are many benefits to using CHWs, especially in resource-poor settings like Mozambique. First, CHWs can alleviate the problems of a weak health infrastructure with few human resources (Simon et al., 2009). In Mozambique, distances to health facilities are large and transport costs are a deterrent to the utilization of health services (Agha, 2012). By bringing health services into the communities they serve, CHWs help community members avoid unnecessary trips to health facilities, translating into saved transportation costs and time (Tulenko et al., 2013). Another benefit to using CHWs in health programs is that they are recruited from the communities they serve (Tulenko et al., 2013) and share many characteristics including language, religion, place of residence, and social class with the population. Thus, they are seen as trustworthy (Audet et al., 2012) and are able to effectively translate Portuguese health messages that are used in clinical settings, where healthcare workers often do not speak the local language, and in public health educational campaigns (Ciampa, Skinner, et al., 2012). Finally, the interpersonal communication between CHWs and the people they serve may be valuable in creating behavior change. Mola et al. found that illiterate people were more likely to increase condom use after undergoing VCT compared to a non-VCT group, indicating that interpersonal communication may be important for illiterates to change behaviors in sensitive areas like sexual activity (Mola et al., 2006).

2.3.2 Community Health Workers in the Mozambican Context

The use of CHWs in Mozambique began with the *Agente Polivalente Elementar* (APE) or Elementary Multipurpose Agent in 1977 (Subramanian et al., 2013). Supported by MISAU, APEs were put into effect to support public health activities at the district level (Maes & Kalofonos, 2013; Simon et al., 2009). “APEs are trained to treat common ailments, including childhood illnesses: diarrhea, pneumonia, malaria, small injuries, worms, and others” (United States Agency for International Development [USAID], 2012). Today, there are approximately 2,720 APEs in Mozambique (Perry et al., 2014). In addition to the government’s APE program, NGOs have a history of working with other types of CHWs in Mozambique, especially on HIV/AIDS-related programs.

Simon et al. describe a strategy by MISAU and *Médecins San Frontières* (Doctors Without Borders) to maximize community participation in the management of a broad range of health problems through a community health team in one district in central Mozambique. Before the community health teams were formed, five different types of CHWs (APEs, tuberculosis volunteers, *agente comunitária de saúde* (community health worker), traditional birth attendants and HIV support groups) were working in vertical programs. The community criticized the work of the CHWs, feeling it contributed to fragmented service delivery and heterogeneous coverage: some areas in the district had many CHWs while other areas had none. Despite these difficulties, the researchers felt that CHWs held great potential in providing health services and supporting health care delivery. This led them to engage the CHWs in an integrated manner through community health teams. The teams dealt with tuberculosis, HIV, Vitamin A distribution, nutrition, first aid and maternal health. This new system was shown to substantially increase community service uptake of services (Simon et al., 2009).

The effectiveness of CHWs in HIV/AIDS-related programs in Mozambique has not been extensively studied. Still, quantitative data from a study on HIV knowledge and health-seeking behavior in central Mozambique showed that people who interacted with CHWs were more likely to identify routes of HIV infection. People who interacted with CHWs were also more likely to identify sources of HIV prevention (Audet et al., 2012). While this evidence suggests that CHWs are effective in increasing knowledge of HIV transmission and prevention, more research needs to be done in Mozambique to further understand their impact on sexual health behavior.

2.4 PROJECT SCIP

The Strengthening Communities through Integrated Programming (SCIP) Project, led by Pathfinder International, is a five-year initiative (2009-2014) of integrated health and development services implemented in 14 districts in Nampula province in northern Mozambique. The project deals with the following key areas: sexual and reproductive health; maternal, child and neonatal health; water, sanitation and hygiene; domestic assistance for the chronically ill; and assistance for orphans and vulnerable children through youth conservation farming clubs (Badiani et al., 2012).

In order to respond to the complex health and development challenges that exist in Nampula province, it was deemed necessary to implement a multi-sectoral approach. The SCIP project strategy is based on Pathfinder International's Integrated Strengthening of Systems model (see Figure 2). The model recognizes community and health systems as independent of one another and focuses efforts in the "interaction zone" where the diverse actors of a community

come together and interact with the health system. In order to prioritize all of the project's activities, SCIP reinforces the community's capacity to access information about health and services, increase the capacity of health services to meet the needs of the population in these communities, and help the communities to identify, express and make decisions, in an autonomous manner, to solve their own problems. Project SCIP builds the capacity of groups of local leaders, particularly the *Conselho de Líderes Comunitários* (CLC) or Committee of Local Leaders, which operate at the village level in the "interaction zone." Members of important sectors and groups are involved in the CLCs including civil servants, religious leaders, traditional leaders, traditional birth attendants and CHWs (Badiani et al., 2012).

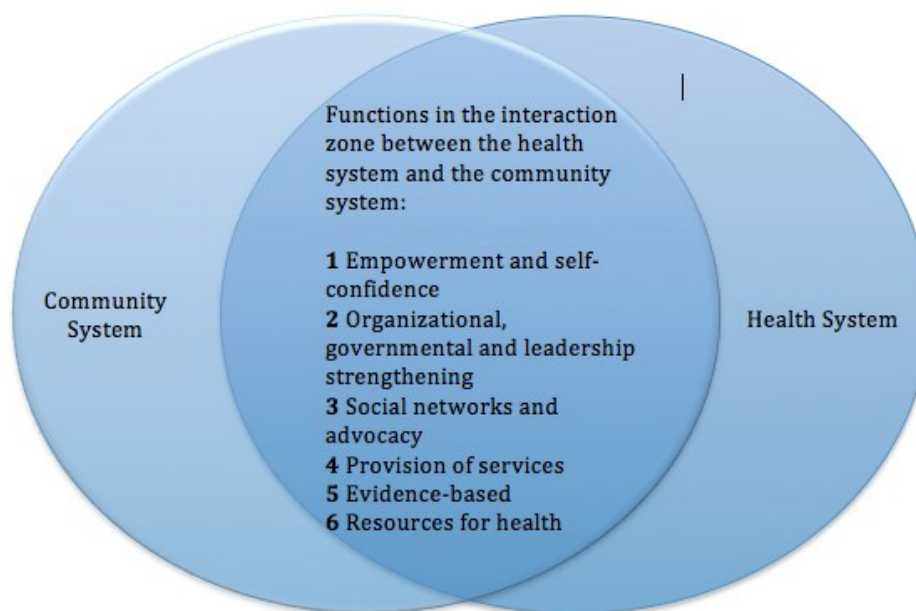


Figure 2. Pathfinder International's Integrated Strengthening of Systems model

2.4.1 Project SCIP CHWs

Project SCIP began training CHWs in 2010. Different intervention packages (complementary and specialized) are implemented in the different districts in Nampula province. The package provided in each district was determined prior to project start-up based on assessments of district-level health and agricultural indicators.

CHWs (called *animadoras*) under the complementary package of interventions attend trainings on different topics including nutrition, food security and immunization. SCIP provides additional training to the *animadoras* on family planning, reproductive health and HIV prevention. Each *animadora* reaches approximately 30 households through bi-weekly group meetings with women who are pregnant or have a child under 2 years of age. The NGO Save the Children was working with *animadoras* prior to Project SCIP, but they were focused on nutrition and immunization and were not providing information on family planning (Subramanian et al., 2013).

CHWs (called *voluntárias*) in Project SCIP's specialized districts work under the consortium partner World Relief. *Voluntárias* receive training every 15 days from the *animadoras* who supervise them. The topics covered include family planning/reproductive health, maternal health, malaria, diarrhea, pneumonia, tuberculosis, HIV, orphans and vulnerable children (OVC), malnutrition and newborn care. Each *voluntária* is assigned approximately 10 households and visits each household once every two weeks to talk with adult household members about the health topics noted above. World Relief did not have a CHW program in the SCIP project areas before the project began (Subramanian et al., 2013).

CHWs are beneficial in resource-poor settings like Mozambique because they are able to bring health services directly into the community (Simon et al., 2009; Tulenko et al., 2013).

Additionally, because CHWs share many characteristics with the community members they serve, they are seen as trustworthy individuals and are able to communicate health messages in an appropriate manner (Ciampa, Skinner, et al., 2012). These characteristics are applicable to Project SCIP CHWs who are elected from the communities they serve. CBD of contraceptives through CHWs is the recommended method of service delivery for rural populations (Prata et al., 2005), but the effectiveness of CBD of condoms has not been well documented. Although evidence suggests that CHWs are effective in increasing knowledge of HIV transmission and prevention, further research is needed to understand the impact of CHW interventions on sexual behavior. Specifically, the impact of interventions focused on CBD of condoms through CHWs on HIV transmission in rural populations must be better understood.

3.0 METHODOLOGY

This thesis analyzes existing data that was collected during a cross-sectional research study led by Pathfinder International in 2012 in two rural districts (Ribáuè and Mogovolas) of Nampula Province, Mozambique. Data from a quantitative household questionnaire was analyzed. The study was submitted to the University of Pittsburgh Institutional Review Board (IRB) and determined to be exempt on May 24th, 2013 (IRB#: PRO12100615, see Appendix B). Pathfinder International signed a Data Use Agreement on December 20th, 2013 (see Appendix A). The author notified the University of Pittsburgh IRB of changes to the original research proposal in March of 2014. However, the IRB determined that the changes did not affect the Exempt determination and no further action was necessary. Evidence of this communication is included in Appendix B.

3.1 THE 2012 PATHFINDER INTERNATIONAL STUDY ON CHWS AND FAMILY PLANNING

In 2012, Pathfinder International conducted a study to determine whether CHWs who are intended to promote family planning services as part of an integrated health package do in fact communicate with program beneficiaries about family planning. The two other aims of the study were to 1) examine if CHWs are reaching the poorest and most marginalized women; and, 2) determine the actions taken by women upon receiving these family planning messages. The study methodology included a household survey and CHW interviews in both Ribáuè

(specialized package) and Mogovolas (complementary package) districts of Nampula province; a secondary analysis of SCIP baseline survey data collected in Nampula in 2010; and a costing analysis of the specialized package of CHW interventions. The MISAU Bioethics Committee approved the study protocol and tools for all methodologies in June of 2012 (Subramanian et al., 2013). The current study utilizes this data and was determined to be exempt by the University of Pittsburgh IRB.

3.1.1 Sample

The 14 SCIP districts were stratified by intervention package (specialized and complementary) and one district from each stratum (Ribáuè district, specialized and Mogovolas district, complementary) was selected in collaboration with SCIP project staff. Selection criteria included implementation of intervention packages in a similar manner to other districts (i.e. no low or high-performing outliers) and geographic accessibility for the survey team. Within each district, CLCs were used as the primary sampling unit for selection of households. Project SCIP staff provided a list of CLCs in their respective districts that met the following criteria: functioning CLC with trained *animadoras/voluntárias* who are actively conducting household visits/meetings; and no activities by other cadres of other SCIP community workers that do similar activities and therefore could be confused with *animadoras/voluntárias*. Sixteen CLCs in Ribáuè and 49 CLCs in Mogovolas met these criteria, from which a sample of 18 CLCs was randomly selected (9 in Ribáuè, 9 in Mogovolas).

The survey used a multi-stage sampling plan beginning with a community mapping process to list households in the geographic coverage areas of each selected CLC as existing household listings were not available for CLCs. The research team recorded latitude and

longitude of all households and asked adult members of each household about its composition. Using this information, the team listed households with eligible women (2,949 in Ribáuè, 514 in Mogovolas) to use for the sampling frame in each district. Proportionally stratified sampling was conducted to randomly select 716 households (359 in Ribáuè, 357 in Mogovolas) from the list of households with eligible women. In Mogovolas, women were considered eligible if they were between 15-49 years and had a child under 2 years (this is the target population for the CHW intervention program in Mogovolas district). In Ribáuè, women were considered eligible if they were between 15-49 years (this is the target population for the CHW intervention program in Ribáue district). In cases where multiple eligible women resided in the household, a Kish grid was used to select one woman for interviewing. A total of 667 eligible women (359 in Ribáuè, 308 in Mogovolas) were interviewed (Subramanian et al., 2013).

3.1.2 Tool

The household survey questionnaire (see Appendix C and D) included standard questions on household characteristics and demographic information, taken from DHS and Multiple Indicator Cluster Survey (MICS) questionnaires. The household survey also included a set of questions for eligible women on whether they had contact with a CHW, discussed family planning or HIV with the CHW, actions taken based on the information received, and whether they used condoms at last sexual encounter or knew of a source of condoms. These questions were developed by research team members from Pathfinder International in Boston, MA and reviewed by Mozambican Pathfinder International staff. Specific household survey questions that are relevant to the current study can be found in Table 15.

3.2 RESEARCH QUESTIONS AND HYPOTHESES

The primary aim of this thesis is to determine whether delivery of HIV prevention information by Project SCIP CHWs is associated with a) recipient knowledge of a condom source and b) recipient use of condoms at last sexual encounter. Sharing of HIV messages between program recipients and others in the community will also be analyzed.

Two research hypotheses were used to examine these relationships:

1. Women who spoke with a CHW about HIV are significantly more likely to know a place where they can buy/receive condoms than women who did not speak with a CHW about HIV.
2. Women who spoke with a CHW about HIV are significantly more likely to have used a condom at last sexual encounter than women who did not speak with a CHW about HIV.

Table 15 shows a data management table of the specific study concepts, variables, values and co-variates that were used to answer each hypothesis.

Table 1. Data Management Table

Hypothesis	Study Concept	Variables	Values	Co-variates
#1	Contact with CHW	Independent Variable	Yes No	Religion Marital status District
		Q 314: Has an <i>animadora/voluntária</i> ever spoken with you about HIV/AIDS?		
	Knowledge of Condom Procurement	Outcome Variable (Q 328)	Yes No	
		Q 328: Do you know a place where it is possible to obtain/buy condoms?		
		Q 329: What is this place?	Health Facility Pharmacy Store/Market Restaurant/Bar/Disco-teca Service Station <i>Pensão</i> /Hotel At Work Friends	

Table 1 continued

			<i>Animadora/Voluntária</i> Other CHW Government Institution NGO Other	
#2	Contact with CHW	Independent Variable	Yes No	Age Education Marital status District
		Q 314: Has an <i>animadora/voluntária</i> ever spoken with you about HIV/AIDS?		
	Condom Use	Outcome Variable	Yes No	
		Q 327: Did you use a condom the last time you had sex?		

3.3 STATISTICAL METHODS OF ANALYSIS

Descriptive statistics were generated for socio-demographic characteristics of respondents including age, level of education, religion, marital status and place of residence. Chi-square tests of differences in proportions were used to determine socio-demographic differences among women in Mogovolas and Ribáuè districts. Chi-square tests of differences in proportions were used to assess whether respondent characteristics differed among women for discussion of HIV with a CHW. Finally, chi-square tests of differences in proportions were used to determine whether respondent characteristics differed among women for condom use at last sexual encounter.

Logistic regressions were run for socio-demographic factors associated with knowledge of a condom source and condom use at last sexual encounter. Multivariable logistic regressions were conducted to identify significant predictors for two outcome variables: knowledge of a

condom source and condom use at last sexual encounter. Discussion of HIV with a CHW was an independent variable for each regression. Three co-variates (religion, marital status and district) were adjusted for in the regression for knowledge of a condom source. The researcher adjusted for these variables since all three were found to be significant predictors for the outcome variable in the logistic regression. Four co-variates (age, education, marital status and district) were adjusted for in the regression for condom use at last sexual encounter. The author adjusted for these variables because all four were found to be significant predictors for the outcome variable in the logistic regression. Further, the literature has shown that age (Ministério da Saúde [MISAU], 2011), education (Font et al., 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009) and marital status (Font et al., 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009) have an effect on condom use.

Frequencies were generated for two variables: sharing HIV messages with others in the community and knowledge of a condom source. Frequency distributions were generated to determine with whom women shared HIV messages and sources of condom procurement. Frequencies were also generated for reception of condoms from the CHW, women who have ever had sex and condom use at last sex. All data analyses were conducted in SPSS, Release 21, Copyright 2012 IBM Corp.

4.0 RESULTS

4.1 HYPOTHESIS 1

The following results respond to the first hypothesis: women who spoke with a CHW about HIV are significantly more likely to know a place where they can buy/receive condoms than women who did not speak with a CHW about HIV. Figures 3-6 show statistically significant differences among women in Mogovolas and Ribáuè districts based on age, marital status, religion and level of education. In general, there are more widowed/divorced/single women in Ribáuè; Ribáuè has more Protestants/Evangelicals and women of no religion and Mogovolas has more Muslims/Other religions; Ribáuè has more women with a primary level of education and Mogovolas has more women with no education/don't know; Ribáuè has more women in the youngest (15-19 years) and oldest (40-49 years) age groups and Mogovolas has more women 35-39 years.

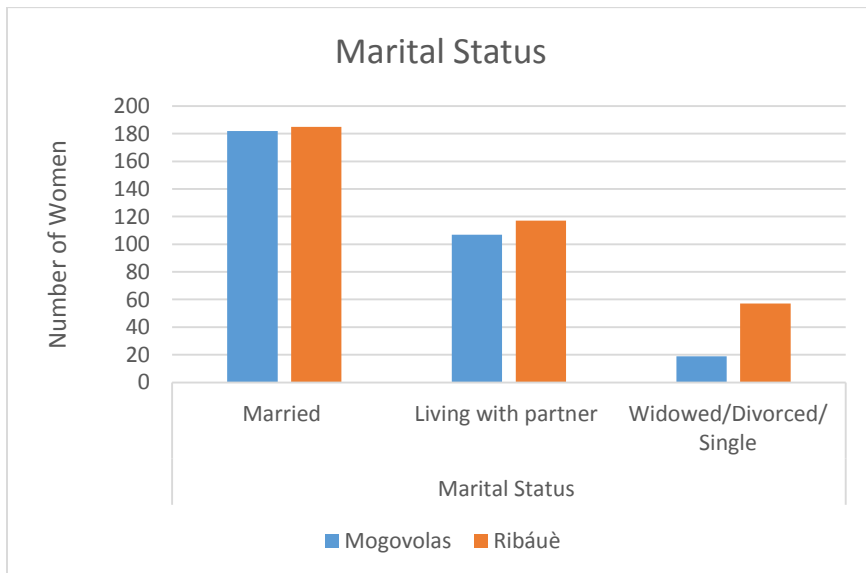


Figure 3. Differences in Marital Status by District

* X^2 value=15.66, P-value <0.001

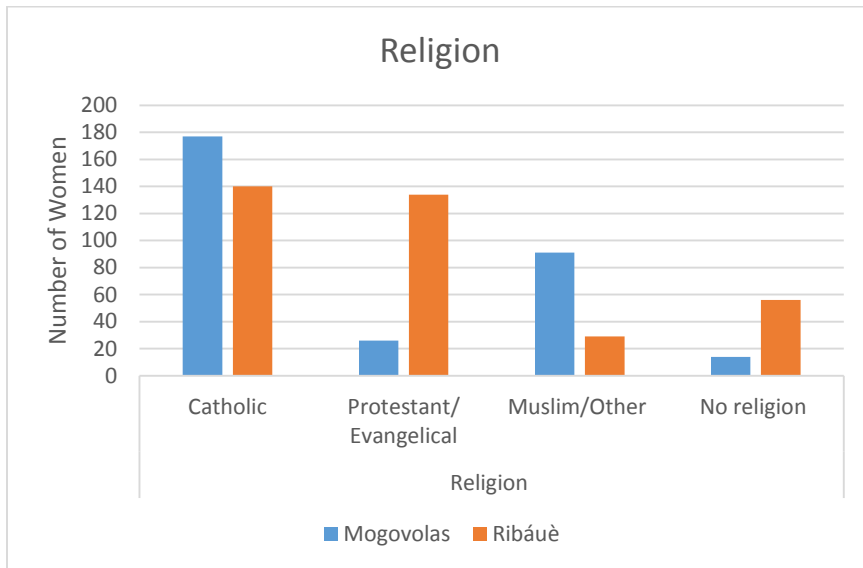


Figure 4. Differences in Religion by District
 *X² value=131.32, P-value <0.001

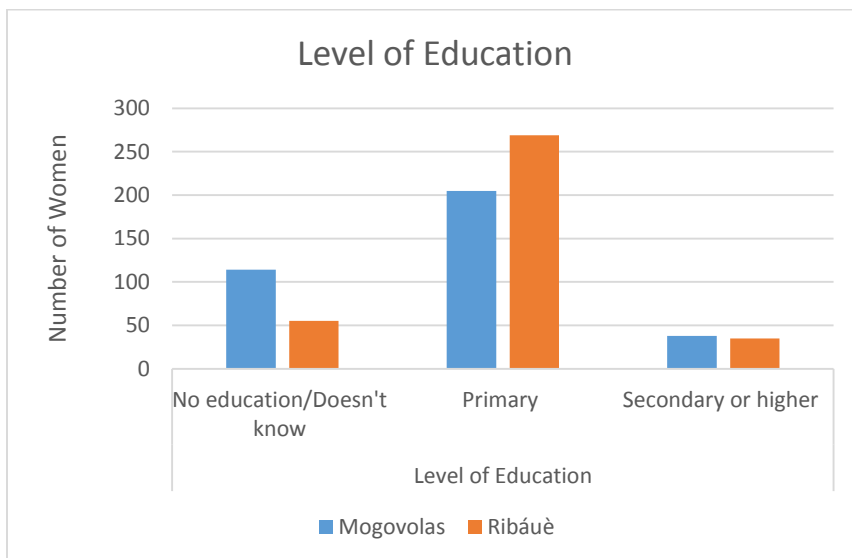


Figure 5. Differences in Education by District
 *X² value=29.36, P-value <0.001

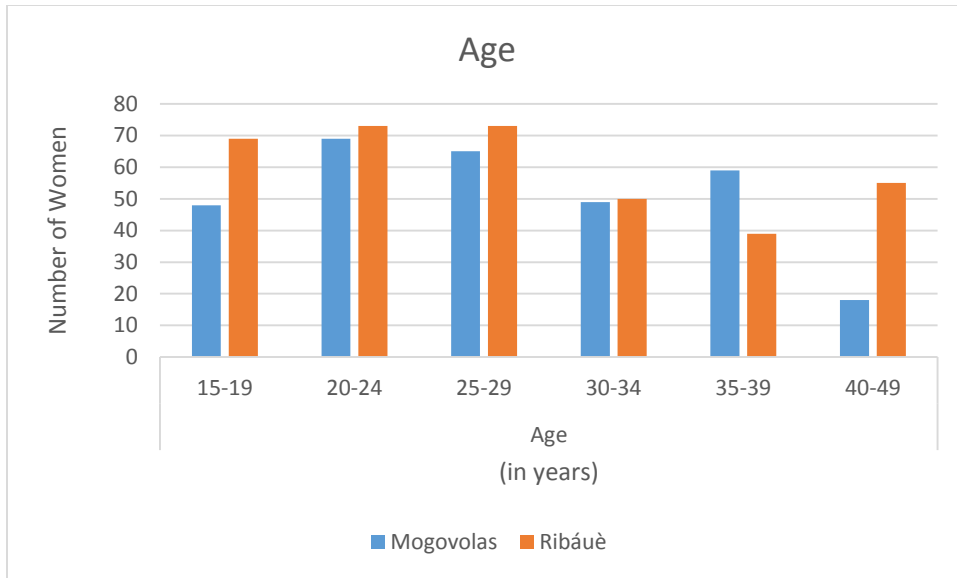


Figure 6. Differences in Age by District
 *X² value=23.43, P-value <0.001

Table 2 shows the socio-demographic characteristics of women who ever attended a meeting (Mogovolas district) or were ever visited by a CHW (Ribáuè district) and discussed HIV versus those who did not discuss HIV with the CHW. In total, nearly 80% (n=267) of women in Ribáuè and Mogovolas that had contact with a CHW discussed HIV with the CHW. The majority of women who discussed HIV with CHWs had a primary education, were Catholic and currently living with a partner in an informal union. There is a significant difference between women who discussed HIV and those who did not discuss HIV based on marital status. Women living with a partner had nearly five times the odds of speaking to a CHW about HIV compared to married women (OR=4.94, 95% CI: 2.48-9.84).

Table 2. Percentage of women who talked with a CHW about HIV, by socio-demographic characteristics

	Discussed HIV with CHW	Did Not Discuss HIV with CHW	X ² value	P-value*
	n (%)	n (%)		
Age in years				
15-19	42 (15.7)	10 (14.9)		
20-24	53 (19.9)	12 (17.9)		
25-29	64 (24.0)	17 (25.4)		
30-34	44 (16.5)	15 (22.4)		
35-39	34 (12.7)	8 (11.9)		
40-49	30 (11.2)	5 (7.5)	1.98	0.85
Highest level of education completed				
No Education/Don't Know	56 (21.0)	14 (20.9)		
Primary	186 (69.7)	41 (61.2)		
Secondary or higher	25 (9.4)	12 (17.9)	4.10	0.13
Religion				
Catholic	135 (50.6)	33 (49.3)		
Protestant/Evangelical	69 (25.8)	16 (23.9)		
Muslim/Other	44 (16.5)	7 (10.4)		
No religion	19 (7.1)	11 (16.4)	6.54	0.09
Marital status				
Currently Married	103 (38.6)	48 (71.6)		
Currently Living with Partner	135 (50.6)	13 (19.4)		
Widowed/Divorced/Single	29 (10.9)	6 (9.0)	24.87	<0.001
District				
Mogovolas	129 (48.3)	32 (47.8)		
Ribáuè	138 (51.7)	35 (52.2)	0.01	0.94
Total	267 (79.9)	67 (20.1)	---	---

* P-value for test of difference in proportions. Bolded p-values are considered significant.

Table 3 shows the percentage of women who knew a place to get condoms and the source of condoms that were reported. This includes both sources of free condoms (from a health facility, *animadora/voluntária*, other CHW, government institution and NGO) and places where they can be purchased (at a pharmacy, shop/market, restaurant/bar/disco, service station, *pensão*/hotel, and vendors/hawkers). Fifty-seven percent (n=377) of women reported knowing a place where they could get condoms. Ninety-two percent (n=347) of these women reported a health facility as a source of condoms. Nearly 33% (n=123) of women reported a shop or market as a source of condoms, 17% (n=62) reported a Project SCIP CHW (*animadora/voluntária*), and 12% (n=46) reported a pharmacy. Fewer than 10% of women who knew of a condom source

reported other CHWs, restaurant/bar/discos, service station, *pensão*/hotel, vendor/hawker, friends, government institution, NGO, or other places as a source of condoms.

Table 3. Percentage of women who know of a condom source

	n (%)
Know of a condom source*	
Yes	377 (56.5)
No	290 (43.5)
Total	667 (100)*
Source of Condoms	
Health Facility	347 (92.0)
Pharmacy	46 (12.2)
Shop/Market	123 (32.6)
<i>Animadora/Voluntária</i>	62 (16.5)
Other CHW	24 (6.4)
Restaurant/Bar/Disco	2 (0.5)
Service Station	1 (0.3)
<i>Pensão</i> /Hotel	8 (2.1)
Vendors/Hawkers	4 (1.1)
Friends	4 (1.1)
Government Institution	7 (1.9)
NGO	0 (0.0)
Other place	2 (0.5)
No Place	2 (0.5)

*This question was asked to all 667 eligible women.

Table 4 shows the logistic regression results for knowledge of a condom source by age, level of education, religion, marital status and district. Women in the 20-24 years, 25-29 years, 30-34 years, and 40-49 years age groups had higher odds of knowing a condom source compared to women in the 15-19 year age group but this was not statistically significant. Women with a primary level of education had slightly higher odds of knowing a condom source than women with no education but this finding was not statistically significant. Women with a secondary or higher level of education, however, had significantly higher odds of knowing a condom source than women with no education. Women that identified as Catholic or Protestant/Evangelical had significantly higher odds of knowing a condom source than women who identified as not having a religion. Women who identified as Muslim or another religion were not significantly more

likely to know a condom source than women with no religion. Women currently living with a partner had significantly higher odds of knowing a condom source than married women.

Widowed/divorced/single women, on the other hand, did not have significantly higher odds of knowing a condom source than married women. Finally, women from Mogovolas district had significantly higher odds of knowing a condom source than women from Ribáuè district.

Table 4. Logistic regression results for knowledge of a condom source, by socio-demographic characteristics

	Odds Ratio	95% CI	P-value*
Age in years			
15-19 (ref)			
20-24	1.30	(0.79-2.12)	0.30
25-29	1.43	(0.87-2.36)	0.16
30-34	1.46	(0.85-2.51)	0.17
35-39	0.99	(0.58-1.69)	0.97
40-49	1.29	(0.71-2.32)	0.40
Highest level of education completed			
No Education/Don't Know (ref)			
Primary	1.19	(0.82-1.73)	0.35
Secondary or higher	1.89	(1.04-3.41)	0.04
Religion			
Catholic	1.66	(0.99-2.80)	0.06
Protestant/Evangelical	2.09	(1.18-3.69)	0.01
Muslim/Other	1.11	(0.62-2.01)	0.73
No religion (ref)			
Marital status			
Currently Married (ref)			
Currently Living with Partner	2.90	(2.03-4.14)	<0.001
Widowed/Divorced/Single	1.30	(0.79-2.13)	0.30
District			
Mogovolas	1.72	(1.27-2.35)	0.001
Ribáuè (ref)			

* P-value for 95% Confidence Interval. Bolded p-values are considered significant.

The number of women that received condoms from the Project SCIP CHWs is shown in Table 5. Thirty-seven percent (n=99) of women were offered condoms and accepted them; 14% (n=37) of women were offered condoms but did not accept them; and 49% (n=131) of women were not offered condoms.

Table 5. Percentage of women who received condoms from a CHW

	n (%)
CHW gave woman condoms	
Yes, and the woman accepted them	99 (37.1)
Yes, but the woman did not accept them	37 (13.9)
No	131 (49.1)
Total	267 (100)

Women who spoke to a CHW about HIV have five times the odds of knowing a condom source compared to women who did not speak to a CHW about HIV (see Table 6). After adjusting for religion, marital status and district, women who spoke to a CHW about HIV had four times the odds of knowing a condom source than women who did not speak to a CHW about HIV.

Table 6. Logistic regression results for knowledge of a condom source

	Knowledge of Condom Source			Knowledge of Condom Source		
	Unadjusted Odds Ratio	95% CI	P- value	Adjusted Odds Ratio ^a	95% CI	P- value
Discussion with CHW						
Yes	5.12	(2.89-9.09)	<0.001	4.24	(2.29-7.86)	<0.001

^a Adjusted for religion, marital status and district. Bolded p-values are considered significant.

4.2 HYPOTHESIS 2

The following results respond to the second hypothesis: women who spoke with a CHW about HIV are significantly more likely to have used a condom at last sexual encounter than women who did not speak with a CHW about HIV. Table 7 shows the percentage of women who have ever had sex and the percentage of women who used a condom at last sexual encounter. Ninety-five percent (n=635) of the women reported having had sex and less than 9% (n=55) of these women reported condom use at last sexual encounter. Nearly 80% (n=500) of sexually experienced women reported no condom use at last sexual encounter; 2% (n=13) did not know if they used a condom; and nearly 11% (n=67) did not respond.

Table 7. Percentage of women who have ever had sex and who reported condom use at last sexual encounter

	n (%)
Ever had sex*	
Yes	635 (95.2)
No	7 (1.1)
Doesn't know/Doesn't respond	25 (3.8)
Total	667 (100)*
Used a condom at last sexual encounter	
Yes	55 (8.7)
No	500 (78.7)
Doesn't know	13 (2.1)
Doesn't respond	67 (10.6)
Total	635 (100)

* This question was asked to all 667 eligible women.

Significant differences were found between women who used condoms at last sexual encounter and women who did not use condoms at last sexual encounter based on age, education, marital status and district (see Table 8). There was not a significant difference between women who reported condom use at last sex and women who did not report condom use based on religion.

Table 8. Percentage of women who used condoms at last sexual encounter, by socio-demographic characteristics

	Condom Use	No Condom Use	X ² value	P-value*
	n (%)	n (%)		
Age in years				
15-19	19 (34.5)	75 (15.0)		
20-24	11 (20.0)	107 (21.4)		
25-29	9 (16.4)	107 (21.4)		
30-34	4 (7.3)	81 (16.2)		
35-39	8 (14.5)	66 (13.2)		
40-49	4 (7.3)	64 (12.8)	15.70	0.01
Highest level of education completed				
No Education/Don't Know	12 (21.8)	98 (19.6)		
Primary	30 (54.5)	350 (70.0)		
Secondary or higher	13 (23.6)	52 (10.4)	9.26	0.01
Religion				
Catholic	30 (54.5)	212 (42.4)		
Protestant/Evangelical	10 (18.2)	143 (28.6)		
Muslim/Other	9 (16.4)	85 (17.0)		
No religion	6 (10.9)	60 (12.0)	3.69	0.30
Marital status				
Currently Married	19 (34.5)	285 (57.0)		
Currently Living with Partner	26 (47.3)	159 (31.8)		
Widowed/Divorced/Single	10 (18.2)	56 (11.2)	10.15	0.006

Table 8 continued

District				
	Mogovolas	28 (50.9)	173 (34.6)	
	Ribáuè	27 (49.1)	327 (65.4)	5.71
Total		55 (8.7)	500 (78.7)	---

*P-value for test of difference in proportions. Bolded p-values are considered significant.

Table 9 shows the logistic regression results for condom use at last sexual encounter by age, level of education, religion, marital status and district. Women in all age groups had significantly lower odds of using a condom at last sexual encounter compared to women in the 15-19 year age group. Women with a secondary or higher level of education had two times the odds of using a condom compared to women with no education, but this finding was not statistically significant. Women with a primary level of education had slightly lower odds of using a condom compared to women with no education but this finding was also not statistically significant. Women who identified as Catholic, Muslim or another religion had slightly higher odds of using a condom compared to women with no religion but the finding was not statistically significant. Women who identified as Protestant/Evangelical had slightly lower odds of using a condom at last sex than women with no religion but this finding was not statistically significant. Women living with a partner and widowed/divorced/single women had nearly two and a half times the odds of using a condom at last sex compared to married women, a statistically significant finding. Finally, women in Mogovolas district had significantly higher odds of using a condom at last sex compared to women in Ribáuè.

Table 9. Logistic regression results for condom use, by socio-demographic characteristics

	Odds Ratio	95% CI	P-value*
Age in years			
15-19 (ref)			
20-24	0.41	(0.18-0.90)	0.03
25-29	0.33	(0.14-0.77)	0.01
30-34	0.20	(0.06-0.60)	0.00
35-39	0.48	(0.20-1.17)	0.10
40-49	0.25	(0.80-0.76)	0.02
Highest level of education completed			
No Education/Don't Know (ref)			
Primary	0.70	(0.35-1.42)	0.32
Secondary or higher	2.04	(0.87-4.79)	0.10
Religion			
Catholic	1.42	(0.56-3.56)	0.46
Protestant/Evangelical	0.70	(0.24-2.01)	0.51
Muslim/Other	1.06	(0.36-3.13)	0.92
No religion (ref)			
Marital status			
Currently Married (ref)			
Currently Living with Partner	2.45	(1.32-4.57)	0.01
Widowed/Divorced/Single	2.68	(1.18-6.07)	0.02
District			
Mogovolas	1.96	(1.12-3.43)	0.02
Ribáuè (ref)			

* P-value for 95% Confidence Interval. Bolded p-values are considered significant.

Women who spoke to a CHW about HIV are not more likely to have used a condom at last sex compared to women who did not speak to a CHW about HIV (see Table 10). Similar effects were seen after adjusting for age, education, marital status and district. However, women who accepted condoms from the CHW had five times the odds of using a condom at last sex compared to women who were not left condoms (OR=5.02, CI: 2.17-11.59).

Table 10. Logistic regression results for condom use

	Unadjusted Odds Ratio	Condom Use 95% CI	P- value	Adjusted Odds Ratio^b	Condom Use 95% CI	P- value
Discussion with CHW	1.20	(0.50-2.88)	0.68	0.93	(0.35-2.50)	0.88
Yes						

^b Adjusted for age, education, marital status and district.

4.3 ADDITIONAL FINDINGS

Table 11 shows that among women who discussed HIV with a CHW, approximately 55% (n=148) talked with someone else in the community about what they learned. Nearly 60% (n=85) of women talked with their husband and 20% (n=29) talked with a family member. Less than 10% of women talked with a partner/boyfriend, family member, friend and other person. Women living with a partner were significantly more likely to share HIV information with someone else in the community compared to married women (OR=2.06, 95% CI: 1.22-3.49).

Table 11. Percentage of women who talked with someone in the community about HIV information

	n (%)
Talked with someone about HIV info learned from CHW	
Yes	148 (55.4)
No	119 (44.6)
Total	267 (100)
Person talked with	
Husband	85 (57.43)
Partner/Boyfriend	11 (7.43)
Family Member	29 (19.59)
Friend	13 (8.78)
Other	10 (6.76)
Total	148 (100)

5.0 DISCUSSION

The results of this thesis add to the small amount of evidence that exists in the literature on the effectiveness of CHWs in increasing knowledge and promoting behavior change through HIV prevention programs. The results from this study suggest that Project SCIP CHWs are effective in sharing HIV prevention messages as part of an integrated health services package since approximately 80% of the women who had contact with a CHW in the past year discussed HIV with the CHW. This result is consistent with previous research, which demonstrated that CHWs in Mozambique are effective at increasing knowledge of HIV transmission and prevention (Audet et al., 2012). It is important that women in Nampula province continue to receive HIV education since the percentage of Nampula women that have comprehensive HIV knowledge is lower than the national average (21% versus 31%, respectively) (Ministério da Saúde [MISAU], 2011). Additionally, women who discuss HIV with a CHW have higher odds of knowing a condom source than women who do not discuss HIV with a CHW. This result of the CHW intervention is important for rural women who have limited access to healthcare infrastructure and HIV prevention measures. On the other hand, the results also suggest that women who discuss HIV with a CHW do not have higher odds of using a condom than women who do not discuss HIV with a CHW. Additionally, only 55% of the women who discussed HIV with the CHW shared the information learned with someone else in the community. These results have implications for future research and HIV prevention programs.

5.1 KNOWLEDGE OF A CONDOM SOURCE

Slightly more than half of the women in the sample knew of a condom source. Of these women, most identified a health facility and about 17% identified a Project SCIP CHW as a source of condoms. Although Project SCIP provides condoms to both *animadoras* and *voluntárias* to distribute at the community level, the level to which the CHWs comply with this is uncertain. If the CHWs are not distributing the condoms that they receive from Project SCIP, this could help to explain why only one in every five women reported a Project SCIP CHW as a source of condoms.

Programs might consider strengthening the link between health facilities and CHWs to ensure that more rural women have knowledge of a condom source. Local health facilities should be aware of the CHWs that work in the surrounding areas so that they can refer women to the CHW for condoms, HIV education or other services. It is common for healthcare workers in Nampula province to not speak the local dialect. Thus, CHWs can help by conveying health messages in the local dialect. Additionally, since community members see CHWs as trustworthy individuals (Audet et al., 2012; Tulenko et al., 2013) and CHWs share many socio-demographic characteristics with the people they serve (Tulenko et al., 2013), women might feel more comfortable approaching a CHW than a healthcare worker to discuss condom use.

HIV prevention programs that operate in rural areas of Mozambique should not rely solely on CSM strategies for two main reasons. First, CSM is not appropriate for rural settings that lack restaurants, bars, discos, hotels, gas stations and other areas that sell condoms. Less than 10% of the women in the sample identified these places as a condom source. Second, it is likely that rural women are unable to afford condoms. While this cannot be known with certainty from the study, results from the original Pathfinder International study indicate that the majority

of the sample population live in poverty. The majority of the women live in houses with rudimentary walls (84% in Ribáuè, 89% in Mogovolas) and grass/thatch/palm roofs (96% in Ribáuè, 97% in Mogovolas). Additionally, a minority of the women own basic household items such as a radio (47% in Ribáuè, 41% in Mogovolas), cell phone (11% in Ribáuè, 11% in Mogovolas) and bicycle (45% in Ribáuè, 42% in Mogovolas) (Subramanian et al., 2013). Instead, HIV and sexual health programs should focus on health facilities, pharmacies, local shops/markets and CHWs for condom distribution in rural areas. Strengthening this health network would likely allow more rural women to know of a condom source, especially those where condoms are distributed without cost.

Women in Mogovolas district had nearly two times the odds of knowing a condom source as women in Ribáuè. There was not a significant difference between women who discussed HIV with a CHW by district, suggesting that the environment in Mogovolas may contribute to greater knowledge of condom sources among women. The environment of Mogovolas is more urban than Ribáuè due to its geographical proximity to Nampula city. This environment may lead to a greater number of condom sources in rural parts of the district. There was not a significant difference between the women in Ribáuè and Mogovolas for receipt of condoms from a CHW, but it is possible other HIV or sexual health interventions were occurring in Mogovolas before or at the time of data collection.

The differences between women in the two districts may also explain why women in Mogovolas had higher odds of knowing a condom source than women in Ribáuè. The literature shows that Mozambicans with higher education are more likely to know of a condom source (Font et al., 2006). The results of this thesis found that women with a secondary or higher level of education had nearly two times the odds of knowing a condom source compared to women

with no education or who were unable to report their level of education. Women in Mogovolas and Ribáuè differ significantly with regards to education. Additionally, women who identified as Catholics were significantly more likely to know a condom source compared to women with no religion. Mogovolas has more Catholic women and Ribáuè has more women who identified with no religion. Thus, differences in the educational and religious compositions of the women in these districts could account for women in Mogovolas having higher odds of knowing a condom source. This possibility should be further explored so that programs that promote condoms can make appropriate alterations based on the educational and religious profile of the population being served.

5.2 CONDOM USE AT LAST SEXUAL ENCOUNTER

The low percentage of reported condom use at last sex is consistent with findings from previous studies (Font et al., 2006; Noden et al., 2009; Prata et al., 2006). Approximately 95% of the women reported having sex but less than 9% reported using a condom at last sexual encounter. Also consistent with previous research, the current results show that women with a secondary or higher level of education are more likely to have used a condom at last sexual encounter than women with no education. Additionally, the results indicate that women living with a partner or widowed/divorced/single women have significantly higher odds of using a condom than married women. It is interesting that there is a significant difference between married women and women living with a partner with regard to condom use. Previously published studies reveal married women and women in steady relationships are less inclined to demand that their partner use a condom. However, it is possible that the women living with a partner in this sample do not

consider their relationships to be “steady”. Finally, younger women (15-19 years) had higher odds of having used a condom at last sexual encounter compared to women in the older age groups. This is promising since young, rural girls are more likely to have sex before age 15 compared to their urban peers (Ministério da Saúde [MISAU], 2011) and may be at higher biological risk for contracting HIV and other STIs than developed women (Audet et al., 2010). The fact that younger women had higher odds of using a condom at last sex may be due to an increase in educational HIV campaigns that target school-age girls. Additionally, older women are more likely to be married, making them less likely to use condoms.

Similar to knowledge of a condom source, women in Mogovolas district had nearly two times the odds of having used a condom at last sexual encounter as women in Ribáuè. Since there was not a significant difference between women who discussed HIV with a CHW by district, this suggests that the environment or people of Mogovolas may contribute to higher odds of condom use. As previously mentioned, the location and accessibility to Nampula city (the provincial capital) may also be a factor. People in Mogovolas district likely travel into Nampula city more often because it is closer than Ribáuè and transportation is less expensive. The dirt road leading from Ribáuè into Nampula city is in poor condition and can become unpassable during the rainy season. Although there is a train that runs from Nampula city to Ribáuè, the cost of a ticket may be unaffordable for many rural Ribáuè residents. Additionally, Mogovolas gets more vehicular traffic because of the paved road that runs through it from Nampula city down to the coastal town of Angoche. This allows for more abundant goods and resources in Mogovolas compared to Ribáuè. Thus, people in Mogovolas may be more exposed to Western culture and mass media and have different sexual knowledge, attitudes and behavior than women from Ribáuè.

Interestingly, women in Mogovolas district had twice the odds of having used a condom at last sexual encounter as women in Ribáuè. The literature shows that simply knowing about condoms is not a predictor for condom use (Font et al., 2006; Ministério da Saúde [MISAU], 2011; Noden et al., 2009). However, since women in Mogovolas were also more likely to know of a condom source, it is possible that knowledge of a condom source is a predictor of condom use for these women. Because there has been little research conducted on the HIV knowledge, beliefs and sexual practices of northern Mozambicans, the current insight is limited. The educational, religious, marital and age differences among women in Mogovolas and Ribáuè districts should be further investigated to better understand their role in predicting condom use compared to knowledge of condoms.

Women who spoke with a CHW about HIV did not have higher odds of using a condom at last sex compared to women who did not speak to a CHW about HIV. While nearly 80% of women reported no condom use at last sexual encounter, another 11% did not respond. For the purposes of this thesis, these women were not included in the analysis. However, future research should consider the differences among women that refuse to respond to questions regarding condom use. As previously stated, more than half of the women knew of a condom source. The fact that so few women are reporting condom use suggests that cultural/societal barriers are impeding use and not just a lack of knowledge. Many of the condom sources reported by women offer condoms for free, so it is reasonable to conclude that cost is also not a major factor in impeding use. The utility of CBD of condoms through CHW programs should be further evaluated. Such programs should not focus solely on educating women about condoms. In addition, CHWs should be used to help women accurately assess their risk of HIV transmission

since this has been shown to be positively associated with greater condom use (Prata et al., 2006).

5.3 SHARING HIV INFORMATION WITH OTHERS IN THE COMMUNITY

Nearly 45% of women did not share HIV information discussed with the CHW with another person in the community. Women may have been less likely to share information because of HIV-related stigma. Women living with a partner were significantly more likely to share HIV information with someone else in the community compared to married women. These results suggest that there is still a need to encourage dialogue between spouses on sexual health matters. Ninety percent of men and only 56% of women in Nampula agree that a woman can propose condom use if she knows her husband has a STI (Ministério da Saúde [MISAU], 2011). This disparity suggests a need for sexual health conversations between couples in Nampula.

Our results and other research conducted in Mozambique (Noden et al., 2009) support the notion that there is a lack of communication on sexual health matters between spouses in sub-Saharan Africa (Bove & Vallengia, 2009). Certainly, the underpinnings of northern Mozambican culture play a role, including the prevalence of polygamy and intergenerational marriage. Almost 9% of men in Nampula reported having two wives, and nearly 2% reported having three or more wives (Ministério da Saúde [MISAU], 2011). Despite interventions aimed at promoting behavior change, it is possible the cultural and traditional tenants of Mozambican marriage are too strong to allow for a change in dialogue among spouses. Although interventions may be unable to change this, they could focus on empowering women to take more responsibility and power over sexual decision-making.

6.0 CONCLUSIONS

The HIV epidemic in Mozambique is unique due to the country's post-independence civil conflict, high prevalence of international aid agencies, regional variations in the population and socio-cultural beliefs towards sexual practices. International donors have addressed the Mozambican HIV/AIDS epidemic with significant personnel and fiscal resources. However, the number of PLWHA has increased from 850,000 in 2001 to 1.4 million in 2011 (World Health Organization [WHO], 2013a). In 2008 alone, more than \$228 million was invested in Mozambique's HIV/AIDS epidemic through PEPFAR. Unfortunately, the relationship between donor aid and the success of HIV prevention programs is not clearly understood.

CHW programs provide women with HIV prevention information in a culturally competent manner (Ciampa, Vaz, et al., 2012; Tulenko et al., 2013) and are able to reach rural women normally affected by the barriers of a weak health infrastructure (Simon et al., 2009). Although discussion of HIV with Project SCIP CHWs did not increase condom use among program recipients, the women who discussed HIV with a Project SCIP CHW were more likely to identify a source of condoms. Future research might investigate how CHWs distribute condoms in CBD programs. Do they distribute them to some women and not others? Are the condoms diverted for personal gain? In these resource-poor environments, CHWs might be able to barter condoms for other goods.

The results of this thesis are useful to inform programs that utilize CHWs for CBD of condoms in rural, resource-poor settings. However, since the data comes from a cross-sectional study, no cause-and-effect relationships can be determined. For example, it is possible that women who spoke to a CHW about HIV had knowledge of a condom source before the

discussion. Therefore, it is not possible to conclude that women learned of a condom source from their discussion of HIV with a CHW. Another limitation of the study is that the data was collected through self-report, a known reporting bias. Thus, it is possible that the results represent a higher reporting of condom use at last sex. Finally, the results of this thesis are specific to women of rural districts in northern Mozambique that have high rates of poverty and extremely low access to mass media and other educational health resources.

6.1 IMPLICATIONS FOR FUTURE HIV PREVENTION RESEARCH AND PROGRAMS IN MOZAMBIQUE AND OTHER RESOURCE-POOR SETTINGS

Since few studies have focused on HIV knowledge, beliefs and sexual behavior of rural, northern Mozambicans, this thesis may be able to inform future prevention research studies in rural areas of Mozambique and other areas in sub-Saharan Africa. Specifically, the socio-demographic characteristics of rural populations and how they relate to HIV knowledge, beliefs and sexual behavior need to be better understood so that evidence-based interventions can be developed and implemented.

It is time for new, innovative interventions to be implemented in Mozambique to fight the on-going HIV/AIDS epidemic. Western prevention programs that target individual behaviors founded on accepted traditions, including the refusal to use condoms, have not been successful. Instead, prevention programs should focus on the social, cultural and economic aspects of the environment that impede or facilitate efforts to avoid HIV transmission. HIV prevention programs should target their efforts on: 1) increasing the number of women that can accurately assess their HIV risk; 2) increasing access and availability to condoms; 3) encouraging female

empowerment, specifically for sexual decision-making); 4) increasing discussion between partners on sexual health matters; 5) increasing the number of people who have a comprehensive knowledge of HIV information in an attempt to reduce stigma and HIV-related myths; and 6) developing greater communication (health literacy) between patients and healthcare providers. VCT has been shown to have a positive effect on condom use (Mola et al., 2006). VCT implementation addresses assessing HIV risk, accurate HIV information, and communication between the patient and healthcare provider. Therefore, programs that use CHWs for the CBD of condoms might consider incorporating a VCT component to the program.

Finally, men and women need to be equally involved in the planning and implementation of HIV prevention programs. This is necessary to ensure that programs successfully address the structural factors of HIV transmission including stigma, social norms and gender inequality. Although women are disproportionately affected by HIV in Mozambique (Instituto Nacional de Saúde, 2009), research shows that males play a pivotal role in the prevention of HIV and other STIs among women (Bove & Vallengia, 2009). Some of the cultural factors that play a role in HIV transmission could be addressed by involving men in the program planning process. Pathfinder International's Project SCIP has many interventions that engage men in sexual health matters, including HIV prevention. The results of these interventions and their impact on HIV knowledge, beliefs and sexual practices of both rural men and women will inform future prevention interventions.

APPENDIX A: DATA USE AGREEMENT



**PATHFINDER INTERNATIONAL
DATA REQUEST AND AGREEMENT**

1. Purpose

Pathfinder International ("Pathfinder") has supported collection of survey data in many developing countries. In order to take full advantage of these data and maximize their use, it is important that data be made available, on appropriate terms and conditions, to qualified investigators in a timely manner.

Pathfinder seeks to promote the dissemination of valuable findings and related policy implications that will be beneficial to public health based upon use of Pathfinder data. Therefore, research performed pursuant to this Agreement shall be designed to achieve, in so far as circumstances and applicable rights permit, findings that contribute to the evidence base for international public health programs.

Toward these ends, Pathfinder and the Applicant/Recipient identified below ("the Parties") hereby enter into this Data Request and Agreement ("Agreement") as of the date specified on the final page hereof. Until approved and signed below by Pathfinder's Authorized Representative, this document constitutes only an application for access to Pathfinder data. Pathfinder reserves the right at its discretion to deny this application.

2. Applicant/Recipient

The following party requests access to Pathfinder data at its sole risk and at no expense to Pathfinder International:

Applicant/Recipient: Adrienne Long
Title: MPH candidate
Mail Address: 6222 Kentucky Ave Pittsburgh, PA 15206
Email Address: adriennelong@gmail.com
Telephone number: (717) 715-9960
Fax number: N/A

3. Data Requested

Pathfinder International agrees to transfer to the recipient, for limited, non-exclusive use to conduct the Research Project described in Paragraph 4, the following Pathfinder data:

Mozambique CHW study household survey and CHW survey datasets

4. Research Project

The Pathfinder data identified in Paragraph 3 will be used by the recipient solely for purposes of the following proposed research ("Research Project") (provide project title):

The dissemination and response of HIV prevention messages by community health workers in Namputa province, Mozambique

Recipient agrees that the Pathfinder data will not be used by Recipient in any analysis that is not disclosed and approved as part of the Research Project. Recipient will submit a new Data Request and Agreement letter for each research project for which Pathfinder data are requested.

5. Non-transferability & Confidentiality

This Agreement is not transferable and the Pathfinder data are confidential. Recipient agrees that substantive changes made to the Research Project and/or appointment by Recipient of another investigator to complete it requires written approval by Pathfinder or execution of a new Agreement in which the changes and/or new investigator are designated. Recipient agrees to retain strict control over Pathfinder data, to treat it as confidential with at least as much care as it would treat its own confidential information, but in no case less than a reasonable amount of care, and agrees not to transfer, share, sell or make Pathfinder data otherwise available to any other entity or individual without written consent from Pathfinder.

6. Non-Identification

To protect the confidentiality and privacy of survey respondents and their families, the Recipient agrees that Pathfinder data will not be used, either alone or in conjunction with any other information, in any effort whatsoever to establish the individual identities of any of the subjects from whom Pathfinder data were obtained. Any attempt to do so will be considered a material breach of this Agreement, which may subject Recipient to legal action from Pathfinder and survey participants, their families, or relevant government entities.

7. Publication

Prompt publication of the results of the Research Project is encouraged. Recipient agrees to provide Pathfinder a copy of any abstract ten (10) days in advance of submission for publication and any manuscript or other formal public dissemination thirty (30) days in advance of submission for publication, in order to permit review and comment and to ensure compliance with the confidentiality requirements of this Agreement and the limitations it imposes on the use of the Pathfinder data provided.

8. Authorship

If the Research Project involves a collaboration with Pathfinder co-investigators, then Recipient will include Pathfinder co-investigators as co-authors, as appropriate, on any publication.

9. Acknowledgments

Recipient agrees to acknowledge the contribution of Pathfinder and the original donor in any and all oral and written presentations, disclosures, and publications resulting from Recipient's analyses of Pathfinder data as follows:

"This manuscript is based on data collected and shared by Pathfinder International from an original study it conducted with support from [donor name provided]."

10. Accuracy of Data & Obligation to Notify

Recipient agrees that Pathfinder and the other investigator(s) who generated Pathfinder data are not responsible for the accuracy of the Pathfinder data provided. If the Recipient identifies an apparent error or inconsistency in any Pathfinder data received, Recipient shall convey it to Pathfinder as soon as reasonably possible.

This Agreement is entered into as of the last date indicated below by and between:

RECIPIENT:

**PATHFINDER INTERNATIONAL
Authorized Representative:**

Name:

U

Name:

Title: MPH Candidate

Title: Research + Metrics Advisor

Date: 12/17/13

Date: 12/20/2013

APPENDIX B: INSTITUTIONAL REVIEW BOARD EXEMPTION



University of Pittsburgh
Institutional Review Board

3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
<http://www.irb.pitt.edu>

Memorandum

To: Adrienne Long
From: Sue Beers, PhD, Vice Chair
Date: 5/24/2013
IRB#: PRO12100615
Subject: The dissemination and response of HIV/AIDS messages by Community Health Workers in Nampula Province, Mozambique

The above-referenced project has been reviewed by the Institutional Review Board. Based on the information provided, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section 45 CFR 46.101(b)(4).

Please note the following information:

- If any modifications are made to this project, use the "**Send Comments to IRB Staff**" process from the project workspace to request a review to ensure it continues to meet the exempt category.
- Upon completion of your project, be sure to finalize the project by submitting a "**Study Completed**" report from the project workspace.

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

Activity Details (Send Comments To Study Team) Send a message to the study team

Author:	Erin Grabowski (U of Pgh)
Logged For (Study):	The dissemination and response of HIV/AIDS messages by Community Health Workers in Nampula Province, Mozambique
Activity Date:	4/1/2014 9:50 AM EDT

- Activity Form**
- Property Changes
- Documents
- Notifications

Comments:

Thank you for updating the IRB regarding this submission.

Your changes do not change the Exempt determination.

You may proceed as outlined.

Note: Ensure that you have consulted with the University of Pittsburgh Office of Research regarding the data agreement.

Attachments:

Name	Modified Date	Version
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There are no items to display

**APPENDIX C: HOUSEHOLD QUESTIONNAIRE FROM THE 2012 PATHFINDER
INTERNATIONAL STUDY (TRANSLATED INTO ENGLISH)**

August 2012

QUESTIONNAIRE
 NUMBER (FOR USE BY DATA
 ENTRY PERSONNEL)

Annex A: Household Questionnaire (household characteristics and women's questions)

**PATHFINDER INTERNATIONAL
 SCIP COMMUNITY HEALTH WORKER INTERVENTIONS**

IDENTIFICATION				
DISTRICT _____			<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
COMMUNITY LEADERSHIP COUNCIL				
CONCELHO LOCAL DE POVOACAO				
HOUSEHOLD NUMBER				
NAME OF HOUSEHOLD HEAD _____				
INTERVIEWER VISITS				
	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY <input type="text"/> <input type="text"/> MONTH <input type="text"/> <input type="text"/> YEAR <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
INTERVIEWER'S NAME	_____	_____	_____	INTERVWR # <input type="text"/> <input type="text"/>
RESULT*	_____	_____	_____	FINAL RESULT <input type="text"/>
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS <input type="text"/>
TIME	_____	_____		
*RESULT CODES: 1 COMPLETED 2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT 3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME 4 POSTPONED 5 REFUSED 6 DWELLING VACANT OR ADDRESS NOT A DWELLING 7 DWELLING DESTROYED 8 DWELLING NOT FOUND 9 OTHER _____ (SPECIFY)				TOTAL PERSONS IN HOUSEHOLD <input type="text"/> <input type="text"/> TOTAL ELIGIBLE WOMEN <input type="text"/> <input type="text"/>
SUPERVISOR		OFFICE EDITOR		DATA ENTRY
NAME _____		NAME _____		NAME _____
DATE _____		DATE _____		DATE _____

HOUSEHOLD SCHEDULE

Now we would like some information about the people who usually live in your household or who are staying with you now.

E	USUAL RESIDENTS AND VISITORS	RELATIONSHIP	SEX		RESIDENCE				AGE	Mother	ELIGIBILITY	EDUCATION
			Is (NAME) male or female?	Does (NAME) Usually live here?	Did (NAME) stay here last night?	How old is (NAME)?	IF A CHILD IS < 2 YEARS OLD, WRITE THE MOTHER'S LINE NO FROM COL 1					
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAME, RELATIONSHIP AND SEX FOR EACH PERSON, ASK Qs. 2A-2C (BELOW TABLE), THEN ASK Qs. 5-8 FOR EACH.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	M 1	F 2	Yes 1	No 2	Yes 1	No 2	IN YEARS		CIRCLE LINE NUMBER OF ALL ELIGIBLE WOMEN ¹	IF PERSON IS AGE 5-24, ASK: Is (NAME) currently in school?
	(2)	(3)									(9)	(10)
											01	Yes 1 No 2
											02	1 2
											03	1 2
											04	1 2
											05	1 2
											06	1 2
											07	1 2
											08	1 2
											09	1 2
											10	1 2
											11	1 2
											12	1 2

CLICK HERE IF CONTINUATION SHEET USED
to make sure that I have a complete listing:

Are there any other persons such as small children or infants we have not listed? YES ADD TO TABLE NO

Are there any other people who may not be members of your family, like domestic servants, lodgers, or friends who usually live here? YES ADD TO TABLE NO

Are there any guests or temporary visitors staying here, or anyone else who slept here last night, who have been listed? YES ADD TO TABLE NO

Q. 3. RELATIONSHIP TO HEAD OF HOUSEHOLD

- 01 = HEAD
- 02 = WIFE OR HUSBAND
- 03 = SON OR DAUGHTER
- 04 = SON-IN-LAW OR DAUGHTER-IN-LAW
- 05 = GRANDCHILD
- 06 = PARENT
- 07 = PARENT-IN-LAW
- 08 = BROTHER OR SISTER
- 09 = BROTHER-IN-LAW OR SISTER-IN-LAW

¹ In Intensivist areas, this will be all women 15-49. In Complementary areas, it will be women age 15-49 with a child less than 2.

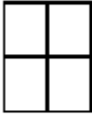

HOUSEHOLD CHARACTERISTICS (to be asked of the HH head or any other adult in the household)

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP
101	Have you ever attended school?	YES..... 1 NO 2	→ 104
102	What is the highest level of school you attended: primary, secondary or higher?	PRIMARY 1 SECONDARY..... 2 HIGHER..... 3	
103	What is the highest grade/form/year you completed at that level?	GRADE <input type="text"/> <input type="text"/>	
104	Does your household have:	YES NO RADIO1 2 MOBILE TELEPHONE.....1 2 BLANKET.....1 2 CANDLE1 2 BICYCLE.....1 2	
105	MAIN MATERIAL OF THE EXTERIOR WALLS. RECORD OBSERVATION.	NATURAL WALLS NO WALLS11 CANE/PALM/TRUNKS12 DIRT13 RUDIMENTARY WALLS BAMBOO WITH MUD.....21 STONE WITH MUD22 UNCOVERED ADOBE23 PLYWOOD24 CARDBOARD/CARTON25 REUSED WOOD26 FINISHED WALLS CEMENT31 STONE WITH LIME/CEMENT32 BRICKS.....33 CEMENT BLOCKS.....34 COVERED ADOBE35 WOOD PLANKS/SHINGLES36 OTHER 96 (SPECIFY)	

RESPONDENT'S BACKGROUND

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP
201	In what month and year were you born?	MONTH..... <input type="text"/> <input type="text"/> DON'T KNOW MONTH..... 98 YEAR..... <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> DON'T KNOW YEAR..... 9998	
202	How old were you at your last birthday? COMPARE AND CORRECT 201 AND/OR 202 IF INCONSISTENT.	AGE IN COMPLETED YEARS <input type="text"/> <input type="text"/>	
203	CHECK HOUSEHOLD LISTING TO CONFIRM WHETHER SELECTED RESPONDENT IS THE HOUSEHOLD HEAD.	YES NO	→207 →204
204	Have you ever attended school?	YES 1 NO 2	→207
205	What is the highest level of school you attended: primary, secondary or higher?	PRIMARY 1 SECONDARY 2 HIGHER..... 3	
206	What is the highest grade/form/year you completed at that level?	GRADE..... <input type="text"/> <input type="text"/>	
207	Are you currently married or living together with a man?	YES, CURRENTLY MARRIED 1 YES, LIVING WITH A MAN 2 NO, NOT IN UNION 3	→209
208	Have you ever been married or lived with a man?	YES, FORMERLY MARRIED..... 1 YES, LIVED WITH A MAN 2 NO 3	
209	What is your religion?	CATHOLIC..... 1 PROTESTANT/EVALNGELICAL 2 ZIONIST 3 MUSLIM 4 ANIMIST 5 NO RELIGION..... 6 OTHER 9 (Specify)	

CONTACT WITH A CHW

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP
301	<p><u>Intensivist:</u> Have you ever been visited by a health volunteer?</p> <p><u>Complementary:</u> Have you ever attended a meeting held by an <i>animadora</i>?</p>	YES..... 1 NO 2	→ END INTERVIEW
302	<p><u>Intensivist:</u> Have you been visited by a health volunteer in the past month?</p> <p><u>Complementary:</u> Have you attended a meeting held by an <i>animadora</i> in the past month?</p>	YES..... 1 NO 2	→ 304
303	<p><u>Intensivist:</u> When was the last time you were visited by a health volunteer?</p> <p><u>Complementary:</u> When was the last time you attended a meeting held by an <i>animadora</i>?</p>	MONTHS 1 YEARS 2 DON'T KNOW 998	 → END INTERVIEW
304	<p>Have you ever seen the volunteer/<i>animadora</i> wearing a t-shirt, bag or cap with this logo?</p> <p>SHOW LOGO.</p>	YES..... 1 NO 2 DON'T KNOW 998	
305	<p>Has the volunteer/ <i>animadora</i> ever talked with you about ways to avoid becoming pregnant?</p>	YES..... 1 NO 2 DON'T KNOW 998	→ 312 → 312
306	<p>When was the last time that you talked with the volunteer/<i>animadora</i> about ways to avoid becoming pregnant?</p>	DAYS 1 WEEKS 2 MONTHS 3 DON'T KNOW 998	
307	<p>Did the talk with the volunteer/ <i>animadora</i> get you to think differently about avoiding pregnancy? (In other words did you learn anything new?)</p>	YES..... 1 NO 2	

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP
308	Did you tell anyone else about what you heard from/discussed with the volunteer/ <i>animadora</i> ?	YES..... 1 NO 2	→ 310
309	Who did you tell? CIRCLE ALL RESPONSES MENTIONED Probe: "Anyone else?"	SPOUSE..... A FAMILY MEMBER (mother, sister, sister-in-law) B FRIEND C OTHER W (SPECIFY)	
310	After your talk with the volunteer/ <i>animadora</i> , did you do anything different about avoiding pregnancy?	YES..... 1 NO 2	→ 312
311	What did you do? <i>NOTE: This may be precoded following the pretest.</i>	_____ _____ _____	
312	Has the volunteer/ <i>animadora</i> ever talked with your husband about ways to avoid becoming pregnant?	YES..... 1 NO 2 DON'T KNOW 998	
313	Have you ever talked with the volunteer/ <i>animadora</i> about HIV/AIDS?	YES..... 1 NO 2 DON'T KNOW 998	→ 323 → 323
314	When was the last time that you talked with the volunteer/ <i>animadora</i> about HIV/AIDS?	DAYS 1 WEEKS 2 MONTHS 3 DON'T KNOW 998	
315	Did the talk with the volunteer/ <i>animadora</i> get you to think differently about HIV/AIDS? (In other words did you learn anything new?)	YES..... 1 NO 2	
316	Did you tell anyone else about what you heard from/discussed with the volunteer/ <i>animadora</i> ?	YES..... 1 NO 2	→ 318
317	Who did you tell? CIRCLE ALL RESPONSES MENTIONED. Probe: "Anyone else?"	SPOUSE..... A FAMILY MEMBER (mother, sister, sister-in-law) B FRIEND C OTHER W (SPECIFY)	

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP						
318	After your talk with the volunteer/ <i>animadora</i> , did you do anything differently in regard to HIV/AIDS?	YES..... 1 NO 2	→ 320						
319	What did you do? <i>NOTE: This may be precoded following the pretest.</i>	_____ _____							
320	Did the volunteer/ <i>animadora</i> talk to you about HIV prevention?	YES..... 1 NO 2	→ 322						
321	What did the volunteer/ <i>animadora</i> tell you a person should do to protect themselves from HIV infection? CIRCLE ALL RESPONSES MENTIONED. PROBE: "Anything else?"	SEXUAL ABSTINENCE..... A CONDOM USE..... B SEX WITH ONE PARTNER..... C DECREASE NUMBER OF SEXUAL PARTNERS..... D DO NOT HAVE SEXUAL RELATIONS WITH HOMOSEXUALS..... E AVOID BLOOD TRANSFUSIONS..... F DO NOT DONATE BLOOD..... G TAKE MEDICATIONS..... H HAVE SEXUAL RELATIONS WITH VIRGINS..... I DO NOT USE PUBLIC BATHROOM OR LATRINE..... J DO NOT HAVE SEXUAL RELATIONS WITH SEX WORKERS..... K DO NOT SHARE NEEDLES/BLADES /SYRINGES..... L OTHER..... W (SPECIFY)							
322	After your talk, did the volunteer/ <i>animadora</i> leave condoms?	YES..... 1 NO 2							
323	Now I need to ask you some questions about sexual activity in order to gain a better understanding of some issues. Have you ever been sexually active?	YES..... 1 NO 2	→ END INTERVIEW						
324	When is the last time you had sexual relations? RECORD 'YEARS AGO' ONLY IF LAST INTERCOURSE WAS ONE OR MORE YEARS AGO. IF 12 MONTHS OR MORE, ANSWER MUST BE RECORDED IN	DAYS 1 WEEKS 2 MONTHS 3	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>						

NO.	QUESTIONS AND FILTERS	RESPONSE	SKIP
	YEARS.	YEARS 4 <input type="text"/> <input type="text"/> DON'T KNOW 998	
325	Did you use a condom during your last sexual relation?	YES 1 NO 2 DON'T KNOW 998	
326	Do you know a place where you can get condoms?	YES 1 NO 2	→ END INTERVIEW
327	Where is this place? CIRCLE ALL RESPONSES MENTIONED. PROBE: "Any other place?"	HEALTH FACILITY A PHARMACY B STORE/MARKET C RESTAURANT/BAR/DISCOTECA D GAS STATION E MOTEL F PLACE OF WORK G PEDDLER H FRIEND(S) I VOLUNTEER/ANIMADORA J OTHER CHW K GOVERNMENT INSTITUTION L NGO M OTHER W (SPECIFY)	

**APPENDIX D: HOUSEHOLD QUESTIONNAIRE FROM THE 2012 PATHFINDER
INTERNATIONAL STUDY (IN PORTUGUESE)**

Agosto 2012

NÚMERO QUESTIONÁRIO
(PARA USO DOS DIGITADORES)

QUESTIONÁRIO AO AGREGADO FAMILIAR (CARACTERÍSTICAS DO AGREGADO E QUESTÕES ÀS MULHERES)

PATHFINDER INTERNATIONAL

SCIP INTERVENÇÃO DOS AGENTES COMUNITÁRIOS DE SAÚDE

IDENTIFICAÇÃO				
DISTRITO	<input type="checkbox"/>			
CONSELHO DE LIDER COMUNITÁRIO (CLC)				
CONSELHO LOCAL DE POVOAÇÃO (CLP)				
NÚMERO DE AGREGADO FAMILIAR	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>			
VISITAS DO (A) INQUIRIDOR (A)				
	1ª Visita	2ª Visita	3ª Visita	VISITA FINAL
DATA				DIA <input type="text"/> <input type="text"/> MÊS <input type="text"/> <input type="text"/> ANO 2 0 1 <input type="text"/> <input type="text"/>
NOME DA INQUIRIDOR(A)				CÓDIGO DO INQUIRIDOR <input type="text"/> <input type="text"/>
RESULTADO*				RESULT. FINAL <input type="checkbox"/>
CÓDIGO MULHER**				
PROXIMA VISITA: DATA HORA				NÚMERO TOTAL DE VISITAS <input type="checkbox"/>
<p>*CÓDIGOS DE RESULTADOS:</p> <p>1 COMPLETO</p> <p>2 MEMBROS DO AGREGADO AUSENTES OU NENHUM MEMBRO COMPETENTE PARA SER ENTREVISTADO NO MOMENTO DA VISITA</p> <p>3 AGREGADO INTEIRO AUSENTE POR LONGO PERIODO</p> <p>4 ADIADA</p> <p>5 INCOMPLETO</p> <p>6 RECUSADO</p> <p>7 HABITAÇÃO VAGA OU HABITAÇÃO SEM ENDEREÇO/DADOS SUFICIENTES</p> <p>8 HABITAÇÃO DESTRUÍDA</p> <p>9 HABITAÇÃO NÃO ENCONTRADA</p> <p>10 OUTROS (ESPECIFIQUE) _____</p>				<p>TOTAL MEMBROS NO AGREGADO <input type="text"/> <input type="text"/></p> <p>TOTAL DE MULHERES ELEGÍVEIS <input type="text"/> <input type="text"/></p>
<p>**CÓDIGOS DA MULHER ELEGÍVEL:</p> <p>1 MULHER ELEGÍVEL AUSENTE</p> <p>2 MULHER ELEGÍVEL SELECIONADA RECUSOU A ENTREVISTA</p> <p>3 ENTREVISTA NÃO COMPLETA</p> <p>4 MULHER ELEGÍVEL SELECIONADA ESTÁ INCAPACITADO</p>				
SUPERVISOR		EDITOR ESCRITÓRIO		DATA DE ENTRADA
NOME _____		NOME _____		NOME _____
DATA _____		DATA _____		DATA _____

MÓDULO AGREGADO FAMILIAR
[A SER RESPONDIDO PELO CHEFE DO AF OU UM OUTRO ADULTO DO AGREGADO FAMILIAR]

1. Agora gostaríamos de ter algumas informações sobre as pessoas que normalmente vivem em sua casa ou que estão com você agora

LINHA Nº	MORADORES HABITUAIS E VISITANTES	RELAÇÃO DE PARENTESCO COM O CHEFE	SEXO		RESIDÊNCIA			IDADE	MÃE	FREQUÊNCIA ESCOLAR	GRAU ESCOLAR	ELEGIBILIDADE
			(NOME) é do sexo masculino ou feminino?	(NOME) vive habitualmente aqui?	(NOME) dormiu a noite passada aqui?	(NOME) vive habitualmente aqui?	(NOME) dormiu a noite passada aqui?					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		
01		<input type="text"/>	M F 1 2	SIM NÃO 1 2	SIM NÃO 1 2	EM ANOS <input type="text"/>	<input type="text"/>	SIM NÃO 1 2	<input type="text"/>	01		
02		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	02		
03		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	03		
04		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	04		
05		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	05		
06		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	06		
07		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	07		
08		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	08		
09		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	09		
10		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	10		
11		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	11		
12		<input type="text"/>	1 2	1 2	1 2	<input type="text"/>	<input type="text"/>	1 2	<input type="text"/>	12		

Anote aqui se USAR UMA FOLHA SUPLEMENTAR:
Para se certificar de que eu tenho uma lista completa:

2.A) Existem outras pessoas, tais como crianças pequenas ou bebês que não listei? ACRESCENTE NÃO

2.B) Há outras pessoas que não sendo membros de sua família, como empregados domésticos, inquilinos, ou amigos que geralmente vivem aqui? ACRESCENTE NÃO

2.C) Há algum convidado ou visitantes temporários? ACRESCENTE NÃO

Q.3: RELAÇÃO COM CHEFE DE FAMÍLIA

- 01 = CHEFE DO AGREGADO
- 02 = ESPOSA OU MARIDO
- 03 = FILHO OU FILHA
- 04 = GENRO OU NORA
- 05 = NETO OU NETA
- 06 = PAI OU MÃE
- 07 = SOGRO OU SOGRA
- 08 = IRMÃO OU IRMÃ
- 09 = OUTROS PARENTES
- 10 = EMPREGADOS DOMÉSTICOS
- 11 = OUTROS (NÃO PARENTES)

Q.10: NÍVEL DE ESCOLARIDADE CONCLUÍDO

- 00 = NUNCA FREQUENTOU A ESCOLA
- 01 = ALFABETIZAÇÃO
- 02 = PRIMÁRIO/ELEMENTAR/EP1 (1ª A 5ª CLASSE)
- 03 = PRIMÁRIO/ELEMENTAR/EP2/EPC (6ª A 7ª CLASSE)
- 04 = SECUNDÁRIO/BÁSICO (8ª A 10ª CLASSE)
- 05 = SECUNDÁRIO/MÉDIO/PRÉ-UNIVERSITÁRIO (11ª E 12ª CLASSE)
- 06 = TÉCNICO ELEMENTAR
- 07 = TÉCNICO BÁSICO
- 08 = TÉCNICO MÉDIO
- 09 = SUPERIOR
- 10 = NÃO SABE O NÍVEL

Agora gostaríamos de ter algumas informações sobre as pessoas que normalmente vivem em sua casa ou que estão com você agora

LINHA Nº	MORADORES HABITUAIS E VISITANTES	RELAÇÃO DE PARENTESCO COM O CHEFE	SEXO	RESIDÊNCIA		IDADE	MÃE	FREQUÊNCIA ESCOLAR	GRAU ESCOLAR	ELEGIBILIDADE
	Por favor, diga-me o nome de todas as pessoas que vivem habitualmente no seu agregado familiar e dos visitantes que dormiram à noite passada aqui, começando pelo chefe de agregado e depois do mais velho para o mais novo.	Qual é o laço de parentesco de (NOME) com o chefe do agregado? VER CÓDIGOS ABAIXO	(NOME) é do sexo masculino ou feminino?	(NOME) vive habitualmente aqui?	(NOME) dormiu a noite passada aqui?	Qual é a idade de (NOME)? Se <2, perguntar: Será que a mãe mora aqui? Ir para a coluna 8. Se 2 ou mais anos, saltar para a coluna 9	Se uma criança tem menos de 2 ANOS, ESCREVA o código da mãe constante na LINHA DA COL 1	(NOME) frequenta actualmente a escola? PERGUNTAR A TODOS OS MEMBROS COM 5-24 ANOS	Qual é o mais alto nível de escola que (NOME) frequentou? PERGUNTAR A TODOS OS MEMBROS VER CÓDIGOS ABAIXO	FAÇA UM CÍRCULO NO NÚMERO DE MULHERES ELEGÍVEIS: <u>BRABUÉ</u> ; Mulheres 15-49 anos <u>MOGONOLAS</u> ; Mulheres 15-49 anos com filho(s) com menos de 2 anos [ver coluna 8] <u>AMBROS</u> ; Excluir todos empregados domésticos [ver coluna 3]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			M F 1 2	SIM NÃO 1 2	SIM NÃO 1 2	EM ANOS		SIM NÃO 1 2		
13										01
14										02
15										03
16										04
17										05
18										06
19										07
20										08
21										09
22										10
23										11
24										08
25										09
26										10
27										11
28										12
29										11
30										12

CARACTERÍSTICAS DA CASA
(A SER RESPONDIDO PELO CHEFE DO AF OU UM OUTRO ADULTO DO AGREGADO FAMILIAR)

Nº	PERGUNTAS E FILTROS	CÓDIGO	SALTAR															
101	Na sua casa, tem : RÁDIO? CELULAR? ENERGIA (REDE PÚBLICA DA EDM)? BICICLETA?	<table border="0"> <tr> <td></td> <td align="center">SIM</td> <td align="center">NÃO</td> </tr> <tr> <td>RÁDIO</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>CELULAR</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>ENERGIA (EDM)</td> <td align="center">1</td> <td align="center">2</td> </tr> <tr> <td>BICICLETA</td> <td align="center">1</td> <td align="center">2</td> </tr> </table>		SIM	NÃO	RÁDIO	1	2	CELULAR	1	2	ENERGIA (EDM)	1	2	BICICLETA	1	2	
	SIM	NÃO																
RÁDIO	1	2																
CELULAR	1	2																
ENERGIA (EDM)	1	2																
BICICLETA	1	2																
102	<p>PRINCIPAL MATERIAL NAS PAREDES EXTERIORES</p> <p><i>NÃO LER AS RESPOSTAS.</i></p> <p><i>REGISTE A SUA OBSERVAÇÃO, CIRCULANDO A RESPOSTA MAIS ADEQUADA.</i></p> <p><i>PODE, TODAVIA, CIRCULAR UMA OU MAIS RESPOSTAS.</i></p>	<p>MATERIAL NATURAL</p> <p>SEM PAREDES.....11</p> <p>BAMBU/CANA/PALMA/TRONCO</p> <p>CANIÇO.....12</p> <p>TERRA.....13</p> <p>MATERIAL RUDIMENTAR</p> <p>BAMBU COM BARRO21</p> <p>PEDRA COM BARRO22</p> <p>ADOBE NÃO COBERTO23</p> <p>CONTRA-PLACADO.....24</p> <p>CARTÃO.....25</p> <p>MADEIRA RECICLADA.....26</p> <p>MATERIAL ELABORADO</p> <p>CIMENTO.....31</p> <p>PEDRA COM CAL/CIMENTO32</p> <p>TUOLO.....33</p> <p>BLOCOS DE CIMENTO34</p> <p>ADOBE COBERTO35</p> <p>PRANCHA DE MADEIRA36</p> <p>OUTRO97</p> <p align="center">(ESPECIFIQUE)</p>																
103	<p>PRINCIPAL MATERIAL DOS TELHADOS:</p> <p><i>NÃO LER AS RESPOSTAS.</i></p> <p><i>REGISTE A SUA OBSERVAÇÃO, CIRCULANDO A RESPOSTA MAIS ADEQUADA.</i></p> <p><i>PODE, TODAVIA, CIRCULAR UMA OU MAIS RESPOSTAS.</i></p>	<p>TELHADO</p> <p>ZINCO/CHAPA41</p> <p>CAPIM/COLMO/PALMEIRA.....42</p> <p>TELHA.....43</p> <p>LAJE BETÃO44</p> <p>LUSALITE45</p> <p>OUTRO97</p> <p align="center">(ESPECIFIQUE)</p>																

MÓDULO DAS MULHERES - CARACTERÍSTICAS DO ENTREVISTADO
(A SER RESPONDIDO PELA MULHER ELEGÍVEL – APLICAR A TABELA KISH GRID)

Nº	PERGUNTAS E FILTROS	CÓDIGO	SALTAR
201	Em que mês e ano nasceu?	MÊS <input type="text"/> <input type="text"/> NÃO SABE O MÊS 998 ANO <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> NÃO SABE O ANO 998	
202	Quantos anos fez no seu último aniversário? <i>COMPARE E CORRIJA 201 E/OU 202 SE HOUVER INCONSISTÊNCIA</i>	ANOS COMPLETOS <input type="text"/> <input type="text"/>	
203	Você está actualmente casado ou a viver maritalmente com um homem?	SIM, ACTUALMENTE CASADO 1 SIM, VIVENDO COM UM HOMEM 2 NÃO, NÃO EM UNIÃO 3	→ 205 → 205
204	No passado, você já foi casada ou vivia maritalmente com um homem?	SIM, CASADA 1 SIM, VIVIA COM UM HOMEM 2 NÃO 3	
205	Qual é a sua religião?	CATÓLICA 1 PROTESTANTE/EVANGÉLICA 2 SIÃO/ZIONE 3 MUÇULMANA 4 ANIMISTA 5 NENHUMA RELIGIÃO 6 OUTRA 97 (ESPECIFIQUE)	

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CONTACTO COM A AGENTE COMUNITÁRIO DE SAÚDE (ACS)

Nº	PERGUNTAS E FILTROS	CÓDIGO	SALTAR								
301	<p>Conhece alguma voluntária/ animadora na sua comunidade?</p> <p><i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i></p>	<p>SIM, CONHEÇO.....1</p> <p>SIM, CONHEÇO E SOU2</p> <p>NÃO CONHEÇO3</p> <p>NÃO SABE.....998</p>	<p>→ TERMINAR A ENTREVISTA</p>								
302	<p>Já alguma vez viu uma voluntária/ animadora ou alguém da comunidade que fala de assuntos relacionados com a saúde com outras mulheres na comunidade, vestida com uma T-shirt /camisete/camisa com este emblema?</p> <p><i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i></p> <p><i>MOSTRE EMBLEMA DO PROJECTO SCIP</i></p>	<p>SIM1</p> <p>NÃO2</p> <p>NÃO SABE.....998</p>									
303	<p>RIBAUÉ: Alguma vez já foi visitada ou teve algum outro tipo de contacto por parte de uma voluntária (ou alguém da comunidade que veio falar de assuntos relacionados com a saúde)?</p> <p>MOGOVOLAS: Alguma vez você já assistiu um encontro da animadora (ou alguém da comunidade que veio falar de assuntos relacionados com a saúde)?</p>	<p>SIM1</p> <p>NÃO2</p>	<p>→ TERMINAR A ENTREVISTA</p>								
304	<p>RIBAUÉ: Quando foi a última vez que você foi visitada pela voluntária?</p> <p>MOGOVOLAS: Quando foi a última vez que você assistiu um encontro da animadora?</p>	<p>DIAS 1</p> <p>SEMANAS 2</p> <p>MESES 3</p> <p>ANOS 4</p> <p>NÃO SABE..... 998</p>	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table> <p>→ TERMINAR A ENTREVISTA</p>								
305	<p>Alguma vez a voluntária/animadora falou consigo sobre como evitar a gravidez?</p> <p><i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i></p>	<p>SIM 1</p> <p>NÃO 2</p> <p>NÃO SABE..... 998</p>	<p>→ 314</p> <p>→ 314</p>								
306	<p>O que lhe disse? Que mensagens relativas a como evitar a gravidez lhe foram transmitidas?</p> <p>NÃO SABE/NÃO RESPONDE <input type="checkbox"/></p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>									

Nº	PERGUNTAS E FILTROS	CÓDIGO	SALTAR				
307	Quando foi a última vez que você falou com uma voluntária/animadora sobre maneiras como evitar a gravidez? <i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i>	DIAS 1 SEMANAS 2 MESES 3 NÃO SABE..... 998	<table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr><tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr></table>				
308	Com essa conversa passou a ter uma maneira diferente de pensar em como evitar a gravidez? (Aprendeu alguma coisa nova com essa conversa?)	SIM1 NÃO2					
309	Falou com outra pessoa sobre os assuntos abordados (como evitar a gravidez) com a voluntária/animadora? <i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i>	SIM1 NÃO2	→ 311				
310	Falou com quem? <i>NÃO LER AS RESPOSTAS VOLTAR A QUESTIONAR:</i> Mais alguém? <i>CIRCULE TODAS AS RESPOSTAS MENCIONADAS</i>	MARIDO A NAMORADO/PARCEIRO B MEMBRO DA FAMÍLIA (mãe, irmã, cunhada, prima, etc.) C AMIGO(A)..... D OUTRO W (ESPECIFIQUE)					
311	Depois dessa conversa que teve com a voluntária/animadora, você fez algo de diferente para evitar a gravidez? <i>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</i>	SIM1 NÃO2	→ 313				
312	E o que fez para evitar a gravidez? NÃO SABE/NÃO RESPONDE <input type="checkbox"/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/>					
313	Alguma vez a voluntária/animadora falou com o seu marido sobre métodos de como evitar a gravidez? <i>VERIFIQUE/CONFIRME NA Q.203 SE A ENTREVISTADA É CASADA OU VIVE MARITALMENTE COM ALGUM HOMEM</i>	SIM1 NÃO2 NÃO SABE..... 998 NÃO SE APLICA997					

Nº	PERGUNTAS E FILTROS	CÓDIGO	SALTAR						
314	Alguma vez a voluntária/animadora falou consigo sobre HIV/SIDA? USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS	SIM1 NÃO2 NÃO SABE.....998	→ 325 → 325						
315	O que lhe disse? Que mensagens relativas ao HIV/SIDA lhe transmitiu? NÃO SABE/NÃO RESPONDE <input type="checkbox"/>	_____ _____ _____ _____ _____							
316	Quando foi a última vez que você falou com uma voluntária/animadora sobre HIV/SIDA? USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS	DIAS 1 SEMANAS 2 MESES 3 NÃO SABE..... 998	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> <tr><td></td><td></td></tr> </table>						
317	Com essa conversa passou a ter uma maneira diferente de pensar sobre o HIV/SIDA? (Aprendeu alguma coisa nova com essa conversa?)	SIM1 NÃO2							
318	Falou com outra pessoa sobre os assuntos de HIV/SIDA abordados com a voluntária/animadora? USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS	SIM1 NÃO2	→ 320						
319	Falou com quem? NÃO LER AS RESPOSTAS VOLTAR A QUESTIONAR: Mais alguém? CIRCULE TODAS AS RESPOSTAS MENCIONADAS	MARIDO A NAMORADO/PARCEIRO B MEMBRO DA FAMÍLIA (mãe, irmã, cunhada) C AMIGO(A)..... D OUTRO W (ESPECIFIQUE)							
320	Depois dessa conversa com a voluntária/animadora, você fez algo de diferente em relação a HIV-SIDA? USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS	SIM1 NÃO2	→ 322						

321	<p>E o que passou a fazer em relação a HIV/SIDA?</p> <p>NÃO SABE/NÃO RESPONDE <input type="checkbox"/></p>	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>	
322	<p>A voluntária/animadora falou consigo sobre a prevenção de HIV/SIDA?</p> <p>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</p>	<p>SIM1</p> <p>NÃO2</p> <p>NÃO SABE998</p>	<p>→ 324</p> <p>→ 324</p>
323	<p>O que lhe tem sido dito que uma pessoa deve fazer para se proteger do HIV/SIDA?</p> <p>NÃO LER AS RESPOSTAS VOLTAR A QUESTIONAR:</p> <p>Mais alguma coisa?</p> <p>CIRCULE TODAS AS RESPOSTAS MENCIONADAS</p>	<p>ABSTINÊNCIA SEXUALA</p> <p>USO DO PRESERVATIVOB</p> <p>SEXO COM ÚNICO PARCEIROC</p> <p>DIMINUIR O NÚMERO DE PARCEIROS SEXUAISD</p> <p>NÃO PARTILHAR AGULHAS/LÂMINAS/SERINGASE</p> <p>NÃO TER RELAÇÕES SEXUAIS COM HOMOSSEXUAISF</p> <p>EVITAR TRANSFUÇÃO DE SANGUEG</p> <p>NÃO DOAR SANGUEH</p> <p>NÃO TER RELAÇÕES SEXUAIS COM TRABALHADORES DE SEXOI</p> <p>TOMAR MEDICAMENTOSJ</p> <p>NÃO USAR CASA DE BANHO OU LATRINA PÚBLICAK</p> <p>TER RELAÇÕES SEXUAIS COM VIRGENS ...L</p> <p>OUTROW</p> <p>(ESPECIFIQUE)</p>	
324	<p>Depois dessa conversa, a voluntária/animadora deixou consigo preservativos?</p> <p>USE APENAS "VOLUNTÁRIA" EM RIBAUÉ E "ANIMADORA" EM MOGOVOLAS</p>	<p>SIM, RECEBI1</p> <p>SIM, MAS NÃO RECEBI/RECUSEI2</p> <p>NÃO3</p>	
325	<p>ATENÇÃO: ASSEGURE QUE SE ENCONTRE NUM LOCAL RESERVADO PARA QUE A ENTREVISTADA ESTEJA À VONTADE E A SUA PRIVACIDADE E CONFIDENCIALIDADE DAS RESPOSTAS SEJA SALVAGUARDADA.</p> <p>Agora gostaria de lhe fazer algumas questões sobre a sua actividade sexual, de modo a melhor entender algumas matérias.</p> <p>Já alguma vez teve relações sexuais?</p>	<p>SIM1</p> <p>NÃO2</p> <p>NÃO RESPONDE/RECUSA999</p>	<p>→ 328</p> <p>→ 328</p>

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326	Quando foi a última vez que teve relações sexuais? <i>REGISTE NOS "ANOS" APENAS SE O ÚLTIMO RELACIONAMENTO SEXUAL TENHA SIDO HÁ 1 ANO OU MAIS. CASO SIDO 12 MESES OU MAIS, A RESPOSTA TAMBÉM DEVE SER REGISTADA EM "ANOS".</i>	DIAS 1 SEMANAS 2 MESES 3 ANOS 4 NÃO SABE 998 NÃO RESPONDE /RECUSA 999	<table border="1"> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> <tr><td style="width: 20px; height: 20px;"></td><td style="width: 20px; height: 20px;"></td></tr> </table>								
327	Na última vez que teve relações sexuais usou preservativo?	SIM 1 NÃO 2 NÃO SABE 998 NÃO RESPONDE /RECUSA 999									
328	Conhece algum lugar onde é possível obter/comprar preservativo?	SIM 1 NÃO 2	TERMINAR A ENTREVISTA								
329	Qual é esse lugar? <i>NÃO LER AS RESPOSTAS VOLTAR A QUESTIONAR:</i> Mais algum lugar? <i>CIRCULE TODAS AS RESPOSTAS MENCIONADAS.</i>	UNIDADE SANITÁRIA A FARMÁCIA B LOJA/MERCADO C RESTAURANTE/BAR/DISCOTECA D ESTAÇÃO DE SERVIÇO E PENSÃO/HOTEL F NO SERVIÇO G VENDEDORES AMBULANTES H AMIGOS(AS) I VOLUNTÁRIA/ANIMADORA J OUTRO AGENTE COMUNITÁRIO DE SAÚDE K INSTITUIÇÃO DO GOVERNO L ONG M OUTRO W (ESPECIFIQUE)									

AGRADECER O TEMPO DISPONIBILIZADO PELO ENTREVISTADO

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