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ROUND 4

BEHAVIORAL SURVEILLANCE SURVEY ZAMBIA, 2009

LONG DISTANCE TRUCK DRIVERS IN TRANSPORTATION ROUTES
WITH TREND ANALYSIS 2000-2009

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ROUND 4

BEHAVIORAL SURVEILLANCE SURVEY
ZAMBIA, 2009

**Long distance truck drivers in transportation routes
with trend analysis 2000-2009**

SURVEY EXECUTED BY:

Zambian Corridors of Hope II HIV/AIDS Prevention Initiative (COH II), with Consultants

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EXECUTIVE SUMMARY

Background

This report presents results from the 2008 Round 4 Behavioral Surveillance Survey (BSS) in Zambia focused on long distance truck drivers (LDTDs). In this context, the report also covers the BSS rationale, objectives, and methodology; key findings of previous behavioral surveillance surveys, and trends analysis using data from four rounds of BSS implementation in Zambia.

Zambia is one of the countries in sub-Saharan Africa most challenged by the HIV and AIDS epidemic. According to the Zambia Demographic and Health Survey (ZDHS) findings of 2007, the national HIV prevalence was estimated at 14.3 percent among the general population aged 15–59 years. The findings of the 2007 ZDHS suggest that the main drivers of the HIV epidemic in Zambia included high engagement in sex with partners who were not spouses or one faithful partner, that one of the main drivers of the HIV epidemic was engagement in multiple concurrent sexual partnerships, and not using condoms correctly and consistently in different sexual partnerships. Other findings include HIV prevalence being slightly higher among uncircumcised men than circumcised men. Though knowledge about HIV transmission is high, many Zambians still have misconceptions about HIV and AIDS. About one third of women and men believe that HIV can be transmitted by mosquito bites. There is also much stigma associated with HIV; about half of people would prefer to keep it a secret that a family member was HIV positive. HIV and AIDS have not only compounded the country's health problems, but have had far-reaching socio-economic consequences. The high poverty levels, partly a result of high unemployment, have fuelled the spread of the epidemic, especially among women.

The Corridors of Hope (COH) project in Zambia has provided HIV prevention interventions since 2000 among most at risk populations, mainly LDTDs and FSWs. To monitor behavioral activities related to HIV infection among most at risk populations, the COH project has carried out behavioral surveillance survey studies. One topic is behavior among LDTDs, who are the main clients of FSWs. The first round of BSS was conducted in 2000 among LDTDs and FSWs only. The second round of BSS, conducted in 2003, included LDTDs, FSWs, uniformed personnel, and light truck and mini-bus drivers as study populations. The third round of BSS was carried out in 2006 among LDTDs and FSWs in two of the project's border sites, Chirundu and Livingstone/Kazungula, and a transit town, Kapiri Mposhi. Round 4 was conducted during December 2008–February 2009 among LDTDs passing through Chirundu, Livingstone/Kazungula, Kapiri Mposhi, and Solwezi. Two of these sites, Chirundu and Livingstone, have included LDTDs participating in all the four rounds of the behavioral surveillance surveys.

BSS Objectives:

- To add to and strengthen the monitoring system that tracks behavioral trend data for high risk and vulnerable target groups;
- To provide information on behavioral trends among LDTDs in the catchment areas of the project;
- To provide information to help guide HIV prevention program planning;
- To provide evidence of the relative success of the combination of HIV prevention efforts taking place in selected sites; and
- To obtain data in a standardized format enabling comparisons with other BSS carried out in Zambia and other countries.

Methodology

This BSS (Round 4) was a cross-sectional study conducted among LDTDs who are the main clients of FSWs. The study was carried out in four sites: Livingstone/Kazungula¹, Chirundu, Kapiri Mposhi and Solwezi. Except for Solwezi, all of the other sites have participated in at least one previous BSS study.

Two-stage time-location cluster sampling was used. The team first identified and mapped congregation points or parking places for the LDTDs and their trucks. These congregation points included truck depots and parking areas and weighbridges or “dry-pots”. During this step the sampling frame was defined. The different parking areas formed clusters. The average number of trucks in each established cluster was estimated during different periods of the day time and at night when the border or weighbridge closed. The second stage of time-location sampling involved the selection of respondents for the interview by data collectors with support of facilitators and the supervisor.

A team of six research assistants were trained specifically for the study in data collection, data quality and research ethics. They carried out interviews under three levels of supervision: the team supervisor, study coordinators and principal investigator. All of the truck drivers aged 18 years and above who were passing through or found at the study sites or in clusters on the day and time allotted for interviews were invited to participate in the survey. Interviews were conducted using a standard BSS questionnaire after explaining the purpose of the study and obtaining an oral consent. Those who declined and those not completing the interview were recorded on a log sheet and reasons for refusals or not completing the interview were recorded. Only one became distressed during the interview. The interviewer administered and followed a distress protocol before continuing with the interview. All respondents were given contact information after the interview in case they had issues to raise concerning the study or needed further service.

The survey was conducted over a period of three months (December 2008–February 2009) in four sites: Chirundu, Kapiri Mposhi, Solwezi and Livingstone/Kazungula in that order. The team spent ten full days on data collection at each site. Completed questionnaires were edited in the field and processed in Lusaka. Data were entered into the database using Epi-data and analysis was carried out using Epi Info 6. The Statistical Package for Social Sciences (SPSS) was used to measure trends and to adjust for confounders.

Trend analyses were performed on selected variables, namely: age, education level, marital status, daily alcohol and drug use, number of regular sexual partners including girlfriends and female commercial sex workers, and non-regular partners and use of condoms in these relationships. Other BSS question areas analyzed for trends were: knowledge of HIV, transmission and prevention, STI knowledge and history, and VCT.

Neither Kapiri Mposhi, which did not participate in the last three rounds, nor Solwezi, which participated for first time in 2009, were included. Trend analysis was carried out only for truck drivers interviewed in Chirundu and Livingstone, the two sites that participated in all four rounds of BSS: 2000, 2003, 2006 and 2009.

¹Trucks crossing Kazungula border from Botswana pass through a weighbridge and revenue collection point in Livingstone. Therefore researchers were positioned at truck stops in Livingstone and Kazungula.

Results

In total 1,863 LDTDs were interviewed at the four sites. The distribution was as follows: 615 (33%) from Chirundu, 511 (27%) from Kapiri Mposhi, 544 (29%) from Livingstone/Kazungula and 193 (10.3%) from Solwezi. Trend analysis was carried out for only two sites: Chirundu, Livingstone, which were included in all four BSS studies (i.e., 2000, 2003, 2006 and 2009).

Demographics

Overall, the mean age of the respondents was 36 years and close to half (49%) fell in the age bracket 30–39 years. The great majority (79%) had a secondary or higher level of education. Most of the LDTDs were married (85%). At the time of interview, the median stay of LDTDs at a border was two days, with 27 percent having stayed three or more days². Overall, a statistically significant difference was observed in both age groups and educational level of LDTDs over the study period ($p < 0.001$). The LDTDs were younger and most of them had a secondary education in 2009 compared to 2000. Changes were also observed in marital status, with a lower proportion of married LDTDs observed in 2009 than in 2000.

Risk behaviors

Alcohol and drug use

Of all the respondents, 32 percent took alcohol at least once a week and five percent consumed alcohol daily in the last four weeks. Overall, there was a statistically significant reduction in truck drivers who consumed alcohol on a daily basis from 11 percent to three percent between 2000 and 2009 ($p < 0.001$).

Sexual behavior

Median age at first sexual intercourse was 17 years. Four percent of respondents had two or more wives, while 10 percent had a live-in sexual partner in the last 12 months. Thirty-five percent had a regular sexual partner or girlfriend in the last 12 months, of which five percent had two or more regular partners. Nineteen percent had sex with at least one commercial sexual partner in the 12 months prior to the interview, while two percent had sex with a non-regular, non-commercial partner in the last 12 months. Three (0.2%) respondents reported that they had had sexual intercourse with a male partner.

In terms of trends, the data indicated an increase in the proportion of truck drivers who said they **did not** have sex with a regular partner (girlfriend) in the 12 months prior to the survey; from 0.4 percent in 2000 to 43 percent in 2009. Furthermore, the proportion of truck drivers with two or more regular partners in the last 12 months reduced significantly from 21 percent in 2000 to four percent in 2009 ($p < 0.001$). The proportion of truck drivers who had **no** sex with a commercial sex worker in the last 12 months increased from 68 percent in 2000 to 78 percent in 2009. The increase was not statistically significant ($p = 0.064$). The proportion with two or more commercial sex partners in the last 12 months reduced from 22 percent to 15 percent, which was significant ($p = 0.040$). Similarly, the proportion of

² During mapping key informants from RDA/RTSA informed the team that delays are at times caused by LDTDs carrying unspecified or private goods and failing to pay duty on them.

truck drivers who reported **no** sex with a non-regular, non-commercial sex partner in the last 12 months increased from 73 percent in 2000 to 99 percent in 2009, while those who reported having had sex with two or more non-regular/non-commercial partners reduced from eight percent to one percent in 2000 and 2009 respectively. These changes were statistically significant ($p < 0.001$).

Condom knowledge and use

Among the truck drivers in the study, almost 100 percent have heard of male condoms and 73 percent have bought a male condom. 81 percent have used a male condom, 42 percent had a condom on hand and 97 percent knew where to obtain condoms. 79 percent mentioned shops, 51 percent mentioned bars/guest houses and 49 percent mentioned pharmacies as places where condoms can be obtained. The last time they bought a condom, 64 percent bought the Maximum condom brand (the brand of condom is socially marketed in Zambia and is the most well known). Regarding female condoms, 84 percent have heard of female condoms, 6 percent have used one, and 51 percent knew where to buy a female condom. 93 percent said it would take about 15 minutes to obtain a female condom from the nearest place offering condoms.

About seven percent of the respondents used a condom when they last had sex with their wives, and three percent used condoms consistently with their wives in the 12 months prior to the study; 70 percent of the respondents reported this was a joint decision. The main reason cited for not using condoms with a wife was “did not think it was necessary”. With live-in partners, 73 percent used a condom when they last had sex and 57 percent consistently used condoms. The main reason cited by those who did not use a condom at last sex with a live-in partner was that they did not think it was necessary. With regular partners (girlfriends), 73 percent used a condom when they last had sexual intercourse and 60 percent consistently used condoms with a regular partner (girlfriend). 54 percent of respondents reported they suggested using a condom. Nearly half (47 percent) of those who did not use a condom at last sex with a regular partner said they did not think it was necessary. About 97 percent used a condom during last sex with a commercial sex worker and 91 percent said they used a condom consistently or every time they had sex with a sex worker in the past 12 months. Of those who reported not using a condom with a sex worker at last sex, 54 percent “did not think it was necessary”. Of the 27 LDTDs who had sex with a non-regular, non-commercial sexual partner, 78 percent used a condom and 83 percent said they used condoms every time or consistently in the last 12 months. In the past 12 months, among those who ever had sexual intercourse, 13 percent did not use a condom with any sex partner including wives or a live-in sex partner. The three top reasons cited for not using a condom were: “did not think partner had a disease” (36%), “did not think it was necessary” (28%) and “did not think of it” (14%).

Among those who had used a condom, the proportion of the truck drivers who used a condom when they last had sex with a commercial sex worker increased slightly from 93 percent to 97 percent between 2000 and 2009 respectively. However, this was not statistically significant ($p = 0.124$). On the other hand, consistent use of condoms with a commercial sex worker increased significantly from 84 percent to 91 percent between 2000 and 2006 ($p = 0.020$). During the same period, condom use on the last occasion of sexual intercourse with a regular partner (girlfriend) in the last 12 months also increased significantly from 43 percent to 73 percent ($p < 0.001$), and consistent condom use with regular partners also increased significantly from 8 percent in 2000 to 60 percent in 2009 ($p < 0.001$).

The proportion of LDTDs who used a condom when they last had sex with non-regular, non-commercial sex workers increased from 75 percent in 2000 to 86 percent in 2009, although the increase was not statistically significant ($p=0.622$). However, the proportion of LDTDs who used condoms consistently with non-regular partners in the past 12 months increased from 51 percent in 2000 to 82 percent in 2009, and the increase was statistically significant ($p=0.014$).

Knowledge and history of sexually transmitted infections (STIs)

About 99 percent of LDTDs have heard of STIs. The knowledge of actual symptoms varied, with just over half of the respondents knowing that genital discharge (59%) and genital ulcers/sores (59%) are symptoms of an STI among women. In men, the majority described genital discharge (98.1%) and genital ulcers/sores (80%) as STI symptoms in men, but four percent of the respondents did not know any symptom of STIs in men.

Four percent of the respondents had a history of genital discharge and or ulcers/sores in the past 12 months. Among those with a history of an STI, three percent had a genital discharge and two percent had genital ulcers. The last time they had an STI, 56 percent sought advice from a private health facility, 40 percent sought advice from a government health facility and 33 percent sought advice from a pharmacist/chemist. Of those with a history of an STI, about 29 percent reported stopped having sex while they still had the symptoms, 14 percent said they always used condoms and 21 percent told the sexual partner

Between 2000 and 2009, the proportion of truck drivers with a history of genital discharge in the 12 months preceding the survey declined significantly from six percent in 2000 to three percent in 2009 respectively ($p=0.003$), and respondents with a history of genital ulcer/sores also declined significantly from five percent to two percent during the same period ($p=0.001$).

Knowledge and attitudes related to HIV/AIDS

All respondents (100%) had heard of HIV/AIDS. 55 percent of the respondents knew someone infected or who had died of HIV/AIDS, and 49 percent had a friend or relative infected with HIV. 83 percent of the respondents knew that HIV could be transmitted from a mother to her child, and 95 percent knew that it could be transmitted to her child through breastfeeding and through delivery. 74 percent of the respondents knew a hospital offering PMTCT near or around the place of interview.

A number of LDTDs still harbored misconceptions on transmission: about eight percent thought HIV could be transmitted through mosquito bites and nine percent believed it could be transmitted through sharing meals. Almost everyone knew that HIV could be prevented by being faithful to one uninfected sexual partner (98%) and abstaining from sex (99%). 67 percent of the respondents said people could prevent HIV by taking medication – ARVs. Almost 99 percent knew that a healthy looking person could be infected with HIV.

With regard to attitudes, 99 percent of the respondents felt that HIV positive students should be allowed to continue with school and the same proportion of respondents felt that an HIV-positive teacher should continue teaching. 99 percent said they could take care of HIV-infected female or male relative. 87 percent of the respondents said they would buy from a shopkeeper known to have HIV and 94 percent would be willing to share a meal with a person known to have HIV or AIDS. 80 percent said they would not like it to remain a secret if a member of the family had an HIV infection.

In general, 85 percent of LDTDs had complete knowledge of HIV prevention: they knew that abstinence, being faithful and using condoms (ABC) can prevent transmission of HIV. Among LDTDs who had complete knowledge of HIV prevention, 70 percent had comprehensive knowledge³: in addition to complete knowledge they also did not harbor any myths about HIV transmission.

There was a statistically significant increase ($p < 0.001$) in the proportion of truck drivers with the knowledge that abstinence can prevent HIV, from 91 percent in 2000 to 98 percent in 2009 respectively. There was also a statistically significant reduction in the proportion of respondents who thought that HIV can be transmitted through mosquito bites, from 17 percent in 2000 to eight percent in 2009. However the proportion of LDTDs who thought HIV can be transmitted through sharing a meal remained same at nine percent.

HIV voluntary counseling and testing (VCT)

The majority of the respondents (87%) reported having access to confidential HIV counseling and testing. About half of them (49%) claimed to have undergone counseling and testing for HIV. 91 percent of those who had been counseled and tested said it was voluntary, and 99 percent of all those who had been tested went on to receive their HIV test results.

Of those who had been tested, about 60 percent reported they were tested within the 12 months prior to survey. The proportion of respondents who had ever been tested for HIV increased from 33 percent in 2000 to 49 percent in 2009 which was statistically significant ($p < 0.001$). Of those who had ever been tested, the proportion of those who received HIV results also increased from 90 percent in 2000 to 98 percent in 2009 which was also statistically significant ($p = 0.001$).

Circumcision

About 97 percent of respondents have heard of male circumcision and 26 percent of them had been circumcised. The median age of circumcision was seven years, and in 87 percent of the respondents circumcision was performed using a traditional method. Tradition/culture or religion (85%) was the main reason for having undergone circumcision, followed by health/hygiene reasons (11%). Among those not circumcised, 30 percent said they would be willing to get circumcised. The major reasons for interest in circumcision were hygiene (53%) and prevention of HIV (44%). For those who expressed no interest in circumcision the main reasons were that they found no need for circumcision (45%) and that the practice of circumcision was not in their culture (37%).

Conclusion

Most LDTDs are relatively young and continue to spend two or more days at major border crossings, which predispose them to risky sexual behaviors. However there are positive trends observed over the period 2000–2009 on a number of behavioral indicators. There has been a noticeable decline in the daily alcohol consumption amongst truck drivers.

³Comprehensive knowledge means: knowing that abstinence, being faithful to one uninfected partner, and condom use can reduce the chance of getting HIV; knowing that a healthy-looking person can have HIV; and rejecting the most common local misconceptions about HIV transmission or prevention, such as that HIV can be transmitted through supernatural means or through mosquito bites.

The proportion of truck drivers who had sex with multiple sexual partners in the last 12 months is showing a declining trend. The proportion of truck drivers with two or more regular partners has also declined. Similar declines have also been observed in relations with commercial sex workers and non-regular partners. There have also been reported declines in LDTDs contracting STIs and an increase in the number seeking HIV counseling and testing services.

However, among LDTDs who had sex with partners who were not wives, not all used condoms consistently. A proportion of LDTDs continue to have unprotected sex thereby exposing themselves to the dangers of HIV and other sexually transmitted infections. Similarly, though there has been a significant increase in the proportion of truck drivers with complete knowledge of HIV prevention, a large proportion continue to harbor misconceptions and stigmatic attitudes related to HIV transmission and prevention. Furthermore, though there are additional HIV prevention strategies such as male circumcision, there is a need to step up its promotion beyond it being a traditional practice and advocate it as a strategy to reduce HIV transmission.

RECOMMENDATIONS

The following part provides overall recommendations. These recommendations feed into three areas: programs, policy and research.

1. To increase access to information and services, the project should engage with the relevant authority for an information desk at the entry and main congregation points for LDTDs to access needed information and referral for services.
2. A number of LDTDs continue to engage in extra-marital relationships with different partners. There is a need for approaches and action that would promote and reward fidelity and sexual monogamy in marriages.
3. Projects such as COH targeting men should hire and train age-appropriate peer educators in strategies to promote use of condoms with different types of sex partners and to reach out to truck drivers on a peer-to-peer basis.
4. In developing strategies and activities, LDTDs should be invited to participate in formulating their own strategies for behavior change and engage them in communication campaigns that reject unhealthy behavior and practices and that move behavior change beyond awareness-raising to sustaining the changes in behavior.
5. A condom used correctly and consistently is a great barrier to HIV transmission. But many sexual encounters remain unprotected. There is, therefore, a need to sustain efforts in communication strategies for behavior change to reinforce consistent and correct use of either male or female condoms. Innovative approaches that will lead to translation of knowledge into sustained and consistent use of condoms are required.
6. In view of the continued existence of some misconceptions and stigma related issues to the disclosure of HIV status there is a need to continue developing better strategies for correcting misconceptions and stigma.

7. Given that most LDTDs listen to radio for information, programs targeting LDTDs should explore ways of using radio or producing education material such as tapes or CDs that the truck drivers can listen to as they drive.
8. Knowing one's HIV status is an entry point to HIV care. It is encouraging to see that the proportion of LDTDs that have tested and know their HIV status has increased over the years. HIV counseling and testing should continue to be made more accessible through many outlets, including mobile VCT centers, to serve LDTDs who are waiting at border posts and depots. Increase in access to VCT services will enable as many LDTDs (and others) as possible to test and to get treatment and care as necessary. However caution should be exercised and sufficient preparations made when deciding and conducting HIV testing to waiting truck drivers to protect them from potential harm or possible negative effects (e.g. psychological effects) caused by knowing their status.
9. Lobby for institutionalization of HIV prevention activities, including lobbying for a company policy that allows truck drivers to be accompanied by wives and place of work meetings for men.
10. Truck drivers continue to stay for long periods at border towns, due to clearance procedures and personal behavior, which increases the chances of engaging in risky behaviors that put them at risk of HIV infection. There is therefore a need to continue lobbying the government for mechanisms to quicken the clearance process. There is also a need to better understand the underlying factors that affect the clearance process, and identify solutions and lobby for improvement/system change.
11. There is an exceptionally high level of HIV vulnerability among truck drivers at border areas such as Chirundu and Kazungula due to the long periods of time they spend there. To reduce exposures to high risk situations, a comprehensive prevention regional program is needed to create an enabling environment to lower HIV risk. Core services for such an approach would include provision of recreational/entertainment and behavioral change information facilities located near the truck stops, treatment for STIs and expansion of STI/HIV counseling and testing services to reduce STIs.
12. The study found that a good proportion of LDTDs passing through border towns of Zambia consume alcohol. Alcohol undermines judgment and affects risk perception, thereby leading alcohol users to risky sexual encounters. The declining trend in alcohol consumption among truck drivers should continue through reinforcement with innovative communication strategies and information on dangers of alcohol abuse and weaning from indulgence and compulsive alcohol consumption.
13. The significant role that conventional STIs play in facilitating HIV transmission and causing complications is well documented. The effective role of early management of STIs has also been demonstrated and recommended by WHO. Therefore, effective and early detection and management of STIs are critical and need to be strengthened through the COH project and other projects including government institutions to reach the most at risk, mobile population and general population to have an impact. Therefore, the government, and projects such as COH II which provide STI services, need to expand STI services, screening, testing and treatment, and intensify behavior change communication efforts through mobile, outreach and static facilities to enable easy access to STI treatment services by LDTDs.

14. Given gaps in behavior change – between high levels of knowledge of HIV transmission and prevention on the one hand and unprotected sex and/or misconceptions on transmission on the other – there is a need for operational research to help identify bottlenecks as to why HIV control efforts are failing and identify areas for improvement
15. In addition to monitoring trends in key sexual behavior variables, a biological component needs to be included in the next round of BSS to triangulate the findings of the self-reported behavioral surveys and the biological test results.

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The facilitation team for LDTDs in Chirundu was comprised of Dickson Nkumbula (behavior change communication [BCC] coordinator), Peter Kanunka (outreach worker), and Felix Hamutale (peer educator). In Kapiri Mposhi the facilitation team was comprised of Moses Chanda, (BCC coordinator), Abraham Simwinga and Fidelis Phiri (outreach workers), and Moses Shawa, (peer educator). In Solwezi the team was comprised of Sam Lubasi and the late Donald Kapebwa (died at the time of writing this report). In Livingstone the facilitation team for LDTDs was led by Austin Simfukwe and Sambo Lubasi, and by Christopher Phiri in Kazungula. All these mentioned are thanked for their dedication to BSS study work and a job well executed. Special thanks go to Mr Chipili Mulemfwe of the COH II project who was one of the supervisors on the studies, and Mr Lovemore Mwanza who was one of the two field coordinators

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The COH motto is 'Together We Win', and indeed through the support of various interest groups, too numerous to mention, we managed to complete this task of carrying out Round 4 of the BSS 2009, whose results we hope will inform HIV interventions targeting LDTDs and other mobile populations, not only in Zambia but in the southern African region as well.

LIST OF ABBREVIATIONS

AIDS	Acquired immuno-deficiency syndrome
ARV	Antiretroviral
BCC	Behavioral change communication
BSS	Behavioral surveillance survey
BBSS	Biological and behavioral surveillance survey
CBI	Cross-border initiative
COH	Corridors of Hope
CSO	Central Statistical Office
CSW	Commercial sex worker
DATF	District AIDS Task Force
DHMT	District Health Management Team
DHT	District Health Team
DRC	Democratic Republic of Congo
FHI	Family Health International
FSW	Female sex worker
HIV	Human immuno-deficiency virus
IEC	Information, education and communication
INESOR	Institute of Economic and Social Research
LDTD	Long distance truck drivers
MOH	Ministry of Health
MTCT	Mother to child transmission
NAC	National HIV/AIDS/STD/TB Council
NGO	Non-governmental organization
STD	Sexually transmitted disease
STI	Sexually transmitted infection
USAID	United States Agency for International Development
VCT	Voluntary counseling and testing
WHO	World Health Organization
ZDHS	Zambia Demographic and Health Survey
ZSBS	Zambia Sexual Behavior Survey

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1. INTRODUCTION

1.1 HIV/AIDS in Zambia

Zambia is one of the countries in the southern African region that is hardest hit by the HIV epidemic. According to the 2007 Zambia Demographic and Health Survey (ZDHS), 14.3 percent of the adult Zambian population is HIV positive. Sexual debut among women starts at an earlier age than men. According to the 2007 ZDHS, the median age at first intercourse is 17 years for women and 18 years for men. Zambia, with a population estimated at about 12 million people, has nearly a half of its population in the sexually active age group of 15 years and above.⁴ Knowledge of HIV and AIDS is universal in Zambia with almost all (99%) of women and men aged 15-49 years having heard of HIV and AIDS. However, only 36 percent have comprehensive⁵ knowledge about modes of HIV transmission and prevention.

The HIV prevalence is higher among women than men in both urban and rural areas. Overall, 16 percent of women and 12 percent of men are HIV-positive. The map below shows the distribution of HIV prevalence among adults aged 15-49 years by province (2007 ZDHS). The prevalence of HIV ranges from seven percent in Northern and North Western Provinces to 21 percent in Lusaka Province.

The HIV and AIDS prevalence rates in Zambia are highest along railway lines and major highways. Zambia's major highways run alongside the two major railway lines, from Livingstone (border with Zimbabwe) to Chililabombwe (Kasumbalesa border with DR Congo), and from Kapiri Mposhi (inland) to Nakonde (border with Tanzania). The major trucking borders are Chirundu and Livingstone (both border with Zimbabwe), Kazungula (border with Botswana), Chipata (border with Malawi), Nakonde and Kasumbalesa, and a major internal trucking town of Kapiri Mposhi, at the junction of the two railway routes.

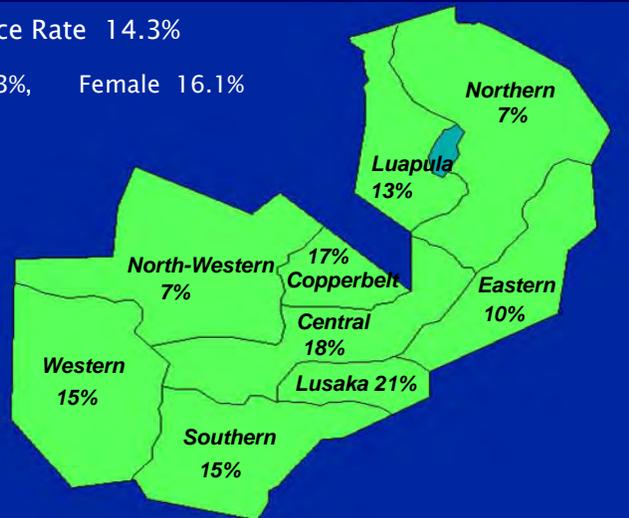
⁴ CSO, 2009 projection based on 2000 census of population.

⁵ Comprehensive knowledge means knowing that abstinence, being faithful to one uninfected and condom use can reduce the chance of getting HIV, knowing that a healthy-looking person can have HIV and rejecting the most common local misconceptions about HIV transmission or prevention such as that HIV can be transmitted through supernatural means or through mosquito bites.

**HIV Prevalence Ages 15 to 49
Zambia Demographic Health Survey 2007**

Prevalence Rate 14.3%

Male 12.3%, Female 16.1%



A number of factors in Sub-Saharan Africa in general and Zambia in particular contribute to the vulnerability of the population to HIV infection. Among these factors are declines in the standards of living, growing deprivation, poverty, unemployment and gender inequality. Under these circumstances, factors increasing the likelihood of a rapid spread of HIV include lack of knowledge about HIV and STIs and their modes of transmission, liberalization of sexual behavior, cultural factors e.g. dry sex, polygamy), high rates of sexually transmitted infections, transactional sex, substance abuse and coercive sex. In addition to the differences in prevalence of infections by age group, statistics indicate that women have consistently been found to have higher (in some cases as much as six times higher) prevalence rates compared to men. The Zambia Demographic and Health Survey 2007 revealed that there are more women than men in Zambia (52 and 48 percent respectively) and 17 percent of the population is aged 15–24 years. About 58 percent of the young people in the 15–24 year age group living with HIV were female. Overall, 42 percent of all infections in Zambia are among youth aged 15–24.

The goal of the National HIV/AIDS Strategic Plan for National HIV/AIDS/STI/TB Council (NAC) is to reduce HIV and STI transmission among Zambians through the promotion of responsible sexual behavior and to reduce the socio-economic impact of HIV/AIDS (NAC SP, 2002-2005, and 2006-2010).

Data from the Zambia Sexual Behavior Survey (ZSBS, 2005) on the UNAIDS VCT and stigma indicators show that within the entire population only 8.5 percent (7.2% males, 9.6% females) were counseled and tested for HIV and only 31.1 percent (33.9% males, 28.5% females) had accepting attitudes towards those with HIV. Among urban men, 50 percent used a condom when they last had sexual intercourse with a non-regular partner while 44.9 percent among women reported using a condom when they last had sex with a non-regular partner. According to the 2005 ZSBS, among the 24.5 percent of the respondents who reported having sex in the last year with high risk populations (28.8% in urban, 22.5% in rural settings), only 37.5 percent (50.0% in urban settings, 29.9% in rural) used a condom when they last had high-risk sex.

1.2 Program Description

The link between mobility and HIV vulnerability facilitates the spread of HIV. Highways and borders are environments of elevated HIV vulnerability. Long distance truck drivers, because of the nature of their work, spend much of their time away from their homes and families, with a higher chance of engaging in sexual relationships which puts them at risk of HIV and other sexually transmitted infections.

Resulting from the recognition that there is a high prevalence of HIV/AIDS along major highways and a concentration of high-risk groups in border areas, the United States Agency for International Development (USAID) and the Japan International Cooperation Agency (JICA) through Family Health International (FHI), funded the Corridors of Hope (COH) project (initially called the Cross-Border Initiative project-CBI). In 2000, World Vision Zambia (WVZ) and Society for Family Health (SFH) began implementing activities under subcontract with FHI in border sites and the major trucking towns. In 2004, WVZ and SFH were joined by Zambia Health Education and Communications Trust (ZHECT). At the end of phase I of the project in 2006, the COH project was working in six of the nine provinces of Zambia covering ten district sites: Chirundu, Livingstone and Kazungula in the Southern Province; Kasumbalesa/Chililabombwe and Ndola on the Copperbelt; Kapiri Mposhi in the Central Province; Nakonde in the Northern; Chipata and Katete in the Eastern Province and Lusaka in Lusaka Province. Three of these sites (Chipata, Lusaka, and Ndola) were established in April 2004 with funds from the President's Emergency Plan for AIDS Relief (PEPFAR).

Phase II of COH II project (2006-2009) was implemented in seven sites: Chirundu, Chipata, Kapiri Mposhi, Kazungula, Livingstone, Nakonde and Solwezi. The project is implemented by three local partners: Zambia Health Education and Communication Trust (ZHECT), Afya Mzuri and Zambia Interfaith Networking Group on HIV and AIDS (ZINGO) through Family Health International (FHI) as sub-partner and Research Triangle Institute (RTI) as the prime contractor

The main targets for the project are FSWs and their clients, specifically LDTDs passing through these sites and in- and out-of-school youths aged 10-24. The project aims to change behavior through peer education and promotion of condoms and voluntary counseling and testing (VCT) services, as well as providing STI care.

To assess the outcomes of the COH project activities in Zambia and to monitor behavioral trends over time, behavioral surveillance surveys (BSS) are conducted. The BSS studies report on the status of high-risk behaviors that can help explain biological trends, including HIV prevalence, over time. The prevalence of HIV and STIs, as well as various reported risk behaviors capture the impact of the prevention interventions and complement the HIV surveillance data that are collected by the government of Zambia.

In addition, BSS studies are justified by the need to obtain data on behavioral trends among target populations that are not often sought out by population-based surveys such as the Zambia Demographic Health Surveys (ZDHS) and Zambia Sexual Behavior Surveys (ZSBS). BSS studies are repeated, cross-sectional surveys of behavior in a representative population and are an essential component of second generation HIV surveillance systems. The importance of BSS studies carried out by COH is further justified by the fact that they focus on the most vulnerable and high-risk segments of the population, whose behaviors can have the most significant effect on the course of the epidemic.

In December 2008–February 2009, FHI Zambia, working with three consultants and other researchers, carried out the fourth behavioral surveillance survey among LDTDs in Livingstone, Chirundu, Kapiri Mposhi and Solwezi. Two of these sites, Livingstone and Chirundu, have participated in all four previous studies while Kapiri Mposhi participated in the last three rounds of BSS studies.

2. OBJECTIVES

2.1 Primary objective

The primary objective of this round of BSS was to assess the outcomes of the existing prevention interventions, through a cross-sectional assessment of risk behavior variables among men at high risk of STIs and HIV.

2.2 Secondary objectives

- To add to and strengthen the monitoring system that will track behavioral trend data for high-risk and vulnerable target groups.
- To provide information on behavioral trends of key target groups in some of the same catchment areas where VCT for HIV is being offered.
- To provide information to help guide HIV-prevention program planning.
- To provide evidence of the relative success of the combination of HIV prevention efforts taking place in selected sites.
- To obtain data in a standardized format which will enable comparisons with other behavioral surveillance studies carried out in other countries.

3. METHODOLOGY

3.1 Sample size

To determine the sample size for truck drivers necessary to detect an increase of 10 percentage points in condom use with regular sex partners, the initial value of prevalence (p)¹ was estimated at 30 percent (based on results from 2006). The level of precision was set at 0.05 and the power at 0.80. The design effect was estimated at 2.0 because of the cluster sampling design used to sample the target groups. Using sample size requirements table⁶, a total of 508 truck drivers needed to be interviewed.

Using this formula, and taking into account the fact that about 40 percent of the truck drivers would have had regular sex partners in the last 12 months (based on the 2006 survey), and the ten percent chance that some of the randomly chosen men who were LDTDs would not consent to be interviewed, the required sample size was adjusted to 1,400 LDTDs.

⁶ FHI 2000, BSS guidelines for repeated behavioral surveillance surveys in population at risk of HIV, p29-58

3.2 Sampling and survey procedure

This was a cross-sectional survey of LDTDs. These drivers were found mainly along truck stops around the border and at truck depots where they loaded goods for delivery to various destinations. All the men aged 18 years and above found at truck depots as drivers of waiting trucks during the survey period were invited to participate. The survey was explained to all the potential participants and informed consent was obtained before the interview. Only consenting respondents were interviewed.

3.3 Challenges and Justification for Sampling

Prior to commencement of data collection, a mapping exercise was carried out to determine the existing population sizes, peak times, and sites where truck drivers congregate (e.g. loading sites). The exercise revealed that, on average, 150–180 LDTDs crossed and joined trucks parked at the Chirundu border a day, 40–60 new trucks joined a queue of trucks crossing the Kazungula border via Livingstone and almost the same number passed through Kapiri Mposhi each day. The mapping exercise in Solwezi revealed that there were only about 20–30 trucks entering Solwezi each day and most of them were destined for Kansanshi mines. These trucks parked at the truck stop before crossing the mine gate or at designated truck stops within mining areas where they waited until called to offload. About 10–20 trucks belonging to one trucking company (Kasembo) were destined for Lumwana mines each day. Because of the limited number of new trucks coming into Solwezi, it was not possible to obtain the required sample size in Solwezi. Consequently, researchers approached every truck driver (total sampling) in Kapiri Mposhi, Livingstone/Kazungula and Solwezi, where all eligible and identified respondents were included in the survey. In Chirundu cluster sampling was used because of high traffic load (the numbers in Kapiri Mposhi, Livingstone/Kazungula and Solwezi of LDTDs were low).

3.4 Data collection instruments

The survey used a semi-structured questionnaire as a data collection tool to record behavioral-related information from LDTDs. The semi-structured questionnaire consisted of both open- and close-ended questions. The open-ended questions required that the interviewer record the responses verbatim whilst the closed-ended questions were mostly pre-coded and required the interviewer to circle the appropriate response. The instrument contained questions addressing: socio-demographic factors; country of origin; marriage, family and work; sexual history; male and female condoms; STIs; knowledge about HIV/AIDS; stigma and discrimination against people living with HIV/AIDS; and exposure to interventions including questions on circumcision. The questionnaire was similar to the one used in the previous rounds of the BSS with added questions mainly on circumcision and access to project interventions. The questionnaire was translated into the Chibemba and Chinyanja languages for use whenever the interviewer encountered anyone who preferred to be interviewed in the local language.

3.5 Data collection process

Data collection was conducted over a period of 40 days, minus traveling days from 10th December 2008 to 20th February 2009, spending ten days in each of the four sites on actual data collection. Before the commencement of data collection, a five-day training workshop was held for the research assistants, where interview principles and techniques were taught. Issues covered during the training included: orientation on the COH project, survey purpose, consent procedures, confidentiality and other ethical issues, dealing with participants who get distressed during the interview, sensitization to issues pertaining to sex work, and roles and responsibilities of the team members. Practical exercises were done where

interviewers performed role-plays. The last two days of the workshop were used to pre-test the instrument in Lusaka, compile feedback, discuss the process and fine-tune the instruments.

Six trained male research assistants conducted the interviews with the support of a supervisor. COH project outreach workers and peer educators facilitated the recruitment of the truck drivers into the study. They helped to introduce the interviewers to consenting respondents. The interviewers then administered the questionnaire after obtaining additional consent. The interviews were conducted privately on a one-to-one basis. Each interview lasted for an average of 30–45 minutes. Editors went through all the completed questionnaires to ensure completeness in recorded responses and ultimately good quality data. In addition to a supervisor, two editors were also responsible for coordinating the interviewers' daily activities, ensuring that the survey requirements were strictly followed, and supporting the interviewers whenever there were concerns or questions. They also checked all questionnaires before packing them for data entry in Lusaka.

3.6 Data analysis

The completed questionnaires were transported to Lusaka for data processing. The questionnaires were coded and entered into the database using Epi-Data version 3.1 and analyzed using Epi-Info 6 statistical package. The files were converted into the Statistical Package for the Social Sciences (SPSS) for cleaning and analysis, which consisted of descriptive statistics that computed frequencies, means, and medians for comparisons among and between sites and for trends on four points of data collection involving Chirundu and Livingstone/Kazungula sites only. Cross tabulations and p-values were calculated for key variables to test statistically significant associations.

3.7 Dealing with sources of bias

Research assistants were carefully selected to represent the age group of truck drivers. The training involved pre-testing of instruments with LDTDs passing through Lusaka. To avoid errors in the measurement of the variables, a training manual was developed explaining each question and the meaning of each variable in the survey forms. However, despite the pre-testing of the questionnaire, one skip-pattern error was identified at the first site of interview (Chirundu); the statistician was informed and the questionnaire was corrected.

To avoid interviewer bias, researchers were oriented to appropriate ethical conduct and a training manual addressed issues of judgment and attitudes among researchers. The manual also covered dealing with people unwilling to tell the truth.

At site level, facilitators were experienced outreach workers on the project who introduced the exercise and introduced research assistants to the truck drivers. In Kapiri Mposhi an outreach worker who knew Swahili and who had undergone ethics training and questionnaire administration provided translation to a few drivers who had severe difficulties in understanding English and either of the two local languages into which the questionnaire had been translated. In addition, research assistants used log sheets to record ages of all eligible and non-eligible clients for analysis, including those who refused or were excluded from the interview.

3.8 Ethical issues

3.8.1 Informed consent and confidentiality

This survey addressed issues of sex and sexual partners outside of marriage, and STIs including HIV/AIDS. Therefore it dealt with sensitive subject matters that needed privacy and confidentiality. The respondents were assured of confidentiality. The interviewers were obligated to obtain informed consent and to ensure that all the information gathered remained confidential. Only consenting respondents were interviewed.

3.8.2 Participants' handout

All truck drivers received a handout after the interview. The handout contained the Principal Investigator's full contact information for questions about the study. It also contained information on rights as participants and contact address of the local Research Ethics Committee to report any adverse effects or wrong treatment. The handout also contained sources for HIV and AIDS information if the participant wanted more information, which included the Corridors of Hope II project, government and non-government institutions.

3.8.3 Distressed Respondent Protocol

Research assistants were trained in the protocol of handling distressed respondents. The protocol dealt with actions to take in an event that a respondent became visibly upset: crying, shaking, or speaking with a trembling voice during the course of the interview. If the respondent wanted to stop the interview, the researcher was to oblige and thank the respondent for his time and tell the respondent that he would be in touch to schedule a time to complete the interview, if the respondent agreed to it. The interview was to continue only if the respondent indicated that he did not want to stop. In the event that the respondent did not want or was unable to continue the interview, the researchers would thank the respondent for his time and no further effort would be made to return or continue the interview.

If the respondent indicated that he or she might pose a danger to themselves or someone else, then the interviewer was to follow the mandatory reporting procedures outlined which included informing the immediate supervisor. The supervisor was to make an attempt to talk to and calm the respondent and report to the editor/study coordinators and eventually the principal investigator.

3.8.4 Ethical approval

This study was approved before implementation by the University of Zambia's Biomedical Research Ethics Committee, the Protection of Human Subjects Committee of Family Health International and the Institutional Review Board of Research Triangle Institute in North Carolina, USA.

4. RESULTS

A total of 2,271 LDTDs were approached for interview, out of which 408 (17.9%) were excluded from interview. The overall response rate was 82 percent. In Chirundu, 25 of the 148 (6%) preferred to be interviewed later or wanted the research assistant to come later because they were busy. In Kapiri-Mposhi, 17 (16%) of the 103 and in Livingstone 12 (11%) of the 105 refused to be interviewed, they did not give reason for refusal. In Solwezi, nine (17%) of the 52 were excluded due to a language barrier. The remainder, a total of 345 (84%), from all sites could not be interviewed mainly because of time as they were rushing to drive off. A total of 1,863 LDTDs successfully completed interview. **Table 1** below presents the distribution of invited and interviewed respondents by study site.

Table 1: Breakdown of the LDTDs interviewed and excluded by site, BSS 2009

Site	Required sample size	Invited for Interview	Excluded	Total sample Interviewed	Response Rate
Chirundu	663	763	148	615	81%
Kapiri Mposhi	340	614	103	511	83%
Solwezi	238	245	52	193	79%
Livingstone	459	649	105	544	84%
Total	1,700	2,271	408	1,863	82%

4.1 Socio-demographic characteristics of survey population

This section presents information on socio-demographic characteristics of the LDTDs interviewed. It focuses on the age group distribution, educational level attained, religion, marital status and country of origin of the respondents.

4.1.1 Age

The mean age of the respondents was 36 years. Almost half of LDTDs (49%) of LDTDs fell in the age-group 30–39 years. Of the total number of LDTDs in the study, 5.3 percent were less than 25 years and 7.6 percent were aged 50 years and over. Less than half of LDTDs interviewed in Solwezi (44%), and in Livingstone (48%) were aged 35 years and over, while the proportions for Kapiri Mposhi and Chirundu were 53.2 percent and 60.8 percent respectively for the same age group. See **Table 2**.

4.1.2 Educational background

The average number of years spent in school among those who reported having been to school was ten years. The proportion who had achieved secondary or higher level of education was 79.5 percent, while 19.6 percent and 0.9 percent had primary or no education, respectively. LDTDs interviewed in Livingstone (86.2 percent) had completed the highest level of education (secondary education and higher) followed by those interviewed in Chirundu (85.2 percent). Proportions for truck drivers interviewed in Solwezi and Kapiri Mposhi with secondary and higher level of education was 75.7 percent and 67.6 percent respectively

4.1.3 Religion

The majority (88.6%) of LDTDs interviewed were Christians, followed by Muslim (8.2%). Other religious affiliations were less than one percent: Hindus (0.10%), Buddhist (0.05%) and other religious affiliation (0.21%). See **Table 2**.

Table 2: Age and education level of the LDTDs by site, BSS 2009

Characteristics	Chirundu	Kapiri Mposhi	Livingstone	Solwezi	Total
Age (years)					
Mean (SD)	37.4 (8.5)	35.7 (8.0)	34.9 (7.7)	35.1 (8.7)	36.0 (8.2)
	n (%)				
<25	23 (3.7)	27 (5.3)	36 (6.6)	12 (6.2)	98 (5.3)
25-29	85 (13.8)	95 (18.6)	110 (20.3)	37 (19.2)	327 (17.6)
30-34	133 (21.6)	117 (22.9)	135 (24.9)	59 (30.6)	444 (23.9)
35-39	164 (26.7)	128 (25.0)	127 (23.4)	43 (22.3)	462 (24.8)
40-44	90 (14.6)	87 (17.0)	75 (13.8)	18 (9.3)	270 (14.5)
45-49	53 (8.6)	25 (4.9)	32 (5.9)	9 (4.7)	119 (6.4)
50+	67 (10.9)	32 (6.3)	27 (5.0)	15(7.8)	141 (7.6)
Total	615 (100)	511 (100)	542 (100)	193 (100)	1861 (100)
Level of education					
Mean total years of education (SD)	10 (2.2)	9 (2.3)	10 (2.1)	10 (2.3)	10 (2.3)
None	2 (0.3)	4 (0.8)	5 (0.9)	5 (2.6)	16 (0.9)
Primary	88 (14.4)	160 (31.5)	69 (12.8)	44 (23.2)	361 (19.6)
Secondary	469 (76.9)	327 (64.5)	431 (80.3)	137 (72.4)	1361 (73.8)
Higher	51 (8.4)	16 (3.2)	32 (5.9)	6 (3.1)	105 (5.7)
Total	610 (100)	507 (100)	537 (100)	189 (100)	1843 (100)
Religion					
No religion	33 (5.4)	2 (0.4)	13 (2.4)	3 (1.6)	51 (2.7)
Christian	566 (92.2)	400 (78.4)	523 (96.3)	158 (82.7)	1647 (88.6)
Muslim	10 (1.6)	108 (21.2)	6 (1.1)	29 (15.2)	153 (8.2)
Buddhist	0 (0)	0 (0)	0 (0)	1 (0.5)	1 (0.1)
Hindu	2 (0.3)	0 (0)	0 (0)	0 (0)	2 (0.1)
Others	3 (0.5)	0 (0)	1 (0.2)	0 (0)	4 (0.2)
Total	614 (100)	510 (100)	543 (100)	191 (100)	1858 (100)

4.1.4 Marital status

Table 3 presents marital status and age at first marriage. About 86.8 percent of LDTDs had been married and most of them (85.5%) were still or currently married at the time of interview. There were more truck drivers interviewed in Chirundu (90%) and Kapiri Mposhi (90%) who said they had ever been married, while 85.0 percent and 81.4 percent of LDTDs passing through Solwezi and Livingstone respectively had been married. The median age of LDTDs' first marriage was 25 years.

Table 3: Socio-demographic characteristics of the LDTDs by site BSS 2009

Characteristics	Chirundu	Kapiri Mposhi	Livingstone	Solwezi	Total
	n (%)				
Ever married	553 (89.9%)	458 (89.6)	442 (81.4)	164 (85.0)	1617 (86.8)
Total	615 (100)	511 (100)	543 (100)	193 (100)	1862 (100)
Marital status					
Married living with spouse	487 (82.5)	419 (84.0)	416 (77.2)	147 (77.8)	1469 (80.8)
Married living with other	23 (3.9)	20 (4.0)	16 (3.0)	12 (6.3)	71 (3.9)
Married living alone	9 (1.5)	2 (0.4)	3 (0.6)	0	14 (0.8)
Not married, living with someone	13 (2.2)	14 (2.8)	14 (2.6)	3 (1.6)	44 (2.4)
Not married, living alone	58 (9.8)	44 (8.8)	90 (16.7)	27 (14.3)	219 (12.1)
Total	590 (100)	499 (100)	539 (100)	189 (100)	1817 (100)
Age at marriage					
Median age (SD)	24.8 (3.5)	24.8(3.6)	25.4 (3.7)	25.0 (3.6)	25 (3.6)
Total	535	446	413	157	1569

4.1.5 Drivers' countries of origin and mobility

As can be seen from **Table 4**, the truck drivers' countries of origin varied from one site to another, reflecting the location of the border towns and the adjacent countries. Over a half of LDTDs (54.6%) were from Zambia followed by a quarter (28.1%) from Zimbabwe. In Chirundu the majority (63.4%) of drivers interviewed were from Zimbabwe followed by Zambia (24.8%). In Kapiri Mposhi the majority (56.4%) were Zambians, followed by Tanzanians (27.3%). In Livingstone the majority were Zambians (79.7%) followed by Zimbabweans (12.4%). In Solwezi the majority of truck drivers were Zambians (74.9%) followed by Tanzanians (8.3%).

Table 4: Socio-demographic characteristics of the LDTDs by site (continued) BSS 2009

Characteristics	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Country of origin					
South Africa	46 (7.5)	11 (2.2)	31 (5.8)	0 (0)	88 (4.8)
Somalia	0 (0)	12 (2.4)	0 (0)	0 (0)	12 (0.7)
Malawi	12 (2.0)	5 (1.0)	6 (1.1)	0 (0)	23 (1.2)
Zimbabwe	388 (63.4)	52 (10.2)	66 (12.4)	13 (6.8)	519 (28.1)
Tanzania	1 (0.2)	139 (27.3)	2 (0.4)	35 (18.3)	177 (9.6)
Mozambique	11 (1.8)	1 (0.2)	0 (0)	0 (0)	12 (0.7)
Congo DR	2 (0.3)	2 (0.4)	1 (0.2)	0 (0)	5 (0.3)
Botswana	0 (0)	0 (0)	2 (0.4)	0 (0)	2 (0.1)
Zambia	152 (24.8)	287 (56.4)	425 (79.7)	143 (74.9)	1007 (54.6)
Total	612 (100)	509 (100)	533 (100)	191 (100)	1845 (100)
Period of stay at the border (days) this trip					
Median (Q1, Q3)	2 (2,4)	1 (0,1)	2 (1,3)	1 (1,2)	2 (1,3)
	n (%)	n (%)	n (%)	n (%)	N (%)
<1	28 (4.6)	191 (37.6)	86 (16.0)	36 (19.1)	341 (18.5)
1	112 (18.5)	228 (44.9)	136 (25.2)	82 (43.6)	558 (30.3)
2	190 (31.3)	52 (10.2)	150 (27.8)	49 (26.1)	441 (23.9)
3	119 (19.6)	10 (2.0)	82 (15.2)	14 (7.4)	225 (12.2)
4 +	158 (26.0)	27 (5.3)	85 (15.8)	7 (3.7)	277 (15.0)
Total	607 (100)	508 (100)	539 (100)	188 (100)	1842 (100)
Been away from home for more than one month continuously					
Yes	299 (49.3)	267 (53.7)	298 (55.4)	87 (48.6)	951 (52.3)
Total	606	497	538	179	1820
Number of trips crossing the border in the past 3 months					
	n (%)	n (%)	n (%)	n (%)	N (%)
0	4 (0.7)	6 (1.2)	12 (2.2)	4 (2.1)	26 (1.4)
1-2	167 (27.4)	147 (29.3)	168 (30.9)	50 (26.7)	532 (28.9)
3-5	200 (32.8)	130 (25.7)	195 (35.9)	50 (26.7)	575 (31.2)
6-9	163 (26.8)	98 (19.5)	125 (23.0)	33 (17.6)	419 (22.8)
10+	75 (12.3)	121 (24.1)	43 (7.9)	50 (26.7)	289 (15.7)
Total	609 (100)	502 (100)	543 (100)	187 (100)	1841 (100)

Table 5 shows information about how long the drivers had stayed at the site. The median length of stay was two days. The truck drivers stayed the longest at Chirundu, where 26 percent had stayed for four days and more, while in Solwezi 3.7 percent stayed for same period. In Kapiri Mposhi, which is a transit route, the majority of truck drivers stayed one day or less (82.5%). Asked about how many times they had crossed the border, about a third (31%) of all the truck drivers in the study said they had crossed between three and five times and 15.7 percent had crossed the border ten or more times in the three months prior to survey.

Table 5: Socio-demographic characteristics of the LDTDs by site (continued) BSS 2009

Characteristics	Chirundu n (%)	Kapiri Mposhi N (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Length of stay last time were at the border site (days)					
Median (Q1,Q3)	2 (2,4)	1 (0,1)	2 (1,3)	1 (1,2)	2 (1,3)
0	28 (4.6)	191 (37.6)	86 (16.0)	36 (19.1)	341 (18.5)
1	112 (18.5)	228 (44.9)	136 (25.2)	82 (43.6)	558 (30.3)
2	190 (31.3)	52 (10.2)	150 (27.8)	49 (26.1)	441 (23.9)
3	119 (19.6)	10 (2.0)	82 (15.2)	14 (7.4)	225 (12.2)
4+	158 (26.0)	27 (5.3)	85 (15.8)	7 (3.7)	277 (15.0)
Total	607 (100)	508 (100)	539 (100)	188 (100)	1842 (100)

4.1.6 Conclusions and recommendations

The results of the socio-demographic variables collected in this round of BSS showed that most truck drivers were young, married and had a good standard of education, were highly mobile and spent many nights at border sites. The median number of days they stayed at border sites was two days. In heavy trucking borders such as Chirundu almost a third (30%) of the truck drivers spent up to three days and had between six and ten trips in three months. Cumulatively these added up to several days or month/s of absence from home each quarter.

RECOMMENDATIONS

- Truck drivers continue to stay for long periods at border towns due to clearance procedures and personal behavior which increase the chances of engaging in behaviors that put them at risk of HIV infection.
 - There is therefore a need to continue lobbying the government for mechanisms to quicken the clearance process.
 - There is a need to investigate the underlying factors that affect the clearance process, identify solutions and lobby for improvement/system change.
- To reduce exposures to high risk situations, a comprehensive prevention program is needed to create an enabling environment to lower HIV risk. Core services for such an approach will include provision of recreational/entertainment and behavioral change information facilities located near the truck stops, treatment for STIs and expansion of STI/HIV counseling and testing services to reduce STIs.

4.2 General risk behaviours of study population

The following section presents risk behaviors, including sexual behaviors of LDTDs with different sexual partners. See **Tables 6-9**.

4.2.1 *Alcohol consumption and drug use in the last four weeks*

The respondents were asked about the frequency of alcohol consumption in the last four weeks. Of the truck drivers in the survey, 5.3 percent said they took alcohol every day while 26.9 percent said they took it at least once a week. About 12.9 percent had alcoholic drinks less than once a week while about a half (54.9%) percent said they had not taken alcohol in the past four weeks. See **Table 6** below. Furthermore, respondents were asked questions about consumption of drugs including injecting drugs other than for medical purposes. The respondents were given a list of drugs to which they responded either affirmatively or negatively according to whether they had ever used them. The drugs included dagga (marijuana), heroin, cocaine, and mandrax. Approximately 15.4 percent reported having smoked dagga; 9.9 percent of those said they smoked dagga every day. Three said they had used heroin, two said they had taken cocaine and another two reported having taken mandrax in the two weeks prior to the study. Among those who said they had ever smoked dagga, the highest proportion were those interviewed in Livingstone (13.0%) followed by Chirundu (9.3%) and Kapiri Mposhi (7.0%)

Table 6: Alcohol and drug use by the LDTDs by Site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Alcohol use					
Every day	36 (5.9)	33 (6.5)	20 (3.7)	10 (5.2)	99 (5.3)
At least once a week	152 (24.9)	115 (22.5)	173 (31.9)	59 (30.6)	499 (26.9)
Less than once a week	73 (12.0)	58 (11.4)	76 (14.0)	33 (17.1)	240 (12.9)
Never	349 (57.2)	305 (59.7)	274 (50.5)	91 (47.2)	1019 (54.9)
Total	610 (100)	511 (100)	543 (100)	193 (100)	1857 (100)
Drug ever used					
Dagga	85 (15.4)	61 (13.9)	99 (18.2)	20 (10.4)	265 (15.4)
Total	551 (100)	439 (100)	543 (100)	193 (100)	1726 (100)
Heroin	4 (0.7)	0 (0)	1 (0.2)	1 (0.5)	6 (0.3)
Total	551 (100)	439 (100)	543 (100)	193 (100)	1726 (100)
Cocaine	2 (0.4)	1 (0.2)	2 (0.4)	1 (0.5)	6 (0.3)
Total	550 (100)	439 (100)	543 (100)	193 (100)	1725 (100)
Mandrax	1 (0.2)	0 (0)	4 (0.7)	1 (0.5)	6 (0.3)
Total	549 (100)	439 (100)	543 (100)	193 (100)	1724 (100)
Drug use in the last four weeks (dagga)					
Every day	7 (9.3)	4 (7.0)	12 (13.0)	1 (5.6)	24 (9.9)
At least once a week	11 (14.7)	0 (0)	9 (9.8)	2 (11.1)	22 (9.1)
Less than once a week	7 (9.3)	0 (0)	5 (4.4)	0 (0)	12 (5.0)
Never	50 (65.7)	53 (93.0)	66 (71.7)	15 (83.3)	184 (76.0)
Total	75 (100)	57 (100)	92 (100)	18 (100)	242 (100)

4.2.2 Sexual behavior and partners

The survey findings show that 98 percent of the respondents ever had sexual intercourse. **Table 7** presents the age at first sex for all the LDTDs and **Table 8** presents behavior of LDTDs with regard to sex with commercial or female sex workers and non-regular and non-commercial sexual partners. The respondents' median age when they first had sexual Intercourse was 17 years. Those who reported sexual intercourse in the past 12 months with any partner were further asked about the number of sexual partners in the past twelve months.

4.2.2.1 Wives and live-in sexual partners

Table 7 presents sexual behavior of respondents. About 85 percent (1418) of the truck drivers in the study reported having had sex with one wife and 3.5 percent said they had sex with two or more wives (polygamous marriages) in the 12 months prior to survey. There was not much difference among LDTDs who reported having sex with one wife or those who reported having sex with two wives across the sites. Another question asked of respondents was how many live-in sexual partners they had in the last 12 months. Ninety percent said none, 9.4 percent said they had at least one live-in sexual partner, and only one respondent (0.1%) in Chirundu said he had more than two live-in sexual partners in the last 12 months prior to the interview.

4.2.2.2 Regular sexual partners (girlfriends)

Thirty-three percent of all the respondents reported having at least one regular sexual partner⁷ (girlfriend) in the last twelve months prior to the survey. 80 respondents (4.8%) reported having had two or more regular sexual partners. The highest number of LDTDs who said they had two or more regular sex

⁷ A regular sexual partner was defined as a girlfriend with whom a respondent has a sexual relationship but was **not** living with the respondent during the last 12 months.

partners was in Chirundu (6.9%), followed by Livingstone (4.5%), then Kapiri Mposhi and Solwezi. The proportion of LDTDs in Kapiri Mposhi and Solwezi with two or more regular sexual partners was 3.3 percent and 2.5 percent respectively. See **Table 7**.

4.2.2.3 Male sexual partners

Three (0.2%) of the truck drivers in the study had ever had sex with a male sexual partner. One of the three respondents had sex with a male partner in the last 12 months prior to the interview. See **Table 7**.

Table 7: Sexual behavior with wives, live-in partners and regular partners reported by the LDTDs by Site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Sexually active					
Ever had sexual intercourse	608 (99.2)	504 (98.6)	529 (97.6)	187 (96.9)	1828(98.3)
Total	613	511	542	193	1859
Age at first sexual intercourse					
Median (Q1,Q3)	18 (16,21)	17 (15,19)	17 (16,19)	16 (15,18)	17(16,20)
Total	509	414	389	150	1462
Had sexual intercourse in the last 12 months prior to date of interview					
Yes	564 (97.4)	453 (96.4)	493 (96.1)	164 (95.9)	1674 (96.6)
Total	579 (100)	470 (100)	513 (100)	171 (100)	1733 (100)
Number of wives with whom had sex in the last 12 months					
Median (Q1, Q3)	1 (1,1)	1 (1,1)	1 (1,1)	1 (1,1)	1(1,1)
	n (%)	n (%)	n (%)	n (%)	N (%)
0	59 (10.3)	39 (8.6)	74 (15.0)	19 (11.6)	192 (11.5)
1	481 (85.4)	396 (87.4)	403 (81.7)	138 (84.1)	1418 (84.8)
2+	23 (4.1)	18 (3.9)	16 (3.2)	7 (4.3)	59 (3.5)
Total	563 (100)	453 (100)	493 (100)	164 (100)	1673 (100)
Number of live-in partners they had sex with in the last 12 months					
Median (Q1,Q3)	0(0,0)	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
	n (%)	n (%)	n (%)	n (%)	N (%)
0	505 (90.0)	405 (89.4)	456 (92.7)	145 (89.0)	1511 (90.5)
1	55 (9.8)	48 (10.6)	36 (7.3)	18 (11.0)	157 (9.4)
2+	1 (0.2)	0 (0)	0 (0)	0 (0)	1 (0.1)
Total	561 (100)	453 (100)	492 (100)	163 (100)	1669 (100)
Number of girlfriends (regular partners, not living together) they had sex with in the last 12 months					
Median (Q1,Q3)	0 (0,1)	0 (0,1)	0 (0,1)	0 (0,1)	0(0,1)
	n (%)	n (%)	n (%)	n (%)	N (%)
0	358 (63.5)	297 (65.6)	287 (58.2)	97 (59.5)	1039 (62.1)
1	167 (29.6)	141 (31.1)	184 (37.3)	62 (38.0)	554 (33.1)
2+	39 (6.9)	15 (3.3)	22 (4.5)	4 (2.5)	80 (4.8)
Total	564 (100)	453 (100)	493 (100)	163 (100)	1673 (100)
Ever had male sexual partner					
Yes	2 (0.3)	0 (0.0)	0 (0.0)	1 (0.5)	3 (0.2)
Total	595	498	524	184	1801

4.2.5 Commercial sexual partners or FSWs

329 LDTDs, representing 19.7 percent of the participants in the study, had sex with one or more commercial sex workers or someone with whom they had exchanged money or gifts for sex within 12 months prior to the survey. Of those who had sex with sex workers, 230 (13.8%) said they had sex with two or more commercial /female sex workers in the last 12 months. In general, there were more LDTDs in Chirundu reporting sex with two or more FSWs (18.2%), followed by Kapiri Mposhi (13.0%) and Livingstone (12.4%), while Solwezi had the lowest proportion of truck drivers reporting sex with two or more FSWs in the last 12 months (4.9%). See **Table 8**.

4.2.6 Non-regular/non-commercial partners

Thirty nine (39) of the truck drivers (2.4%) said they had sex with a non-regular partner⁸ in the past 12 months. Of those who said they had sex with a non regular partner, 1.4 percent said had sex with two or more non-regular/non-commercial sex partners. In general the majority who reported having had sex with two or more non-regular sex partners were from Solwezi (2.5%), followed by Chirundu (1.8%). See **Table 8** below.

Table 8: Sexual behavior, commercial and non-commercial/non-regular sexual partners reported by the LDTDs by Site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Number of commercial sex workers they had sex with in the last 12 months					
Median (Q1, Q3)	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
	n (%)	n (%)	n (%)	n (%)	N (%)
0	421 (75.0)	372 (82.1)	402 (81.9)	144 (88.3)	1339 (80.3)
1	38 (6.8)	22 (4.9)	28 (5.7)	11 (6.7)	99 (5.9)
2+	102 (18.2)	59 (13.0)	61 (12.4)	8 (4.9)	230 (13.8)
Total	561 (100)	453 (100)	491 (100)	163 (100)	1668 (100)
Number of non-regular, non-commercial (casual) sexual partners they had sex with in the last 12 months					
Median (Q1, Q3)	0 (0,0)	0.0 (0,0)	0 (0,0)	0 (0,0)	0 (0,0)
	n (%)	n (%)	n (%)	n (%)	N (%)
0	542 (97.0)	445 (98.9)	478 (98.0)	156 (95.7)	1621 (97.7)
1	7 (1.3)	1 (0.2)	5 (1.0)	3 (1.8)	16 (1.0)
2+	10 (1.8)	4 (0.9)	5 (1.0)	4 (2.5)	23 (1.4)
Total	559 (100)	450 (100)	488 (100)	163 (100)	1660 (100)

4.2.7 Frequency of sexual intercourse

The truck drivers who reported having had sexual intercourse with their wives, live-in partners, regular, commercial and non-regular sexual partners were asked about the frequency of sexual intercourse with their partners in the last 30 days (**Table 9**). About 93.4 percent of all truck drivers in the study reported having had sex with their spouse/wife, and the median number of times they had sex with their spouse/wife was four times in the last 30 days. Eleven percent of respondents had sex with a live-in partner and the median number of times they had sex with their live-in partner was twice in the last 30 days.

Out of those who had sex with a girlfriend (N=655) in the last 30 days, the median number of times they had sex with their girlfriends during this period was once (1). Of the 346 LDTDs who reported sex with an FSW in the last 12 months (**Table 8**), the median number of times they had sex with an FSW was once in the last 30 days. Nineteen (5.5%) of the study respondents had sex with other types of partners whom they regarded as non-regular and non-commercial/female sex workers.

⁸For the purpose of this survey, a non-regular partner was defined as a partner with whom the respondent has had sex in the past 12 months. Partners who are spouses, long-standing girlfriends (regular), living with the respondent, or with whom they have exchanged sex for money (commercial sex workers) are not defined as non-regular partners.

Table 9: Sexual behavior of the LDTDs with most recent partner/type of partner by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Had sexual intercourse with wife in last 30 days					
Yes	481 (94.9)	415 (93.0)	379 (92.0)	147 (93.0)	1408 (93.4)
Total	507	431	412	158	1508
Frequency of sexual intercourse over the last 30 days with wife or live-in partner					
Median (Q1,Q3)	4 (2,7)	4 (2,6)	3 (2,5)	3 (2,5)	4 (2,6)
Total	510	435	414	160	1519
Had sexual intercourse with a live in partner in the past 12 months					
Yes	56 (10.7)	55 (12.1)	37 (8.2)	21 (12.9)	169 (10.6)
Total	525	453	451	163	1592
Frequency of sexual intercourse over the last 30 days with live-in partner					
Median (Q1,Q3)	2 (2,3)	2 (1,3)	2 (1,3.5)	2 (1,3)	2 (1,3)
Total	56	54	36	21	167
Frequency of sexual intercourse over the last 30 days with girlfriend (regular, not living together)					
Median (Q1,Q3)	2 (1,3)	1 (1,2)	1 (0,2)	1 (0,2)	1 (1,3)
Total	208	165	208	68	655
Frequency of sexual intercourse over the last 30 days with commercial sex workers					
Median (Q1,Q3)	1 (1,2)	1 (1,2)	1 (1,1)	1 (1,2)	1 (1,2)
Total	146	86	94	19	346
Frequency of sexual intercourse over the last 30 days with non-regular (non-commercial partners)					
Median (Q1, Q3)	1 (1,2)	1 (0,2)	1 (1,1)	1(1,1)	1 (1,2)
Total	17	3	5	3	28
Had sex with any other kind of partner in the last 12 months (non-regular, non-commercial)					
Yes	13 (9.0)	3 (3.5)	2 (2.2)	1 (5.0)	19 (5.5)
Total	145	84	93	20	343

4.2.8 Discussion and recommendations

In this study, about a third (32%) of LDTDs consumed alcohol at least once a week, with five percent of them consuming it almost every day. 15 percent have ever smoked dagga, with about ten percent of those who smoked, using it every day. Studies have suggested that there is a correlation between alcohol use/abuse and sexual risk behavior, which increases the risk of HIV and other STIs. Some studies have found a correlation between taking alcohol before sex and unprotected sex with alcohol being a behavioral disinhibition factor.⁹ Multiple concurrent sexual relationships, cross-generational sex and transactional sex are among the recognized drivers of the HIV epidemic in sub-Saharan Africa including Zambia.¹⁰

In this study the majority were married (85%), and over a third (37%) of the truck drivers in the study had at least one other regular (girlfriend). In the 12 months prior to the study, about five percent of LDTDs had sex with another partner who was not their regular sex partner or a commercial sex worker, and 20 percent of them had sex with at least one FSW. This behavior of having multiple sex partners puts individuals at risk of contracting or transmitting HIV and other STIs.

⁹ Kalichman CS, Simayi CL, Cain D, Jooste S, Alcohol expectancies and risky drinking among men and women at high-risk for HIV infection in Cape Town, South Africa, *Addictive Behaviors*, 32: 2304-2310, 2007

¹⁰ Zambia National HIV/AIDS/STI/TB Council: National HIV and AIDS Strategic Framework, 2006-2010

RECOMMENDATIONS

- The study found that up to a third of LDTDs passing through border towns of Zambia consumed alcohol at least once a week. Alcohol per se may not be harmful, but it undermines judgment and affects risk perception, thereby leading alcohol users to risky sexual encounters. There is therefore a need to continue reaching out to LDTDs with factual information on the dangers of alcohol, strategies to avoid getting into risky situations, and the dangers of excessive and compulsive alcohol consumption.
- Some LDTDs continue to engage in extra-marital relationships with different partners. Thus, communication strategies and messages that discourage multiple concurrent partnerships and that encourage LDTDs to get involved in formulating their own strategies for behavior change are needed. There is a need for approaches and movements that promote monogamy and fidelity in marriages and go beyond awareness-raising to sustaining behavior change.

4.3 Knowledge, availability, accessibility and use of condoms

Table 10a presents the findings of knowledge about, availability of and accessibility to male condoms. Among those who did not use a male condom the last time they had sex with any partner (wife, live-in partner, regular partner/girlfriend, sex worker, non-regular) almost all (99.7%) have heard about male condom. About 73.3 percent of LDTDs have bought a male condom. The last time they bought a male condom, 64.3 percent bought the Maximum condom brand.

Out of those who did not use a condom at last sex,¹¹ 81.5 percent have used a condom. Almost all (99.4%) of those who had ever heard of a male condom said they knew where to get it. Less than one out of four (24.0%) of LDTDs in all sites had a condom at hand at the time of interview. Most LDTDs mentioned shops (79.4%), bars/guest houses/hotels (51.3%), pharmacies (48.7%), clinics (41.7%), markets (21.5%), peer educators (12.5%), and friends (7.4%) as sources of condoms.

When asked how long it typically took them to obtain a condom, 93.2 percent of the respondents who had heard of a male condom reported that it took them less than 15 minutes to obtain a condom from the nearest place that sold or stocked them.

Sexually active respondents were asked whether they had ever had sex with a sexual partner other than their wife or live-in partner in the last 12 months without using a condom. The results of the analysis indicated that 12.9 percent of respondents had had sex without a condom. The key reasons provided by respondents who did not use condoms was that they did not think the partner had disease (36.2%), and 28.4 percent said they did not think it was necessary to use a condom.

¹¹ Researchers were interested in knowing those who did not use condom at last sex with any partner but have heard of a condom.

Table 10 (a): LDTDs' knowledge and availability of male condoms by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Ever heard of male condom					
Yes	596 (99.2)	500 (100)	529 (99.8)	183 (100)	1808 (99.7)
Total	601	500	530	183	1814
Ever bought a condom					
Yes	407 (67.6)	381 (76.4)	402 (76.0)	140 (75.7)	1330 (73.3)
Total	602	499	529	185	1815
Ever used a condom					
Yes	464 (77.9)	401 (80.4)	455 (86.0)	153 (83.6)	1473 (81.5)
Total	596	499	529	183	1807
Last time you bought condom, which brand was it?					
Maximum	101 (28.8)	235 (85.8)	240 (77.4)	89 (89.9)	665 (64.3)
Lover plus	56 (16.0)	14 (5.1)	36 (11.6)	2 (2.0)	108 (10.4)
Care	9				
Protector	179 (51.0)	18 (6.6)	29 (9.4)	7 (7.1)	233 (22.5)
Success	6 (6.7)	1 (0.4)	1 (0.3)	1 (1.0)	9 (0.9)
Total	351 (100)	274 (100)	310 (100)	99 (100)	1034 (100)
Knows where to obtain condoms					
Yes	564 (95.8)	489 (98.2)	516 (98.5)	181 (97.8)	1750 (97.4)
Total	589	498	524	185	1796
Had condom on hand at the time of interview					
Yes	45 (16.4)	79 (31.6)	56 (21.5)	32 (32.3)	212 (24.0)
Total	274	250	260	99	883
Places or persons where condom can be obtained					
Shop	476 (84.4)	387 (79.1)	376 (72.9)	150 (82.9)	1389 (79.4)
Pharmacy	257 (45.6)	247 (50.5)	245 (47.5)	103 (56.9)	852 (48.7)
Market	122 (21.6)	97 (19.8)	115 (22.5)	42 (23.2)	376 (21.5)
Clinic	222 (39.4)	206 (42.1)	219 (42.4)	83 (45.9)	730 (41.7)
Hospital	159 (28.2)	109 (22.3)	105 (20.3)	34 (18.8)	407 (23.3)
Family planning clinic	29 (5.1)	23 (4.7)	12 (2.3)	7 (3.9)	71 (4.1)
Bar/guest house/hotel	291 (51.6)	251 (51.3)	261 (50.6)	94 (51.9)	897 (51.3)
Peer educator	102 (18.1)	74 (15.1)	31 (6.0)	12 (6.6)	219 (12.5)
Friend	75 (13.3)	29 (5.9)	17 (3.3)	9 (5.0)	130 (7.4)
Total	564	489	516	181	1750
Time it takes to obtain male or female condoms (minutes)					
<15	517 (92.2)	474 (97.7)	457 (89.6)	170 (94.4)	1618 (93.2)
15-30	40 (7.1)	10 (2.1)	50 (9.8)	10 (5.6)	110 (6.3)
31-60	4 (0.7)	1 (0.2)	2 (0.4)	0 (0)	7 (0.4)
>60	0 (0)	0 (0)	1 (0.2)	0 (0)	1 (0.1)
Total	561 (100)	485 (100)	510 (100)	180 (100)	1736 (100)
Had sexual intercourse without a condom in the past 12 months with sex partner other than wife or live-in partner.					
Yes	66 (11.0)	57 (11.5)	87 (16.5)	19 (10.3)	229 (12.9)
Total	599	497	527	185	1808
Reasons for not using condom at that time					
Not available	6 (9.1)	5 (8.8)	10 (11.5)	2 (10.5)	23 (10.0)
Too expensive	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Partner objected	4 (6.1)	1 (1.8)	0 (0)	0 (0)	5 (2.2)
Don't like them	2 (3.0)	1 (1.8)	1 (1.1)	0 (0)	4 (1.7)
Used other contraceptives	14 (21.2)	2 (3.5)	2 (2.3)	2 (10.5)	20 (8.7)
Did not think it was necessary	18 (27.3)	8 (14.0)	30 (34.5)	9 (47.4)	65 (28.4)
Did not think of it	6 (9.1)	8 (14.0)	16 (18.4)	2 (10.5)	32 (14.0)
Wanted pregnancy	6 (9.1)	6 (10.5)	1 (1.1)	0 (0)	13 (5.7)
Didn't think partner had a disease	19 (28.8)	19 (33.3)	34 (39.1)	11 (58.0)	83 (36.2)
Total	66	57	87	19	229

Table 10 (b) presents the findings on the knowledge and availability of female condoms. About 83.7 percent have heard of a female condom and 5.7 percent of the respondents have ever used a female condom. Half (51.3%) of the respondents know a place or persons from where to obtain a female condom. Most of the respondents said they would feel more comfortable or prefer to obtain a female condom from a pharmacy (64.8%), followed by a clinic (46.3%).

Table 10 (b): LDTDs' knowledge and availability of female condoms by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Ever heard of female condom					
Yes	518(86.6)	415 (83.2)	442 (83.6)	146 (78.9)	1521 (83.7)
Total	605	499	529	185	1818
Ever used a female condom					
Yes	37(7.1)	15 (3.6)	30 (6.8)	5 (3.4)	87 (5.7)
Total	518	414	441	146	1519
Knows where to obtain female condoms					
Yes	280 (54.1)	190 (47.0)	232 (52.5)	72 (50.0)	774 (51.3)
Total	518	404	442	144	1508
Where would you feel more comfortable to obtain a female condom?					
Shop	188 (42.5)	138 (40.2)	91(21.2)	34/134 (25.4)	451/1349 (33.4)
Pharmacy	320/451 (71.0)	234/341 (68.6)	230/430 (53.5)	97/137 (70.8)	881/1359 (64.8)
Market	84/435 (19.3)	48/330 (14.5)	42/427 (9.8)	15/132 (11.4)	189/1324 (14.3)
Clinic	211/445 (47.4)	182/344 (52.9)	167/432 (38.4)	68/134 (50.7)	628/1355 (46.3)
Hospital	141/434 (32.5)	96/340 (28.2)	98/432 (22.7)	30/133 (22.6)	365/1339 (27.3)
Family planning clinic	56/428 (13.1)	39/338 (11.5)	36/428 (6.4)	11/131(8.4)	142/1325 (10.7)
Bar/guest house/hotel	126/435 (29.0)	84/336 (25.0)	64/429 (14.9)	22/131 (16.8)	296/1331 (22.2)
Peer educator	103/435 (23.7)	38/331 (11.5)	27/428 (6.3)	9/131 (6.9)	177/1325 (13.4)
Friend	37/406 (9.1)	15/327 (4.6)	4/427 (0.9)	6/130 (4.6)	62/1290 (4.8)

4.3.1 Condom use with wives

Respondents were asked whether they had sexual intercourse with their wives in the 12 months prior to the interview. Those who responded "yes" were further asked whether a condom was used the last time they had sex with their wives. Overall reported condom use at last sex with a wife was 7.1 percent (**Table 11**). Where condom was used at last sex with wife, over a half of respondents, 69.6 percent, said it was a joint decision, followed by decision made by the respondent (22.5%), while 7.8 percent said it was the partner who suggested condom use.

The majority of the LDTDs in the study (86.9%) said they "didn't think it was necessary" to use a condom as a reason for not using condom when they last had sex with their wife. Of the LDTDs who used a condom at last sex with their wife, only 2.9 percent said they used condoms every time, 0.7 percent said almost every time and 13.6 percent said that they used condoms sometimes with their wife.

Table 1: LDTDs' condom use at last sexual contact during last 12 months with wife by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Condom used at last sexual intercourse with wife					
Yes	25 (4.7)	40 (9.0)	34 (7.8)	13 (8.0)	112 (7.1)
Total	533	444	435	162	1574
Who suggested condom use					
Myself	4 (17.4)	12 (32.4)	7 (23.3)	0 (0)	23 (22.5)
Partner	3 (13.0)	2 (5.4)	3 (10.0)	0 (0)	8 (7.8)
Joint decision	16 (69.6)	23 (62.2)	20 (66.7)	12 (100)	71 (69.6)
Total	23 (100)	37 (100)	30 (100)	12 (100)	102 (100)
Reason for non-use of condom*					
Not available	2 (0.4)	2 (0.5)	0/398 (0)	0/146 (0)	4/1411 (0.3)
Too expensive	2/475 (0.4)	0/391 (0)	0/398 (0)	0/146 (0)	2/1410 (0.1)
Partner objected	61/486 (12.6)	5/392 (1.3)	1/398 (0.3)	1/146 (0.7)	68/1422 (4.8)
Don't like them	57/481 (11.9)	6/391 (1.5)	5/398 (1.3)	0/146 (0)	68/1416 (4.8)
Used other contraceptives	57/473 (12.1)	28/374 (7.5)	28/395 (7.1)	11/146 (7.5)	124/1388 (8.9)
Didn't think it was necessary	396/491 (80.7)	352/398 (88.4)	364/402 (90.5)	137/146 (93.8)	1249/1437 (86.9)
Didn't think of it	32/476 (6.7)	15/388 (3.9)	8/395 (2.0)	13/145 (9.0)	68/1404 (4.8)
Itching	2/42 (4.8)	0/12 (0)	0/16 (0)	0/2 (0)	2/72 (2.8)
Condom use over the past 12 months with wife					
Every time	9 (1.7)	18 (4.1)	12 (2.8)	5 (3.1)	44 (2.8)
Almost every time	3 (0.6)	6 (1.4)	2 (0.5)	0 (0)	11 (0.7)
Sometimes	57 (11.0)	66 (14.9)	67 (15.4)	21 (13.1)	211 (13.6)
Never	447 (86.6)	354 (79.7)	351 (81.3)	134 (83.8)	1286 (82.9)
Total	516 (100)	444 (100)	432 (100)	160 (100)	1552 (100)

*denominators varied

4.3.2 Condom use with live-in partner

Table 12 presents the results of the analysis regarding LDTDs' condom use with live-in partners. LDTDs who said they had had sex with a live-in partner in the last 12 months were asked whether they used a condom last time they had sex with this partner. Of 167 who reported having had sex with live-in partner in the last 12 months prior to the interview date, 73.1 percent said they used a condom at last sexual intercourse with their live-in partner and in 64.8 percent of the sexual encounters it was the LDTDs who suggested use of a condom. Among those who did not use condoms (n=45), 69.0 percent said they did not use condom because they did not think it was necessary. Amongst those who said they had sex with their live-in partner, about half (57.5%) said they used a condom every time.

Table 12: LDTDs condom use at last sexual contact during last 12 months with live-in partner by Site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Condom used at last sexual intercourse with live-in partner					
Yes	45 (81.8)	42 (77.8)	19 (51.4)	16 (76.2)	122 (73.1)
Total	55	54	37	21	167
Who suggested condom use					
Myself	31 (68.9)	28 (66.7)	11 (57.9)	9 (56.3)	79 (64.8)
Partner	1 (2.2)	4 (9.5)	2 (10.5)	2 (12.5)	9 (7.4)
Joint decision	13 (28.9)	10 (23.8)	6 (31.6)	5 (31.3)	34 (27.9)
Total	45	42	19	16	122
Condom use over the past 12 months with live-in partner					
Every time	38 (69.1)	37 (68.5)	10 (27.0)	11 (52.4)	96 (57.5)
Almost every time	5 (9.1)	4 (7.4)	9 (24.3)	3 (14.3)	21 (12.6)
Sometimes	2 (3.6)	2 (3.7)	5 (13.5)	5 (23.8)	14 (8.4)
Never	10 (18.2)	11 (20.4)	13 (35.1)	2 (9.5)	36 (21.6)
Total	55 (100)	54 (100)	37 (100)	21 (100)	167 (100)

4.3.3 Condom use with regular partners (girlfriends)

Table 13 presents data on condom use with the most regular partner other than wife or live-in partner. Slightly more than seventy percent (72.6%) of all the LDTDs with a regular partner (n=660) reported condom use at last sexual intercourse with their regular partners in the last 12 months. Of those, 54.4 percent suggested condom use when they last had sex. Amongst those who did not use a condom with regular partners/girlfriends when they last had sex, almost half of them (47.2%) responded said that they “did not think it was necessary”. Of those who had sex with a regular partner and used a condom in the last 12 months, over half of the respondents (60.3 percent) said they used a condom every time they had sex with their regular partner/girlfriend.

Table 13: LDTDs’ condom use with regular partner in the past 12 months by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Condom used at last sexual intercourse with regular girlfriend not living together					
Yes	169 (79.3)	118 (71.5)	140 (66.0)	52 (73.9)	479 (72.6)
Total	213	165	212	70	660
Who suggested condom use					
Myself	83 (49.4)	63 (54.3)	85 (60.7)	28 (53.8)	259 (54.4)
Partner	2 (2.1)	7 (6.0)	5 (3.6)	3 (5.8)	17 (3.6)
Joint decision	83(49.4)	46 (39.7)	50 (35.7)	21 (40.7)	200 (42.0)
Total	168(100)	116 (100)	140 (100)	52 (100)	476 (100)
Reason for non-condom use					
Not available	0/36 (0)	1/37 (2.7)	4/68 (5.9)	1/16 (6.3)	6/157 (3.8)
Too expensive	0/36 (0)	0/37 (0)	0/67 (0)	0/16 (0)	0/157 (0)
Partner objected	3/37 (8.1)	2/38 (5.3)	1/67 (1.5)	1/67 (6.3)	7/158 (4.4)
Don't like them	4/36 (11.1)	1/37 (2.7)	2/67 (3.0)	0/15 (0)	7/155 (4.5)
Used other contraceptives	3/35 (8.6)	0/37 (0)	3/67 (4.5)	3/16 (18.8)	9/155 (5.8)
Didn't think it was necessary	16/38 (42.1)	21/38 (55.3)	29/67 (43.3)	9/16 (56.3)	75/159 (47.2)
Didn't think of it	6/36 (16.7)	2/37 (5.4)	12/65 (18.5)	1/16 (6.3)	21/154 (13.6)
Could reduce pleasure	3/34 (11.8)	5/37 (13.5)	4/64 (6.3)	4/16 (25.0)	17/151 (11.3)
Condoms use over the past 12 months with regular girlfriend not living together					
Every time	148 (70.1)	94 (60.3)	100 (50.3)	40 (59.7)	382 (60.3)
Almost every time	9 (4.3)	10 (6.4)	20 (10.1)	5 (7.5)	44 (7.0)
Sometimes	27 (12.8)	30 (19.2)	45 (22.6)	9 (13.4)	111 (17.5)
Never	27 (12.8)	22 (14.1)	34 (17.1)	13 (19.4)	96 (15.2)
Total	211 (100)	156 (100)	199 (100)	67 (100)	633 (100)

4.3.4 Condom use with commercial sex workers

Table 14 presents the results of condom use when they last had sex with commercial sex partners. The proportion of LDTDs that used a condom when they last had sexual intercourse with a commercial sex partner was 96.2 percent. In over three quarters (76.4%), it was the respondents who suggested condom use at last sexual intercourse. Amongst those who did not use condom when they last had sex (n=13), over half (53.5%) said they did not think it was necessary. Over 92.1 percent of respondents said they used a condom every time they had sexual intercourse with a female sex worker.

Table 14: LDTDs' condom use with commercial sex worker by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Condom use at last sexual intercourse with commercial sex partner					
Yes	141 (97.9)	81 (94.2)	88 (94.7)	19 (100.0)	329 (96.2)
Total	144 (100)	86 (100)	93 (100)	19 (100)	342 (100)
Who suggested condom use?					
Myself	98 (69.0)	69 (86.3)	70 (78.7)	15 (78.9)	252 (76.4)
Partner	0 (0.0)	3 (3.8)	4 (4.5)	1 (5.3)	8 (2.4)
Joint decision	44 (31.0)	8 (10.0)	15 (16.9)	3 (15.8)	70 (21.2)
Total	142 (100)	80 (100)	89 (100)	19 (100)	330 (100)
Reason for non-use of condom					
Not available	0/3	0/5	1/4	-*	1/13 (7.7)
Too expensive	0/3	0/5	0/4	-	0/13
Partner objected	0/3	0/5	0/4	-	0/13
Don't like them	1/3	0/5	0/4	-	1/13 (7.7)
Used other contraceptives	0/3	0/5	0/4	-	0/13
Didn't think it was necessary	3/3	2/5	2/4	-	7/13 (53.5)
Didn't think of it	0/3	2/5	1/4	-	3/13 (23.1)
Condom use over the past 12 months with commercial sex worker					
Every time	136 (94.4)	80 (93.0)	80 (86.0)	19 (100)	315 (92.1)
Almost every time	0 (0)	3 (3.5)	4 (4.3)	0 (0)	7 (2.0)
Sometimes	3 (2.1)	1 (1.2)	4 (4.3)	0 (0)	8 (2.3)
Never	5 (3.5)	2 (2.3)	5 (5.4)	0 (0)	12 (3.5)
Total	144 (100)	86 (100)	93 (100)	19 (100)	342 (100)

* all respondents in Solwezi used condoms at last sex with commercial sex workers.

4.3.5 Condom use with non-regular partners

Table 15 presents condom use with non-regular sex partners on the last occasion of sexual intercourse and for the 12 months prior to the survey. 21 of the 27 truck drivers (77.8%) who had sex with a non-regular sex partner used a condom the last time they had sex. Of those, 17 (77.2%) said it was them (LDTDs) who suggested condom use. 20 of the 24 LDTDs (83.3%) who had sex with a non-regular partner in the last 12 months said they used condoms every time. For three out of five who did not use a condom the last time they had sex, the reason for non-use was that they did not think it was necessary.

Table 15: LDTDs condom use with most recent non-regular partner by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Condom used at last sexual intercourse with non-regular non-commercial partner					
Yes	15	1	4	1	21(77.8)
Total	17	2	5	3	27
Who suggested condom use?					
Myself	12	1	3	1	17 (77.2)
Partner	0	0	0	1	1
Joint decision	3	0	1	0	4
Total	15 (100)	1 (100)	4 (100)	2 (100)	22 (100)
Condom use over the past 12 months with non-regular partner					
Every time	15	1	3	1	20 (83.3)
Almost every time	0	0	1	0	1
Sometimes	0	0	0	1	1
Never	1	1	0	0	2
Total	16	2	4	2	24

4.3.6 Discussion and recommendations

Even in a generalized HIV/AIDS epidemic, vulnerable populations such as truck drivers require targeted prevention interventions. When used correctly and consistently, a male or female condom prevents transmission of HIV and other sexually transmitted infections.¹² The main barriers to condom use include perceptions that a condom reduces sexual satisfaction, causes health problems and that it hinders sexual interest.¹³

The results of this study show that knowledge of condoms is quite high: 100 percent of the respondents knew of male condoms and over 80 percent knew of female condoms. The use of condoms varies by type of sexual partner, more likely to be used during sex with commercial sex workers followed by sex with a non-regular sex partner, then with a regular partner and even less with wives. The consistent use of condoms is as low as three percent when having sex with a wife and as high as 96 percent when having sex with sex workers. Consistent condom use with a regular partner (girlfriend) is about 60 percent and with a non-regular partner is around 80 percent. Major reasons cited for not using condoms in all these sexual relationships was that it was not thought of as being necessary. Most LDTDs prefer to buy male condoms from shops and female condoms from pharmacies.

RECOMMENDATIONS

- A condom used correctly and consistently is a great barrier to HIV transmission, but many sexual encounters remain unprotected. There is, therefore, a need to sustain efforts in communication strategies for behavior change to reinforce consistent and correct use of either male or female condoms. Innovative approaches that will lead to the translation of knowledge into sustained and consistent use of condoms are required.
- Greater involvement and training in behavior change that includes the promotion of correct and consistent use of condoms is recommended for shop keepers, pharmacy staff and other outlets involved in selling condoms.

4.4 Knowledge, attitudes and practices related to STIs

The following section presents information on knowledge, history of STIs and health-seeking behavior of LDTDs. See **Tables 16-17**.

4.4.1 Knowledge and respondent history of STIs

Table 16 presents the results of knowledge of STIs among the respondents. Almost all (99.3%) of the respondents have heard of STIs. About 83 percent and 61 percent know two or more symptoms of STIs in men and in women respectively. Over three quarters correctly identified genital discharges (81.2%) and genital ulcers/sores (79.3%) as symptoms of STIs in men, and over half of the respondents (59.6%) knew genital ulcers/sores as symptoms of STIs in women. Only 4.3 percent did not know any symptoms of STIs in men while 27.5 percent did not know any symptom of STI in women. See **Table 16**.

¹² Ferguson AG, Morris CN. Mapping transactional sex on the Northern Corridor highway in Kenya. *Health Place*, 13 (2):504-19, June, 2007 (Epub 2006 Jul 3)

¹³ Sunmola AM, Sexual Practices, Barriers to Condom Use and Its Consistent Use among Long Distance Truck Drivers in Nigeria. *AIDS Care*. 17(2):208-21, 2005

Table 16: Knowledge of STIs among the LDTDs by Site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Ever heard of Sexually Transmitted Infections (STIs)?					
Yes	581 (9.5)	479 (99.4)	529 (99.1)	186 (99.5)	1775 (99.3)
Total	584	482	534	187	1787
Can you describe symptoms of STIs in men?					
Genital discharge	441 (78.1)	401 (88.5)	387 (77.7)	150 (82.4)	1379 (81.2)
Burning pain on urination	256 (45.6)	211 (47.1)	199 (40.4)	70 (38.5)	736 (43.7)
Genital ulcers/sores	412 (73.2)	369 (81.5)	409 (82.1)	157 (85.3)	1347 (79.3)
Swelling in groin	255 (45.9)	203 (45.4)	225 (45.5)	78 (43.1)	761 (45.3)
Can you describe symptoms of STIs in women?					
Abdominal pain	100 (19.3)	91 (22.4)	72 (15.7)	30 (17.3)	293 (18.8)
Genital discharge	298 (56.9)	273 (67.1)	222 (48.3)	118 (67.0)	911 (58.1)
Foul-smelling discharge	139 (26.5)	89 (22.0)	77 (16.8)	44 (25.1)	349 (22.3)
Burning pain on urination	143 (27.3)	108 (26.5)	85 (18.6)	46 (26.1)	382 (24.4)
Genital ulcers/sores	279 (53.0)	264 (64.5)	236 (51.3)	127 (71.8)	906 (57.6)
Swelling in groin	150 (28.7)	135 (33.2)	109 (23.7)	60 (34.1)	454 (29.0)
Genital itching	87 (17.1)	69 (17.3)	62 (13.7)	25 (14.5)	243 (15.9)
Number of STI symptoms known in men (Scores)					
0	25 (4.5)	17 (3.8)	22 (4.5)	9 (5.0)	73 (4.4)
1	93 (16.9)	37 (8.3)	67 (13.7)	22 (12.2)	219 (13.2)
2	204 (37.0)	171 (38.3)	188 (38.5)	69 (38.3)	632 (38.0)
3	87 (15.8)	93 (20.9)	95 (19.5)	34 (18.9)	309 (18.6)
4	142 (25.8)	128 (27.7)	116 (23.8)	46 (25.6)	432 (25.9)
Total	551 (100)	446 (100)	488 (100)	180 (100)	1665 (100)
Number of STI symptoms known in women (Scores)					
0	121 (24.2)	106 (26.7)	170 (37.8)	35 (20.6)	432 (28.5)
1	81 (16.2)	20 (5.0)	53 (11.8)	16 (9.4)	170 (11.2)
2	118 (23.6)	118 (29.7)	113 (25.1)	54 (31.8)	403 (26.6)
3	77 (15.4)	60 (15.1)	47 (10.4)	32 (18.8)	216 (14.2)
4	27 (5.4)	26 (6.5)	11 (2.4)	7 (4.1)	71 (4.7)
5	27 (5.4)	6 (1.5)	7 (1.6)	2 (1.2)	42 (2.8)
6	17 (3.4)	3 (0.8)	5 (1.1)	0 (0)	25 (1.6)
7	31 (19.7)	58 (14.6)	44 (9.8)	24 (14.1)	157 (10.4)
Total	499 (100)	397 (100)	450 (100)	170 (100)	1516 (100)

4.4.2 History of STIs

Table 17 presents respondents' history of STIs in the last 12 months. 74 (4.2%) said they had a history of either genital discharge or ulcer-related STIs in the 12 months prior to the survey. The proportion that reported having a history of genital discharge and genital ulcer was 3.5 percent and 2.2 percent respectively, with more respondents interviewed in Solwezi reporting a history of STI symptoms in the last 12 months compared to those interviewed in the other three sites.

When asked "What did you do the last time you had a genital ulcer or a discharge?" slightly over half (54%) said that they sought advice from a private health facility, 39 percent sought advice from a government health facility, 33 percent sought advice from a chemist/pharmacy, 23 percent sought services of traditional healers, and 17 percent said they took capsules bought on the streets. About 28.6 percent reported stoppage of sexual activity while with an STI, and only 21.1 percent informed their sexual partner that they had a STI. 15 percent said they always used a condom while having a STI.

Table 17: History of STIs among LDTDs by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
History of STI symptoms in the past 12 months					
Genital discharge					
Yes	17 (3.0)	12 (2.5)	21 (4.0)	11 (5.9)	61 (3.5)
Total	574	478	528	186	1766
Genital ulcer/sores					
Yes	6 (1.0)	9 (1.9)	18 (3.4)	6 (3.2)	39(2.2)
Total	576	478	529	186	1769
Genital discharge or ulcer/sores					
Yes	23 (3.6)	16 (3.3)	26 (4.9)	11 (5.9)	74 (4.2)
Total	576	478	529	186	1769

4.4.3. Discussion and recommendations

STI control strategies have the greatest impact on the HIV epidemic when the interventions are comprehensive, focused on specific populations and venues at the critical time, and targeting specific STIs with appropriate management approaches.¹⁴

In this study, knowledge of symptoms of STIs in men and women among LDTDs was moderately high. About 83 percent of the LDTDs in the study knew the symptoms of STIs among men, and 61 percent of them knew symptoms of STIs in women. STIs are prevalent among LDTDs: about 4 percent had a history of a genital ulcer or discharge STI in the previous 12 months. About half (53%) with a history of STIs sought treatment at a private health facility and 33 percent sought advice from a chemist.

RECOMMENDATIONS

- The significant role that conventional STIs play in facilitating HIV transmission and causing complications are well documented. The effective role of early management of STIs has also been demonstrated and recommended by WHO. Therefore effective and early detection and management of STIs are critical interventions. Efforts in Zambia need to be strengthened through the COH project and other projects, including government institutions, to reach the most-at-risk mobile population and the general population in the border and along transit routes. Government, and projects such as COH providing STI services, need to expand these services – screening, testing and treatment – and intensify behavior change communication efforts through mobile, outreach and static facilities to enable easy access to STI treatment services by LDTDs and their sexual partners.
- Reported history of STIs among LDTDs was high; about four percent reported a history of an STI in the 12 months prior to survey. Given that there are several STIs, there is a need for studies to determine the different types and etiology/causes of STIs to inform management guidelines.

¹⁴ WHO, Consultation on STI Interventions for Preventing HIV: Appraisal of the Evidence. Geneva, July 2006.

5. KNOWLEDGE AND BELIEFS ABOUT HIV/AIDS

5.1 Awareness of HIV/AIDS

The survey included a series of questions aimed at exploring the extent to which people have been affected by the HIV epidemic and the extent of HIV stigmatization. **Table 18** shows that **every LDTD** had heard of HIV (100%) and slightly over half (54.7%) knew someone infected with HIV or who died of AIDS. Slightly over a quarter (28.9%) had a close relative infected with HIV.

5.2 Knowledge and misconceptions about HIV transmission

Table 18 presents the findings of the knowledge of HIV transmission among LDTDs. Several questions regarding knowledge, misconception and stigma were asked. About 9.2 percent of LDTDs still thought one could get HIV through sharing a meal with an infected person, and 7.9 percent thought you can get HIV through mosquito bites.

5.3 Knowledge of HIV prevention

The majority of LDTDs know that a person can get HIV from infected needles (97.8%), through breastfeeding (95.0%), and from mother to child during pregnancy (83.0%). The majority of LDTDs know that a person can prevent HIV by abstaining from sexual intercourse (98.6%). About 91.7 percent of the LDTDs in the study believe that they can protect themselves from becoming infected with HIV by using a condom correctly every time they have sex. A question was posed whether participants thought that a healthy-looking person could have HIV, and 98.9 percent responded that a healthy-looking person could be infected. See **Table 18**.

Table 18: Knowledge, opinions, and attitudes related to HIV in LDTDs by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Ever heard of HIV					
Yes	614 (100)	508 (100)	540 (100)	193 (100)	1855 (100)
Total	614	508	540	193	1855
Knows someone with HIV/AIDS					
Yes, infected with HIV	160(27.0)	128 (25.5)	131 (24.5)	62 (32.1)	481 (26.4)
Yes, died of AIDS	58(9.8)	51 (10.2)	60 (11.2)	18 (9.8)	187 (10.3)
Yes, infected with HIV and someone who died of AIDS	329(55.6)	281 (56.0)	285 (53.3)	101 (52.3)	996 (54.7)
No	45(7.6)	42 (8.4)	59 (11.0)	12 (6.2)	158 (8.7)
Total	592(100)	502 (100)	535 (100)	193 (100)	1822 (100)
Has close relative or friends with HIV/AIDS					
Yes, Close relative	155 (27.3)	131 (27.8)	155 (31.9)	53 (29.1)	494 (28.9)
Yes, Close friend	76 (13.4)	71 (15.1)	73 (15.0)	48 (26.4)	268 (15.7)
Yes both relative and friend	285 (50.2)	237 (50.3)	235 (48.5)	78 (42.9)	835 (48.9)
No	52 (9.2)	32 (6.8)	23 (4.7)	3 (1.6)	110 (6.4)
Total	568 (100)	471 (100)	486 (100)	182 (100)	1707 (100)
Thinks that a person can get HIV from:					
Mosquito bites	43 (7.8)	41 (9.1)	36 (7.3)	12(6.9)	132 (7.9)
Total	550	449	495	174	1668
Sharing meals	61(10.3)	63(12.9)	21(4.0)	20 (10.8)	165 (9.2)
Total	594	488	521	186	1789
Infected needles	588(97.5)	494(98.2)	525 (98.1)	184(96.3)	1791 (97.8)
Total	603	503	535	191	1832
HIV infected mother can pass HIV to her child:					
at time of delivery (child birth)	540(95.1)	435(93.5)	503(96.9)	174(96.7)	1652 (95.4)
Total	568	465	519	191	1732
through breastfeeding	507 (93.7)	429 (93.5)	494(96.7)	179 (97.8)	1609 (95.0)
Total	541	459	511	183	1694
Knows that a pregnant woman can decrease the chance of passing HIV to her unborn child by taking medication (antiretroviral)	279(67.7)	215(70.5)	174(58.8)	104(77.0)	772(67.2)
Total	412	305	296	135	1148
Knows a hospital offering prevention of mother-to-child transmission (PMTCT) of HIV services	412(74.0)	322(74.2)	337(69.1)	142(84.5)	1213 (73.7)
Total	557	434	488	168	1647
Knows that people can prevent HIV by:					
Abstinence	593(97.9)	493(98.6)	532(99.3)	191(99.0)	1809 (98.6)
Total	606	500	536	193	1835
Using condom	536(90.5)	452(91.7)	485(92.2)	179(93.7)	1652(91.7)
Total	592	493	526	191	1802
Do think that a healthy-looking person can have HIV					
Yes	602 (98.5)	497 (99.0)	534 (99.1)	190 (99.5)	1823 (98.9)
Total	611	502	539	191	1843

5.4 Attitudes toward people with HIV/AIDS

As indicated in **Table 19**, most LDTDs (98.9%) thought a student infected with HIV should be allowed to continue with school, 98.6 percent felt that an HIV infected teacher should be allowed to continue with teaching and almost all felt that they could take care of an HIV infected female or male relative. However some amount of stigma still exists. About 19.8 percent of LDTDs thought if a family member had HIV, they would like it to remain a secret and 13.1 percent thought they would not buy food from shopkeeper known to be HIV positive.

Further analysis shows that 85.4 percent had complete knowledge of HIV prevention: knew HIV can be prevented by abstinence, being faithful and by condom use. 70 percent had comprehensive knowledge (i.e. knew: the ABC of prevention; that HIV was not spread by mosquitoes; and that a healthy looking person could be infected with HIV), and 62 percent had accepting attitudes¹⁵ towards people living with HIV/AIDS.

Table 19: Attitudes toward People with HIV/AIDS among the LDTDs by Site, BSS 2009

Responses	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Feels HIV+ students should be allowed to continue school	603 (98.4)	494 (98.2)	539 (99.8)	190 (99.5)	1826 (98.9)
Total	613 (100)	503(100)	540 (100)	191 (100)	1847 (100)
Feels HIV+ teachers should continue teaching	602 (98.4)	492 (97.6)	539 (99.6)	188 (99.5)	1821 (98.6)
Total	612 (100)	504(100)	542 (100)	192 (100)	1845 (100)
Willing to care for an HIV infected male relative in household	608 (99.3)	501 (99.2)	541 (100)	191 (100)	1841 (99.6)
Total	612	505	541	191	1849
Would take care of HIV+ female relative	609 (99.2)	502 (99.2)	542 (100)	192 (100)	1845 (100)
Total	614 (100)	506 (100)	542 (100)	192 (100)	1854 (100)
Would buy food from shopkeeper known to be HIV+	510 (86.0)	438 (89.0)	463 (86.5)	161 (85.6)	1572 (86.9)
Total	593 (100)	492 (100)	535 (100)	188 (100)	1808 (100)
If a member of family has HIV, would like it to remain a secret	129 (21.9)	105 (21.1)	87 (16.3)	37 (19.6)	358 (19.8)
Total	588 (100)	497 (100)	534 (100)	189 (100)	1808 (100)
Willing to share a meal with a person known to have HIV/AIDS	559 (93.3)	457 (92.9)	505 (96.6)	181 (96.3)	1702 (94.5)
Total	599	492	523	188	1802
Further analysis					
Composite Indicators	Chirundu n (%)	Kapiri n (%)	Livingstone n (%)	Solwezi n (%)	Total n (%)
Had complete knowledge of prevention methods *	500 (81.4)	437 (86.0)	472 (87.4)	175 (90.7)	1584 (85.4)
Total	614	508	540	193	1855
Had comprehensive knowledge of prevention and transmission**	413 (67.3)	349 (68.7)	397 (73.5)	148 (76.7)	1307 (70.5)
Total	614	508	540	193	1855
Had accepting attitudes***	350 (56.9)	314 (61.4)	361 (66.4)	123 (63.7)	1148 (61.6)
Total	615	511	544	193	1863

* Complete was defined as: knowing that abstinence, being faithful to one uninfected partner and condom use (ABC) can reduce the chance of getting HIV.

** Comprehensive knowledge was defined as: knowing ABC and knowing that a healthy-looking person can have HIV, and rejecting the most common local misconceptions about HIV transmission or prevention, such as that HIV can be transmitted through supernatural means or through mosquito bites.

*** Accepting attitudes included: could buy food from shopkeeper infected with HIV and would take care a close relative male or female with HIV.

¹⁵ Accepting attitudes included: “could buy from shopkeeper infected with HIV” and “would take care a close relative male or female with HIV”.

5.5 Discussion

In most studies in sub-Saharan Africa, the level of awareness of HIV and AIDS is high. However, stigmatizing attitudes towards people living with HIV/AIDS still exist. In Zambia the general awareness of AIDS among men and women is universal (99%)¹⁶. As revealed by this study, the level of knowledge of HIV transmission and prevention is high among LDTDs, but some misconceptions still exist among them. Eight percent of LDTDs thought HIV can be transmitted through mosquitoes and nine percent thought HIV can be transmitted through sharing meals. The level of stigma towards people with HIV appears to be low. However with regard to disclosure, 20 percent would like to keep it a secret if a member of his family had HIV, and nearly 40 percent do not have accepting attitudes.

RECOMMENDATIONS

- Given gaps in behavior change, such as high knowledge of HIV transmission and prevention on the one hand but unprotected sex and/or misconceptions on transmission on the other, there is a need for operations research to help identify bottlenecks as to why HIV control efforts are failing and to identify areas for improvement
- In addition to monitoring trends in key sexual behavior variables, a biological component needs to be included in the next round of BSS to triangulate the findings of the self-reported behavioral survey results and the biological test results. The additional question that this design would be able to answer is whether changes in behavior help explain changes in HIV prevalence, using a HIV biological test to complement the behavioral information.

6. EXPOSURE TO INTERVENTIONS

6.1 HIV voluntary counseling and testing (VCT)

The respondents were asked a series of questions pertaining to access to and use of VCT. The findings show that many respondents (86.3%) reported having access to confidential HIV testing. About 51.5 percent said they had been tested for HIV, with 59.7 percent having tested within the 12 months prior to survey. Of those who had been tested, 91.4 percent said they had done so voluntarily, and of those, 99.1 percent found out/received the test results. Among those never tested, 81.7 percent said they were interested in getting an HIV test. Over a third (38.0%) had never tested because they were scared.

¹⁶ CSO, MOH, TDR. 2007 Zambia Demographic and Health Survey.

Table 20: Voluntary counseling and testing for HIV among the LDTDs by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Have access to confidential testing for HIV					
Yes	542 (88.9)	427 (84.9)	465 (86.0)	158 (82.7)	1592 (86.3)
Total	610	503	541	191	1845
Ever been tested for HIV					
Yes	293 (47.9)	290 (57.1)	277 (51.1)	94 (49.2)	954 (51.5)
Total	612	508	542	191	1853
	n (%)	n (%)	n (%)	N (%)	N (%)
When were you tested?					
Within the past year	173 (59.2)	164 (57.3)	169 (62.1)	56 (60.9)	562 (59.7)
Between 1-2 years	69 (23.6)	79 (27.6)	69 (25.4)	23 (25.0)	240 (25.5)
Between 3-4 years	29 (9.9)	20 (7.0)	22 (8.1)	8 (8.7)	79 (8.4)
More than 4 years ago	21 (7.2)	23 (8.0)	12 (4.4)	5 (5.4)	61 (6.5)
Total	292 (100)	286 (100)	272 (100)	92 (100)	942 (100)
Voluntarily tested for HIV					
Yes	255 (86.7)	274 (95.1)	253 (91.3)	89 (94.7)	871 (91.4)
Total	294	288	277	94	953
Found out the result (among those who tested voluntarily)					
Yes	282 (98.9)	282 (99.6)	274 (98.9)	93 (98.9)	931 (99.1)
Total	285	283	277	94	939
Among those never tested, would be interested in having an HIV test					
Yes	392 (75.2)	360 (87.8)	379 (83.1)	135 (82.8)	1266 (81.7)
Total	521	410	456	163	1550
Among those never tested and not interested in HIV test, reasons provided:					
Scared	34 (34.0)	16 (47.1)	24 (40.0)	8 (36.4)	82 (38.0)
Don't want to know	55 (55.0)	17 (50.0)	31 (51.7)	12 (54.5)	115 (53.2)
Fear to be isolated	2 (2.0)	0 (0)	1 (1.7)	1 (4.5)	4 (1.9)
There is no cure for HIV	2 (2.0)	0 (0)	0 (0)	0 (0)	2 (0.9)
Lack of confidentiality	7 (7.0)	1 (2.9)	4 (4.6)	1 (4.5)	13 (6.0)
Total	100	34	60	22	216

6.2 Male circumcision

Table 21 provides information on practices and attitudes towards male circumcision among LDTDs. The majority of the respondents (97%) had heard about male circumcision. A quarter (25.8 percent) of the LDTDs said they were circumcised and almost half of them were circumcised while young (by seven years of age). The majority of the respondents who were circumcised underwent the procedure using a traditional method (87.4%). The main reason for being circumcised was "tradition/culture" (87.4%). Only 4.5 percent of the LDTDs in the study said they were circumcised to prevent genital infections. Amongst those not circumcised, only 29.7 percent said they could be willing to get circumcised, and of those who were willing to be circumcised, 53.3 percent gave hygiene as the reason, followed by prevention of infection at 44.3 percent. Amongst those who would not be interested in getting circumcised, 45.1 percent found no need while 37.4 percent said it was not in their culture and 17.5 percent feared pain.

Table 21: Male circumcision among the LDTDs by site, BSS 2009

Responses	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
Ever heard of a practice called circumcision					
Yes	569 (92.7)	500 (98.6)	539 (99.4)	192 (100)	1800 (97.0)
Total	614	507	542	192	1855
Circumcised					
Yes	99 (17.5)	214 (42.8)	89 (16.5)	61 (31.9)	463 (25.8)
Total	567	500	539	191	1797
Age at circumcision (median (Q1, Q2))	11 (8,18.5)	6 (2,8)	9 (5,15)	7 (5,10)	7 (5,12)
Circumcised using traditional method	88 (90.7)	181 (88.3)	69 (83.1)	50 (84.7)	388 (87.4)
Total	97	205	83	59	444
Reasons for circumcision					
Tradition	66 (74.2)	182 (88.8)	58 (79.5)	55 (93.2)	361 (84.7)
Health hygiene	17 (19.1)	16 (7.8)	9 (12.3)	3 (5.1)	45 (10.6)
Sexual satisfaction	0(0)	1 (0.5)	0 (0)	0 (0)	1 (0.2)
Prevention of genital infections	6 (6.7)	6 (2.9)	6 (8.2)	1 (1.7)	19 (4.5)
Total	89 (100)	205 (100)	73 (100)	59 (100)	426 (100)
Not circumcised, would be interested in getting circumcised					
Yes	121 (26.1)	82 (29.1)	155 (34.6)	34 (26.4)	392 (29.7)
Total	463	282	448	129	1322
Reasons for interest in being circumcised					
Hygiene	49 (50.5)	41 (71.9)	62 (51.2)	8 (32.0)	160 (53.3)
Prevention of HIV	45 (46.4)	16 (28.1)	56 (46.3)	16 (64.0)	133 (44.3)
Traditional/cultural	3 (3.1)	0 (0)	3 (2.5)	1 (4.0)	7 (2.3)
Total	97 (100)	57 (100)	121 (100)	25 (100)	300 (100)
Reasons why wouldn't be interested in getting circumcised					
Not our culture	99 (32.5)	77 (42.8)	93 (38.3)	35 (41.7)	304 (37.4)
Fear of pain	45 (14.8)	31 (17.2)	52 (21.4)	14 (16.7)	142 (17.5)
No need	161 (52.8)	72 (40.0)	98 (40.3)	35 (41.7)	366 (45.1)
Total	305 (100)	180 (100)	243 (100)	84 (100)	812 (100)

6.3 Discussion

HIV counseling and testing is an entry point to care and treatment. UNAIDS and WHO have recommended safe, voluntary male circumcision as an additional, important strategy for the prevention of heterosexually acquired HIV.¹⁷ Though a high proportion of LDTDs are aware of counseling and testing services and 86 percent think it is possible in their community for someone to get an HIV test privately, only half of the LDTDs interviewed (51.5%) have ever been tested for HIV. Several barriers exist that prevent many to get tested. These barriers need to be addressed in order to have as many LDTDs tested, know their results and get to support and care. There are also many social and cultural impediments and challenges to circumcision that need to be explored and addressed to have many people opting to go for circumcision.

¹⁷ WHO/UNAIDS. New Data on Male Circumcision and HIV Prevention Policy, 2007.

RECOMMENDATIONS

- Knowing one's HIV status is an entry point to HIV care. It is encouraging to see that the proportion of LDTDs that have tested and know their HIV status has increased over the years. HIV counseling and testing should continue to be made more accessible through many outlets, including mobile VCT centers, to serve LDTDs who are waiting at border posts and depots. Increase in access to VCT services will enable as many LDTDs (and others) as possible to test and to get treatment and care as necessary. However, caution should be exercised and sufficient preparations made when deciding to conduct an HIV test to waiting truck drivers to protect them from potential harm or possible negative effects (e.g. psychological effects) caused by knowing their status.
- HIV counseling and testing and male circumcision are recommended as HIV prevention strategies. Therefore they should be widely promoted together with other prevention strategies. These efforts should be carried out in consultation with key partners such as the DATF and DHT. In the case of LDTDs, these strategies should be promoted with their participation.

7. PROJECT AND OTHER INDICATORS

Table 21 presents indicators related to the COH II project. These indicators measure the proportions of LDTDs or respondents who ever talked to COH staff at any site, have ever visited a COH facility for any reason, those who were given information or education material the last time they visited a COH center, and respondents' sources of information on STI/HIV. Other questions included the adequacy of information and of workplace programs, and whether respondents had participated in previous studies.

About 16.5 percent of the respondents had been reached and talked to by a member of COH II staff. 11 percent of the respondents had visited a COH II center for any reason, and 93.3 percent of the respondents who had visited a COH II center had been given information or education material when they last visited a COH II center. In response to the question "Which is your main source of information on STI and HIV", about a half of the LDTDs (56.9%) mentioned radio, 15.4 percent mentioned television, 13.3 percent mentioned friends, 11.8 percent mentioned a health center and 1.7 percent mentioned COH as their main source of information.

Half (51.1%) of the respondents thought they had obtained enough information on HIV and AIDS from radio, TV or newspapers. Twenty percent said they had workplace HIV prevention programs, and 90 percent of those respondents said if they were found to have HIV, the company would allow them to continue working. The last question in the interview asked the respondents whether they had been asked same set of questions before in any of the study sites in the past years, to determine the proportion of those who might have participated in the previous BSS. About six percent said they had been interviewed in the past or had been asked the same questions in the past.

Table 22: COH II project indicators for the LDTDs by site, BSS 2009

Response	Chirundu n (%)	Kapiri Mposhi n (%)	Livingstone n (%)	Solwezi n (%)	Total N (%)
% ever visited COH center for any reason	67 (11.0)	54 (10.7)	59 (10.9)	21 (11.0)	201 (10.9)
Total	610	507	541	191	1849
% given information or education material last time visited COH center	59 (90.8)	47 (95.9)	54 (91.5)	20 (100)	180 (93.3)
Total	65	49	59	20	193
Main source of information on STI/HIV					
Radio	291 (55.3)	262 (58.7)	251 (55.0)	110 (61.8)	914 (56.9)
Television	60 (11.4)	79 (17.7)	80 (17.5)	29 (16.3)	248 (15.4)
Friends	71 (13.5)	56 (12.6)	61 (13.4)	25 (14.0)	213 (13.3)
Health center	78 (14.8)	44 (9.9)	57 (12.5)	11 (6.2)	190 (11.8)
COH	12 (2.3)	5 (1.1)	7 (1.5)	3 (1.7)	27 (1.7)
Other	14 (2.7)	0 (0)	0 (0)	0 (0)	14 (0.9)
Total	526 (100)	446 (100)	456 (100)	178 (100)	1606 (100)
Thinks have obtained enough information from radio, TV or newspapers on prevention of HIV and STDs	354 (60.6)	222 (45.4)	243 (46.7)	88 (48.1)	907 (51.1)
Total	584	489	520	183	1776
Have HIV work place prevention programs	171 (28.3)	91 (18.0)	70 (12.9)	36 (19.1)	368 (20.0)
Total	605	505	541	188	1839
If found to be HIV, the company would allow him to continue working	391 (85.0)	392 (89.3)	446 (95.5)	160 (92.0)	1389 (90.2)
Total	460	439	467	174	1540
Been interviewed in past years	55 (9.9)	34 (6.7)	14 (2.6)	11 (5.8)	114 (6.4)
Total	553	507	542	191	1793

7.1 Discussion

The COH II project has hired outreach workers and trained a number of peer educators to reach out to most-at-risk populations and provide behavior change messages. Only 11 percent ever visited COH II centers for information or services. Radio appears to be the most important channel for information among the LDTDs in the study.

RECOMMENDATION

- According to the ZDHS 2007,¹⁸ the majority of women and men listen to the radio at least once a week (59% of women and 74% of men). This BSS study found that about 60 percent of LDTDs said that radio was main source of information. Given that most LDTDs listen to the radio for information, programs targeting LDTDs should explore ways of using the radio or producing educational material such as tapes or CDs that truck drivers can listen to as they drive.

¹⁸ Central Statistical Office, Ministry of Health. Zambia Demographic and Health Survey, 2007.

8. CHANGES AND TRENDS IN SELECTED VARIABLES COMBINED DATA FROM CHIRUNDU AND LIVINGSTONE SITES ONLY: BSS 2000-2009

This section provides selected results and trends of key variables over four rounds of BSS studies; from 2000 through 2009 surveys. Two sites, Chirundu and Livingstone/Kazungula, participated in all the four rounds of BSS studies: 2000, 2003, 2006 and 2008. Kapiri Mposhi, which has three data collection points, and Solwezi, with one data collection point, are not included in this trend presentation. In this section aggregated trend data of all truck drivers interviewed is presented, while a table in Appendix 1 includes Kapiri Mposhi.

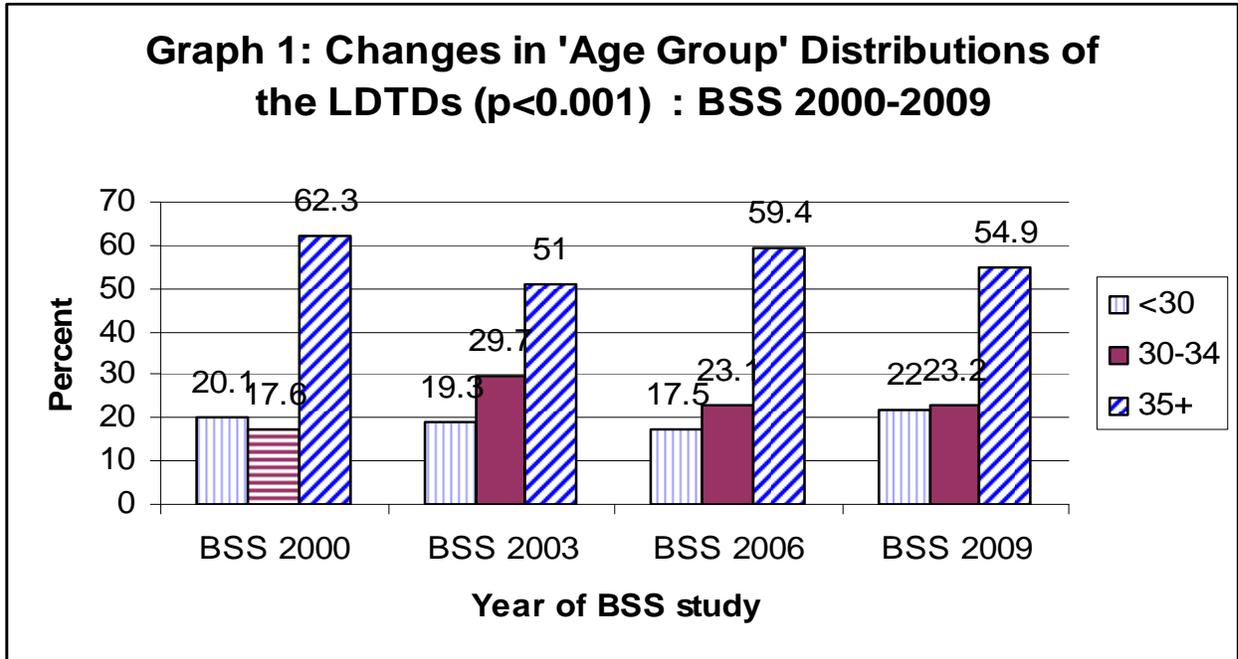
8.1 Changes in socio-demographic characteristics of the LDTDs

Table 22 and 22a, and Graph 1 show changes in selected socio-demographic characteristics of the truck drivers captured in the surveys. In terms of age, the proportion of truck drivers who were younger increased. The changes in age distribution of LDTDs over study periods was significantly different ($p < 0.001$). The proportion of LDTDs below age 35 increased from 37.7 percent in 2000 to 45.1 percent and the proportion aged 35 and over was reduced from 62.3 percent (2000) to 54.9 percent (2009).

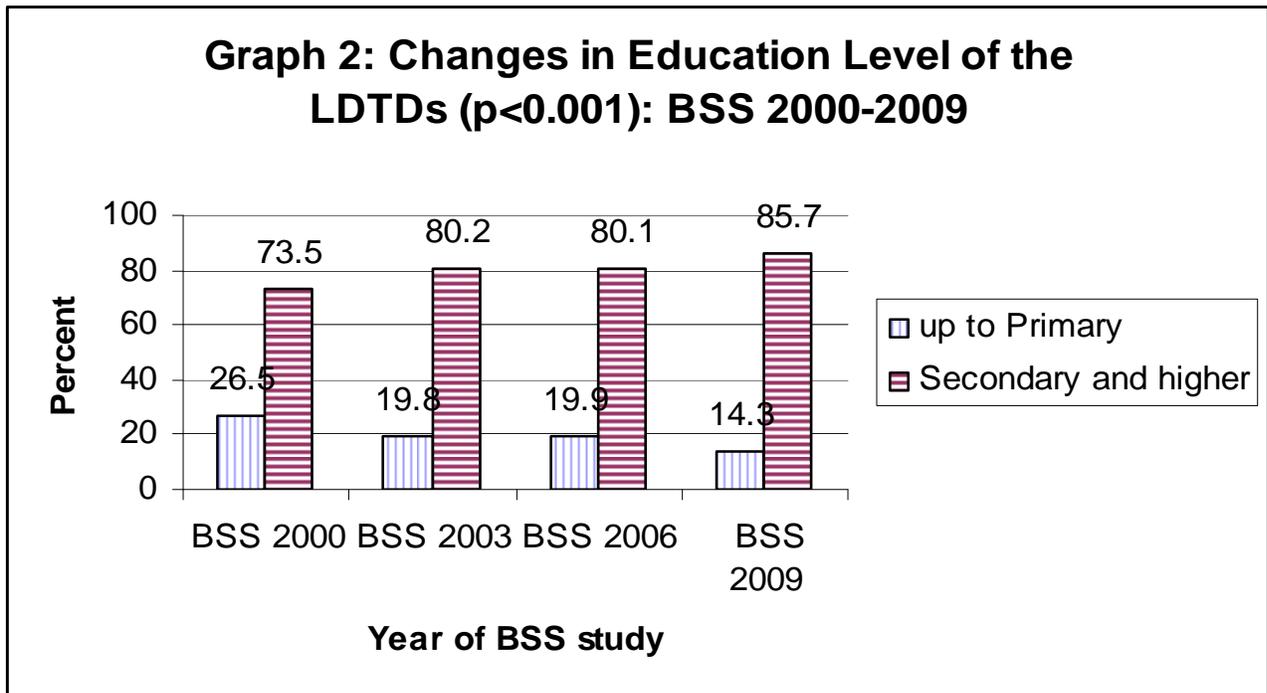
The trend analysis of marital status shows that between 2000 and 2009 there was a slight reduction in respondents who were currently married. The reduction was from 88.0 percent in 2000 to 84.5 percent in 2008. This change in marital status was also statistically significant ($p = 0.017$).

Table 23: Changes in socio-demographic characteristics of the LDTDs: Chirundu & Livingstone combined BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Age (years)					$P < 0.001$
<30	114(20.1)	114(19.3)	159(17.5)	254(21.9)	
30-34	100(17.6)	176(29.7)	210(23.1)	268(23.2)	
35+	359(62.3)	302(51.0)	539(59.4)	635(54.9)	
Total	568(100)	592(100)	908(100)	1157(100)	
Education Level					$P < 0.001$
Up to primary school	151(26.5)	117(19.8)	175(19.9)	164(14.3)	
Secondary or higher	418(73.5)	476(80.2)	703(80.1)	983(85.7)	
Total	569(100)	592(100)	878(100)	1147(100)	
Marital status					$P < 0.017$
Currently married	502(88.0)	524(80.1)	790(88.2)	954(84.5)	
Not currently married	68 (12.0)	64 (10.9)	106 (11.8)	175 (15.5)	
Total	569(100)	588	896	1129	



Graph 2: with regard to education level, the results show that the percentage of respondents with secondary or higher level of education increased from 73.5 percent in 2000 to 85.7 percent in 2009. The education level distribution across the years was significantly different ($p < 0.001$).



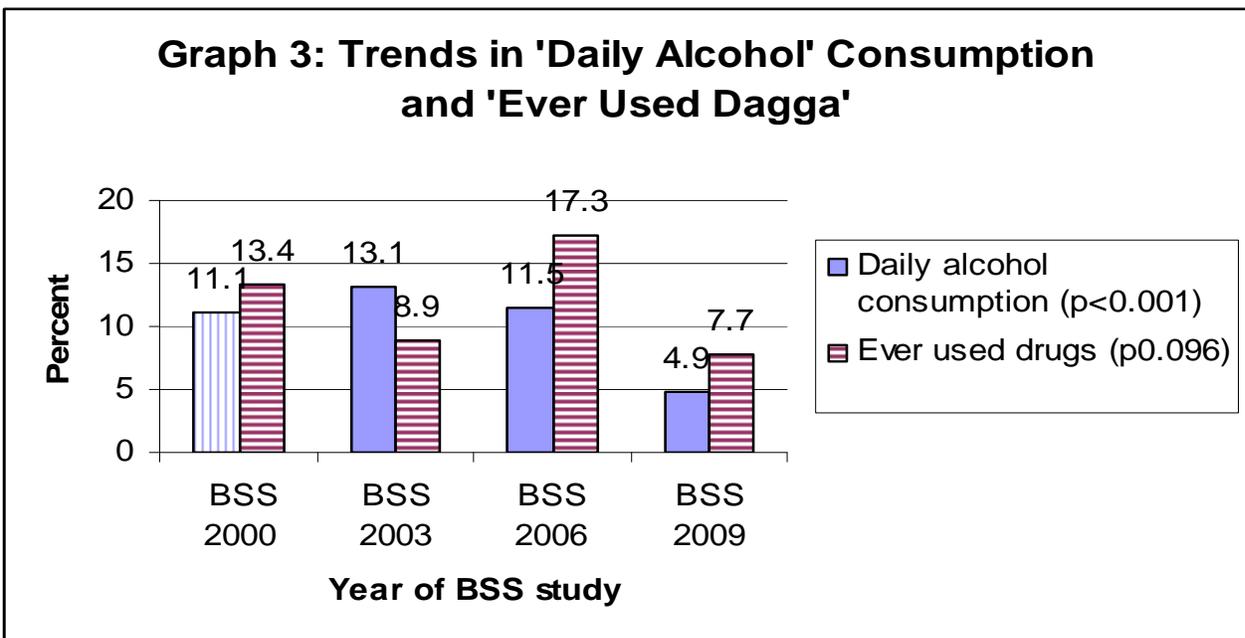
8.2 Trends in behavioural characteristics

8.2.1 Alcohol and drug use

There was a statistically significant decrease noted in daily alcohol consumption among LDTDs between 2000 and 2009. Daily alcohol consumption declined from 11.1 percent in 2000 to 4.9 percent in 2009. The decline was statistically significant, $p < 0.001$ (**Graph 3**). The proportion of truck drivers who had ever used dagga reduced from 13.4 to 7.7 percent in 2000 and 2009 respectively; the observed decline in "ever smoked" was not statistically significant ($p = 0.096$). See **Graph 3** and **Table 23** and **Table 23a**.

Table 24: Trends in alcohol and drug use among LDTDs: combined BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Daily alcohol use in past four weeks	63(11.1)	77(13.1)	104(11.5)	56(4.9)	<0.001
Total	568	588	907	1153	
Ever used dagga	76(13.4)	97(8.9)	157(17.3)	84(7.7)	0.096
Total	569	657	909	1533	



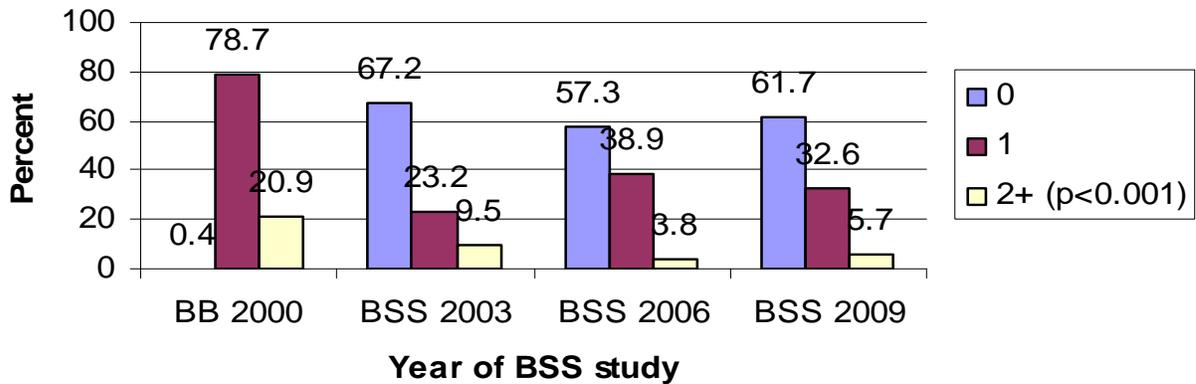
8.2.2 Sexual risk behaviours

Table 24 and **Graphs 4, 5** and **6** present data on LDTDs' responses to questions concerning the number of sexual partners by type of sexual partners in the 12 months prior to interview. In all the rounds of the survey, truck drivers were asked if they had sex during the twelve months preceding the survey with different types of sex partners, i.e. regular partner/girlfriend, commercial sex partners or non-regular partner (**Graphs 4, 5** and **6**). When data from 2009 are compared with those of 2000, the number of LDTDs reporting sexual intercourse with two or more regular partners (girlfriends) declined from 20.9 percent in 2000 to 5.7 percent in 2008 ($p < 0.001$), and the proportion of truck drivers that did not have sex with a regular partner (girlfriend) in the past 12 months increased significantly from 0.4 percent in 2000 to 61.7 percent in 2008.

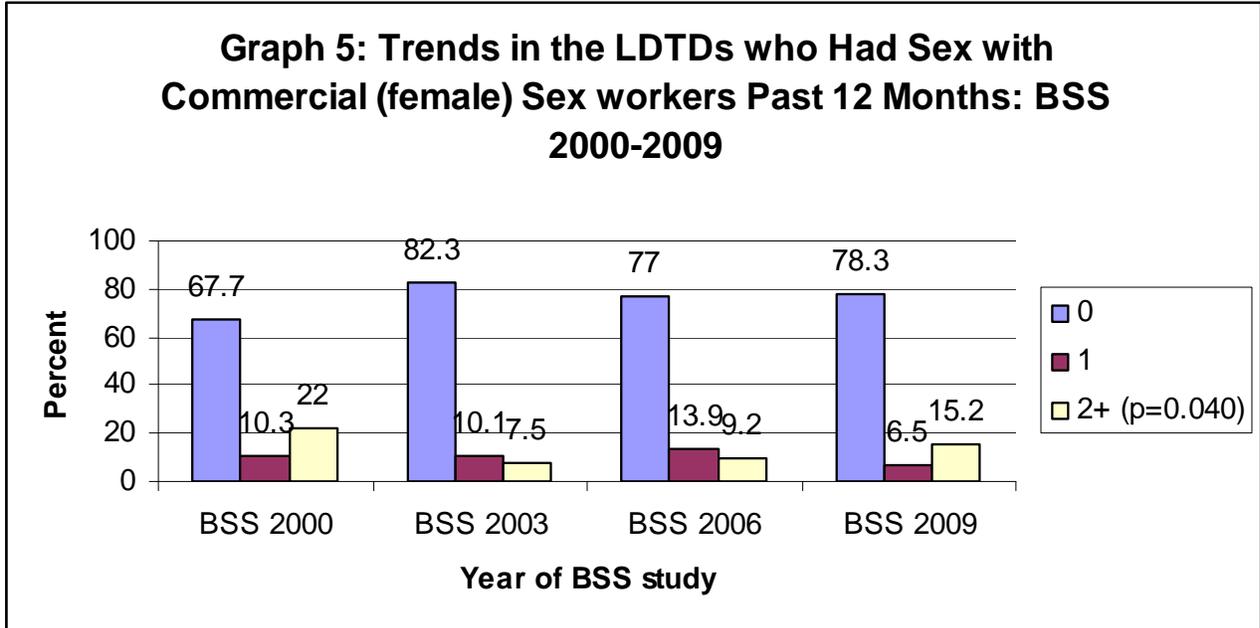
Table 25: Changes in sexual risk behaviors among LDTDs combined, BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2008	p-value
	N (%)	N (%)	N (%)	N (%)	
Number of regular sex partners					<0.001
0	2(0.4)	382(67.2)	574(57.2)	682(61.7)	
1	411(78.7)	132(23.2)	390(38.9)	361(32.6)	
2+	109(20.9)	54(9.5)	38(3.8)	63(5.7)	
Total	522(100)	568(100)	1002(100)	1106(100)	
Number of commercial sex partners					0.064
0	369(67.7)	447(82.3)	638(77.0)	862(78.3)	
1	56(10.3)	55(10.1)	115(13.9)	72(6.5)	
2+	120(22.0)	41(7.5)	76(9.2)	167(15.2)	
Total	545(100)	605(100)	927(100)	1588(100)	
Number of non-regular, non-commercial sex partners					<0.001
0	398(72.8)	565(98.3)	786(93.9)	1067(97.4)	
1	107(19.6)	9(1.6)	39(4.7)	12(1.10)	
2+	42(7.7)	1(0.1)	12(1.4)	16(1.5)	
Total	547(100)	642(100)	935(100)	1581(100)	

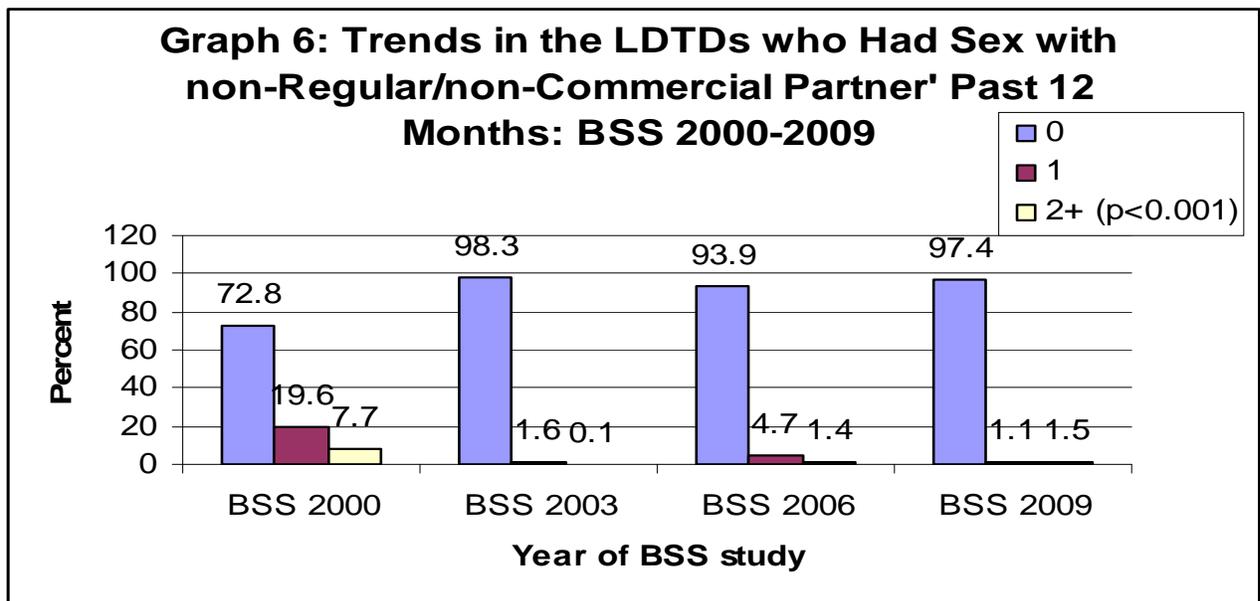
Graph 4: Trends in the LDTDs who Had Sex with Regular Girlfriend (permanent sex partners) past 12 Months: BSS 2000-2009



Graph 5: the proportion of LDTDs that reported having sexual intercourse with two or more commercial sex workers declined from 22 percent in 2000 to 15.2 percent in 2009. The decline was statistically significant, $p=0.040$. The proportion of LDTDs that did not have sex with FSWs in the last 12 months increased from 67.7 percent in 2000 to 78.3 percent in 2009.



The proportion of LDTDs reporting sexual intercourse with two or more non-regular, non-commercial sex partners declined from 7.7 percent in 2000 to 1.5 percent in 2009. Those reporting no sexual intercourse with non-regular, non-commercial sexual partner(s) in the last 12 months increased from 72.8 percent to 97.4 percent between 2000 and 2009 respectively. These changes are statistically significant, $p<0.001$.



8.2.3 Trends in knowledge among truck drivers

Knowledge indicators measured the respondents' knowledge with regard to prevention of HIV/AIDS and misconceptions about the transmission of HIV infection and risk. **Table 25** presents trends in HIV/AIDS-related knowledge between 2000 and 2009 among all truck drivers. Every respondent had heard of HIV (100%). The number of those who knew that abstinence could prevent HIV increased statistically significant from 90.6 percent in 2000 to 98.5 percent in 2009 ($p < 0.001$). Those who thought HIV could be transmitted through mosquito bites decreased statistically significant from 16.7 percent in 2000 to 7.6 percent in 2009 ($p < 0.001$). There was no change in the proportion of respondents who thought HIV could be transmitted through sharing a meal.

Table 26: Trends in knowledge of HIV prevention among LDTDs combined, BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Ever heard of HIV	562(100)	651(100)	981(98.3)	1662(100)	0.515
Total	562	651	998	1662	
Knows abstinence can prevent HIV	509(90.6)	535(91.5)	826(94.2)	1125(98.5)	<0.001
Total	562	585	877	1142	
Thinks HIV can be transmitted through mosquito bites	94(16.7)	146(25.0)	83(9.5)	79(7.6)	<0.001
Total	562	585	878	1045	
Thinks HIV can be transmitted through sharing a meal	41(7.3)	58(9.9)	76(8.6)	82(7.3)	0.579
Total	562	585	881	1115	

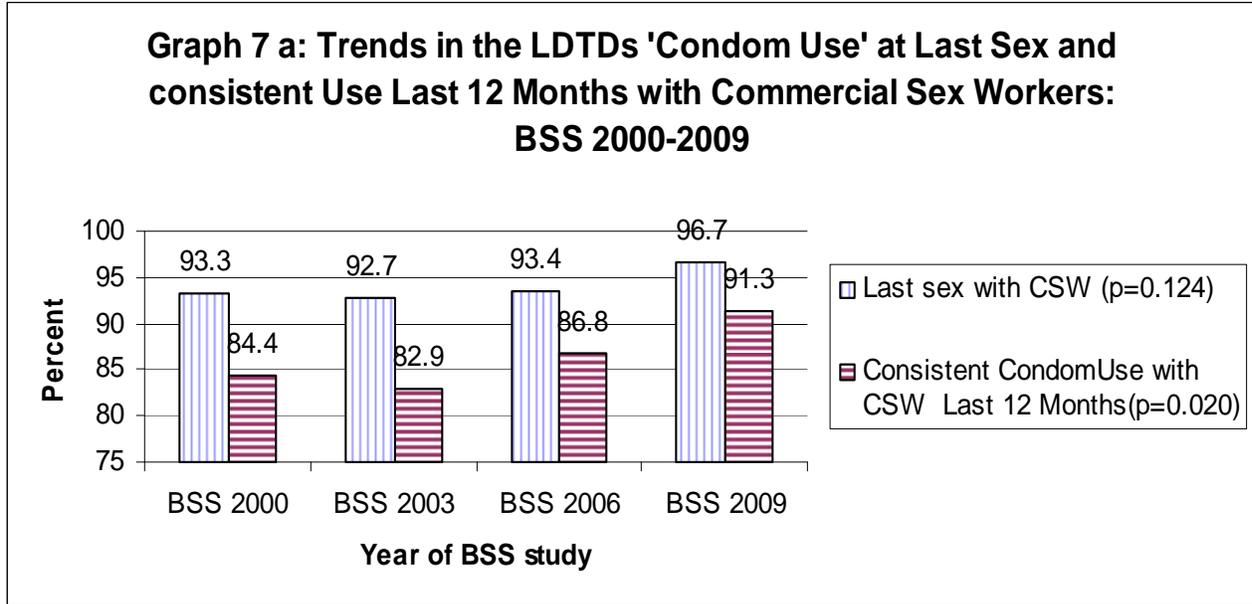
8.2.4 Trends in condom use among truck drivers

Table 27 and **Graphs 7a, 7b** and **7c** present trend data on condom use by truck drivers who had sexual contacts with FSWs, regular and non-regular sex partners between 2000 and 2009.

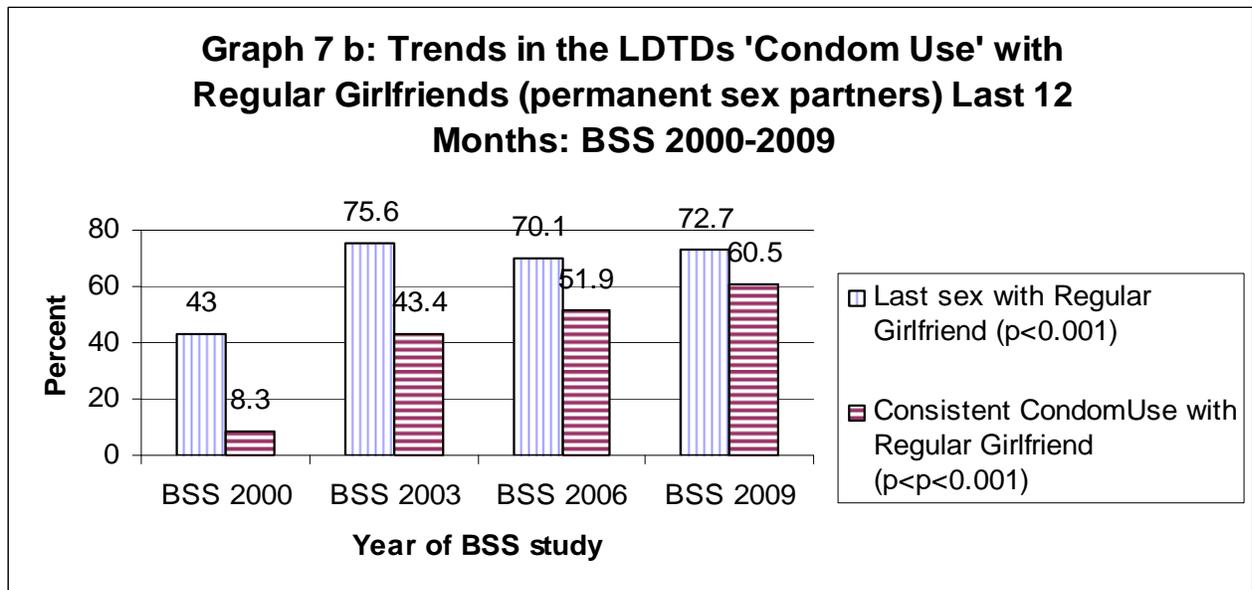
Table 27: Trends in condom use, combined BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Condom use at last sex with FSW	168(93.3)	114(92.7)	170(93.4)	232(96.7)	0.168
Total	180	123	182	240	
Consistent condom use with FSW during the past 12 months prior to survey	152(84.4)	102(82.9)	158(86.8)	220(91.3)	0.020
Total	180	123	182	241	
Condom use at last sex with regular partner	192(43.0)	166(75.6)	206(70.1)	309(72.7)	<0.001
Total	214	214	294	425	
Consistent condom use with regular partner during the past 12 months prior to survey	43(8.3)	23(43.4)	152(51.9)	248(60.5)	<0.001
Total	518	53	293	410	
Condom use at last sex with non-regular partner	113(74.8)	10(100)	39(70.9)	19(86.4)	0.622
Total	151	10	55	22	
Consistent condom use with non-regular partner during the past 12 months prior to survey	76(50.7)	7(50.0)	33(58.9)	18(81.8)	0.014
Total	150	14	56	22	

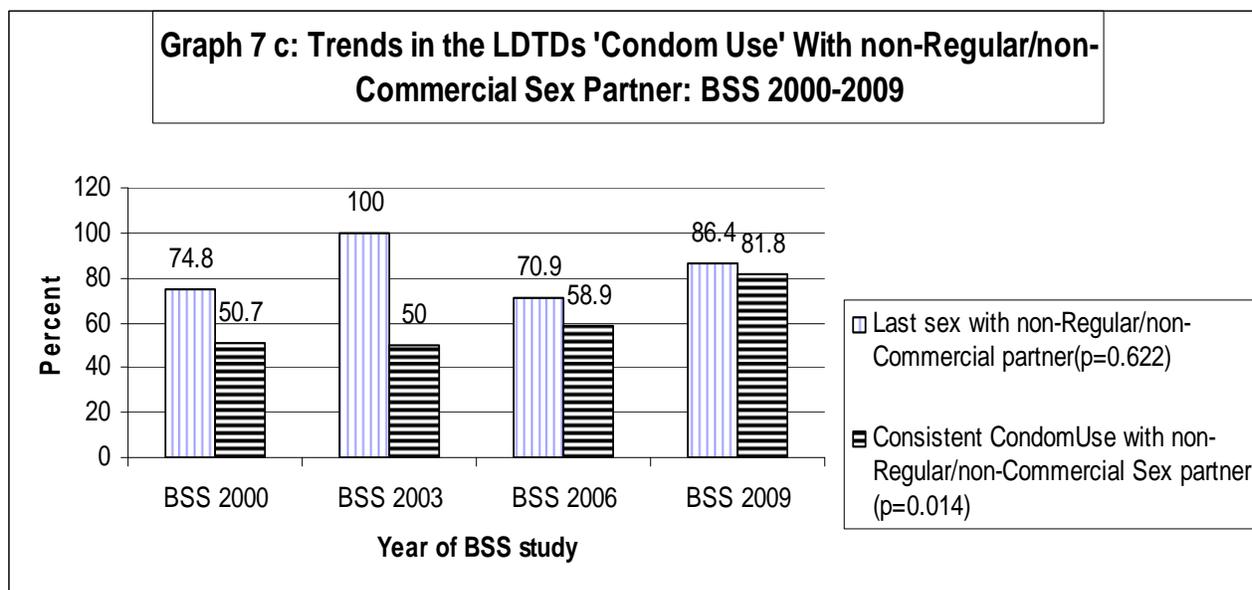
Graph 7 a: the observed increase in the proportion of LDTDs who reported condom use when they last had sex with FSWs was from 93.3 percent in 2000 to 96.7 percent in 2009. The increase is not statistically significant. However the increase the proportion of LDTDs who reported consistent condom use with FSWs from 84.4 percent in 2000 to 91.3 percent in 2008 was statistically significant ($p=0.007$).



Graph 7b: condom use on the last occasion of sexual intercourse with a regular sex partner (girlfriend) increased significantly from 43.0 percent in 2000 to 72.7 percent in 2009 ($p<0.001$). Consistent condom use with a regular sex partner in the last 12 months also increased significantly from 8.3 percent to 60.5 percent in the same period ($p<0.001$).



Graph 7c: condom use on the last occasion of sexual intercourse with a non-regular partner increased from 74.8 percent to 86.4 percent which was not statistically significant ($p=0.622$). However the increase in consistent condom use with non-regular partner from 50.7 percent to 81.8 percent between 2000 and 2009 was statistically significant ($p=0.014$).



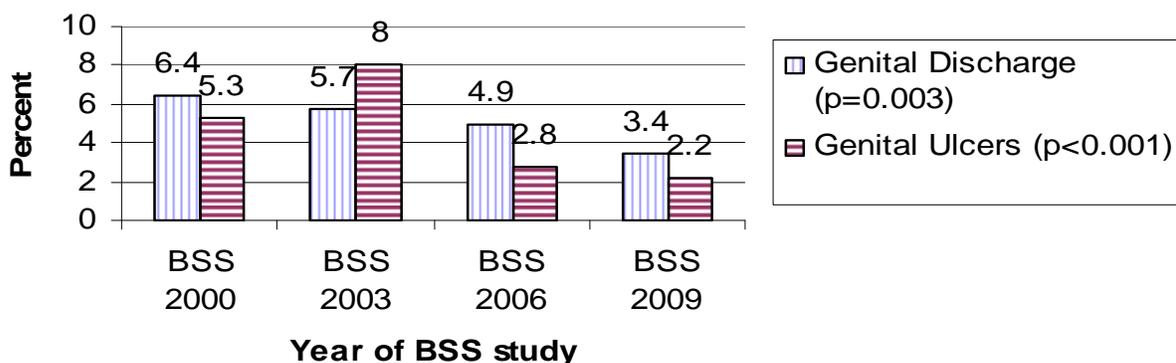
8.2.5 Trends in knowledge and history of STIs among truck drivers

Table 27 presents trends in knowledge and history of STIs. Overall, the proportions of respondents who correctly cited two or more STI symptoms in men was 80.4 percent in 2009, from 76.1 percent observed in 2000, which was not statistically significant ($p=0.110$). The proportion of LDTDs with a history of a genital discharge-related STI in the past 12 months reduced by a statistically significant amount ($p=0.003$) from 6.4 to 3.4 percent between 2000 and 2009. The proportion of LDTDs reporting genital ulcers/sores in the last 12 months declined from 5.3 percent in 2000 to 2.2 percent between 2000 and 2008 respectively, and the observed decline was statistically significant ($p<0.001$).

Table 28: Trends in knowledge and history of STIs among LDTDs, combined BSS 2000-2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Correctly cited two or more STI symptoms in men – Yes	414(76.1)	433(81.5)	655(81.7)	867(80.4)	0.110
Total	544	531	855	1550	
History of genital discharge in the past 12 months – Yes	36(6.4)	32(5.7)	44(4.9)	39(3.4)	0.003
Total	562	565	901	1250	
History of genital ulcers/sores in the past 12 months – Yes	30(5.3)	47(8.0)	25(2.8)	25(2.2)	0.001
Total	562	587	901	1151	

Graph 8: Trends in Proportion of the LDTDs With History of 'Genital Discharge' and 'Genital Ulcer' STIs in the Last 12 Months: BSS 2000-2009

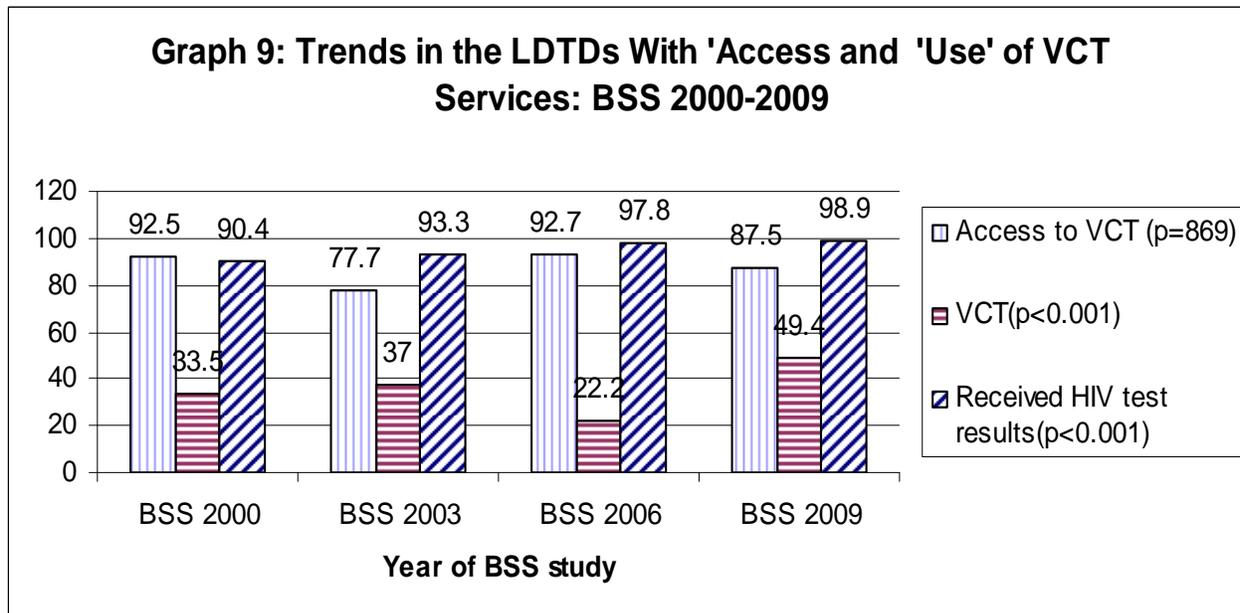


8.2.6 Trends in VCT access and use among truck drivers

Table 28 and **Graph 9** present trends in access to HIV counseling and testing. The overall proportion who said they had access to VCT declined from 92.5 percent in 2000 to 87.5 percent in 2009. The decline was however not statistically significant ($p=0.869$). However, the proportion of LDTDs who said they had been tested for HIV increased statistically significantly from 33.5 percent in 2000 to 49.4 percent in 2008 ($p<0.001$). The proportion of LDTDs that received their HIV test results also increased statistically significant from 90.4 percent in 2000 to 98.9 percent in 2009 ($p=0.001$).

Table 29: Trends in access to HIV counseling and testing among LDTDs, combined BSS 2009

Characteristics	BSS 2000	BSS 2003	BSS 2006	BSS 2009	p-value
	N (%)	N (%)	N (%)	N (%)	
Have access to confidential HIV test in community	520(92.5)	454(77.7)	814(92.7)	1007(87.5)	0.869
Total	562	584	878	1151	
Ever been tested for HIV	188(33.5)	216(37.0)	194(22.2)	570(49.4)	<0.001
Total	561	584	880	1154	
Found out HIV test result	170(90.4)	181(93.3)	181(97.8)	556(98.9)	<0.001
Total	188	194	185	580	



9. DISCUSSION

Family Health International, through the Zambia Corridors of Hope project, has used BSS to track behavior relevant to the spread of HIV among populations at a higher risk of HIV transmission, using indicators that register change. These indicators do not only measure results of prevention efforts of the COH project, but also measure efforts of other organizations involved in the fight against HIV as part of a national and regional response.

The findings of the 2009 BSS among LDTDs, just like those of previous BSS studies, although suggesting an improvement in various behavioral variables, still present challenges to the current and future efforts to arrest the spread of HIV/AIDS. There are still formidable challenges to drivers of risk behavior and exposure to HIV and other STIs. The challenges posed to LDTDs include contextual issues such as delays in clearance at border stops and behaviors of LDTDs themselves and of their sexual clients.

Though the 2009 BSS results show that the proportion of LDTDs with two or more sexual partners including regular partners, sex workers and with non-regular partners has reduced in the last 12 months in comparison with the 2000 BSS, there still remains a good proportion of LDTDs who continue involvement in multiple relations and sex without protection. Therefore efforts should continue to address HIV transmission by addressing and targeting sexual networks and issues of multiple and concurrent relationships. To be effective, the programs involved will need to use innovative outreach program activities and methodologies that may assist people including LDTDs to reflect on individual behavior and to reinforce desired behavior changes. This includes understanding that correct and consistent use of a male or female condom prevents transmission of HIV and other STIs.¹⁹ The innovative approaches will include addressing main barriers to condom use, such as perceptions that a condom reduces sexual satisfaction and that a condom causes health problems and a reduction in sexual

¹⁹ Ferguson AG, Morris CN. Mapping Transactional Sex on the Northern Corridor Highway in Kenya. Health Place, 13 (2):504-19, June 2007 (Epub 2006 Jul 3)

interest.²⁰ Many LDTDs said they received information from the radio. Projects such as COH need to explore and appropriately expand the use of such a media to disseminate information and to engage the targeted communities with behavior change messages.

In most studies in sub-Saharan Africa, the level of awareness of HIV and AIDS is high. However, stigmatizing attitudes towards people living with HIV/AIDS still exist. In Zambia the general awareness of AIDS among men and women is universal (99%).²¹ As shown in this study, the level of knowledge of HIV transmission and prevention is high among LDTDs, but some misconceptions still exist which need to be addressed. These misconceptions include transmission of HIV through mosquitoes and sharing of meals. Therefore behavior change efforts should continue targeting LDTDs to eliminate misconceptions. Furthermore, efforts aimed at dispelling misinformation require the strengthening of workplace education and the training of credible peer educators from the workplace.

HIV counseling and testing is an entry point to care and treatment. UNAIDS and WHO have recommended safe, voluntary male circumcision as an additional, important strategy for the prevention of heterosexually acquired HIV.²² Though a high proportion of LDTDs are aware of counseling and testing services and most of them think it is possible in their community for someone to get an HIV test privately, a good proportion of them have not undergone testing. It is therefore necessary that the Program continue to address barriers that exist and prevent many to get tested and get to needed treatment, care, and support. There are also many social and cultural impediments and challenges to circumcision that need to be explored and addressed to have many people get circumcised.

10. RECOMMENDATIONS

The following part provides overall recommendations. They are divided into three sections: program, policy and research.

PROGRAM

- To increase access to information and services, the project should engage with the relevant authority for an information desk at the entry and main congregation points for LDTDs to access needed information and referral for services.
- A number of LDTDs continue to engage in extra-marital relationships with different partners. There is a need for approaches and action that would promote and reward fidelity and sexual monogamy in marriages.
- Projects such as COH targeting men should hire and train age-appropriate peer educators in strategies to promote use of condoms with different types of sex partners and to reach out to truck drivers on a peer-to-peer basis.
- In developing strategies and activities, LDTDs should be invited to participate in formulating their own strategies for behavior change and engage them in communication campaigns that reject

²⁰ Sunmola AM, Sexual Practices, Barriers to Condom Use and Its Consistent Use among Long Distance Truck Drivers in Nigeria. *AIDS Care*. 17(2):208-21, 2005

²¹ CSO, MOH, TDRC. 2007 Zambia Demographic and Health Survey, Page 195

²² WHO/UNAIDS, 2007. New Data on Male Circumcision and HIV Prevention Policy.

unhealthy behavior and practices and that move behavior change beyond awareness-raising to sustaining the changes in behavior.

- A condom used correctly and consistently is a great barrier to HIV transmission. But many sexual encounters remain unprotected. There is, therefore, a need to sustain efforts in communication strategies for behavior change to reinforce consistent and correct use of either male or female condoms. Innovative approaches that will lead to translation of knowledge into sustained and consistent use of condoms are required.
- In view of the continued existence of some misconceptions and stigma related to disclosure of HIV status, there is a need to continue developing better strategies for correcting misconceptions and stigma.
- Given that most LDTDs listen to the radio for information, programs targeting LDTDs should explore ways of using radio or producing education material such as tapes or CDs that the truck drivers can listen to as they drive.
- Knowing one's HIV status is an entry point to HIV care. It is encouraging to see that the proportion of LDTDs that have tested and know their HIV status has increased over the years. HIV counseling and testing should continue to be made more accessible through many outlets, including mobile VCT centers, to serve LDTDs who are waiting at border posts and depots. Increase in access to VCT services will enable as many LDTDs (and others) as possible to test and to get treatment and care as necessary. However caution should be exercised and sufficient preparations made regarding conducting HIV testing to waiting truck drivers to protect them from potential harm or possible negative effects (e.g. psychological effects) caused by knowing their status.

POLICY

- Truck drivers continue to have sexual relationships with non-spousal partners when they are away from their homes. Organizations involved in HIV prevention activities need to lobby for institutionalization of HIV prevention activities, including lobbying for a company policy that allows truck drivers to be accompanied by wives, and place of work meetings for men.
- Truck drivers continue to stay for long periods at border towns due to clearance procedures and personal behavior which increases the chances of engaging in risk behaviors, including those that put them at risk of HIV infection. Therefore lobbying the government for mechanisms to quicken the clearance process should continue. There is also a need to better understand the underlying factors that affect the clearance process, and identify solutions and lobby for improvement/system change.
- There is an exceptionally high level of HIV vulnerability among truck drivers at border areas, such as Chirundu and Kazungula, due to long periods of time that truck drivers spend at the border. To reduce exposures to high risk situations, a comprehensive regional prevention program is needed to create an enabling environment to lower HIV risk. Core services for such an approach would include provision of recreational/entertainment and behavioral change information facilities located near the truck stops, treatment for STIs and expansion of STI/HIV counseling and testing services to reduce sexually transmitted infections.

- The study found that a good proportion of LDTDs passing through the border towns of Zambia consume alcohol. Alcohol undermines judgment and affects risk perception, thereby leading alcohol users to risky sexual encounters. The declining trend in alcohol consumption among truck drivers should continue through reinforcement with innovative communication strategies and information on dangers of alcohol abuse, and weaning from indulgence and compulsive alcohol consumption.
- The significant role that conventional STIs play in facilitating HIV transmission and causing complications are well documented. The effective role of early management of STIs has also been demonstrated and recommended by WHO. Therefore, effective and early detection and management of STIs are critical and need to be strengthened through the COH project and other projects, including government institutions, to reach the most-at-risk mobile population as well as the general population. Both the government, and projects such as COH II providing STI services, need to expand those services – screening, testing and treatment – and intensify behavior change communication efforts through mobile, outreach and static facilities to enable easy access to STI treatment services by LDTDs.

RESEARCH

- Given gaps in behavior change, such as high knowledge of HIV transmission and prevention on the one hand and unprotected sex and or misconceptions on transmission on the other, there is a need for operation research to help identify bottlenecks as to why HIV control efforts are failing and identify areas for improvement
- In addition to monitoring trends in key sexual behavior variables, a biological component needs to be included in the next round of BSS to triangulate the findings of the self-reported behavioral surveys and the biological test results.

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APPENDIX I

CHANGES AND TRENDS IN SELECTED VARIABLES: BSS 2000-2009

Table 22a: Changes in socio-demographic characteristics of the LDTDs by site BSS 2000-2009

Characteristics	Livingstone/Kazungula					Chirundu				
	BSS 2000	BSS 2003	BSS 2006	BSS 2008	p-value	BSS 2000	BSS 2003	BSS 2006	BSS 2008	p-value
	N (%)	N (%)	N (%)	N (%)		N (%)	N (%)	N (%)	N (%)	
Age (years)										
<30	44 (15.9)	13 (10.2)	42 (20.7)	146 (26.9)	<0.001	70 (24.1)	101 (21.8)	117 (16.6)	108 (17.6)	<.0001
30-34	49 (17.7)	37 (28.9)	33 (16.1)	135 (24.9)		51 (17.5)	139 (30.0)	177 (25.1)	133 (21.6)	
35+	184 (64.4)	78 (60.9)	128 (63.1)	261 (48.2)		170 (58.4)	224 (48.1)	411 (58.3)	374 (60.8)	
Total	277 (100)	128 (100)	203 (100)	542 (100)		291 (100)	464 (100)	705 (100)	615 (100)	
Education Level										
Up to primary school	80 (28.8)	31 (24.2)	48 (24.0)	74 (13.80)	<0.001	71 (24.4)	86 (18.5)	127 (18.7)	90 (14.8)	0.006
Secondary or higher	198 (71.2)	97 (75.8)	152 (76.0)	463 (86.2)		220 (75.6)	378 (81.5)	551 (81.3)	520 (85.2)	
Total	278 (100)	128 (100)	200 (100)	537 (100)		291 (100)	464 (100)	678 (100)	610 (100)	
Marital status										
Currently married	241 (86.7)	114 (91.2)	166 (83.0)	435 (80.7)	0.014	260 (89.3)	410 (88.6)	624 (89.7)	519 (88.0)	0.793
Not currently married	37 (13.3)	11 (8.8)	34 (17.00)	104 (19.3)		31 (10.7)	53 (11.4)	72 (10.3)	71 (12.0)	
Total	278 (100)	125 (100)	200 (100)	539 (100)		291 (100)	463 (100)	696 (100)	590 (100)	

Characteristics	Kapiri Mposhi			
	BSS 203	BSS 2006	BSS 2008	p-value
	N (%)	N (%)	N (%)	
Age (years)				
<30	8(11.9)	18(18.4)	112(21.9)	0.238
30-34	16(23.9)	18(18.4)	117(22.9)	
35+	43(64.2)	62(63.2)	282(55.2)	
Total	67(100)	98(100)	511(100)	
Education Level				
Up to primary school	31 (46.3)	25 (26.0)	164 (30.2)	0.023
Secondary or higher	36 (53.7)	71 (74.0)	343 (67.6)	
Total	67(100)	96(100)	507(100)	
Marital status				
Currently married	61 (92.4)	90 (92.3)	441 (88.4)	0.307
Not currently married	5 (7.6)	7 (7.2)	58 (11.6)	
Total	66(100)	97(100)	499(100)	

Table 23a: Trends in alcohol and drug use among LDTDs by site BSS 2000-2009

Characteristics	Livingstone				p-value
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	
Daily alcohol use in past four weeks	32 (11.5)	24 (18.9)	20 (9.9)	20 (3.7)	<0.001
Total	278	127	203	543	
Ever used drugs (dagga)	37 (13.3)	15 (11.7)	49 (24.1)	99 (18.2)	0.020
Total	278	128	203	543	

Characteristics	Chirundu				p-value
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	
Daily alcohol use in past 4 weeks	31 (10.7)	53 (11.5)	84 (11.9)	36 (5.9)	0.021
Total	290	461	704	610	
Ever used drugs (dagga)	39 (13.4)	82 (17.7)	108 (15.4)	85 (15.4)	0.849
Total	291	462	706	551	

Characteristics	Kapiri Mposhi			p-value
	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	
Daily alcohol use in past four weeks	9 (13.4)	7 (7.2)	13 (23.5)	<0.001
Total	67	97 (100)	511	
Ever used drugs (dagga)	9 (13.4)	0	61 (13.9)	
Total	67		439	

Table 24a: Changes in sexual risk behaviors among LDTDs by site BSS 2000-2009

Characteristics	Livingstone				p-value
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	
Mean age at first sex (mean+/-SD)	17.9	18.2	17.6	17.4 +/-3.3	
Number of regular sex partners					
0	2(0.8)	97(80.8)	151(83.9)	298(58.4)	
1	191(74.9)	9(7.5)	179(9.4)	190(37.3)	
2+	62(24.3)	14(11.7)	12(6.7)	22(4.3)	<0.001
Total	255(100)	120(100)	344(100)	510(100)	
Number of commercial sex partners					
0	210(79.2)	97(80.8)	151(83.9)	415(81.7)	0.357
1	25(9.4)	9(7.5)	17(9.4)	30(5.9)	
2+	30(11.3)	14(11.7)	12(6.7)	63(12.4)	
Total	265(100)	120(100)	180(100)	508(100)	
Number of non-regular, non-commercial sex partners					
0	204(76.7)	125(100)	168(93.3)	495(98.0)	<0.001
1	48(18.0)	0(0)	8(4.4)	5(1.0)	
2+	14(5.3)	0(0)	4(2.2)	5(1.0)	
Total	266(100)	125(100)	180(100)	505(100)	

Characteristics	Chirundu				p-value
	BSS 2000	BSS 2003	BSS 2006	BSS 2008	
	N (%)	N (%)	N (%)	N (%)	
Mean age at first sex (mean +/-SD)	18.3	18.1	18.9	18.7 +/-3.5	
Number of regular sex partners					
0	0(0)	285(63.6)	423(64.1)	384(64.4)	
1	220(82.4)	123(27.5)	211(32.0)	171(28.7)	
2+	47(17.6)	40(8.9)	26(3.9)	41(6.9)	<0.001
Total	267(100)	448(100)	660(100)	596(100)	
Number of commercial sex partners					
0	159(56.8)	350(82.7)	487(75.0)	447(75.4)	<0.001
1	31(11.1)	46(10.9)	98(15.1)	42(7.1)	
2+	90(32.2)	27(6.4)	64(9.9)	104(17.5)	
Total	280(100)	423(100)	649(100)	593(100)	
Number of non-regular, non-commercial sex partners					
0	194(69.0)	440(97.8)	618(94.1)	572(96.9)	<0.001
1	59(21.0)	9(2.0)	31(4.7)	7(1.2)	
2+	28(10.0)	1(0.2)	8(1.2)	11(1.9)	
Total	281(100)	450(100)	657(100)	590(100)	

Characteristics	Kapiri Mposhi			p-value
	BSS 2003	BSS 2006	BSS 2008	
	N (%)	N (%)	N (%)	
Mean age at first sex (mean +/-SD)	-	18.5		
Number of regular sex partners				
0	44(69.8)	64(72.7)	322(66.0)	
1	13(20.6)	19(21.6)	148(30.3)	
2+	6(9.5)	5(5.7)	18(3.7)	0.333
Total	63	88(100)	488(100)	
Number of commercial sex partners				
0	56(90.3)	90(91.8)	401(82.7)	0.016
1	3(4.8)	3(3.1)	30(5.9)	
2+	3(4.8)	5(5.1)	63(12.9)	
Total	62(100)	98(100)	487(100)	
Number of non-regular, non-commercial sex partners				
0	36(90.0)	96(98.0)	481(99.0)	<0.001
1	2(5.0)	0	1(0.2)	
2+	2(5.0)	2(2.0)	4(0.8)	
Total	40	98(100)	486(100)	

Table 25a: Trends in knowledge of HIV prevention among LDTDs by site, BSS 2000-2009

Characteristics	Livingstone				p-value
	BSS 2000	BSS 2003	BSS 2006	BSS 2008	
	N (%)	N (%)	N (%)	N (%)	
Ever heard of HIV	273(100)	128(100)	182(91.9)	540(100)	*
Total	273	128	198	540	
Knows abstinence can prevent HIV	254 (93.0)	125 (97.7)	154 (87.0)	532 (99.3)	<0.001
Total	273	128	177	536	
Thinks HIV can be transmitted through mosquito bites	43 (15.8)	29 (22.7)	35 (19.4)	36 (7.3)	<0.001
Total	273	128	180	495	
Thinks HIV can be transmitted through sharing a meal	15 (5.5)	10 (7.8)	40 (22.2)	21 (4.0)	0.959
Total	273	128	180	521	

*cell containing zero

Characteristics	Chirundu					Kapiri Mposhi			
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value
Ever heard of HIV	289 (100)	458 (100)	701 (99.9)	614 (100)	*	65 (100)	98 (100)	508 (100)	*
Total	289	458	702	614		65	98	508	
Knows abstinence can prevent HIV	255 (88.2)	410 (89.7)	672 (96.0)	593 (97.9)	<0.001	58 (92.1)	96 (98.0)	493 (98.6)	<0.001
Total	289	457	700	606		63	98 (100)	500	
Thinks HIV can be transmitted through mosquito bites	51 (17.6)	117 (25.6)	48 (6.9)	43 (7.8)	<0.001	17 (26.1)	23 (23.5)	41 (9.1)	<0.001
Total	289	457	698	550		65	98	449	
Thinks HIV can be transmitted through sharing a meal	26 (9.0)	48 (10.5)	36 (5.1)	61 (10.3)	0.610	15 (23.1)	21 (21.4)	63 (12.9)	<0.006
Total	289	457	701	594		65	98	488	

*cell containing zero

Table 26a: Trends in condom use by site, BSS 2000-2009

Characteristics	Livingstone				
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value
Condom use at last sex with CSW	52 (92.9)	24 (85.7)	21 (84.0)	89 (94.7)	0.628
Total	56	28	25	94	
Consistent condom use with CSW during the 12 months prior to survey	52 (92.9)	20 (71.4)	20 (80.0)	81 (86.2)	0.479
Total	56	28	25	94	
Condom use at last sex with regular partner (girlfriend)	35 (14.1)	38 (71.7)	39 (63.9)	140 (66)	<0.001
Total	214	53	61	212	
Consistent condom use with regular partner (girlfriend) during the 12 months prior to survey	19 (7.6)	23 (43.4)	25 (39.1)	100 (50.3)	<0.001
Total	250	53	64	199	
Condom use at last sex with non-regular partner	44 (71.0)	1	8	4	0.851
Total	62	1	13	5	
Consistent condom use with non-regular partner during the past 12 months prior to survey	27 (44.3)	1	2	3	0.489
Total	61	1	13	4	

*cell containing zero

Characteristics	Chirundu					Kapiri Mposhi			
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value
Condom use at last sex with CSW	116 (93.5)	90 (94.7)	149 (94.9)	143 (97.9)	0.114	11 (100)	8 (100)	81 (94.2)	*
Total	124	95	157	146		11	8	86	
Consistent condom use with FSW during the past 12 months prior to survey	100 (80.6)	82 (86.3)	138 (87.9)	139 (94.6)	<0.001	11 (100)	8 (100)	80 (93.0)	*
Total	124	95	157	147		11	8	86	
Condom use at last sex with regular partner (girlfriend)	57 (21.3)	123 (76.4)	167 (71.7)	169 (79.3)	<0.001	15 (60)	13 (61.9)	118 (71.5)	0.179
Total		161	233	213		25	21		
Consistent condom use with regular partner (girlfriend) during 12 months prior to survey	24 (9.0)	89 (55.3)	127 (55.5)	148 (70.1)	<0.001	10 (40.0)	10 (50.0)	94 (60.3)	0.046
Total	268	161	229	211		25	20	156	
Condom use at last sex with non-regular partner	69 (77.5)	9 (9)	31 (73.8)	15 (88.2)	0.748	4 (100)	2 (100)	1 (50.0)	0.132
Total	89	9	42	17		4	2	2	
Consistent condom use with non-regular partner during 12 months prior to survey	49 (55.1)	6 (6)	31 (75.6)	15 (88.2)	<0.001	3 (75.0)	2 (100)	1 (50)	0.132
Total	89	9	41	16		4	2	2	

Table 27a: Trends in knowledge and history of STIs among LDTDs by site, BSS 2000-2009

Characteristics	Livingstone				
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value
Correctly cited two or more STI symptoms in men	199 (74.8)	108 (91.5)	140 (82.8)	407 (81.9)	0.082
Total	266	118	169	497	
History of genital discharge in past 12 months	15 (5.5)	11 (8.6)	20 (10.1)	21 (3.9)	0.325
Total	273	128	198	541	
History of genital ulcers/sores in past 12 months	13 (4.8)	16 (12.5)	7 (3.5)	18 (3.3)	0.054
Total	273	128	198	542	

Characteristics	Chirundu					Kapiri Mposhi			
	BSS 2000 N (%)	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value	BSS 2003 N (%)	BSS 2006 N (%)	BSS 2008 N (%)	p-value
Correctly cited 2 or more STI symptoms in men	215 (77.3)	325 (78.7)	515 (81.4)	460 (79.0)	0.405	49 (77.8)	62 (84.9)	414 (87.9)	???
Total	278	413	633	582		63	73	471	
History of genital discharge in the past 12 months	21 (7.3)	21 (4.8)	24 (3.4)	18 (3.0)	0.001	9 (6.2)	63 (86.1)	5 (5.1)	0.011
Total	289	437	703	610		65	73	99	
History of genital ulcers/sores in the past 12 months	17 (5.9)	31 (6.8)	18 (2.6)	7 (1.1)	<0.001	10 (15.4)	53 (72.6)	2 (2.0)	???
Total	289	459	703	609		65	73	99	

Table 28a: Trends in access to HIV counseling and testing among LDTDs by site, BSS 2000-2009

Characteristics	Livingstone				
	BSS 2000	BSS 2003	BSS 2006	BSS 2008	p-value
	N (%)	N (%)	N (%)	N (%)	
Have access to confidential HIV test in community	245 (89.7)	90 (70.3)	160 (89.4)	465 (86.0)	0.898
Total	273	128	179	541	
Ever been tested for HIV	98 (36.0)	65 (50.8)	31 (17.2)	277 (51.1)	0.003
Total	272	128	180	542	
Found out HIV test result	88 (89.8)	43 (95.6)	26 (96.3)	274 (98.9)	<0.001
Total	98	45	27	277	

Characteristics	Chirundu					Kapiri Mposhi			
	BSS 2000	BSS 2003	BSS 2006	BSS 2008	p-value	BSS 2003	BSS 2006	BSS 2008	p-value
	N (%)	N (%)	N (%)	N (%)		N(%)	N(%)	N(%)	
Have access to confidential HIV test in community	275 (95.2)	364 (80.0)	654 (93.6)	542 (88.9)	0.540	33 (57.9)	54 (55.1)	55 (55.1)	0.867
Total	289	456	699	610		57	98	98	
Ever been tested for HIV	90 (31.1)	151 (33.1)	163 (23.3)	293 (47.9)	<0.001	12 (18.5)	23 (23.5)	23 (23.5)	0.485
Total	289	456	700	612		65	98	98	
Found out HIV test result	82 (91.1)	138 (92.6)	155 (98.1)	282 (98.9)	<0.001	10 (83.3)	23 (95.8)	17 (94.4)	0.012
Total	90	149	158	285		12	199	18	

APPENDIX II : QUESTIONNAIRE

**FAMILY HEALTH INTERNATIONAL (FHI)
HIV/AIDS/STD BEHAVIORAL SURVEILLANCE SURVEYS (BSS)
FOR USE WITH LONG DISTANCE TRUCK DRIVERS (LDTDS)**

In Chirundu, Kapiri Mposhi, Livingstone/Kazungula and Solwezi, Zambia 2008

001 QUESTIONNAIRE IDENTIFICATION NUMBER |__|__|__|__|
 002 TOWN _____
 003 PROVINCE _____
 004 PLACE _____ (provide appropriate sample place)

Introduction: “My name is..... I’m working for the Corridors of Hope II (COH II) project and Family Health International (FHI). We are interviewing people here in [*name of town, province or site*] in order to find out about peoples HIV/AIDS knowledge, attitudes and behavior. Have you been interviewed in the past few days or weeks for this study? **IF THE RESPONDENT HAS BEEN INTERVIEWED BEFORE DURING THIS ROUND OF BSS, DO NOT INTERVIEW THIS PERSON AGAIN.** Tell them you cannot interview them a second time. Thank them and end the interview. If they have not been interviewed before, continue: get consent using the standard consent form.

	Visit 1	Visit 2	Visit 3
Date			
Interviewer			
Result			

Results: 1. completed 2.Responded not available 3. Refused 4.Partially completed

007 INTERVIEWER: CODE [__|__] Name _____

008 DATE INTERVIEW: _ \ _ \ _
 D \ M \ Year

009 TOTAL TIME USED _____

010 CHECKED BY SUPERVISOR: Signature _____ Date _____

Section 1: Background characteristics

No.	Questions and filters	Coding categories	Skip to
Q100	TIME INTERVIEW STARTED RECORD IN 24-HOUR FORMAT		
Q101	In what month and year were you born?	MONTH [][] DON'T KNOW MONTH 88 NO RESPONSE 99 YEAR [][] DON'T KNOW YEAR 88 NO RESPONSE 99	
Q102	How old were you at your last birthday? (COMPARE AND CORRECT Q102 IF NEEDED)	AGE IN COMPLETED YEARS [][] NO RESPONSE 99	
Q103	Have you ever attended school?	YES 1 NO 2 NO RESPONSE 99	→Q106
Q104	What is the highest level of school you completed: primary, secondary or higher? CIRCLE ONE	PRIMARY 1 SECONDARY 2 HIGHER 3 OTHER (Specify) _____ 96 NO RESPONSE 99	
Q105	How many total years of education have you completed up to now?	# YEARS COMPLETED [][] NO RESPONSE 99	
Q106	What is your religion? CIRCLE ONE	CHRISTIAN 1 MUSLIM 2 BUDDHIST 3 HINDU 4 OTHER (SPECIFY)----- 5 NO RELIGION 6 NO RESPONSE 99	→Q108 →Q108 →Q108 →Q108 →Q108
Q107	What is your Christian denomination or church?	Catholic 1 United Church of Zambia 2 Seventh Day Adventist 3 Reformed Church in Zambia 4 Pentecostal 5 Anglican 6 Jehovah Witness 7 Others (specify)_____96 NO RESPONSE 99	
Q108	How long have you stayed in days here at this site/border?	LESS THAN A DAY 1 ONE DAY 2 TWO DAYS 3 THREE DAYS 4 FOUR DAYS 5 FIVE DAYS AND MORE 6	
Q109	In the last 12 months have you been	YES	

No.	Questions and filters	Coding categories	Skip to
	away from your home for more than one month continuously ?	1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q110	How many times have you come through this border/site in the past 3 months?	NUMBER OF TIMES SINCE LAST [][] DON'T KNOW 88 NO RESPONSE 99	
Q111	How long did you stay last time you were at this border/site?	DURATION IN DAYS [][] DON'T KNOW 88 NO RESPONSE 99	
Q112	To which ethnic group or tribe do you belong	Ndebele 1 Shona 2 Bemba 3 Lozi 4 Other _____ 96	
Q113	In which country is your trucking company based (where is it headquartered)? CIRCLE ONE	South Africa 1 Somalia 2 Malawi 3 Zimbabwe 4 Tanzania 5 Kenya 6 Mozambique 7 Congo DR 8 Botswana 10 Zambia 11 OTHER----- 96 NO RESPONSE 99	
Q114	Where do you reside when you are not traveling? By "where do you reside" we mean where do you reside MOST OF THE TIME? RESPONDENT TO PICK ONLY ONE	South Africa 1 Somalia 2 Malawi 3 Zimbabwe 4 Tanzania 5 Kenya 6 Mozambique 7 Congo DR 8 Botswana 10 Zambia 11 OTHER----- 96 NO RESPONSE 99	
Q115	What is your country of origin?	South Africa 1 Somalia 2 Malawi 3 Zimbabwe 4 Tanzania 5 Kenya 6 Mozambique 7 Congo DR 8 Botswana 10 Zambia 11 OTHER----- 96	

No.	Questions and filters	Coding categories	Skip to																																													
		NO RESPONSE 99																																														
Q116	During the last 4 weeks how often have you had drinks containing alcohol? Would you say READ OUT CIRCLE ONE	Every day 1 At least once a week 2 Less than once a week 3 Never 4 DON'T KNOW 88 NO RESPONSE 99																																														
Q117	Some people have tried injecting drugs using a syringe. Have you injected drugs in the past 12 months? DRUGS INJECTED FOR MEDICAL PURPOSES OR TREATMENT OF AN ILLNESS DO NOT COUNT	YES 1 NO 2 DON'T KNOW 3 NO RESPONSE 4																																														
Q118	Some people have tried a range of different types of drugs. Which of the following, if any, have you tried? Any other? READ LIST	<table border="1"> <thead> <tr> <th></th> <th>YES</th> <th>NO</th> <th>DK</th> <th>NR</th> </tr> </thead> <tbody> <tr> <td>Daga (Ichamba)</td> <td>1</td> <td>2</td> <td>88</td> <td>99</td> </tr> <tr> <td>Heroin</td> <td>1</td> <td>2</td> <td>88</td> <td>99</td> </tr> <tr> <td>Cocaine</td> <td>1</td> <td>2</td> <td>88</td> <td>99</td> </tr> <tr> <td>Mandrax</td> <td>1</td> <td>2</td> <td>88</td> <td>99</td> </tr> <tr> <td>Other-----</td> <td colspan="4">96</td> </tr> </tbody> </table>		YES	NO	DK	NR	Daga (Ichamba)	1	2	88	99	Heroin	1	2	88	99	Cocaine	1	2	88	99	Mandrax	1	2	88	99	Other-----	96				IF NO DK NR TO ALL ITEMS →Q201															
	YES	NO	DK	NR																																												
Daga (Ichamba)	1	2	88	99																																												
Heroin	1	2	88	99																																												
Cocaine	1	2	88	99																																												
Mandrax	1	2	88	99																																												
Other-----	96																																															
Q119	IF EVER TRIED ANY OF THE DRUGS During the last 4 weeks, would you say you took the above drug (1)everyday (2) at least once a week (3) less than once a week or (4) never READ FOR EACH CATERGORY	<table border="1"> <thead> <tr> <th></th> <th>Every Day</th> <th>At least once/wk</th> <th>Less than once/wk</th> <th>Never</th> </tr> </thead> <tbody> <tr> <td>Daga (Ichamba)</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Heroin</td> <td>5</td> <td>99</td> <td></td> <td></td> </tr> <tr> <td>Cocaine</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Mandrax</td> <td>5</td> <td>99</td> <td></td> <td></td> </tr> <tr> <td>Other -----</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td>5</td> <td>99</td> <td></td> <td></td> </tr> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td></td> <td>5</td> <td>99</td> <td></td> <td></td> </tr> </tbody> </table>		Every Day	At least once/wk	Less than once/wk	Never	Daga (Ichamba)	1	2	3	4	Heroin	5	99			Cocaine	1	2	3	4	Mandrax	5	99			Other -----	1	2	3	4		5	99				1	2	3	4		5	99			
	Every Day	At least once/wk	Less than once/wk	Never																																												
Daga (Ichamba)	1	2	3	4																																												
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Other -----	1	2	3	4																																												
	5	99																																														
	1	2	3	4																																												
	5	99																																														

Section 2 Marriage and live-in partnerships

No.	Questions and filters	Coding categories	Skip to
Q201	Have you <i>ever</i> been married?	YES 1 NO 2 NO RESPONSE 99	→Q203 →Q203
Q202	How old were you when you first married (married meaning recognized union as husband and wife by relatives)?	Age in years [__ __] DON'T KNOW 88 NO RESPONSE 99	
Q203	What is your current marital relationship? (PROBE IF RESPONSE NOT CLEAR)	currently married, living with spouse currently married, living with other sexual partner currently married, not living with spouse or any other sexual partner not married, living with sexual partner not married, not living with sexual partner NO RESPONSE	1 2 3 4 →Q301 5 →Q301 99 →Q301
Q204	IF MARRIED: Do you have more than one wife?	YES 1 NO 2 NO RESPONSE 99	

Section 3 Sexual history: numbers and types of partners

Now I'd like to ask you some questions that *may be difficult and personal. But as I said at the beginning, your answers to these questions will be treated with strict confidentiality and will not be linked to you in any way. The questions that will follow will all be about your sexual activities and partners...*

No.	Questions and filters	Coding categories	Skip to
Q301	Have you ever had sexual intercourse? [For the purposes of this survey, "sexual intercourse" is defined as vaginal or anal sex]	YES 1 NO 2 NO RESPONSE 99	→Q801 →Q801
Q302	At what age did you first have sexual intercourse?	AGE IN YEARS [][] DON'T KNOW 88 NO RESPONSE 99	
Q303	Have you had sexual intercourse in the last 12 months? That is since last.....last year (12 months prior to date of interview)	YES 1 NO 2 NO RESPONSE 99	→Q305 →Q305
Q304	Think about female <i>sexual</i> partners you've had in the last 12 months. How many are: a) your wife (s) b) Live in partner c) girl friend not living with you (regular) d) someone paid for sex (commercial) e) non-regular, non-commercial (casual)	 WIVES [][] NO RESPONSE 99 LIVING IN PARTNER [][] NO RESPONSE GIRL FRIEND [][] NO RESPONSE 99 PAID FOR SEX [][] NO RESPONSE 99 CASUAL [][] DON'T KNOW 88 NO RESPONSE 99	
Q305	-We've just talked about your female sexual partners. Have you ever had any male sexual partners? -Have you had sexual intercourse with any of your male partners in the past 12 months? (sexual intercourse defined as penetrative anal sex) -How many male partners have you had intercourse with in the last 12 months?	 YES 1 NO 2 NO RESPONSE 99 YES 1 NO 2 NO RESPONSE 99 MALE partners [][] DON'T KNOW 88 NO RESPONSE 99	→Q401 →Q401

Section 4 Sexual history: Wife, Live-in Partners

No.	Questions and Filters	Coding categories	Skip to
Q401	<p>FILTER: CHECK Q304a</p> <p>HAD SEX WITH WIFE OR LIVE-IN PARTNER DURING <u>PAST 12 MONTHS</u> []</p> <p style="text-align: center;">↓</p> <p>Had sex with wife in the past 12 months – proceed to Q402. Did not have sex with wife in the past 12 months but had sex with live-in-partner in the past 12 months – skip to Q407</p>	<p>DID NOT HAVE SEX WITH [] → WIFE OR LIVING IN PARTNER DURING <u>PAST 12 MONTHS</u></p>	Q501
Q402	<p>Had sex with wife in the past 12 months</p> <p>How many times did you have sexual intercourse with your wife over the last 30 days?</p>	<p>Number of times [][]</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q403	<p>The last time you had sex with wife; did you use a condom?</p>	<p>YES 1</p> <p>NO 2</p> <p>DON'T REMEMBER 88</p> <p>NO RESPONSE 99</p>	<p>→Q405</p> <p>→Q406</p> <p>→Q406</p>
Q404	<p>Who suggested condom use that time?</p> <p>CIRCLE ONE</p>	<p>Myself 1</p> <p>Wife 2</p> <p>Joint decision 3</p> <p>NO RESPONSE 99</p>	<p>→Q406</p> <p>→Q406</p> <p>→Q406</p> <p>→Q406</p>
Q405	<p>Why didn't you and your wife use a condom that time?</p> <p>Any other reasons?</p> <p>DO NOT READ</p> <p>CIRCLE ALL ANSWERS MENTIONED</p>	<p>Y N</p> <p>Not available 1 2</p> <p>Too expensive 1 2</p> <p>Partner objected 1 2</p> <p>Don't like them 1 2</p> <p>Used other contraceptive 1 2</p> <p>Didn't think it was necessary 1 2</p> <p>Didn't think of it 1 2</p> <p>itching</p> <p>Other _____ 96</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q406	<p>In general, how often did you and your wife (s) use a condom during the past 12 months?</p> <p>Would you say every time you had sex with your wife, almost every time, sometimes or never?</p>	<p>EVERY TIME 1</p> <p>ALMOST EVERY TIME 2</p> <p>SOMETIMES 3</p> <p>NEVER 4</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q407	<p>Had sex with live in partner in the past 12 months</p> <p>Do you have a live in partner, meaning</p>	<p>YES 1</p> <p>NO 2</p>	→Q501

No.	Questions and Filters	Coding categories	Skip to
	a sexual partner living with you but not married to you? CHECK Q304b	NO RESPONSE 99	→Q501
Q408	If have live in partner How many times did you have sexual intercourse with your live in partner over the last 30 days?	Number of times DON'T KNOW 88 NO RESPONSE 99	
Q409	The last time you had sex with a live in partner did you and your partner use a condom?	YES 1 NO 2 DON'T REMEMBER 3 NO RESPONSE 99	→Q411 →Q412 →Q412
Q410	Who suggested condom use that time? CIRCLE ONE	Myself 1 My partner 2 Joint decision 3 NO RESPONSE 99	→Q412 →Q412 →Q412 →Q412
Q411	Why didn't you and your partner use a condom that time? Any other reasons? DO NOT READ LIST CIRCLE ALL ANSWERS MENTIONED	Y N Not available 1 2 Too expensive 1 2 Partner objected 1 2 Don't like them 1 2 Used other contraceptive 1 2 Didn't think it was necessary 1 2 Didn't think of it 1 2 itching 1 2 Other_____ 96 DON'T KNOW 88 NO RESPONSE 99	
Q412	In general, how often did you and your live in partner(s) use a condom during the past 12 months? Would you say every time you had sex with your live in partner(s), almost every time, sometimes or never?	EVERY TIME 1 ALMOST EVERY TIME 2 SOMETIMES 3 NEVER 4 DON'T KNOW 88 NO RESPONSE 99	

Section 5 Sexual history: GIRLFRIEND/ REGULAR partners

No.	Questions and Filters	Coding categories	Skip to
Q501	FILTER: CHECK Q304c HAD SEXUAL INTERCOURSE WITH A GIRL FRIEND (REGULAR/NOT LIVING TOGETHER) IN <u>LAST 12 MONTHS</u> ... [] ↓	HAS NOT HAD SEXUAL INTERCOURSE WITH A GIRL FRIEND (REGULAR/NOT LIVING TOGETHER) IN <u>LAST 12 MONTHS</u> []→	→Q601
Q502	Think about your most recent girl friend (<i>someone you are not living together</i>). How many times did you have sexual intercourse with this person over the last 30 days?	Number of times [] [] [] DON'T KNOW 88 NO RESPONSE 99	
Q503	The last time you had sex with a girl friend (<i>someone you are not living together</i>), did you and your partner use a condom?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	→Q505 →Q506 →Q506
Q504	Who suggested condom use that time? CIRCLE ONE	Myself 1 My partner 2 Joint decision 3 NO RESPONSE 99	→Q506 →Q506 →Q506 →Q506
Q505	Why didn't you and your partner use a condom that time? CIRCLE ALL ANSWERS MENTIONED	Y N Not available 1 2 Too expensive 1 2 Partner objected 1 2 Don't like them 1 2 Used other contraceptive 1 2 Didn't think it was necessary 1 2 Didn't think of it 1 2 Could reduce the pleasure 1 2 Other _____ 96 DON'T KNOW 88 NO RESPONSE 99	
Q506	In general, how often did you and your girl friend (<i>someone you are not living together</i>) use a condom during the past 12 months? Would you say every time you had sex with your girlfriend, almost every time, sometimes, or never?	EVERY TIME 1 ALMOST EVERY TIME 2 SOMETIMES 3 NEVER 4 DON'T KNOW 88 NO RESPONSE 99	

Section 6 Sexual history: COMMERCIAL/PAY sexual partners

No.	Questions and Filters	Coding categories	SKIP TO
Q601	<p>FILTER: CHECK Q304d</p> <p>HAD SEX WITH COMMERCIAL SEX WORKERS OR SOMEONE YOU EXCHANGED MONEY OR GIFT FOR SEX) DURING <u>LAST 12 MONTHS</u>..... []</p> <p style="text-align: right;">↓</p>	<p>DID NOT HAVE SEX WITH COMMERCIAL OR SOMEONE YOU EXCHANGED MONEY OR GIFT FOR SEX DURING <u>LAST 12 MONTHS</u> []→</p>	→Q608
Q602	<p>Think about your most recent commercial sexual partner. How many times did you have sexual intercourse with this person over the last 30 days?</p>	<p>Number of times [] []</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q603	<p>The last time you had sex with a commercial partner; did you and your partner use a condom?</p>	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	<p>→Q605</p> <p>→Q606</p> <p>→Q606</p>
Q604	<p>Who suggested condom use that time?</p> <p>CIRCLE ONE</p>	<p>Myself 1</p> <p>My partner 2</p> <p>Joint decision 3</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	<p>→Q606</p> <p>→Q606</p> <p>→Q606</p> <p>→Q606</p> <p>→Q606</p>
Q605	<p>Why didn't you and your partner use a condom that time?</p> <p>CIRCLE ALL ANSWERS MENTIONED</p>	<p>Not available 1 2</p> <p>Too expensive 1 2</p> <p>Partner objected 1 2</p> <p>Don't like them 1 2</p> <p>Used other contraceptive 1 2</p> <p>Didn't think it was necessary 1 2</p> <p>Didn't think of it 1 2</p> <p>Other_____ 96</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q606	<p>In general, how often did you and your commercial/paying partner(s) use a condom during the past 12 months?</p> <p>Would you say every time you had sex with commercial/paying partner(s), almost every time, sometimes, or never?</p>	<p>EVERY TIME 1</p> <p>ALMOST EVERY TIME 2</p> <p>SOMETIMES 3</p> <p>NEVER 4</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	
Q607	<p>Did you have sex with any other kind of partner in last 12 months (non-commercial/pay partner either spouse/live in partner)</p>	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 88</p> <p>NO RESPONSE 99</p>	<p>→Q701</p> <p>→Q701</p>
Q608	<p>FILTER: CHECK Q304e</p> <p>IF HAD SEX WITH NON-REGULAR/NON-COMMERCIAL PARTNER DURING <u>PAST 12 MONTHS</u> []</p> <p style="text-align: right;">↓</p>	<p>DID NOT HAVE SEX WITH NON-REGULAR /NON-COMMERCIAL PARTNER DURING <u>PAST 12 MONTHS</u> []→</p>	→Q701
Q609	<p>Think about your most recent other</p>	<p>Number of times [] []</p>	

	kind of sexual partner (non-regular and non-commercial). How many times did you have sexual intercourse with this person over the last 30 days?	DON'T KNOW NO RESPONSE	88 99	
Q610	The last time you had sex with other kind of sexual partner ; did you and your partner use a condom?	YES NO DON'T KNOW NO RESPONSE	1 2 88 99	→Q612 →Q613 →Q613
Q611	Who suggested condom use that time? CIRCLE ONE	Myself My partner Joint decision DON'T KNOW NO RESPONSE	1 2 3 88 99	→Q613 →Q613 →Q613 →Q613 →Q613
Q612	Why didn't you and your partner use a condom that time? ADD OTHER LOCALLY APPROPRIATE CATEGORIES AFTER PRE-TESTING CIRCLE ALL ANSWERS MENTIONED	Not available Too expensive Partner objected Don't like them Used other contraceptive Didn't think it was necessary Didn't think of it Other_____	Y N 1 2 1 2 1 2 1 2 1 2 1 2 1 2 96 88 99	
Q613	In general, how often did you and other kind of sexual partner (s) (non-regular and non-commercial) use a condom during the past 12 months? Would you say every time you had sex, almost every time, sometimes, or never?	EVERY TIME ALMOST EVERY TIME SOMETIMES NEVER DON'T KNOW NO RESPONSE	1 2 3 4 88 99	

Section 7 Condoms

No.	Questions and Filters	Coding categories	Skip to
Q701	FILTER: SEE Q403, Q409, Q503, Q603, Q610 CONDOMS NOT USED..... [] ↓	CONDOMS USED []→	→Q704
Q702	Have you ever heard of a male condom? (Show picture or sample of one) (I mean a rubber object that a man puts on his penis before sex.)	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	→Q713 →Q713 →Q713
Q703	Have you and a sexual partner <u>ever</u> used a male condom? (Show picture or sample of one.) (The respondent may not have used a condom with partners in sections 3-4, but may have used a condom at some other time in the past.)	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q704	Have you ever bought a male condom?	YES 1 NO 2 NO RESPONSE 99	→Q707 →Q707
Q705	Last time you bought condom, which brand was it?	Maximum 1 Lovers plus 2 Care 3 Protector 4 Success 5 Others (specify)----- 96 Don't know 88	
Q706	Last time you bought condoms, how much did you spend?	ZK _____ DON'T KNOW 88	
Q707	How many condoms do you have on you now? Would you please show them to me?	Number of condoms (if [] [] [] none mark "zero" in column) NO RESPONSE 99	
Q708	Do you know of any place or person from which you can obtain male condoms?	YES 1 NO 2 NO RESPONSE 99	→Q711 →Q711
Q709	Which places or persons do you know where you can obtain male condoms? Any others? PROBE AND RECORD ALL ANSWERS	Yes Not mentioned Shop 1 2 Pharmacy 1 2 Market 1 2 Clinic 1 2 Hospital 1 2 Family planning center 1 2 Bar/guest house/hotel 1 2 Peer educator 1 2 Friend 1 2 OTHER _____ 1 2 NO RESPONSE 96 99	
Q710	How long would it take you to obtain a	Under 15 Mins 1	

	condom (male or female) from the nearest place where you can obtain a condom?	15 to 30 Mins 31 to 60 Mins More than 60 Mins DON'T KNOW NO RESPONSE	2 3 4 88 99	
Q711	FOR SEXUALLY ACTIVE RESPONDENTS ONLY; CHECK Q302 During the past 12 months, did you ever have sexual intercourse <i>without</i> using a condom with any sexual partner other than your wife or live in sex partner?	YES NO DON'T KNOW NO RESPONSE	1 2 88 99	→Q713 →Q713 →Q713
Q712	Why didn't you and your partner use a condom that time? ADD OTHER LOCALLY APPROPRIATE CATEGORIES AFTER PRE-TESTING. CIRCLE ALL ANSWERS MENTIONED.	Not available Too expensive Partner objected Don't like them Used _____ other contraceptive Didn't think it was necessary Didn't think of it Wanted pregnancy Didn't think partner had a disease Other _____ DON'T KNOW NO RESPONSE	Y N 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 96 88 99	
Q713	FEMALECONDOMS Have you ever heard of a female condom? (Show picture or sample of one.)	YES NO DON'T KNOW NO RESPONSE	1 2 88 99	→Q801 →Q801 →Q801
Q714	Have you <i>ever</i> used a female condom? (Show picture or sample of one.)	YES NO DON'T KNOW NO RESPONSE	1 2 88 99	
Q715	Do you know of any place or person from which you can obtain female condoms?	YES NO NO RESPONSE	1 2 99	
Q716	Where would you feel most comfortable obtaining female condom? Where would you prefer to obtain condoms from? PROBE AND RECORD ALL ANSWERS	Shop Pharmacy Market Clinic Hospital Family planning center Bar/guest house/hotel Peer educator Friend Other _____ NO RESPONSE	Yes No 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 96 99	

Section 8 STDs

No.	Questions and filters	Coding categories	Skip to
Q801	Have you ever heard of diseases that can be passed through sexual intercourse?	YES 1 NO 2 NO RESPONSE 99	→Q804
Q802	Can you describe any symptoms of STDs in men? Any others? DO <u>NOT</u> READ OUT THE SYMPTOMS CIRCLE 1 FOR ALL MENTIONED. CIRCLE 2 FOR ALL <u>NOT</u> MENTIONED. MORE THAN ONE ANSWER IS POSSIBLE.	Yes No GENITAL DISCHARGE 1 2 BURNING PAIN ON URINATION 1 2 GENITAL ULCERS/SORES 1 2 SWELLINGS IN GROIN AREA 1 2 OTHER _____ 96 NO RESPONSE 99	
Q803	Can you describe any symptoms of STDs in women? Any others? DO <u>NOT</u> READ OUT THE SYMPTOMS CIRCLE 1 FOR ALL MENTIONED. CIRCLE 2 FOR ALL <u>NOT</u> MENTIONED. MORE THAN ONE ANSWER IS POSSIBLE.	Yes No ABDOMINAL PAIN 1 2 GENITAL DISCHARGE 1 2 FOUL SMELLING DISCHARGE 1 2 BURNING PAIN ON URINATION 1 2 GENITAL ULCERS/SORES 1 2 SWELLINGS IN GROIN AREA 1 2 ITCHING 1 2 OTHER _____ 96 NO RESPONSE 99	
Q804	Have you had leakage (genital discharge) during the past 12 months?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q805	Have you had a genital ulcer/sore during the past 12 months?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
	FILTER CHECK Q804 AND Q805 HAD DISCHARGE OR SORE IN THE LAST 12 MONTHS __	NO DISCHARGE OR ULCER __ IN LAST 12 MONTHS	→Q901
Q806	Did you do any of the following the last time you had a genital ulcer / sore or discharge: READ OUT; MORE THAN ONE ANSWER IS POSSIBLE. A) Seek advice/medicine from a government clinic or hospital? B) Seek advice/medicine from a workplace clinic or hospital? C) Seek advice /medicine from a church or charity- run clinic or hospital?	YES NO 1 2 1 2 1 2	

	D) Seek medicine from a private clinic or hospital?	1	2	
	E) Seek advice/medicine from a chemist?	1	2	
	F) Seek advice/ medicine from a tradition healer?	1	2	
	G) Bought capsules on the street?	1	2	
	H) Took medicine you had at home?	1	2	
	I) Seek advice/medicine from the COH/Blue house	1	2	
	J) Stop having sex during the time when you had the symptoms?	1	2	
	K) Always use a condom when having sex during the time you had symptoms?	1	2	
	L) Tell your sexual partner about the discharge / STD?	1	2	
Q807	The last time you had a genital ulcer/sore or discharge, how many days did it take between the time you started experiencing symptoms and the time you sought care?	NUMBER OF DAYS		
		DO NOT KNOW	88	
		NO RESPONSE	99	
Q808	The last time you experienced genital ulcer/sore or discharge, which was the place where you first sought treatment?	Government hospital/clinic	1	
		Workplace clinic/hospital	2	
		Sought treatment from private clinic	3	
		Sought medicine from traditional healer	4	
		Sought treatment from COH/CBI/blue house	5	
		Bought medicine from pharmacy/chemist	6	
		Bought medicine from market	7	
		Others (specify.....)	96	

Section 9 Knowledge, opinions, and attitudes

No.	Questions and filters	Coding categories	Skip to
Q901	Have you ever heard of HIV or the disease called AIDS?	YES 1 NO 2 NO RESPONSE 99	→Q1001 →Q1001
Q902	Do you know anyone who is infected with HIV or who has died of AIDS?	YES – know someone infected with HIV 1 YES – know someone died of AIDS 2 YES – know someone infected with HIV AND someone died of AIDS 3 NO 4 DON'T KNOW 88 NO RESPONSE 99	→Q904
Q903	Do you have a close relative or close friend who is infected with HIV or who has died of AIDS? (By a “close relative” we mean a blood relative.)	YES, A CLOSE RELATIVE 1 YES, A CLOSE FRIEND 2 YES, BOTH A CLOSE RELATIVE AND A CLOSE FRIEND 3 NO 4 NO RESPONSE 99	
Q904	Can people protect themselves from the HIV virus by using a condom correctly every time they have sex?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q905	Can people protect themselves from the HIV virus by having one faithful, uninfected sex partner?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q906	Can people protect themselves from the HIV virus by abstaining (not having) from sexual intercourse?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q907	Can a person get the HIV from Mosquito bites?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q908	Can a person get the HIV virus by sharing a meal with someone who is infected?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q909	Can a person get the HIV by getting injections with a needle that was already used by someone else?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q910	Do you think that a healthy-looking person can have HIV the virus that causes AIDS?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q911	Can a pregnant woman infected with HIV or AIDS transmit the virus to her unborn child?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	

Q912	Can a pregnant woman infected with HIV or AIDS pass the virus to her child at time of delivery (child birth)?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q913	Can a pregnant woman infected with HIV or AIDS pass the virus to her child through breastfeeding?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q914	What can a pregnant woman do to decrease the chance of passing HIV to her unborn child? DO NOT READ RESPONSES	<table> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Take medication (Antiretroviral)</td> <td>1</td> <td>2</td> </tr> <tr> <td>Go to hospital</td> <td>1</td> <td>2</td> </tr> <tr> <td>OTHER _____</td> <td>96</td> <td></td> </tr> <tr> <td>DON'T KNOW</td> <td>88</td> <td></td> </tr> <tr> <td>NO RESPONSE</td> <td>99</td> <td></td> </tr> </tbody> </table>		Yes	No	Take medication (Antiretroviral)	1	2	Go to hospital	1	2	OTHER _____	96		DON'T KNOW	88		NO RESPONSE	99		
	Yes	No																			
Take medication (Antiretroviral)	1	2																			
Go to hospital	1	2																			
OTHER _____	96																				
DON'T KNOW	88																				
NO RESPONSE	99																				
Q915	Do you know of any hospital program that is offering mother to child transmission of HIV prevention services?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q916	Where are mother to child transmission prevention services offered in this area?	_____ Don't know 88																			
Q917	Would you be willing to share a meal with a person you knew had HIV or AIDS	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q918	If a male relative of yours become ill with HIV, the virus that causes AIDS, would you be willing to care for him in your household?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q919	If a female relative of yours become ill with HIV, the virus that causes AIDS would you be willing to care for her in your household?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q920	If a student has HIV but is not sick, should he or she be allowed to continue attending school?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q921	If a teacher has HIV but is not sick, should he or she be allowed to continue teaching in school?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q922	If you knew a shopkeeper or food seller had the HIV virus, would you buy food from them?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q923	If a member of your family become ill with HIV, the virus that causes AIDS, would you want it to remain secret?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q924	Is it possible in your community for someone to get a confidential test to find out if they are infected with HIV? By confidential I mean that no one will know the result if you don't want them to know it.?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99																			
Q925	<i>Restate confidentiality statement</i> I don't want to know the result, but have you ever had an HIV test?	YES 1 NO 2 NO RESPONSE 99	→Q929 →Q929																		

Q926	When did you have your most recent HIV test?	WITHIN THE PAST YEAR 1 BETWEEN 1-2 YEARS 2 BETWEEN 2-4YEARS 3 MORE THAN 4 YEARS AGO 4 DON'T KNOW 88 NO RESPONSE 99	
Q927	The last time you had an HIV test, did you voluntarily undergo the HIV test, or were you required to have the test?	Voluntary 1 Required 2 NO RESPONSE 99	
Q928	Please do not tell me the result, but did you find out the result of the last test?	YES 1 NO 2 NO RESPONSE 99	
Q929	Would you be interested in having an HIV test?	YES 1 NO 2 NO RESPONSE 99	→Q1001 →Q1001
Q930	Why would you not be interested in an HIV test?	SCARED 1 DON'T WANT TO KNOW 2 FEAR TO BE ISOLATED 3 THERE IS NO CURE FOR HIV 4 LACK OF CONFIDENTIALITY 5 OTHER SPECIFY-----96 Don't know 88	

Section 10 Exposure to Intervention

No.	Questions and filters	Coding categories	Skip to
Q1001	Have you ever heard of a practice called male circumcision?	YES 1 NO 2 NO RESPONSE 99	→ Q1008 → Q1008
Q1002	Some men and women have been circumcised, have you been circumcised?	YES 1 NO 2 NO RESPONSE 99	→Q1006 →Q1006
Q1003	(if yes to Q1001) At what age were you circumcised?	_____	
Q1004	Were you circumcised using a traditional method or a medical method?	Don't know/ don't remember 88	
Q1005	What is the main reason you were circumcised?	YES 1 NO 2 Don't know 88 NO RESPONSE 99	RESPONDENTS WHO ANSWERED THIS QUESTION – SKIP TO Q1009
Q1006	Would you be interested in getting circumcised?	Tradition/ religion 1 Health/ Hygiene 2 Sexual satisfaction 3 Prevent genital infections 4 Other Specify _____ 96 Don't know 88 No Response 99	→Q1008 →Q1008 →Q1008
Q1007	Why would you be interested?	Yes 1 No 2 Don't know 88 No Response 99	
Q1008		Hygiene 1 Prevent HIV 2 Traditional/ culture 3 Others _____ 96 Don't know _ 88 No Response 99	

Q1008	Why wouldn't you be interested in getting circumcised?	Not our culture 1 Fear of pain 2 No need 3 Others _____ 96 Don't know 88 No Response 99	
Q1009	Have you ever talked to a staff member of the Corridors of Hope Project at this site/border or any of the sites?	YES 1 NO 2 Don't know 88 NO RESPONSE 99	
Q1010	Have you ever visited the Corridors of Hope static center/drop in center for any reason?	YES 1 NO 2 NO RESPONSE 99	→Q1012 →Q1012
Q1011	Last time you visited Corridor of Hope project center were you given any information, or educational material?	YES 1 NO 2 NO RESPONSE 99	
Q1012	Which is your main source of information on STIs and HIV	Radio 1 Television 2 Friends 3 Health center 4 COH 5 Other specify _____ 96	
Q1013	Do you think you have obtained enough information (from radio, TV or news papers) regarding prevention of HIV and STDs?	YES 1 NO 2 Don't know 88 NO RESPONSE 99	
Q1014	At work do you have programs on HIV? By that I mean do you have work place HIV prevention activities?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q1015	If you are found to have HIV would the company allow you to continue working?	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q1016	Have you been asked same set of questions or interviewed in the past years in any of the sites; Chirundu, KapiriMposhi, Livingstone, Kazungula? (ASK IF THE RESPONDENT HAS BEEN INTERVIEWED OUTSIDE HER HOME/HOUSEHOLD)	YES 1 NO 2 DON'T KNOW 88 NO RESPONSE 99	
Q1017	Do you have a question/s to ask me?	YES 1 NO 2 NO RESPONSE 99	
Q1018	Time Interview completed RECORD IN 24-HOUR FORMAT	-----	

**That is the end of our questionnaire. Thank you very much for taking time to answer.
We appreciate your help.**

SURVEY EXECUTED BY:

Zambian Corridors of Hope HIV/AIDS Prevention Initiative (COH II),