

# Survey Among People at Risk for HIV in Unguja Zanzibar, Tanzania, 2023



# INSTITUTIONAL INVOLVEMENTS

## COLLABORATING INSTITUTIONS

Zanzibar Integrated HIV, Hepatitis, Tuberculosis, and Leprosy Program (ZIHHTLP)

Zanzibar AIDS Commission (ZAC)

Ministry of Health, (MOH) Zanzibar

US Centers for Disease Control and Prevention (CDC),

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## ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC	Antenatal Clinic
CDC	Centers for Disease Control and Prevention
CI	Confidence Interval
DEFF	Design Effect
EDTA	Ethylenediamine Tetraacetic Acid
ELISA	Enzyme-Linked Immunosorbent Assay
EQA	External Quality Assurance
FA	Formative Assessment
FGD	Focus Group Discussion
HBsAg	Hepatitis B Surface Antigen
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HTS	HIV Testing Services
HIV	Human Immunodeficiency Virus
IDI	In-Depth Interview
IQR	Inter-Quartile Range
KII	Key Informant Interview
MAT	Medication-Assisted Therapy
MOH	Ministry Of Health
MSM	Men Who Have Sex with Men
NBTS	National Bloods Transfusion Service
NC	Not Calculable
NGO	Non-Governmental Organization
NPHL	National Public Health Laboratory
ODK	Open Data Kit
OST	Opioid Substitution Therapy
PEPFAR	President's Emergency Plan for AIDS Relief
PRH	People at Risk for HIV
PMTCT	Prevention of Mother to Child Transmission
PWID	People Who Inject Drugs
RA	Rapid Assessment
RDS	Respondent Driven Sampling
RDSA	Respondent Driven Sampling Analyst
RPR	Rapid Plasma Reagent
STI	Sexually Transmitted Infection
TB	Tuberculosis
TZS	Tanzanian Shillings
UCSF	University Of California, San Francisco
UPC	Unique Participant Code
VCT	Voluntary Counselling and Testing
WCS	Women Engaged in Commercial Sex
WHO	World Health Organization
ZAC	Zanzibar Aids Commission
ZIHHTLP	Zanzibar Integrated HIV, Hepatitis, TB, and Leprosy Programme
ZAMREC	Zanzibar Medical Research Ethical Committee

# EXECUTIVE SUMMARY

## Introduction

Zanzibar is a semi-autonomous region of Tanzania, comprised of islands off the coast of mainland Tanzania. The two main islands are Unguja and Pemba, with the majority of the population residing on Unguja. Results from the Tanzania HIV Impact Survey (THIS) 2022-2023 found the prevalence of HIV infection in Zanzibar was low (less than 0.5%) in the general population. Routine surveillance among populations at risk for HIV (PRH) in Zanzibar has shown disproportionately high HIV prevalence (over 5%) among people who inject drugs (PWID), men who have sex with men (MSM), and women engaged in commercial sex/sexually exploited girls (WCS/SEG). The Zanzibar Integrated HIV, Hepatitis, Tuberculosis, and Leprosy Programme (ZIHHTLP) in the Ministry of Health implemented a survey among PRH between July and September 2023 in Unguja, Zanzibar, Tanzania. This was the fourth survey among these populations, with similar surveys conducted in 2019, 2012, and 2007.

The survey was conducted by ZIHHTLP with funding from the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and technical assistance provided by the University of California, San Francisco and the U.S. Centers for Disease Control and Prevention (CDC).

## Objectives

Figure 1 presents survey objectives.

Primary objectives	Among PWID, MSM, and WCS/SEG in Unguja, Zanzibar: <ol style="list-style-type: none"><li>1. Estimate progress toward UNAIDS 95-95-95 targets.</li><li>2. Estimate the prevalence of HIV.</li><li>3. Estimate the population size.</li></ol>
Secondary objectives	Among PWID, MSM, and WCS/SEG in Unguja, Zanzibar: <ol style="list-style-type: none"><li>1. Estimate the prevalence of hepatitis B, hepatitis C, and syphilis antibodies.</li><li>2. Estimate CD4 count among those living with HIV.</li><li>3. Estimate HIV viral load suppression among those living with HIV.</li><li>4. Identify and characterize risk behaviors, sexual and drug use networks, and experiences of violence and discrimination.</li><li>5. Assess health seeking behaviors.</li><li>6. Assess uptake of HIV prevention, care, and treatment services as they relate to the 95-95-95 cascade, including those targeting populations at risk for HIV.</li><li>7. Estimate HIV incidence</li></ol>

**Figure 1: Objectives of the 2023 survey among populations at risk for HIV in Unguja, Zanzibar**



## Methods

Participants were recruited using respondent-driven sampling (RDS) and met the following eligibility criteria to participate:

<b>People who inject drugs</b>	<b>Men who have sex with men</b>	<b>Women engaged in commercial sex and sexually exploited girls</b>
<ul style="list-style-type: none"><li>a) injected drugs in the past 3 months;</li><li>b) male or female aged <math>\geq 18</math> years or mature minor* aged 15-17 years;</li><li>c) lived in Unguja for the past 3 months;</li><li>d) willing and able to provide informed consent; and</li><li>e) in possession of a valid recruitment coupon.</li></ul>	<ul style="list-style-type: none"><li>a) engaged in anal sex with other males in the past 3 months;</li><li>b) biological male aged <math>\geq 18</math> years or mature minor* aged 15-17 years;</li><li>c) lived in Unguja for the past 3 months;</li><li>d) willing and able to provide informed consent; and</li><li>e) in possession of a valid recruitment coupon.</li></ul>	<ul style="list-style-type: none"><li>a) exchanged sexual intercourse for money in the past month;</li><li>b) female aged <math>\geq 18</math> years or older (WCS) or mature minor* aged 15-17 years (SEG);</li><li>c) lived in Unguja for the past 3 months;</li><li>d) willing and able to provide informed consent; and</li><li>e) in possession of a valid recruitment coupon.</li></ul>

**Figure 2: Eligibility criteria for respondent-driven sampling sample participants in a survey among populations at risk for HIV in Unguja, Zanzibar, 2023**

*\* Mature minors are those whose circumstances allow them to consent for themselves, as per Zanzibar national guidelines.*

No personal identification information was collected from participants. All participant materials were labeled and linked using pre-printed barcode stickers containing unique identification numbers. Participants were given three coupons to recruit their peers, except for those who joined at the end of the survey when recruitment was stopped.

## Data collection methods

Information was collected from consenting participants through an interviewer-administered quantitative questionnaire. The questionnaire collected data on participants' socio-demographic characteristics, sexual and drug risk behaviors, sexually transmitted infections (STI) and HIV knowledge, social networks, and access to and utilization of HIV-related services.

Consenting participants were tested for HIV and screened for syphilis, hepatitis B surface antigen, and hepatitis C antibodies using rapid tests at the survey site. HIV testing at the survey site was conducted using a serological rapid diagnostic testing algorithm of SD Bioline™ HIV-1/2 3.0 [Standard Diagnostics, Kyonggi-do, South Korea] followed by Uni-Gold™ HIV [Trinity Biotech, Bray, Ireland], in line with Zanzibar testing guidelines<sup>1</sup>. Double reactive specimens were tested for CD4, HIV viral load, and

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<sup>1</sup> Zanzibar Integrated HIV, Hepatitis TB and Leprosy Programme of the Ministry of Health, Social Welfare, Elderly, Gender, and Children. (2020). *Zanzibar National Guidelines for the Prevention and Treatment of HIV and AIDS*.

recency, and those with an HIV viral load >200 copies/mL were tested for HIV drug resistance. Hepatitis B was tested using a rapid antigen test [SD Bioline™ HBsAg] and a supplemental core antibody IgM laboratory test. Hepatitis C virus (HCV) was tested using a rapid antibody test [Bioline HCV] with reactive specimens tested for HCV viral load; detectable HCV viral load was indication of an active HCV infection. Syphilis was tested using a rapid antibody test [First Response™ Syphilis Anti-TP Card Test].

All rapid test results (HIV, HBV, HCV, and syphilis) were returned to participants during the first survey visit. Laboratory test results were returned to participants during subsequent visits to the survey site, except for recency and HIV drug resistance results. Recency results are considered public health surveillance and were not returned to participants. HIV drug resistance results were not returned to participants because testing was done after the close of the survey. In addition, drug resistance testing is not part of the standard of care for changing a client from first- to second-line treatment.

### **Analysis approach**

Data were analyzed using RDS-Analyst, a software package that adjusts RDS data collected for social network size and recruitment patterns. In RDS-Analyst, the Gile's estimator and self-reported network size were used to produce weighted point estimates and weighted 95% confidence intervals for all survey data. All data presented in this report are weighted, except for median and inter-quartile range (IQR). Convergence and equilibrium were achieved for key variables including HIV and HCV prevalences.

We analyzed progress towards the UNAIDS 95-95-95 targets. Awareness of HIV-positive status was defined as people living with HIV who disclosed a prior HIV diagnosis or had a suppressed HIV viral load (<1,000 copies/mL). Being on ART is defined as those who disclosed current use of ART or had a suppressed viral load. Viral suppression was defined as an HIV viral load <1,000 copies/mL. An undetectable HIV viral load was defined as an HIV viral load <50 copies/mL.

We calculated population size estimates (PSE) using the Anchored Multiplier method, based on 3-source capture-recapture and sequential sampling-PSE. We estimated HIV incidence using the Osmond method of behavioral incidence imputation, in which the risk behavior was defined as onset of injection drug use (PWID), age when first engaged in sex with men (MSM), and onset of commercial sex (WCS/SEG).

### **Key findings**

#### **People who inject drugs**

From May to September 2023, 455 PWID enrolled in the survey. Participants had a median age of 38 years. Seven (1.5%) were female. The median duration of injection drug use was 12 years. Heroin was the primary drug of injection.

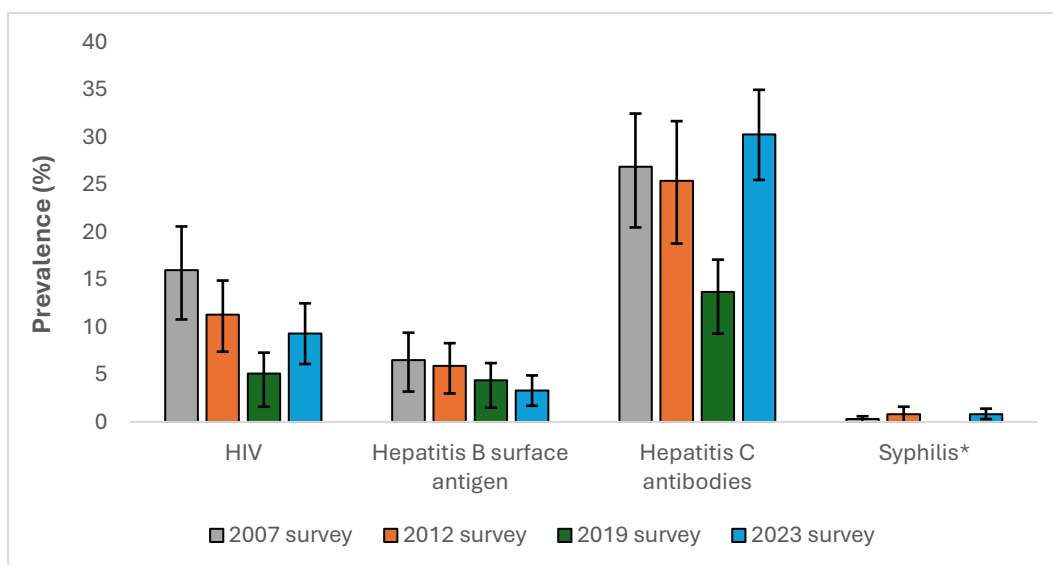
Table 1 presents key biomarker results and the PSE for people who inject drugs in Unguja, Zanzibar.

**Table 1: Prevalence estimates for HIV, hepatitis B surface antigen, hepatitis C antibodies, syphilis antibodies, HIV incidence and population size estimate for people who inject drugs, Unguja, Zanzibar, 2023**

Biomarker results and population size estimate	
HIV prevalence: 9.3%	HIV incidence: 0.7%
Hepatitis B antigen prevalence: 3.3%	Hepatitis C antibody prevalence: 30.3%
Hepatitis C detectable viral load: 22.0%	HIV-hepatitis C co-infection: 3.5%
Syphilis antibody prevalence: 0.8%	Population size estimate: 2,351

#### Trends in HIV, hepatitis B, hepatitis C, and syphilis prevalence

- HIV prevalence increased from 2019 to 2023; however, estimated HIV incidence suggested new HIV infections were decreasing among PWID.
- There were no significant changes in hepatitis B surface antigen prevalence from 2019 to 2023.
- Hepatitis C antibody prevalence increased significantly from 2019 to 2023; in addition, in 2023 active HCV infection among PWID was high.
- Recent experiences of STI symptoms increased from 2019 to 2023.
- Syphilis prevalence could not be compared between 2019 and 2023 due to differences in the type of test used.



**Figure 3: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among people who inject drugs in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

#### Progress towards UNAIDS 95-95-95 targets

Despite major gains, the first 95 was not met

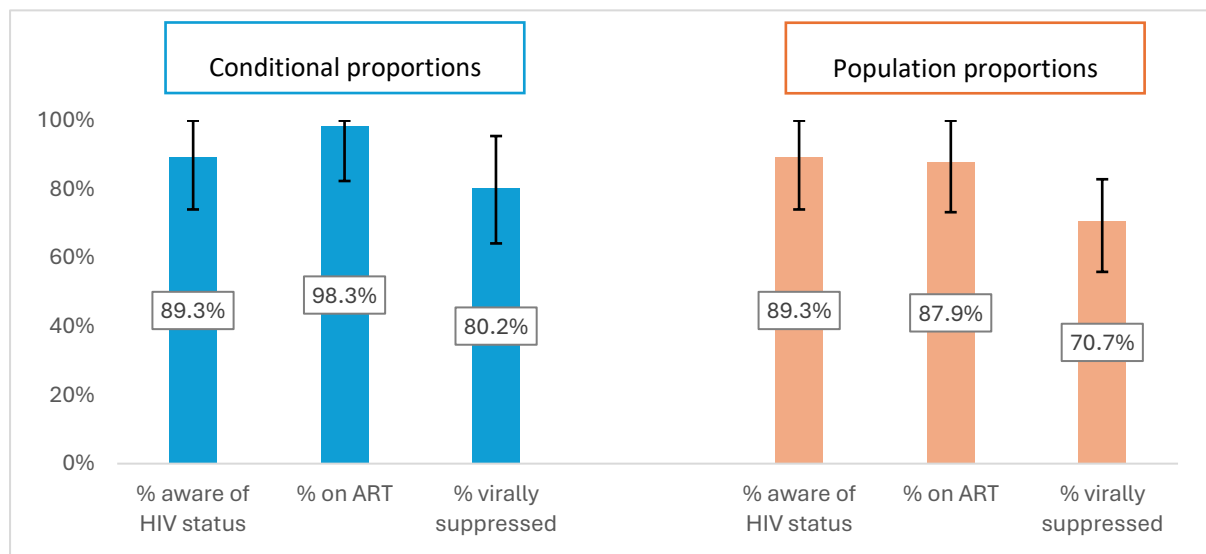
- The proportion of PWID living with HIV who were aware of their status nearly doubled from 2019 to 2023.
- In spite of this improvement, a gap remained to reaching the UNAIDS target.

#### **PWID who had been diagnosed with HIV were receiving care and treatment services**

- Nearly all PWID who disclosed that they were living with HIV were on ART.
- PWID on ART reported being screened for TB and having HIV viral load (VL) testing done.

#### **HIV viral suppression was a challenge**

- The largest gap among PWID living with HIV in reaching the UNAIDS 95-95-95 targets was the third 95—HIV viral suppression among those on ART.
- Given that the majority of PWID who had a known HIV-positive status were on ART, unsuppressed HIV viral loads could have been the result of poor ART adherence.



**Figure 4: Progress towards 95-95-95 targets among people who inject drugs, Unguja, Zanzibar, 2023**

#### **HIV service uptake and HIV risk behaviors**

##### **HIV prevention services did not seem to be reaching PWID effectively**

- Contact with PRH-friendly peer educators has been steadily decreasing since the 2012 survey and access to services from PWID-friendly clinics was low.
- We found limited awareness and uptake of pre-exposure prophylaxis (PrEP).
- Three-quarters of PWID had never heard of HIV self-testing.
- Although there was an increase in uptake of HIV testing, PWID were not accessing HIV Testing Services (HTS) routinely, and the first UNAIDS 95 target was not met.

##### **A number of HIV risk behaviors increased since the previous survey**

- Both buying and selling of sex increased from 2019 to 2023.
- Access to clean needles and use of clean needles at last injection decreased from 2019 to 2023.

## Conclusions and key considerations

There was **high prevalence of HIV and active HCV infection among PWID**. Both HIV and hepatitis C antibody prevalence increased significantly from 2019 to 2023. However, the **estimated incidence of HIV among PWID suggested new HIV infections were decreasing** in the same time period. In addition, PWID living with HIV had a higher prevalence of hepatitis C antibodies than PWID who were HIV-negative. There were **no significant changes in hepatitis B surface antigen** prevalence since the prior survey.

- **Key consideration: Having HCV treatment immediately available and accessible** could cure those who currently have an active infection and reduce the level of active hepatitis C among PWID in Zanzibar.
- **Key consideration: Providing consistent screening for hepatitis C** and ensuring the availability and accessibility of HCV viral load tests to confirm active infection could improve monitoring of ongoing transmission and identify new infections.
- **Key consideration: Prioritizing targeted prevention interventions for HIV** such as education on safer sex practices, HIV testing, and PrEP including long-acting PrEP, could help reduce HIV infection among PWID in Zanzibar.

**The first of the 95-95-95 targets, HIV diagnosis, had not been reached.** While ever testing for HIV increased from 2019 to 2023, four in ten PWID had not tested for HIV in the past year in 2023. In addition, the majority of PWID did not access HIV testing services routinely (monthly or quarterly). This highlights a **programmatic gap in reaching PWID with routine HIV testing. Three-quarters of PWID had never heard of HIV self-testing**, although most reported they would use an HIV self-test if it was recommended to them.

- **Key consideration: Strengthening access to and uptake of routine HIV testing services, including promoting the use of self-test kits** and making them easily accessible, might support HIV awareness and linkage to prevention and treatment services.

**A minority of PWID were aware of PrEP, and uptake was limited** among those who had heard of PrEP. More broadly, uptake of HIV services both from peer educators and PWID-friendly clinics in the past year was also limited. **Rates of contact with a peer educator in the past year has been steadily decreasing** since the 2012 survey, highlighting a missed opportunity for reaching PWID with health and HIV services.

- **Key consideration: Increasing the number of PWID reached through both facility and outreach-based PRH-friendly services** could increase opportunities to provide HIV, PrEP, and hepatitis education as well as other HIV prevention services such as HIV testing.

Although major strides were made from 2012 to 2019 in the availability of clean needles, **access to clean needles and use of clean needles at last injection fell between 2019 and 2023**. Most PWID reporting obtaining needles from pharmacies but cited cost, stock-outs, and vendors not wanting to sell them needles as challenges to access. **Knowledge of the HIV risk associated with sharing needles decreased** from 2019 to 2023; however, instances of needle sharing in the past month were similar, both directly and indirectly, representing an ongoing HIV and hepatitis C risk for PWID. **Half of PWID reported ever overdosing** and nearly all had seen another person overdose.

- **Key consideration: Sensitizing gatekeepers**, including people like pharmacists who sell injection equipment, and educating PWID **on the importance of using clean and sterile injecting equipment** might help to increase availability of and acceptability of providing clean needles, reduce needle sharing, and help control the transmission of blood-borne infections.
- **Key consideration:** Facilitating and supporting the operationalization of free distribution of sterile injection equipment and cleaning materials (**Needle Syringe Program**) could improve access to clean needles for PWID and **result in fewer instances of needle sharing**. This could ultimately **reduce the transmission of blood-borne disease**.

**Both the buying and selling of sex increased from 2019 to 2023 among PWID**, and HIV prevalence was significantly higher among PWID who had engaged in commercial sex in the past month compared to those who had not. **Experiences of STI symptoms in the past 6 months also increased** from 2019 to 2023. And among PWID who experienced STI symptoms, notable proportions either did not seek treatment or were extremely delayed in seeking treatment. The **majority of PWID reported not using a condom** with their most recent partner, whether transactional or non-transactional, and although male condoms were reported to be accessible, one in three PWID had never used one. We found a mix of increases and decreases in HIV-related knowledge, with **opportunities to improve knowledge of U=U among PWID**.

- **Key consideration: Strengthening HIV information, education, and communication** interventions among PWID may increase awareness of HIV risk factors, promote reductions in risk behaviors, and increase uptake of prevention services.

### Men who have sex with men

From July to September 2023, 485 MSM enrolled in the survey, with a median age of 30 years. The median age at first anal sex with a male partner was 18 years, and one in five MSM did not consent the first time they had sex with a male partner. Half of MSM identified as insertive.

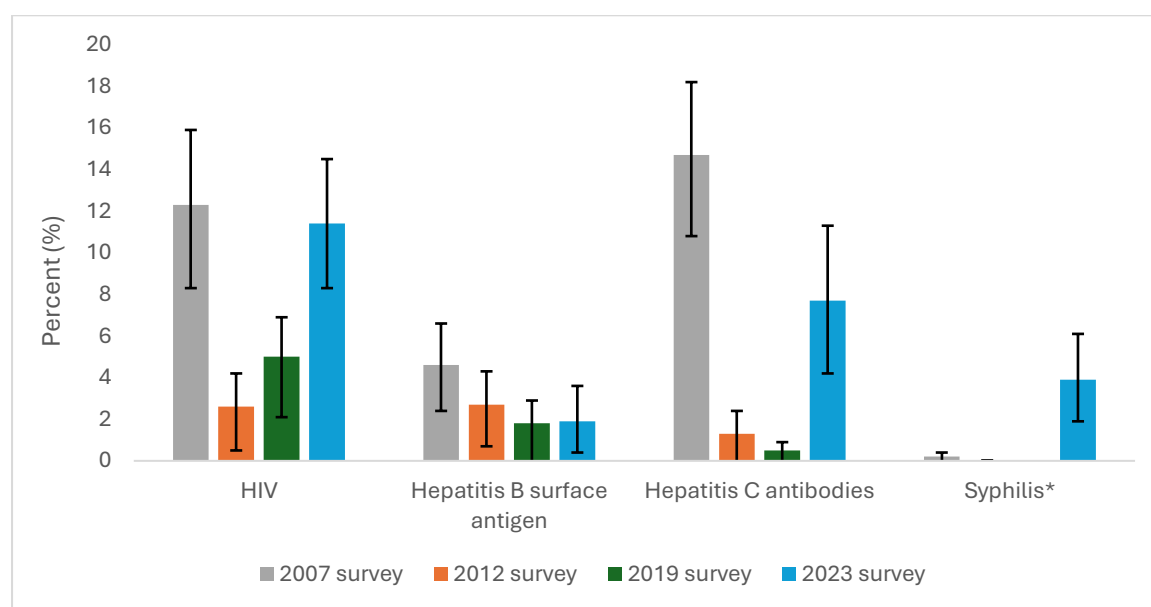
Table 2 presents key biomarker results and the population size estimate for men who have sex with men in Unguja, Zanzibar.

**Table 2: Prevalence estimates for HIV, hepatitis B surface antigen, hepatitis C antibodies, syphilis antibodies, HIV incidence, and population size estimate for men who have sex with men, Unguja, Zanzibar, 2023**

Biomarker results and population size estimate	
HIV prevalence: 11.4%	HIV incidence: 1.1%
Hepatitis B antigen prevalence: 1.9%	Hepatitis C antibody prevalence: 7.7%
Hepatitis C detectable viral load: 6.7%	HIV-syphilis co-infection: 1.9%
Syphilis antibody prevalence: 3.9%	Population size estimate: 3,254

### Trends in HIV, hepatitis B, hepatitis, and syphilis prevalence

- HIV prevalence increased significantly from 2019 to 2023, and estimated HIV incidence suggested new HIV infections were increasing among MSM.
- There were no significant changes in hepatitis B surface antigen prevalence from 2019 to 2023.
- Hepatitis C antibody prevalence increased significantly from 2019 to 2023.
- The occurrence of STI symptoms showed no significant increase from 2019 to 2023.
- Syphilis prevalence could not be compared between 2019 and 2023 due to differences in the type of test used.



**Figure 5: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among people who inject drugs in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

### Progress towards UNAIDS 95-95-95 targets

#### Despite major gains, the first 95 was not met

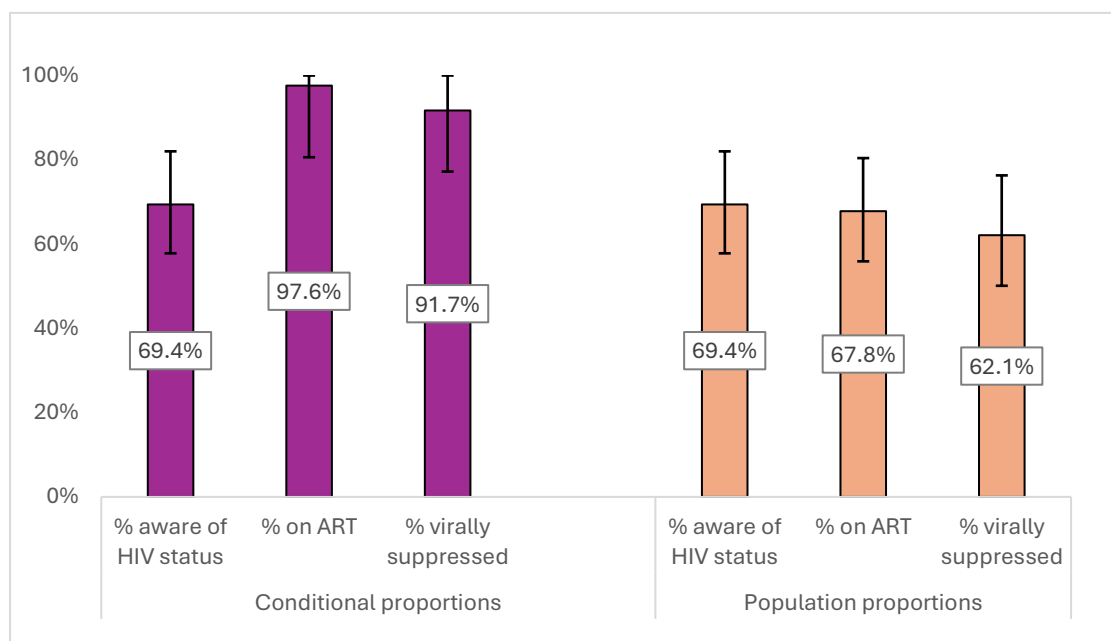
- The proportion of PWID living with HIV who were aware of their HIV-positive status slightly increased from 2019 to 2023.
- In spite of this improvement, a gap remained to reaching the UNAIDS target.

#### MSM who had been diagnosed with HIV were receiving care and treatment services

- Nearly all MSM who disclosed that they were living with HIV were on ART.
- MSM on ART reported being screened for TB and having HIV viral load testing done.

#### HIV viral suppression was a challenge

- There was a slight gap in reaching the third 95.
- Given that the majority of MSM who had a known HIV-positive status were on ART, unsuppressed HIV viral loads could have been the result of poor ART adherence and retention in care.



**Figure 6: Progress towards 95-95-95 targets among men who have sex with men, Unguja, Zanzibar, 2023**

## HIV service uptake and HIV risk behaviors

### HIV prevention services did not seem to be reaching MSM effectively

- Contact with PRH-friendly peer educators decreased significantly from 2019 to 2023.
- We found low awareness and uptake of PrEP.
- Seven in ten of MSM had never heard of HIV self-testing.

### A number of HIV risk behaviors increased since the previous survey

- Both buying and selling of sex increased significantly from 2019 to 2023.
- Usage of drugs (non-injected and injected) increased from 2019 to 2023.

## Conclusions and key considerations

**HIV prevalence among MSM increased significantly from 2019 to 2023.** This survey found that one in ten MSM was living with HIV, with a higher prevalence among versatile and receptive MSM compared to insertive MSM. The **estimated incidence of MSM suggests that HIV infections are increasing.**

- **Key consideration: Increasing the number of MSM reached with prevention services,** including HIV education, HTS, and PrEP including long-acting PrEP, could help to prevent new HIV infections in this population.

The prevalence of hepatitis C exposure and active hepatitis C among MSM were both high, and the **prevalence of hepatitis C antibodies increased significantly from 2019 to 2023.** This is consistent with the observed increase in injection drug use among MSM between the two surveys. In addition, the prevalence of **syphilis exposure among MSM was higher in 2023 than in any previous survey.**



Focusing on targeted prevention interventions such as education on safer sex practices, expanded HIV testing, and (PrEP), could help lower HIV infection among MSM in Zanzibar.

**The largest gap in the 95-95-95 targets was in the first 95**, ensuring that those living with HIV are aware of their status. Although progress had been made since the 2019 survey, three of every ten MSM living with HIV were unaware of their status. This highlights a continuing challenge in routinely reaching all MSM with HIV testing services. In addition, **a decrease was observed in HIV viral suppression among MSM on ART from 2019 to 2023**.

- **Key consideration: Interventions that address gaps in the 1st 95** such as expanded HIV testing, including self-testing, could help to close these gaps.
- **Key consideration: Interventions that address gaps in the 3<sup>rd</sup> 95** such as improving adherence counseling, strengthening U=U messaging, and ensuring frequent interactions between MSM who are on ART and health care workers to give ART reminders **may improve adherence to treatment** and subsequently, viral suppression levels.

**A minority of MSM had ever heard of PrEP**. Among those who had never taken PrEP and were not known to be living with HIV, four in ten would take PrEP. In the past year, **small proportions of MSM received services from peer educators and MSM-friendly clinics**, and these proportions were significantly lower than in 2019.

- **Key consideration: Increasing awareness of PrEP** among MSM through MSM friendly channels, including peer educators, could increase PrEP uptake and ultimately contribute to the reduction of HIV acquisition.
- **Key consideration: Increasing awareness among MSM of PRH-friendly services** and integrating MSM-friendly services within other PRH-friendly organizations could increase access to prevention services provided through PRH-friendly outlets for more MSM.

**HIV sexual risk behaviors were common**. Most MSM reported **multiple sexual partners** in the month prior to the survey, and a majority **did not use a condom** with their last sexual partner. While transactional sex with female partners decreased from 2019 to 2023, **transactional sex with male partners and engaging in group sex increased**. **Drug use, including injection drug use, also increased** from 2019 to 2023.

- **Key consideration: Increasing condom education and ensuring condom outlets** are in accessible and MSM-friendly locations could increase condom use.

### **Women engaged in commercial sex and sexually exploited girls**

From May to July 2023, 598 WCS/SEG enrolled in the survey with a median age of 31.5 years. The median age at first engaging in commercial sex or first sexual exploitation was 23 years, and five in ten WCS/SEG began engaging in commercial sex or sexual exploitation due to debts or need to support family.

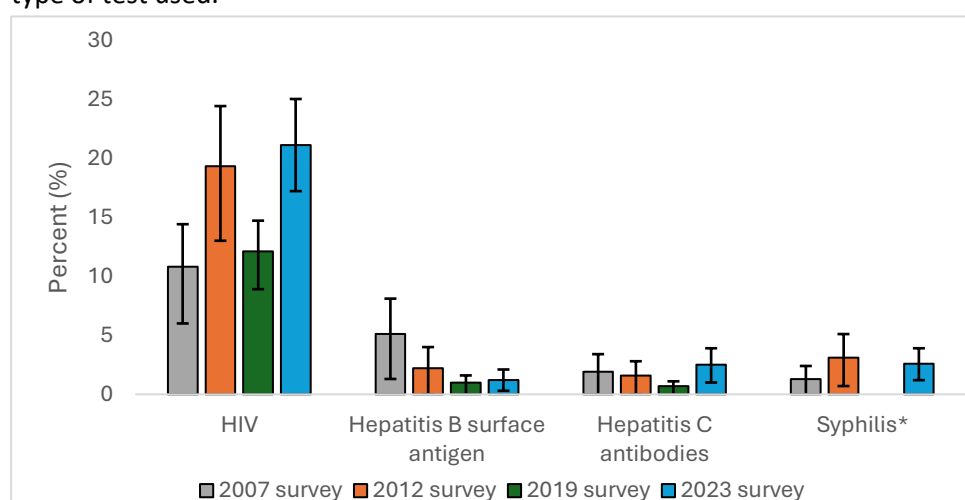
Table 3 presents key biomarker results and the population size estimate for WCS/SEG in Unguja, Zanzibar.

**Table 3: Prevalence estimates for HIV, hepatitis B surface antigen, Hepatitis C antibodies, syphilis antibodies and HIV incidence and population size estimate for women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

Biomarker results and population size estimate	
HIV prevalence: 21.1%	HIV incidence: 3.2%
Hepatitis B antigen prevalence: 1.2%	Hepatitis C antibody prevalence: 2.5%
Hepatitis C detectable viral load: 1.7%	HIV-syphilis co-infection: 1.1%
Syphilis antibody prevalence: 2.6%	Population size estimate: 5,787

### Trends in HIV, hepatitis B, hepatitis C, and syphilis prevalence

- HIV prevalence increased significantly from 2019 to 2023, and estimated HIV incidence suggested new HIV infections were increasing among WCS/SEG.
- There were no significant changes in hepatitis B surface antigen prevalence from 2019 to 2023.
- Hepatitis C antibody prevalence increased significantly from 2019 to 2023 .
- The occurrence of STI symptoms significantly increased from 2019 to 2023.
- Syphilis prevalence could not be compared between 2019 and 2023 due to differences in the type of test used.



**Figure 7: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

### Progress towards UNAIDS 95-95-95 targets

#### Despite major gains, the first 95 was not met

- The proportion of WCS/SEG living with HIV who were aware of their HIV-positive status significantly increased from 2019 to 2023.

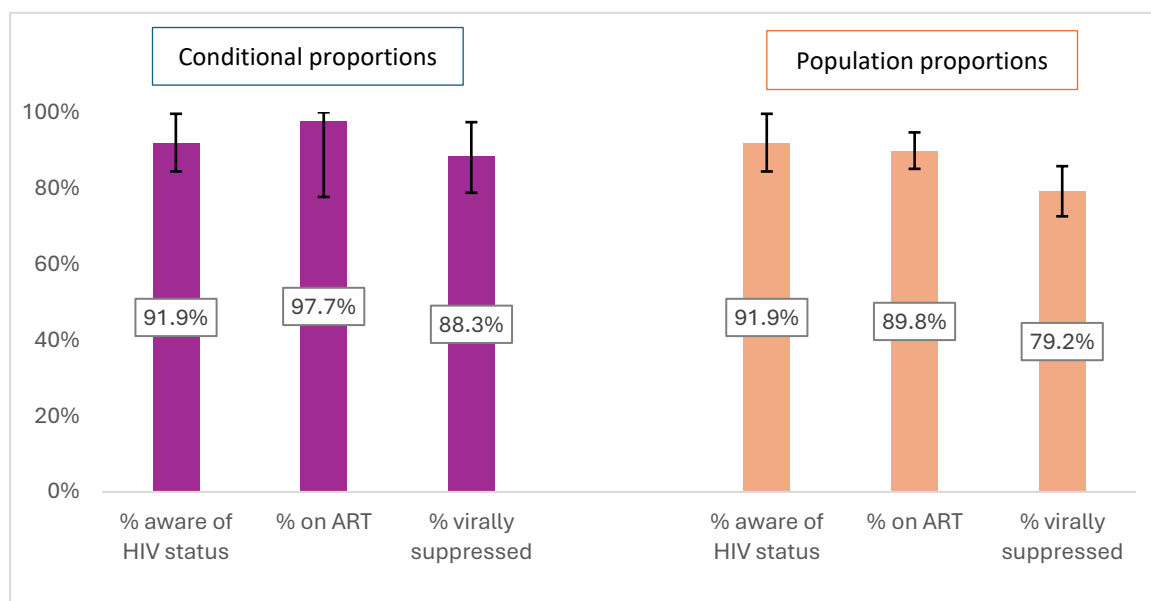
- In spite of this improvement, a slight gap remained to reaching the first 95.

#### **WCS/SEG who had been diagnosed with HIV were receiving care and treatment services**

- Nearly all WCS/SEG who disclosed that they were living with HIV were on ART.
- WCS/SEG on ART reported being screened for TB and having HIV viral load testing done.

#### **HIV viral suppression was a challenge**

- There was a substantial gap in reaching the third 95.
- Given that the majority of WCS/SEG who had a known HIV-positive status were on ART, unsuppressed HIV viral load could have been the result of poor ART adherence and retention in care.



**Figure 8: Progress towards 95-95-95 targets among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

#### **HIV service uptake and HIV risk behaviors**

##### **Uptake of HIV prevention services among WCS/SEG**

- Contact with PRH-friendly peer educators increased significantly from 2019 to 2023.
- We found low awareness and uptake of PrEP in 2023.
- Five in ten of WCS/SEG had never heard of HIV self-testing in 2023.

##### **A number of HIV risk behaviors increased since the previous survey**

- Condom use with casual non-paying partner, one-time clients increased from 2019 to 2023.
- Usage of drugs (non-injected and injected) increased from 2019 to 2023.

#### **Conclusions and key considerations**

**One in five WCS/SEG in Unguja living with HIV** and the estimated incidence of WCS/SEG suggests HIV infections are increasing. HIV prevalence was higher among WCS/SEG in older age groups (aged 35 years and older) compared to younger age groups. However, compared to the previous survey, there

was an increase in HIV prevalence among 20–24-year-olds and among those who had spent less time engaging in commercial sex.

- **Key consideration: Targeting prevention services**, including HIV education, HTS, and PrEP including long-acting PrEP, **to younger WCS/SEG as well as those who are newly engaging in commercial sex** could help to prevent new HIV infections in this population.

While the second 95-95-95 target has been achieved, there were **still gaps in the first and third 95 targets**. The largest gap was in the third 95, reaching viral suppression, with eight in ten WCS/SEG living with HIV virally suppressed. Considering the high achievement in the second 95, gaps in viral suppression may be due to poor ART adherence.

- **Key consideration: Interventions that address gaps in the 1st 95** such as expanded HIV testing, including self-testing, could help to close these gaps.
- **Key consideration: Interventions that address gaps in the 3<sup>rd</sup> 95** such as improving adherence counseling, strengthening U=U messaging, and ensuring frequent interactions between WCS/SEG who are on ART and health care workers to give ART reminders **may improve adherence to treatment** and subsequently, viral suppression levels.

**PrEP awareness was low** among WCS/SEG and among those who had ever heard of PrEP, use of PrEP was also low. **Fewer than half of WCS/SEG were reached by a peer educator in the last 12 months**, although this represented a larger proportion of WCS/SEG than in the previous survey. A minority accessed HIV services from WCS/SEG-friendly clinics.

- **Key consideration: Increasing awareness of PrEP** among WCS/SEG through WCS/SEG friendly channels including peer educators could increase PrEP uptake including long-acting PrEP and ultimately contribute to the reduction of HIV acquisition.
- **Key consideration: Increasing the reach and coverage of peer educators** and strengthening HIV prevention interventions at venues where WCS/SEG meet clients (e.g., bars and night clubs) could increase access to prevention services.

WCS/SEG had several different types of sexual partners, some non-paying and some paying, with paying partners being the most common. **Condom use was less common** with non-paying partners than with paying partners, and reasons for not using condoms with paying partners centered around financial incentives and trust.

- **Key consideration: Increasing HIV awareness and HIV prevention education** with the larger community may help to increase the proportion of clients who are willing to use a condom when paying for sex.
- **Key consideration: Economic empowerment initiatives** may play a role in providing WCS/SEG with the means to accept lower prices or deny sex with a client if the client does not agree to use a condom.

# 1 INTRODUCTION

## 1.1 Background information

Zanzibar is an archipelago which, together with Tanzania mainland, constitutes the United Republic of Tanzania. Zanzibar has a total of 1.8 million residents, most of whom live on the two main islands of Unguja and Pemba (National Bureau of Statistics & Office of Chief Government Statistician, 2022).

HIV prevalence among adults aged 15–49 years in Zanzibar is 0.4% (THIS 2022–2023). The HIV prevalence is slightly higher (0.6%) among antenatal attendees in Zanzibar (Ministry of Health, Zanzibar, 2021). There were an estimated 255 new HIV infections in Zanzibar in 2023 (Spectrum 2023). Although HIV prevalence is low among the general population, HIV prevalence among populations at risk for HIV (PRH)—specifically, men who have sex with men (MSM), women engaged in commercial sex (WCS), sexually exploited girls (SEG), and people who inject drugs (PWID)—is high. Results of the 2018/2019 survey among PRH showed that HIV prevalence was 5.1% among PWID, 5.0% among MSM, and 12.1% among WCS/SEG. Population size estimates were 2,200 for PWID, 3,000 for MSM, and 4,854 for WCS/SEG.

The Zanzibar Integrated HIV, Hepatitis, Tuberculosis, and Leprosy Programme (ZIHHTLP) has been monitoring the HIV epidemic among PRH using surveillance techniques suited for these populations. ZIHHTLP, in collaboration with key stakeholders, conducted surveys among PWID, MSM, and WCS/SEG in Unguja in 2007, 2012, and 2019 to estimate HIV prevalence and identify HIV risk factors within these populations.

This report presents findings from the fourth round of HIV surveillance among PRH in Unguja. The survey was used to monitor trends and document changes that occurred since the last survey among PRH. This report provides updated information about the HIV epidemic in Zanzibar that will help ZIHHTLP and other stakeholders understand the progress towards the UNAIDS 95-95-95 targets among PRH in Unguja as well as trends in the access to and uptake of HIV services among PRH.

## 1.2 Survey objectives

The primary objectives of the survey among PRH in Unguja were to estimate the prevalence of HIV and STIs among PWID, MSM, and WCS in Zanzibar, identify and characterize their risk behaviors, and assess their uptake of health services. The survey also estimated the size of each PRH group and estimated the proportion of recently acquired HIV infections among PRH.

The specific objectives of the survey among PRH in Unguja were to:

- 1) Estimate viral load suppression among PWID, MSM, and WCS in Unguja;
- 2) Estimate the prevalence of HIV, hepatitis B, hepatitis C, and syphilis among PWID, MSM, and WCS in Unguja;
- 3) Identify and characterize risk behaviors, sexual and drug use networks, and experiences of violence and discrimination among PWID, MSM, and WCS in Unguja;
- 4) Assess health seeking behaviors among PWID, MSM, and WCS in Unguja;
- 5) Assess uptake of HIV prevention, care, and treatment services as they related to the 95-95-95 cascade, including those targeting PWID, MSM, and WCS, in Unguja;
- 6) Estimate population sizes for PWID, MSM, and WCS in Unguja;
- 7) Estimate CD4 count among PWID, MSM, and WCS who are living with HIV in Unguja; and

- 8) Estimate HIV incidence among PWID, MSM, and WCS who are living with HIV in Unguja.

## **2 METHODOLOGY**

### **2.1 Formative assessment**

To inform the development of this survey, a formative assessment (FA) was conducted using in-depth interviews and focus group discussions. The FA included PRH members, peer educators, gatekeepers, NGO staff, members of civil society and PRH advocacy groups and focused on collecting information to facilitate survey planning and logistics. Interviews were conducted prior to the launch of the respondent-driven sampling (RDS) survey for each population.

The objectives of the FA included:

- i. Confirming feasibility of survey design with PRH groups, including use and design of coupons, compensation, survey site, and survey procedures;
- ii. Identifying potential seeds (initial participants) within each population;
- iii. Pretesting the survey instrument and understanding local terminology;
- iv. Confirming acceptability of the identified site for survey implementation and recruitment; and,
- v. Identifying other potential barriers and facilitators to survey implementation.

#### **2.1.1 Formative assessment eligibility criteria**

To participate in an FA, individuals were required to meet the following criteria:

- i. 18 years of age or older;
- ii. Able to grant informed consent; and
- iii. Knowledgeable about the local context of HIV risk behavior among PWID, MSM, or WCS/SEG, OR own a local business that caters to PWID, MSM, or WCS/SEG, OR involved in outreach work among PWID, MSM, or WCS/SEG, OR involved in research with local PWID, MSM, or WCS/SEG, OR male clients of individuals engaged in commercial sex.

#### **2.1.2 Formative assessment data collection**

The FA used key informant interviews (KIIs) with PRH, peer educators, gatekeepers, and non-governmental organization (NGO) staff, as well as focus group discussions (FGDs) with PRH. No demographic information was collected from participants. Participants were recruited purposively through ZIHHTLP contacts and community partners.

A trained research assistant (either an interviewer or moderator) read the consent form (Appendix A or B) in Kiswahili language to the participant(s), which explained the purpose and process of the interview or group discussion. Separate consent forms were developed for PRH participants and stakeholder participants. For each PRH participant that provided consent, the interviewer or moderator signed a statement indicating that this information has been provided to the participant and that he/she provided consent to participate in the FA component of this survey. Stakeholders were required to sign a statement indicating they understood the information provided and consented to participate in the FA component of the survey.

Interviews were conducted in Kiswahili using interview guides (Appendices C, D and E) that had been updated from the interview guides used for the 2019 PRH surveys, as well as during the FA. The interviews were not recorded or transcribed verbatim, only notes and themes were recorded. Key informants received compensation for transportation to the survey site. FGD participants received compensation for transportation to the survey site and a snack/drink during the discussion.

## 2.2 Survey implementation

The survey in Unguja used RDS, a probability-based chain-referral sampling methodology used to sample populations that lack a sampling frame. The survey among PRH also incorporated unique object distribution, service multiplier, capture-recapture, and Modified Delphi methods to generate robust estimates of the number of PWID, MSM, and WCS/ SEG.

Data were collected in Unguja for all three populations as shown in Table 4. The same survey site was used for all three populations.

**Table 4: Data collection schedule, survey among populations at risk for HIV in Zanzibar, 2023**

	May – 23	June – 23	July – 23	Aug – 23	Sept – 23
WCS/SEG					
PWID					
MSM					

## 2.3 Seed selection and recruitment process

Recruitment was initiated with a few members of the survey population referred to as “seeds”. Seeds were purposively recruited to reflect a variety of sociodemographic characteristics (e.g., age, area of residence or work, and socio-economic status) among PRH and to include different PRH subgroups. At the time of their enrollment, seeds were oriented to promote a feeling of survey ownership and enthusiasm about the project. Seeds were provided with 3 uniquely coded coupons to distribute to their peers for recruitment. Instructions for peer recruitment were provided using a recruitment process script. Survey participants recruited by seeds who enrolled in the survey were considered the first wave of participants. Table 5 presents information about the number of seeds who participated in the survey for each population.

**Table 5: Number of seeds for each population, survey among populations at risk for HIV in Zanzibar, 2023**

Population	Initial number of seeds	Number of seeds added during survey
PWID	5	15
MSM	5	0
WCS/SEG	5	7

### 2.3.1 Inclusion criteria for seeds

Seeds were:

- 1.0 Well-connected within their social networks (among their peers)
- 2.0 Well regarded by their peers
- 3.0 Supportive of the survey's goals
- 4.0 Diverse in sociodemographic characteristics and sub-populations
  - i. PWID: Socioeconomic status, locations of PWID networks
  - ii. MSM: Sexual role, socioeconomic status
  - iii. WCS/SEG: Originally from Zanzibar versus Mainland, location where clients are met (e.g., bar, nightclub, brothel), district where clients are met

## 2.4 Coupon distribution

Each participant in the first wave who completed the survey was given three coupons with which to recruit their peers into the survey. Each subsequent participant was also given a defined number of coupons to distribute in a new recruitment round, or “wave”. Successive waves of recruitment continued until the sample size was reached, with most participants receiving three coupons to recruit their peers. In some cases, participants were given fewer than three coupons based on the progress of recruitment and efforts to increase or decrease participation by certain subgroups.

The unique codes on each coupon linked recruiters to their recruits and each participant to their survey documentation, questionnaire, and biological test results. Pre-printed barcode stickers with unique identification numbers were used to identify all survey materials, including biological specimens, related to a given participant.

A coupon management tool was used to manage and track coupon distribution, return of valid coupons to the survey site, and distribution of survey incentives.

In addition to the unique ID on the pre-printed barcode stickers, we also assigned a unique participant code (UPC) to each participant. The UPC was an alphanumeric code created by elements of information known to the participant. A UPC was created for every participant and linked to the coupon code in the coupon manager. The UPC was used both for registration and identification purposes and assisted in preventing duplicate participation. Participants were asked to give their UPC for verification at the second survey visit. This allowed for participants to complete follow-up visits in case they lost their survey coupon.

The specific elements of the UPC for this survey were reviewed for acceptability and modified accordingly during the formative assessment. The UPC comprised the following elements:

1. The first 2 letters of the participant's first name
2. The participant's shoe size
3. The participant's age in years at time of initial interview
4. The first two letters of the participant's district of residence

## 2.5 Sample size calculation

In the previous survey (2019), power and sample size estimates were calculated based on achieving desired precision around point estimates for HIV infection in each of the PRH groups. These sample sizes were corrected for finite population correction (FPC) and an expected large design effect (DEFF)



of 2.3, based on the median DEFF found for key variables in similar RDS surveys of MSM in South Africa and Uganda.

In this round, there was interest to power the survey for HIV viral load suppression. Unfortunately, reaching the sample sizes required to power the survey around HIV viral load suppression for PWID and MSM, even with a confidence interval (CI) half-width of 20%, was not feasible. Therefore, for PWID and MSM, based on actual recruitment from the previous survey and the expectation that it would be feasible to reach these numbers again, we set the sample sizes at the level of recruitment in 2019.

For WCS/SEG, we were able to increase the sample size modestly above the 2019 recruitment level in order to achieve a CI half-width of 15% to estimate the percent of WCS/SEG living with HIV who are virally suppressed (VL<1000 copies/μL). The WCS/SEG sample size was calculated using the VLS-based survey sample size calculator and the following parameters for the 95% CI half-width.

1. Design effect = 2.0
2. Non-response/missing data = 5.0%
3. Confidence Level ( $100 \times (1 - \alpha/2) \%$ ) = 95%

Final required and achieved sample sizes for the 2023 survey are shown in Table 66.

**Table 6: Required and achieved sample sizes among populations at risk for HIV in Unguja, Zanzibar, 2023**

	Required sample size	Sample size achieved
<b>WCS/SEG</b>	620	598
<b>PWID</b>	500	455
<b>MSM</b>	450	485

More detailed information about the sample size, the sample itself, and the dates of data collection can be found in Table 77.

**Table 7: Overview samples and data collection periods, survey among populations at risk for HIV in Zanzibar, 2023**

	Target sample size	Eligible	Non-eligible	No of seeds	Total effective	No of refusals	Date site opened	Date site closed
<b>WCS/SEG</b>	620	600	125	12	598	4	18 May 2023	14 July 2023
<b>PWID</b>	500	456	109	20	455	0	18 May 2023	8 Sept 2023
<b>MSM</b>	450	487	8	7	485	2	10 July 2023	8 Sept 2023

## 2.6 Eligibility criteria

The eligibility criteria for RDS participants are shown in Figure 99 below. All potential participants were screened for eligibility by survey staff upon arrival at the survey site, and only those who met the eligibility criteria were enrolled in the survey. All eligible persons were required to provide verbal consent to participate in the survey.

PWID	MSM	WCS/SEG
<ul style="list-style-type: none"> <li>• injected illicit drugs in the past three months and not currently in MAT</li> <li>• male or female aged 18 or older or mature minor* aged 15-17 years;</li> <li>• lived in Unguja for the past three months</li> <li>• able to adequately grant informed consent</li> <li>• in possession of a valid recruitment coupon</li> </ul>	<ul style="list-style-type: none"> <li>• engaged in anal sex with other males in the past three months</li> <li>• biological male aged 18 years or older or mature minor* aged 15-17 years;</li> <li>• lived in Unguja for the past three months</li> <li>• able to adequately grant informed consent</li> <li>• in possession of a valid recruitment coupon</li> </ul>	<ul style="list-style-type: none"> <li>• exchanged sexual intercourse for money in the past one month</li> <li>• female aged 18 years or older or mature minor * aged 15-17</li> <li>• lived in Unguja for the past three months</li> <li>• able to adequately grant informed consent</li> <li>• in possession of a valid recruitment coupon</li> </ul>

**Figure 9: Eligibility criteria for respondent-driven sample participants, survey among populations at risk for HIV in Zanzibar, 2023**

\* Mature minors are those whose circumstances allow them to consent for themselves, as per Zanzibar national guidelines.

## 2.7 Screening and informed consent

Participants who presented a valid recruitment coupon to the survey site were screened for eligibility using a screening tool (Appendix F). If eligible, the survey was explained, and if the person was interested, verbal informed consent was obtained by trained survey staff. The informed consent form (Appendix G) was read to potential participants by an interviewer. Participants were allowed to ask questions related to the survey or the consent process. Participants provided consent to each of the following components of the survey: a face-to-face interview, a blood draw for biological testing, having blood stored for possible future testing, and, for those with reactive rapid test results, using a portion of their blood specimen for additional laboratory testing.

## 2.8 Interview

Behavioral data were collected using a quantitative questionnaire (Appendices H, I, and J). The instrument included questions to inform the national HIV program and measure global and country indicators related to the response to the HIV epidemic (e.g., UNAIDS Global AIDS Monitoring Indicators). The questionnaire collected data on participants' socio-demographic characteristics, sexual and drug risk behaviors, STI and HIV knowledge, social networks, and access to and utilization

of HIV-related services. The social network size was used to calculate weighted prevalence estimates in RDS-Analyst software.

The questionnaire was developed in English, translated into Kiswahili and back translated into English to ensure accuracy. The questionnaire was tested and reviewed by survey investigators and staff for comprehension of questions, terminology and concepts that reflect the local context, and interview duration during the FA and training for survey implementation. Interviews were conducted in Kiswahili. The questionnaire was programmed into Open Data Kit (ODK) for electronic data collection using tablets. Following training, survey staff who were fluent in Kiswahili administered the behavioral questionnaires to participants. The interview took approximately 45 minutes to complete.

## **2.9 Biological testing**

### **2.9.1 On-site rapid HIV and STI testing**

Following the interview, participants met with a trained nurse counsellor who provided them with standard pre-test counselling information and confirmed their consent to provide a biological specimen for testing. All participants were tested for HIV and screened for syphilis, hepatitis B, and hepatitis C using rapid tests. Nurse counsellors collected blood specimens via venous blood draw in five 4.5 ml Ethylenediamine Tetraacetic Acid (EDTA) vacutainer tubes labelled with the survey participants' barcode sticker. Trained laboratory staff conducted the rapid STI and HIV tests on site. Remaining blood was stored in cooler boxes and transported to Mnazi Mmoja Hospital Laboratory (MMHL) the same day. Additional testing and processing done at Mnazi Mmoja Hospital Laboratory is described in the next section. Results for tests that were done off-site were returned during the second visit.

On-site testing was done according to the following procedures:

- I. HIV serostatus was assessed using a serial algorithm in accordance with the national testing guidelines for HIV. All specimens were screened using SD Bioline HIV-1/2 3.0 test (Standard Diagnostics, Kyonggi-do, South Korea) and reactive specimens were confirmed using Unigold (Trinity Biotech, Bray, Ireland). In the event of a discordant result, the specimen was sent to the Zanzibar National Blood Transfusion Services (ZNBTS), where an Enzyme Linked Immunosorbent Assay (ELISA) test was performed for final confirmation.
- II. Presence of hepatitis B surface antigen (HBsAg) was detected using HBV (SD Bioline)
- III. Antibodies to HCV were detected using HCV (SD Bioline)
- IV. Antibodies to Syphilis infection were tested using the First Response Syphilis Anti-TP Card test (Premier Medical Corporation Private Limited)

Rapid test results were documented in a Laboratory Tracking Logbook and entered into an ODK data collection form. Results were returned to survey participants by the same nurse counsellor who had conducted pre-test counselling and specimen collection, together with standard post-test counselling. Those with positive test results for HIV, HBV, HCV, and/or syphilis infection were referred to Mnazi Mmoja Hospital for further management. Participants who tested negative for HBV were offered an HBV vaccine injection and were provided with the necessary information to receive the other two vaccinations in the series.

A laboratory requisition form was completed by the on-site laboratory technician and was used to request additional testing and specimen processing from MMHL. This form was printed in triplicate:

one copy remained at the onsite testing point and two were transported together with the whole blood specimen to MMHL. A designated member of the survey team hand delivered specimens to MMHL, along with all required paperwork, within 8 hours of collection.

## 2.9.2 Additional laboratory processing and testing

The remaining venous blood specimens were transferred daily to MMHL for HIV viral load testing, recency testing, CD4 testing, HCV viral load, and aliquoting (per the lab requisition form). Once specimens reached the laboratory, CD4 testing was conducted using whole blood (for HIV-positive specimens).

Laboratory staff then centrifuged (3,000 rpm for 10–15 min) the remaining blood and aliquoted approximately 1.5mL of plasma into seven 1.8 mL Sarstedt tubes (cryo tubes) for the following uses:

1. External Quality Assessment National Public Health Laboratory (NPHL)
2. HIV viral load and recency testing Mnazi Mmoja Hospital (MMH) lab
3. Hepatitis C viral load testing (MMH lab)
4. HIV Drug Resistance testing (Temeke lab)
5. Hepatitis B Core Antibody–IgM Muhimbili University of Health and Allied Science (MUHAS)
6. HIV recency testing (MMH lab)
7. Two tubes for long-term storage and future testing such as anti-retroviral therapy (ARV) metabolites testing and genotyping.

8 summarizes the laboratory tests that were conducted and the criteria for each test to be performed.

**Table 8: Laboratory tests, testing criteria, interpretation, sample type, and testing lab, survey among populations at risk for HIV in Zanzibar, 2023**

Test	Criteria	Interpretation of results	Sample type	Testing lab
<b>CD 4 count (BD FACS Presto)</b>	HIV reactive result on both SD Bioline and Unigold	Quantitatively indicate amount of CD4+ cells	Whole blood	MMHL, Zanzibar
<b>HIV viral load (GeneXpert)</b>	HIV reactive result on both SD Bioline and Unigold	Indicates amount of HIV virus in the body	Plasma	MMHL, Zanzibar
<b>Asante HIV-1 recency test</b>	HIV reactive result on both SD Bioline and Unigold	Recent infection testing algorithm (RITA) determines HIV infection within one year*	Plasma	MMHL, Zanzibar
<b>Hepatitis C viral load (Abbott m2000RT System)</b>	Reactive result on hepatitis C Antibody on-site test OR HIV Positive with CD4 <200 cells/mm <sup>3</sup>	Distinguishes between current and past infection	Plasma	MMHL, Zanzibar

Test	Criteria	Interpretation of results	Sample type	Testing lab
<b>Hepatitis B Core Antibody - IgM (Abbott Architect Anti-HBc IgM assay)</b>	<u>All samples</u> regardless of result from Rapid test (Hep B surface antigen test)	Distinguishes between previous or acute/ongoing hepatitis B infection	Plasma	MUHAS, Dar es Salaam
<b>HIV drug resistance</b>	HIV reactive result on both SD Bioline and Unigold with HIV viral load results >200 copies/mL	Determines ARV drugs with HIV resistance	Plasma	Temeke Lab, Dar es Salaam

*\*Recent infection results were analyzed in accordance with a recent infection testing algorithm (RITA). HIV viral load results were analyzed for participants whose result on the rapid test for recent infection (RTRI) was recent. Individuals with an RTRI recent result and a suppressed HIV viral load result (<1,000 copies/mL) were reclassified as RITA long-term. Individuals with an RTRI recent result and an unsuppressed HIV viral load result ( $\geq 1,000$  copies/mL) were classified as RITA recent.*

Plasma aliquots prepared at the laboratory were labeled with barcode stickers containing unique, non-identifying survey ID codes. All aliquots were stored at Mnazi Mmoja Hospital Laboratory until they were ready for testing or transportation to an external laboratory. Specimens that were tested at MMH, NHPL, Temeke, and MUHAS Serology laboratories were stored at -20C. Aliquots being stored long-term for future testing were stored at Mnazi Mmoja Hospital Laboratory at -80C. Any unused specimens were incinerated.

Results for off-site laboratory tests were returned to participants during the second visit. Participants were linked to preventive and treatment services as needed.

### **2.9.3 Return of HIV viral load, CD4, hepatitis B core antibody, and hepatitis C viral load results**

Results of four additional lab-based tests were returned to eligible participants during their second visit: HIV viral load, CD4, hepatitis B core antibody, and hepatitis C viral load. All participants were instructed to return with their survey coupon to collect their test results. Test results were linked to participants using their unique barcode number. Participants who lost their coupons were verified using their UPC.

Participants were offered paper copies of their test results and were educated about what the results mean and what the implications are for prevention of onward infection and/or care and treatment. Results of these tests were not sent to facilities due to the risks of linking participants to the survey which, in a small community such as Unguja, may become known to be specifically for PRH. Therefore, linking participants to the survey could inadvertently result in facility staff becoming aware of their PRH status. In addition, the test results would not be used for clinical care as the tests would need to be repeated by health facilities to comply with standard of care protocols.

#### **2.9.4 Test results that were not returned to participants**

Results of recency testing were not returned to participants as they are not clinically relevant. HIV drug resistance results were also not returned to participants as drug resistance testing was conducted after the completion of data collection for all populations. Because we did not collect patients' identifications, it was not possible to trace them back to provide these results.

#### **2.9.5 Quality assurance (QA) and quality control (QC)**

Quality assurance of all rapid tests included use of nationally approved and licensed test kits and testing algorithms; lot-to-lot qualification of all rapid test kits used; training of staff administering the rapid tests; on-going supportive supervision; provision of QC specimens by survey laboratory supervisors during data collection, and provision of proficiency testing panels to all testers two times during the course of the survey.

External quality assessment (EQA) was done by retesting 10% of non-reactive specimens and all reactive specimens. For HIV, retesting was done with the last test used in the field (e.g., for a non-reactive specimen, SD Bioline was used; for a reactive specimen, Unigold was used), followed by Geenius. EQA testing was conducted at the NPHL in Dar es Salaam. For syphilis, retesting was done at NPHL using the same test used in the field followed by Treponema Pallidum Hemagglutination Assay (TPHA). EQA for hepatitis B and C was conducted at NPHL by repeating the last test used in the field. EQA activities were conducted after all specimens had been collected and tested.

#### **2.10 Participant linkage to services**

Participants were provided with pre- and post-test counseling by certified counselors for all tests being conducted as part of the survey. Participants were referred to relevant HIV prevention, care, and treatment services based on their test results. Nurse counsellors with experience working with PRH were on site to provide counseling and information as needed, and peer educators were on site to provide escorted referrals to Mnazi Mmoja Hospital, directly across the street from the survey site.

Survey staff were trained on proper steps to take when encountering survivors of violence and minors under the age of 18 years who reported or were suspected of engaging in commercial sex during the eligibility screening. Individuals were linked to the appropriate public or non-governmental service provider for psychosocial support. Service providers who provided psychosocial support, including legal assistance, appropriate to minors engaging in commercial sex were identified by the investigators in each of the survey sites.

All survey participants who required additional services were provided with a referral using the standard national referral form and were offered an escort to Mnazi Mmoja Hospital (MMH). Referral forms used the participant's unique survey ID number rather than the individual's name to facilitate tracking of referral completion and linkage of test results, where appropriate. Referrals were documented in a Referral Tracking Register (Appendix K) which was also used to document referral completion. This was tracked on a regular basis by the survey team throughout the data collection period.

Referrals were provided to participants as follows:

1. Participants with an HIV-positive diagnosis were referred and offered an escorted referral to Mnazi Mmoja Hospital to access HIV prevention, care, treatment, and support services. If they did not wish to access services at MMH, they were referred to a facility of their choice.
2. Participants who were HIV-negative and interested in pre-exposure prophylaxis (PrEP) were referred and offered escorted referral to MMH. If they did not wish to access PrEP at MMH, they were referred to a facility of their choice.
3. Participants with a reactive syphilis test were referred to MMH where they were offered free treatment by a trained provider as per national guidelines.
4. Participants with a reactive hepatitis B or hepatitis C test result were referred and offered escorted referral to the MMH Hepatitis clinic for further management.

Participants with non-reactive hepatitis B test results were offered hepatitis B vaccination. Although participants were unable to complete the full vaccination series during the survey period, they received the initial vaccination injection and were then referred to Mnazi Mmoja Hospital to complete the vaccination series at the appropriate time intervals. Participants who returned to the survey site at the appropriate time interval for their second dose were provided with this dose.

All survey participants received instructions during their post-test counseling session to keep their survey coupon and return to the survey site with their coupon after two weeks. They were informed that this second survey visit was to collect additional test results and to receive their secondary incentives.

## **2.11 Methods for population size estimation**

We used multiple methods to estimate population sizes due to the lack of a gold standard population size estimation (PSE) methodology. These methods included: service multiplier, unique object multiplier, re-capture from the 2019 survey, sequential-sampling (SS-PSE), and synthesis of PSE results. Consensus estimates were computed using Bayesian statistical methods (Anchored Multiplier) and PSE estimates were generated in RDS-Analyst.

## **2.12 Training of survey team**

In May 2023, all survey personnel participated in a seven-day training that covered all aspects of RDS including identification and recruitment of seeds, selection and management of interview sites, the interview and incentive claim process, survey documentation and management, methods for controlling sample growth and ending recruitment, and data management. In addition, all survey personnel were trained on the procedures for survey implementation, including training on coupon and participant tracking, administration of informed consent, administration of the behavioral questionnaire, collection of biological samples, sample processing and transport, specimen testing, and provision of biological test results, and referrals. Immediately following the training, the survey was launched for the first two populations at risk for HIV (WCS/SEG and PWID). Before launching the RDS survey for the third population (MSM), survey staff participated in a four-day training focused on components that were different from the first two populations, namely participant screening and the behavioral questionnaire.

Additional training was held for individuals involved in formative assessment activities, and those involved in distribution of unique objects for population size estimation for each of the three surveys.



Formative assessment trainings covered the objectives and methods involved in the FA and included training on qualitative interview techniques, note-taking, expanding field notes as well as reviews of the interview guides over one and a half days. Half-day trainings prior to unique object distribution covered the purpose of unique object distribution and how it fit into the larger RDS survey as well as the methods to be used during unique object distribution. The peer educators responsible for unique object distribution were also trained on the relevant documentation used during the activity.

## **2.13 Data management and analysis**

Data for the Unguja FAs were collected using paper tools and stored in the ZIHHTLP office. Interviewers expanded their field notes following each interview and entered them into Microsoft Word. Notes were reviewed by the survey team to identify key information that could be used to inform the implementation of the RDS survey.

Data for the RDS behavioral surveys were collected using tablets programmed with ODK. HIV and STI test results were collected using both paper tools and an ODK survey. All electronic data were uploaded to a password-protected cloud-based server daily and were only accessible to authorized staff members. Data were monitored daily by the UCSF team to ensure all collected data were successfully transmitted to the server and to check for data quality issues. The team of investigators reviewed data on a weekly basis, monitoring for bottlenecks and convergence. This included performing consistency checks and tabulating frequencies to check validity and logic of all variables. Final datasets were converted to Stata for further cleaning and analysis was performed using Respondent Driven Sampling-Analyst (RDSA), a software package that adjusts data collected with RDS for social network sized and recruitment patterns.

In RDS-A, the Gile's estimator was used to produce point estimates and 95% confidence intervals for all survey data. The abbreviation of not calculable (NC) is used when the sample size was too small to compute a point estimate, or a reliable confidence interval could not be calculated. Consensus population size estimates generated using Anchored Multiplier were used as the population sizes required for RDS-A analysis. The RDS network size of each participant was determined by using the following series of questions:

1. "Approximately, how many WCS/SEG or PWID or MSM do you know personally (i.e., who are living in Unguja, are aged 15 years and above, you know their name, you know who they are, and they know you)?" This was followed by a question asking how many of those they had seen in the past one month and in the past two weeks, so the network size was based on the number they had seen in the past two weeks.

Stratified analyses were performed to characterize sub-populations/categories and to help identify those that may be at higher risk of contracting HIV. Statistical significance was measured using confidence Intervals (CIs). If CIs were overlapping shows no statistical significance and if were not overlapping shows statistical significance.



### **2.13.1 Estimating HIV incidence**

HIV incidence was calculated using the method suggested by Osmond et al (Osmond et al., 1994)<sup>2</sup>. Person-years (py) at risk were calculated from the onset of the population's primary HIV risk behavior (first engaging in commercial sex or sexual exploitation for WCS/SEG, first sex with men for MSM, and first injection drug use for PWID) for HIV-negative individuals and halfway from onset of that risk behavior for individuals living with HIV. The halfway point from the onset of HIV risk behavior is assumed to represent the average amount of time from onset of risk behaviors to HIV acquisition across those living with HIV. HIV incidence was calculated as: (the number of HIV+ tests) / (py for HIV-positive + py for HIV-negative).

## **2.14 Ethical considerations**

The survey protocol, including questionnaires and consent forms, received approvals from the Zanzibar Health Research Institute (ZAHRI) and the ethical review board at the University of California, San Francisco (UCSF), and was approved as non-engaged research by the U.S. Centers for Disease Control and Prevention (CDC).

### **2.14.1 Minor participants**

Participants aged 15 to 17 years who self-reported that they were not living under the support or auspices of a parent or guardian were considered emancipated and able to consent for themselves. Furthermore, the legal age of consent for HIV testing and service in Tanzania is 15 years. For sexually exploited girls aged 15 to 17 years, active referral or linkage was offered to support access to appropriate services from ZAYEDES clinic.

### **2.14.2 Participant consent**

Survey participation was strictly voluntary, and participants were informed that they were free to withdraw from the survey at any point in time. Following careful explanation of the survey, survey staff gave eligible participants the consent form to read or, if necessary, survey staff read the consent form to the survey participant. All participants verbally stated that they understood the information provided in the consent form and were asked to agree individually to each of the items contained in the consent form to enroll in the survey. Survey staff completed and signed the consent form according to participant responses. The participants were given the option to complete the interview only and decline the biological tests, as well as the option to agree to have a portion of their biological specimen anonymously stored for future testing or studies. Participants could refuse to answer any specific question during the interview. All participants were given the name and telephone number of

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<sup>2</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6178382/>. *PLoS One*. 2018; 13(10): e0204793. Published online 2018 Oct 9. doi: [10.1371/journal.pone.0204793](https://doi.org/10.1371/journal.pone.0204793)

the local survey coordinator should they have any questions about the survey or if they believed they had been injured or mistreated because of being or not being part of the survey.

### **2.14.3 Participant confidentiality**

No personal identifying information was collected during the formative assessment, survey, or PSE activities. All survey data were kept confidential. The survey team did not record names or other personal identifiers on the survey questionnaires, laboratory specimens or results. In this survey, coupon identification numbers were assigned to each of the participants using barcode stickers and used to link questionnaire responses to behavioral and laboratory test results. After data collection, forms and test results were kept in a locked metal cabinet at the ZIHHTLP office. Electronic data were stored on a password-protected server that was accessible only to authorized survey staff. To minimize any chance of being overheard or any discomfort due to the sensitive nature of the questions asked, the questionnaire was administered in a private, confidential setting by survey personnel who had experience working with the survey population.

### **2.14.4 Participant compensation**

Participants were reimbursed TZS 20,000 (\$8 USD as of 23 Sept 2023) for transportation costs and time during their first visit and TZS 5,000 (\$2 USD as of 23 Sept 2023) for each successful referral recruited into the survey.

## **2.15 Limitations**

This survey was subject to several limitations. Behavioral information was self-reported, and participants were asked to recall periods of up to twelve months when reporting on sexual and drug use behaviors; therefore, the accuracy of responses may have been affected by recall bias. In addition, social desirability bias may have resulted in underreporting of sexual practices and drug use in relation to HIV and social norms.

Compensation for participants is a crucial element of recruitment in RDS but it can be challenging to determine the appropriate amount for each unique population. If the compensation offered is too high, there is a risk of double-enrolment or of encouraging recruits to fake eligibility requirements. If the amount is too low, recruitment will not be successful. For these surveys, compensation amounts were set based on the formative assessments and feedback from the survey populations and were carefully adjusted to reach appropriate levels. In order to prevent double-enrolment and ensure all participants met eligibility criteria, recruits attending the survey site were carefully screened by peers and survey staff who had experience working with the survey population.

Ensuring that only true members of the population at risk for HIV can enroll in the survey is critical for RDS but can be difficult when dealing with members of hidden or stigmatized populations. While all survey participants received a short training on how to recruit eligible peers, 2% of potential MSM participants, 20% of potential PWID participants, and 17.3% of potential WCS/SEG participants were found to be ineligible to participate in the survey. Having participants found to be ineligible may have affected recruitment patterns as well as the ability of the RDS method to successfully reach all sub-groups within the PRH.

PRH can be made up of a variety of sub-populations and RDS attempts to capture and represent them all. However, some sub-populations may be more difficult to reach than others. This survey attempted to capture female PWID but was only able to recruit a small number. Similar challenges have been documented in other surveys among PRH (Abramovitz, et al., 2009)<sup>3</sup>.

Although the estimates presented here may be considered representative of the populations from which participants were recruited, the small number of values for certain variables may limit our ability to detect statistically significant differences between groups. In some cases, confidence intervals were too wide for meaningful interpretation. Furthermore, as analysis in RDSA depends on the integrity of recruitment chains to determine and adjust estimates for the probability of recruitment, missing values may distort adjusted proportion estimates. We have attempted to correct for this in the analysis by taking special care with missing values and skip patterns.

### 3 PRESENTATION OF RESULTS

Chapters 4 through 6 present biological and behavioral findings from the survey among PWID, MSM, and WCS/SEG in Unguja. Each chapter presents findings for one population and is divided into sub-sections covering the following topics:

- Recruitment, eligibility, and participation
- Population size estimate
- Socio-demographic characteristics
- Risk behaviors including sexual risks, alcohol, and drug use
- Experiences with stigma, violence, and incarceration
- Condom access and sexually transmitted infections (STIs)
- HIV knowledge, HIV testing history, and risk perception
- Experiences of people living with HIV (PLHIV) related to health care and stigma
- PRH-related stigma and mental health
- Experiences of arrest and violence
- Access to and uptake of HIV prevention and other HIV-related services through PRH-friendly organizations
- Access to and uptake of other healthcare services
- Prevalence of HIV, HBV, HCV and syphilis, other biological results, and progress towards the UNAIDS 95-95-95 cascade
- Risk factors associated with HIV
- Comparison of findings across four surveys (2007, 2012, 2019 and 2023)
- A brief discussion of the findings and their programmatic and policy implications for HIV prevention, care, and treatment services among PRH in Zanzibar

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3

[https://journals.lww.com/stdjournal/abstract/2009/12000/using\\_respondent\\_driven\\_sampling\\_in\\_a\\_hidden.4.px](https://journals.lww.com/stdjournal/abstract/2009/12000/using_respondent_driven_sampling_in_a_hidden.4.px)

Tables show crude numbers and percentages for each variable alongside weighted point estimates and weighted 95% confidence intervals. Figures and charts present weighted values.

Detailed tables containing additional variables that are not presented in the main body of the report are included in a separate annex document.

## 4 PEOPLE WHO INJECT DRUGS

From May to September 2023, 455 PWID enrolled in the survey. Of these, seven (1.6%; 95% CI: 0.4, 2.8) were female. Unless otherwise stated, results presented in this section combine responses from both male and female PWID.

The survey started with 5 seeds, and 16 seeds were added during data collection in response to challenges with recruitment. A total of 1296 coupons were distributed (including seeds), and 570 (44%) individuals presented coupons at the survey site (Figure 10). Of those, 20% were ineligible to participate. The most common reason for ineligibility was that recruits were using drugs through other means rather than injecting.

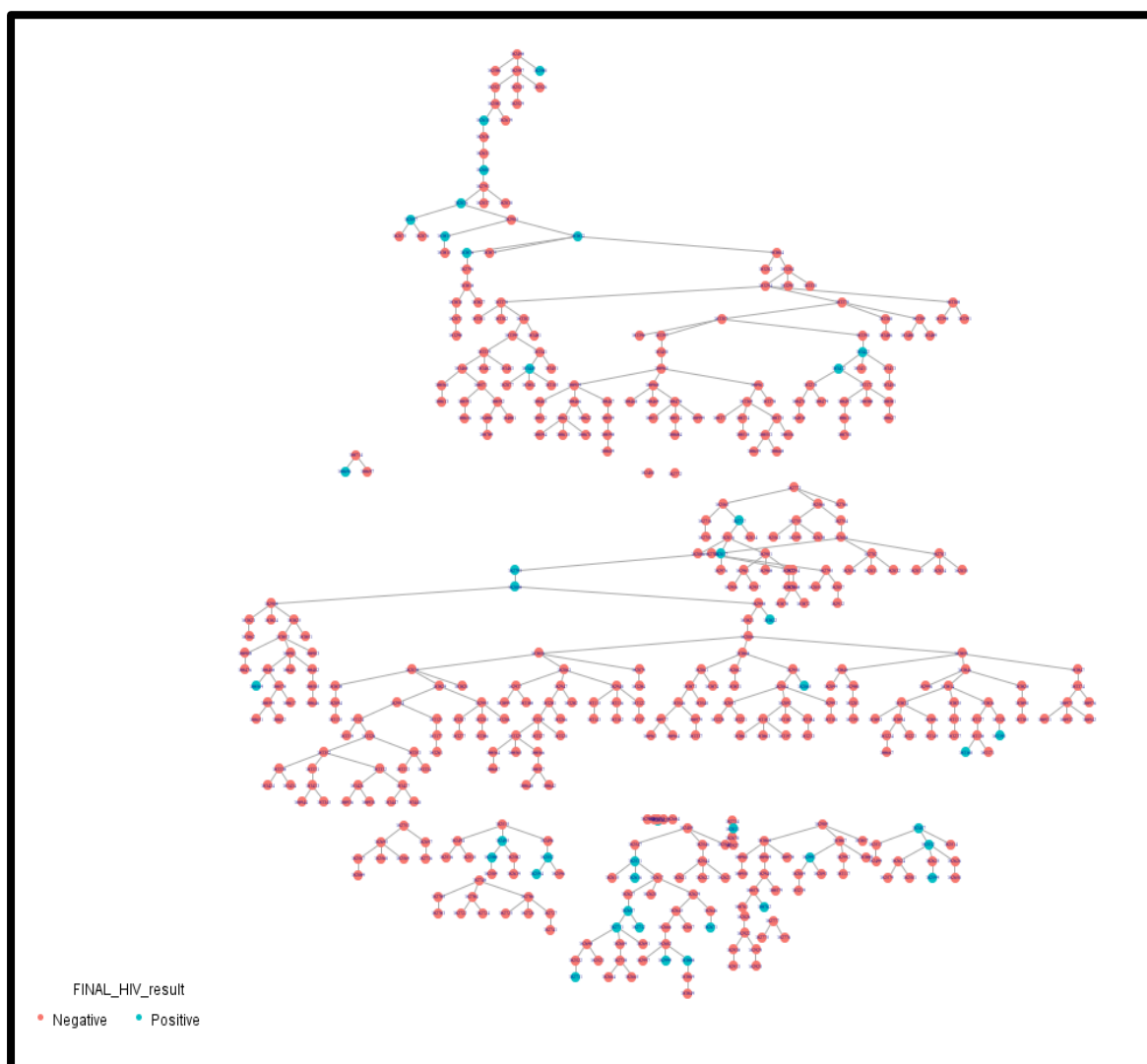


*\*One interview was not completed, making the total of those who enrolled and completed the survey 455.*

**Figure 10: Recruitment, eligibility, and participation among people who inject drugs, Unguja, Zanzibar, 2023**

The seed with the longest chain in this survey had 24 waves and 127 participants, including the seed. The seed with the greatest number of participants had 19 waves and 202 participants. Eight seeds did not grow. Convergence and equilibrium were achieved for key variables including HIV and HCV prevalences.

11 presents a recruitment tree of survey participants by HIV result.



**Figure 11: Recruitment tree by HIV result among people who inject drugs, Unguja, Zanzibar, 2023**

#### 4.1 Population size estimate

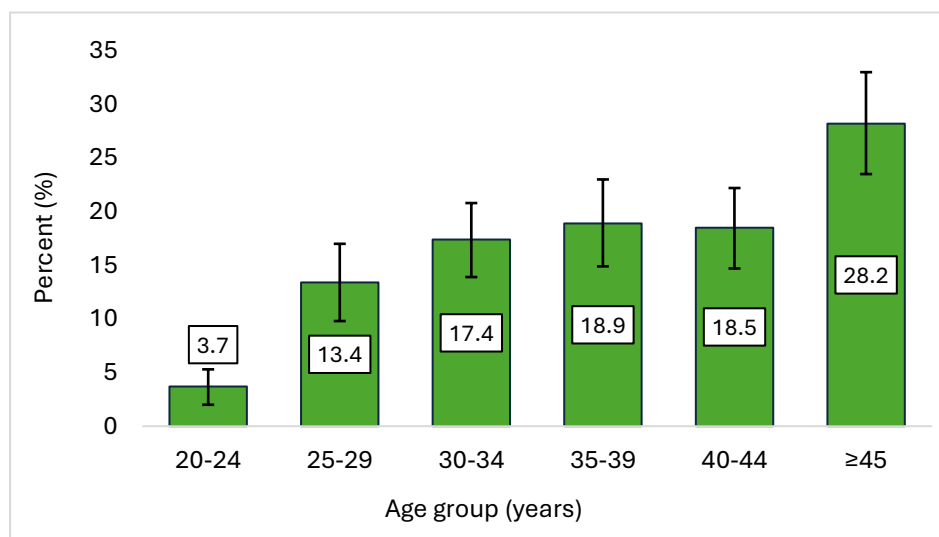
The study team estimated the size of PWID in Unguja to be 2351 (95% credible interval: 1606, 3235) which represents 0.6% (95% CI: 0.2, 0.5) of the male population aged  $\geq 15$  years in Unguja<sup>4</sup>.

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<sup>4</sup> Ministry of Finance and Planning, Tanzania National Bureau of Statistics and President's Office - Finance and Planning, Office of the Chief Government Statistician, Zanzibar. (2022). *The 2022 Population and Housing Census: Age and Sex Distribution Report*. Tanzania Zanzibar. Males aged 15+ years = **344,847**

## 4.2 Socio-demographic characteristics

Nearly all PWID (98.4%; 95% CI: 97.2, 99.6) were men aged 20 to 65 years. The median age of PWID was 38 years (IQR: 32, 45 years) with close to half (46.7%; 95% CI: 41.7, 51.6) of PWID aged 40 years and above. There were no PWID younger than 20 years old (Figure 12).



**Figure 12: Age distribution of people who inject drugs, Unguja, Zanzibar, 2023**

More than half of PWID had a primary level of education. A small proportion (4.1%; 95% CI: 2.2, 5.9) of PWID never attended school and 25.6% (95% CI: 21.3, 29.9) did not complete primary school. More than one in ten (13.6%; 95% CI: 10.2, 16.9) PWID were not able to read and write. The majority (83.8%; 95% CI: 80.1, 87.6) of PWID were originally from Unguja. Four in ten (42.7%; 95% CI: 38.2, 47.3) PWID were either separated or divorced. The median amount of money earned in the past month among PWID was TZS 200,000 (IQR: TZS 150,000, TZS 465,000) (Table 9).

**Table 9: Demographic characteristics of people who inject drugs, Unguja, Zanzibar, 2023**

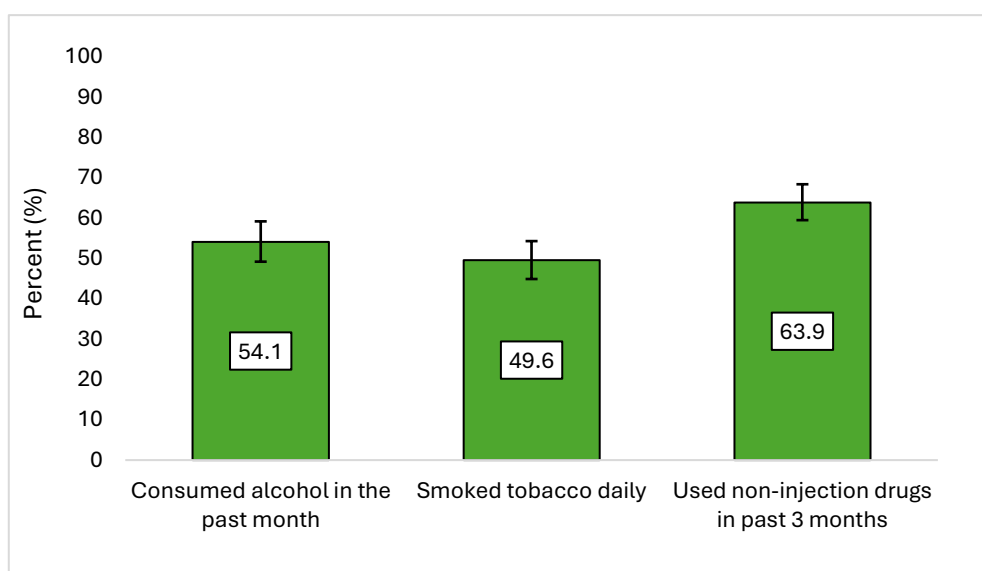
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Sex [N=455]				
Female	7	1.5	1.6	0.4, 2.8
Male	448	98.5	98.4	97.2, 99.6
Age group (years) [N=455]				
20–24	17	3.7	3.7	2.0, 5.3
25–29	63	13.8	13.4	9.8, 17.0
30–34	85	18.7	17.4	13.9, 20.8
35–39	86	19.0	18.9	14.9, 23.0
40–44	83	18.2	18.5	14.7, 22.2
≥ 45	121	26.6	28.2	23.5, 33.0
Median age in years (inter-quartile range)	38 years (32, 45 years)			
Age range	Min. 20–Max. 65 years			
Level of education [N=455]				
No school	19	4.2	4.1	2.2, 5.9
Some primary	125	27.5	25.6	21.3, 29.9

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Completed primary	118	25.9	27.2	22.5, 31.9
Some secondary	143	31.4	31.9	27.0, 36.8
Completed secondary	49	10.8	11.2	8.1, 14.3
More than secondary	1	0.2	0.1	0, 0.3
<b>Literacy [N=455]</b>				
Able to read and write	371	81.5	82.7	78.6, 86.7
Able to read only	15	3.3	3.6	1.4, 5.8
Not able to read nor write	68	15.0	13.6	10.2, 16.9
No response	1	0.2	0.2	0, 0.6
<b>Number of years lived in Unguja [N=455]</b>				
Less than 1 year	1	0.2	0.1	0, 0.4
1 to 5 years	16	3.5	3.9	1.6, 6.2
More than 5 years	56	12.3	12.1	9.0, 15.2
Whole life	382	84.0	83.9	80.1, 87.6
<b>Migration [N=455]</b>				
Migrated to Unguja	73	16.0	16.2	12.4, 19.9
Lived whole life in Unguja	382	84.0	83.8	80.1, 87.6
<b>Marital status [N=455]</b>				
Separated/divorced/widowed	201	44.2	42.7	38.2, 47.3
Never married	160	35.2	36.7	31.9, 41.4
Married or living with partner	94	20.7	20.7	16.8, 24.4
<b>Income earned in past month (TZS) [N=455]</b>				
< 50,000	21	5.0	5.3	2.9, 7.7
50,000–120,000	78	17.1	16.2	13.0, 19.4
120,001–200,000	91	20.0	21.2	17.1, 25.3
200,001–500,000	182	40.0	39.5	35.0, 43.9
> 500,000	83	18.2	17.8	14.3, 21.3
Median amount earned in past month (TZS) (inter-quartile range)	200,000 (150,000–465,000)			
Range	Min. 2000–Max. 6,000,000 TZS			

### 4.3 Alcohol and non-injection drug use among people who inject drugs

Five in ten (54.1%; 95% CI: 49.2, 59.2) PWID consumed alcohol in the past month. Among these, about a quarter (25.3%; 95% CI 19.0, 31.6) consumed alcohol four or more times a week. Nearly half (49.6%; 95% CI: 44.9, 54.3) of PWID smoked tobacco daily. Six in ten (63.9%; 95% CI: 59.5, 68.4) PWID smoked, inhaled, swallowed, or snorted drugs in the past three months for non-medical reasons. Among those who used non-injection drugs, the most used drugs were hashish/marijuana (68.8%; 95% CI: 63.2, 74.5), heroin (50.9%; 95% CI: 45.1, 56.7), and valium (39.6%; 95% CI: 33.8, 45.6) (Figure 13; Table 1010).





**Figure 13: Alcohol consumption and non-injection drug use among people who inject drugs, Zanzibar, 2023**

**Table 10: Alcohol consumption and non-injection drug use among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Consumed alcohol in the past month [N=455]</b>				
Yes	256	56.3	54.1	49.2, 59.2
No	199	43.7	45.9	40.9, 50.8
<b>Frequency of consuming alcohol in past month [N=280]</b>				
4 or more times a week	70	25.0	25.3	19.0, 31.6
2–3 times a week	55	19.6	18.9	14.3, 23.4
2–4 times a month	68	24.3	24.8	19.3, 30.4
Once a month or less	63	22.5	23.1	18.6, 27.6
Never	18	6.4	5.8	1.6, 9.8
Does not remember	6	2.1	2.1	0.7, 3.6
<b>Frequency of having six or more drinks on one occasion [N=280]</b>				
Daily or almost daily	39	13.9	14.3	9.3, 19.2
Weekly	38	13.6	13.5	10.1, 16.9
Monthly	17	6.1	5.2	2.6, 7.6
Less than monthly	48	17.1	16.6	11.6, 21.5
Never	127	45.4	46.7	40.0, 53.7
No response	11	3.9	3.8	0, 7.6
<b>Frequency of smoking tobacco [N=455]</b>				
Daily	235	51.6	49.6	44.9, 54.3
Less than daily	80	17.6	20.3	15.7, 30.0
Not at all	139	30.6	30.0	25.9, 34.1
Does not know	1	0.2	0.1	0, 0.2

Used non-injection drugs other than alcohol in the past three months [N=455]				
Yes	294	64.6	63.9	59.5, 68.4
No	158	34.7	35.6	31.1, 40.0
Does not remember	3	0.7	0.5	0, 1.1
Types of non-injection drugs used in past three months* [N=294]				
Smoked hashish/marijuana	202	68.7	68.8	63.2, 74.5
Valium	111	37.8	39.6	33.8, 45.6
Mixed cocktail	70	23.8	23.9	18.7, 29.1
Smoked heroin	70	23.8	22.2	16.7, 27.6
<i>Kichupa</i> (inhaling heroin vapor using a bottle)	32	10.9	15.2	9.6, 21.1
Chase the dragon (inhaling heroin vapor)	46	15.7	15.1	10.3, 19.9
Snorted heroin	38	12.9	12.1	7.7, 16.6
Methadone	21	7.1	7.5	3.4, 11.5
Smoked crack cocaine	21	7.1	6.7	2.5, 10.9
Snorted cocaine	19	6.5	6.0	1.9, 10.1
Pain killers (prescription drugs)	7	2.4	2.1	0.6, 3.6
Khat	2	0.7	0.5	0.3, 0.6
Sniffed petrol, glue	1	0.3	0.3	0.2, 0.5
Does not remember	1	0.3	0.2	0.2, 0.3
Used heroin via non-injection means in past three months* [N=294]				
Yes	147	50	50.9	45.1, 56.7
No	147	50	49.1	43.3, 54.9

\*Question allowed for multiple responses

\*This was derived by combining categories of non-injection drug use that include heroin: mixed cocktail, smoked heroin, kichupa, chase the dragon and snorted heroin. Note that types of non-injection drugs used in the past three months allowed for multiple responses, which means that the number of respondents in these categories cannot be summed to calculate this variable.

## 4.4 Injection drug use and injection practices among people who inject drugs

### 4.4.1 History of injection drug use and experiences with overdose

The median age at first injection was 25 years (IQR: 20, 30 years) and 72.6% (95% CI: 68.1, 77.2) of PWID had been injecting drugs for at least 7 years. Most PWID (87.6%; 95% CI: 84.6, 90.5) injected white heroin in the past three months; fewer (19.0%; 95% CI: 15.4, 22.6) injected brown heroin. Half (49.6%; 95% CI: 44.6, 54.6) of PWID had ever overdosed on narcotics to the point of losing consciousness and 89.5% (95% CI: 86.9, 92.0) had ever seen another person overdose on narcotics (Table 1111).

**Table 11: Injection history and experiences with overdose among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Age (years) at first injection [N=455]				

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<15	8	1.8	1.9	0.1, 3.8
15–19	79	17.4	16.3	13.1, 19.5
20–24	136	29.9	28.3	24.0, 32.5
25–29	106	23.3	25.2	20.8, 29.7
30–34	74	16.3	16.7	13.0, 20.3
35+	52	11.4	11.6	8.7, 14.5
Median age in years (inter-quartile range)	25 years	(20, 30 years)		
Range	Min. 10–Max. 57 years			
<b>Number of years injecting [N=455]</b>				
3 years or less	55	12.1	12.2	8.9, 15.5
4–6 years	70	15.4	15.2	12.0, 18.3
7+ years	330	72.5	72.6	68.1, 77.2
Median number of years injecting (inter-quartile range)	12 years	(6, 18.5 years)		
Range	Min. 0–Max. 42 years			
<b>Drug used at first injection [N=455]</b>				
White heroin	254	55.8	54.6	49.3, 59.9
Brown heroin	194	42.6	43.8	38.6, 49.0
Cocaine	5	1.1	1.2	0.1, 2.3
Prescription drugs	1	0.2	0.3	0, 0.6
Does not remember	1	0.2	0.2	0, 0.4
<b>Types of drugs injected in past 3 months* [N=455]</b>				
White heroin	395	86.8	87.6	84.6, 90.5
Brown heroin	88	19.3	19.0	15.4, 22.6
Prescription drugs	9	2.0	3.4	0.8, 5.9
Opium	2	0.4	0.3	0, 0.7
Other	1	0.2	0.2	0, 0.6
<b>Personal experiences of overdose</b>				
<b>Has ever overdosed on narcotics to the point of losing consciousness [N=455]</b>	225	49.5	49.6	44.6, 54.6
<b>Last time overdosed [N=225]</b>				
In the past 7 days	19	8.4	7.9	3.8, 11.8
Between 7 days and 30 days ago	33	14.7	15.5	10.9, 20.1
Between 1 and 6 months ago	72	32.0	33.8	28.0, 39.8
Between 6 and 12 months ago	28	12.4	13.3	8.3, 18.3
More than 12 months ago	69	30.7	28.3	21.7, 34.1
Does not remember	4	1.8	1.4	0, 2.7
<b>Has ever seen another person overdose to the point of losing consciousness [N=455]</b>	401	88.1	89.5	86.9, 92.0

\* Question allowed for multiple responses

#### 4.4.2 Access to clean needles

More than three-quarters (78.4%; 95% CI: 74.4, 82.3) of PWID said that, in general, they can get clean injection equipment anytime they need it, most commonly from pharmacies (83.9%; 95% CI: 80.5, 87.3). However, only six in ten (57.5%; 95% CI: 52.9, 62.2) PWID said that, in the past month, clean injection equipment was always available when needed. Among PWID who were not able to access clean injection equipment whenever needed, the most commonly cited barriers were cost (30.1%; 95% CI: 21.2, 38.1), vendors ran out of stock (26.7%; 95% CI: 17.8, 36.4), vendors refusing to sell to them (19.3%; 95% CI: 11.6, 26.4), and vendors being too far away (18.3%; 95% CI: 5.3, 32.5) (Table 12).

**Table 12: Access to clean needles among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Can get a clean needle/syringe anytime needed [N=455]</b>				
Yes	355	78.0	78.4	74.4, 82.3
No	99	21.8	21.4	17.5, 25.4
Has never looked for one	1	0.2	0.2	0, 0.4
<b>Where obtained last clean needle [N=455]</b>				
Pharmacy	385	84.6	83.9	80.5, 87.3
Fellow drug user	16	3.5	4.9	2.3, 7.4
Private home known to have clean needles available	17	3.7	3.3	1.8, 4.8
Drug dealer	14	3.1	3.0	1.5, 4.5
Health facility	8	1.8	1.6	0.6, 2.7
Outreach health worker	7	1.5	1.5	0.5, 2.5
Did not try to get clean new needle	2	0.4	0.5	0, 1.9
Drop-in center	2	0.4	0.3	0, 0.6
Other	4	0.9	1.0	0, 2.0
<b>Barriers to obtaining clean needles/syringes (among those who said they cannot always access clean needles when needed) * [N=99]</b>				
Cost (needles/syringes too expensive)	35	35.4	30.1	21.2, 38.1
Vendors run out/stock out	20	20.2	26.7	17.8, 36.4
Retailers refuse to sell	22	22.2	19.3	11.6, 26.4
Vendors are too far away	15	15.2	18.3	5.3, 32.5
Does not know where to get clean needles	7	7.1	11.2	0.7, 22.8
Vendors are closed or not around when needle needed	11	11.1	9.1	2.3, 15.3
Time constraints/does not have time	5	5.1	4.9	0, 12.8
The size/type I want is not available	4	4.0	4.8	0, 11.8
Other reasons	9	9.1	8.8	1.8, 15.8
<b>Availability of clean needles/syringes in the past month, when needed [N=454*]</b>				
Always available	253	55.6	57.5	52.9, 62.2
Available most of the time	47	10.4	23.3	19.2, 27.4

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Available half of the time	112	24.7	10.6	7.5, 13.6
Available less than half of the time	34	7.5	6.9	5.0, 8.7
Never available	8	1.8	1.7	0.8, 2.6

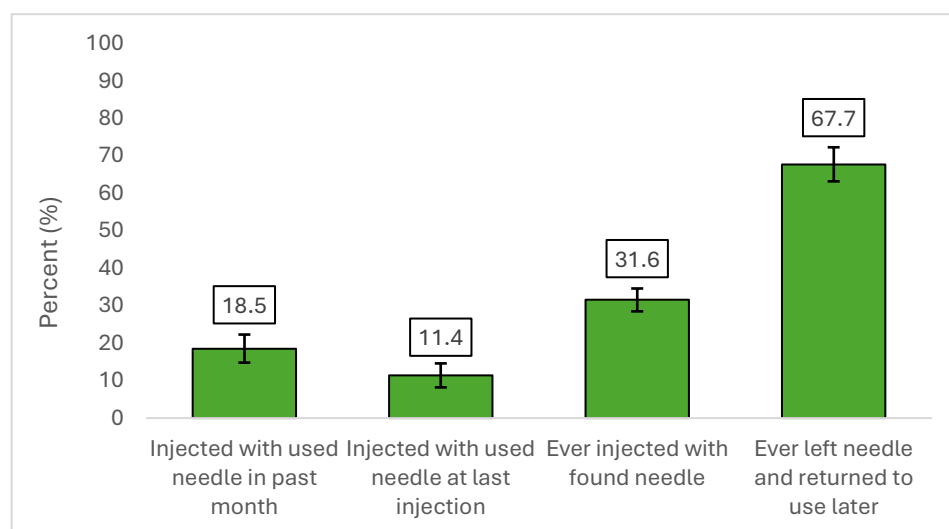
‡Question allowed for multiple responses

\*Excludes one participant who reported never to have looked for a clean needle

#### 4.4.3 Injection practices, including sharing needles

The majority (91.8%; 95% CI: 89.1, 94.6) of PWID agreed that sharing needles when injecting drugs increases the risk of HIV infection. Four in ten (43.5%; 95% CI: 38.2, 48.8) PWID reported ever sharing a needle and 18.5% (95% CI: 14.8, 22.3) reported using a needle or syringe to inject drugs immediately after someone else had used it in the past month. At last injection, 11.4% (95% CI: 8.2, 14.6) of PWID used a needle or syringe immediately after someone else had used it (Figure 14; Table 13).

Nearly one-third (31.6%; 95% CI: 28.5, 34.6) of PWID had ever found a needle somewhere that was not their own and used it to inject drugs. Two-thirds (67.7%; 95% CI: 63.2, 72.3) of PWID had left their needle somewhere and returned to use it later. Of those, 20.9% (95% CI: 15.7, 26.1) thought that someone else may have used their needle in their absence, and 16.5% (95% CI: 11.4, 21.6) were not sure (14; Table 133).



**Figure 14: Direct and indirect needle sharing experience among people who inject drugs, Unguja, Zanzibar, 2023**

**Table 13: Needle sharing among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Knowledge related to needle sharing [N=455]</b>				
Agrees that sharing needles when injecting drugs will increase the risk of HIV infection	422	92.7	91.8	89.1, 94.6

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Needle sharing ever and in the past month [N=455]</b>				
Has ever shared a needle	200	44.0	43.5	38.2, 48.4
Injected with a needle after it was used by someone else in past month	89	19.6	18.5	14.8, 22.3
<b>Frequency of injecting with a previously used needle in past month [N=89]</b>				
Always	8	9.0	12.3	2.1, 23.3
Most of the time	43	48.3	49.6	40.1, 59.4
Occasionally	37	41.6	37.6	30.0, 44.2
No response	1	1.1	0.5	0, 1.3
<b>Direct needle sharing at last injection [N=455]</b>				
Did not share a needle at last injection	374	82.2	82.7	79.1, 86.2
Used a needle/syringe after someone else had used it	50	11.0	11.4	8.2, 14.6
Passed needle/syringe to another PWID after using	51	11.2	11.2	8.0, 14.4
Used a needle/syringe after someone else had used it and passed needle/syringe to another PWID after using	30	6.6	7.3	4.5, 10.1
<b>Indirect needle sharing*</b>				
Has ever found a needle somewhere (not their own) and used it [N=432]	141	32.6	31.6	28.5, 34.6
Has ever left their needle somewhere and returned to use it later [N=432]	278	64.4	67.7	63.2, 72.3
<b>Thinks someone might have used their needle after leaving it, before they returned [N=278]</b>				
Yes	60	21.6	20.9	15.7, 26.1
No	168	60.4	62.6	57.3, 68.0
Does not know	50	18.0	16.5	11.4, 21.6

*\*Questions related to indirect needle sharing were added after the survey had already started so N will be smaller than the total sample size.*

## 4.5 Sexual risk behaviors

PWID were asked about their sexual behaviors with three different types of partners: non-transactional partners (i.e., partners with whom no money or goods were exchanged), partners they paid, and partners who paid them. Male PWID were asked about sex with both male and female partners and female PWID were asked about sex with male partners.

### 4.5.1 Sexual history

Nearly all (96.9%; 95% CI: 94.9, 98.9) PWID had sex at least once in their lifetime. The median age at first sex was 18 years (IQR: 17, 20 years) and ranged from 10 to 40 years. Among those who ever had sex, 63.2% (95% CI: 59.2, 67.1) had either used alcohol before sex or had a sexual partner who used

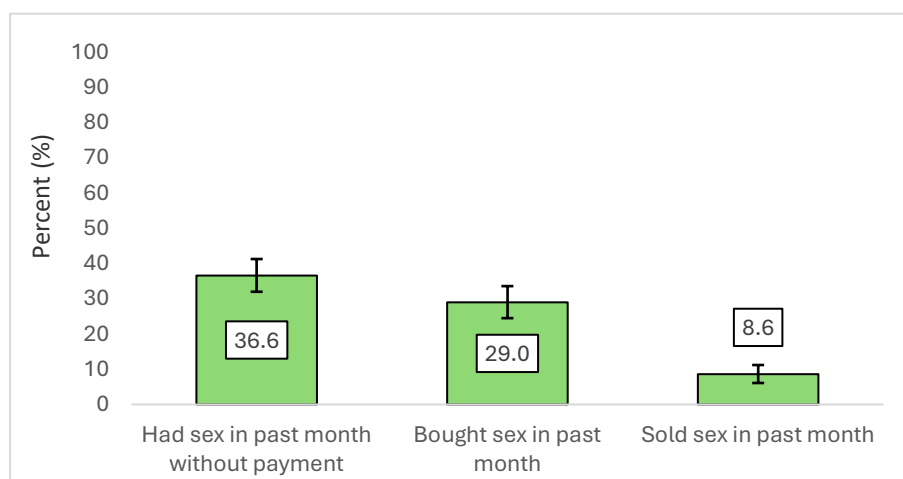
alcohol before sex, and 80.3% (95% CI: 77.2, 83.3) had either used drugs before sex or had a sexual partner who used drugs before sex. Condom use in both scenarios was low (Table 144).

**Table 14: Sexual history among people who inject drugs, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Ever had sex [N=455]</b>	441	96.9	96.9	94.9, 98.9
<b>Age at first sex [N=441]</b>				
10–14	23	5.2	4.6	2.8, 6.4
15–19	257	58.3	59.1	54.5, 63.7
20–24	107	24.3	22.9	19.0, 26.9
25–29	36	8.2	8.4	5.7, 11.1
30–34	8	1.8	2.2	0.8, 3.7
≥35	10	2.3	2.7	1.0, 4.4
Median age at first sex (inter-quartile range)	18 years	(17, 20 years)		
Age range	Min. 10–Max. 40 years			
<b>Sex under the influence of alcohol and drugs</b>				
Ever had sex with someone where either partner used alcohol beforehand [N=441]	287	65.1	63.2	59.2, 67.1
Used a condom last time had sex where either partner used alcohol beforehand [N=287]	85	29.6	29.8	24.5, 35.0
Ever had sex with someone where either partner used drugs beforehand [N=441]	358	81.2	80.3	77.2, 83.3
Used a condom last time had sex where either partner used drugs beforehand [N=358]	109	30.4	29.9	25.4, 34.5

#### 4.5.2 Sexual partnerships and condom use

Nearly four in ten (37.7%; 95% CI: 33.9, 41.6) sexually active PWID had non-transactional sex in the past month. About seven in ten (68.9%; 95% CI: 64.9, 72.9) sexually active PWID ever paid someone for sex. Three in ten (34.1%; 95% CI: 29.6, 38.5) sexually active PWID had ever engaged in commercial sex, and 8.6% (95% CI: 6.1, 11.2) of PWID engaged in commercial sex in the past month (15; Table 155).



**Figure 15: Unpaid and paid sex among people who inject drugs, Unguja, Zanzibar, 2023**

Condom use was limited at last sex across all partner types. Among PWID who ever had a non-transactional sexual partner, 22.8% (95% CI: 18.9, 26.8) used a condom at last sex with that partner type. Among PWID who ever paid a partner for sex, 37.8% (95% CI: 33.3, 42.4) used a condom at last sex with that partner type. And among PWID who ever engaged in commercial sex, 29.4% (95% CI: 23.7, 35.4) used a condom at last sex with that partner type (Table 15Table 15).

**Table 15: Sexual partnerships and condom use among people who inject drugs, by partner type, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Sex where no payment was involved</b>				
Ever had sex where no payment was involved [N=441]	318	72.1	71.4	66.8, 76.0
Had sex in the past month where no payment was involved [N=441]	168	38.1	37.7	33.9, 41.6
<b>Among PWID who ever had a sexual partner where no payment was involved</b>				
<b>Used condom at last sex with a partner without payment [N=318]</b>				
Yes	71	22.3	22.8	18.9, 26.8
No	231	72.6	72.5	68.1, 76.9
Does not remember	15	4.7	4.3	2.0, 6.6
No response	1	0.3	0.4	0.2, 0.5
<b>Paying for sex (i.e., paid sexual partners)</b>				
Ever paid someone for sex [N=441]	311	70.5	68.9	64.9, 72.9
Paid someone for sex in the past month [N=311]	134	43.1	43.4	38.9, 48.2
<b>Used condom last time paid for sex among those who ever paid someone for sex [N=311]</b>				
Yes	116	37.3	37.8	33.3, 42.4



No	178	57.2	58.4	53.5, 63.4
Does not remember	16	5.1	3.6	1.7, 5.3
No response	1	0.3	0.3	0.2, 0.3
<b>Engaging in commercial sex (i.e., paying sexual partners)</b>				
Ever engaged in commercial sex [N=441]	157	35.6	34.1	29.6, 38.5
Engaged in commercial sex in the past month [N=157]	43	27.4	26.2	19.7, 32.4
Engaged in commercial sex in the past month [N=455]	43	9.5	8.6	6.1, 11.2
<b>Used condom last time engaged in commercial sex among those who ever engaged in commercial sex [N=157]</b>				
Yes	44	28.0	29.4	23.7, 35.4
No	99	63.1	63.6	56.7, 70.7
Does not remember	10	6.4	4.8	2.3, 7.1
No response	4	2.5	2.1	0, 5.4

## 4.6 Condom access and sexually transmitted infections

Nearly one in three (28.5%; 95% CI: 24.4, 32.6) sexually active PWID had never used a male condom. The majority (89.9%; 95% CI: 85.0, 94.9) of PWID were able to get a male condom every time they needed one (Table 16).

The majority (78.9%; 95% CI: 74.7, 83.1) of PWID had ever heard of sexually transmitted infections (STI). One in five (20.9%; 95% CI: 16.6, 25.2) experienced STI symptoms in the past six months. Among those who experienced STI symptoms, 64.3% (95% CI: 54.9, 74.4) sought treatment because of those symptoms. Among those who sought treatment for STI symptoms, 57.2% (31.1, 84.2) had symptoms for more than one month prior to seeking treatment (Table 16).

**Table 16: Condom access and experiences of sexually transmitted infections among people who inject drugs, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Ever used a male condom [N=441]</b>				
Yes	322	73.0	71.5	67.4, 75.6
No	119	27.0	28.5	24.4, 32.6
<b>Can get a male condom every time needs one [N=323]</b>				
Yes	287	88.9	89.9	85.0, 94.9
No	30	9.3	8.3	3.7, 12.7
No response	6	1.9	1.8	0, 4.7
<b>Ever heard of diseases that can be transmitted through sexual intercourse (STIs) [N=441]</b>				
Yes	356	80.7	78.9	74.7, 83.1
No	85	19.3	21.1	16.9, 25.3

### Experience and treatment of STI symptoms in the past six months

Experienced STI symptoms in past 6 months [N=441]	89	20.2	20.9	16.6, 25.2
Sought treatment in past 6 months because of STI symptoms [N=89]	55	61.8	64.3	54.9, 74.4
Time from onset of symptoms until seeking treatment [N=55]				
Less than one week	15	27.3	24.5	0, 56.0
More than one week but less than one month	10	18.2	14.1	0, 34.4
More than one month	27	49.1	57.2	31.1, 84.2
Does not remember	3	5.5	4.3	0, 13.6

## 4.7 HIV knowledge, testing, and risk perception

### 4.7.1 HIV knowledge

Participants were asked five standard knowledge questions related to HIV. Those who were able to respond correctly to all five questions were considered to have comprehensive knowledge of HIV, as per the UNAIDS definition. Just over one-third (36.4%; 95%CI: 31.9, 40.8) of PWID had comprehensive HIV knowledge. While 91.8% (95% CI: 89.1, 94.6) agreed that sharing needles when injecting drugs will increase the risk of HIV infection, more than half (60.8%; 95% CI: 56.4, 65.1) agreed that cleaning needles and syringes between injections reduces the risk of HIV (Table 17).

Knowledge of “Undetectable equals Untransmittable” (U=U) was limited, with 64.7% (95% CI: 60.1, 69.4) agreeing that ARVs can decrease the amount of HIV in someone’s blood to the point where it is not detectable in a laboratory test. Just over half (55.1%; 95% CI: 50.1, 60.1) agreed that a person on ART cannot pass HIV to a sexual partner once they are virally suppressed (Table 17).

**Table 17: HIV knowledge among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV knowledge [N=455]</b>				
Agreed having one uninfected, faithful partner reduces risk of HIV transmission	368	80.9	81.9	78.2, 85.5
Disagreed that a person can get HIV from a mosquito bite	369	81.1	80.3	75.9, 84.8
Agreed using a condom every time you have sex reduces risk of HIV transmission	315	69.2	67.8	63.2, 72.4
Agreed a healthy-looking person can have HIV	354	77.8	77.3	73.1, 81.6
Disagreed that you can get HIV by sharing food with someone who is living with HIV	395	86.8	86.0	82.3, 89.6
<b>Had comprehensive HIV knowledge [N=455]</b>				
Yes	163	35.8	36.4	31.9, 40.8
No	292	64.2	63.6	59.2, 68.1
<b>Knowledge related to cleaning needles [N=455]</b>				

Agreed that sharing needles when injecting drugs will increase the risk of HIV infection	422	92.7	91.8	89.1, 94.6
Agreed that cleaning needles and syringes between injections reduces the risk of HIV	273	60.0	60.8	56.4, 65.1
<b>Knowledge related to undetectable=Untransmittable [N=455]</b>				
Agreed that anti-retroviral therapy can decrease the amount of HIV in someone's blood to the point where it is not detectable in a laboratory test	304	66.8	64.7	60.1, 69.4
Agreed that a person on anti-retroviral therapy cannot pass HIV to a sexual partner once they are virally suppressed	264	58.0	55.1	50.1, 60.1

#### 4.7.2 HIV testing, including self-testing

The majority (93.0%; 95% CI: 90.2, 95.8) of PWID had been tested for HIV at least once in their lifetime. Of those and excluding PWID with a known HIV-positive status, 31.9% (95% CI: 27.0, 36.8) had an HIV test within 3 months, 16.1% (95% CI: 12.7, 19.4) had an HIV test in the past 3 to 6 months, 11.4% (95% CI: 8.3, 14.5) had an HIV test in the past 6 to 12 months, and 32.8% (95% CI: 27.9, 37.7) had an HIV test longer than a year before the survey. Some (7.8%; 95% CI: 4.7, 10.9) PWID could not remember when their last HIV test was. Excluding PWID with a known HIV-positive status, 3.5% (95% CI: 0.3, 6.6) and 12.5% (8.5, 16.5) routinely tested for HIV every month and every 3 months, respectively (Table 18).

Among PWID who have never been tested for HIV, reasons for not testing included not seeing the importance of HIV testing (34.3%; 95% CI: 19.4, 50.2), fear of knowing one's status (25.5%; 95% CI: 12.1, 39.0), and not feeling at risk (22.5%; 95% CI: 12.4, 32.1) (Table 18).

One-quarter (25.4%; 95% CI: 21.1, 29.7) of PWID had ever heard of an HIV self-test. Among those, 9.6% (95% CI: 2.6, 16.3) had ever taken an HIV self-test. Among those who had never used an HIV self-test, 68.6% (95% CI: 64.0, 73.2) would use one if recommended to them (Table 18).

**Table 18: HIV testing history, including awareness and uptake of HIV self-testing, among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV testing history</b>				
Ever tested for HIV and received results [N=455]	426	93.6	93.0	90.2, 95.8
<i>*Including PWID known to be living with HIV based on VL</i>				
<b>Last tested for HIV and received results, excluding known positives [N=388]</b>				
In the past 3 months	121	31.2	31.9	27.0, 36.8
3–6 months ago	69	17.8	16.1	12.7, 19.4
More than 6 months ago but within the past year	44	11.3	11.4	8.3, 14.5
Over one year ago	127	32.7	32.8	27.9, 37.7

Does not remember	27	7.0	7.8	4.7, 10.9
<b>Normal HIV testing frequency [N=416]</b>				
No pattern/routine testing	249	59.9	61.3	56.7, 66.0
Every month	12	2.9	3.5	0.3, 6.6
Every 3 months	51	12.3	12.5	8.5, 16.4
Every 6 months	31	7.5	6.8	3.7, 9.9
Once per year	64	15.4	14.1	11.4, 16.9
No response	9	2.2	1.8	1.2, 2.4
<b>HIV self-testing</b>				
Has ever heard of an HIV self-test [N=455]	116	25.5	25.4	21.1, 29.7
Has ever taken an HIV self-test [N=116]	13	11.2	9.6	2.6, 16.3
Would use an HIV self-test kit if it was recommended to them (among those who never used a self-test kit) [N=442]				
Yes	315	71.3	68.6	64.0, 73.2
No	118	26.7	30.1	25.5, 34.8
No response	9	2.0	1.2	1.0, 1.5

#### 4.7.3 Perceived HIV risk

Excluding PWID known to be living with HIV, less than half (45.1%; 95% CI: 40.0, 50.3) perceived themselves to be at high risk for HIV infection. Commonly cited reasons for feeling at risk of HIV infection were injecting drugs (70.4%; 95% CI: 65.0, 75.9) and inconsistent condom use (38.7%; 95% CI: 33.2, 44.2) (Table 19).

Among those who did not feel at risk of HIV infection, nearly half (46.7%; 95% CI: 37.1, 56.5) said it was because they do not share needles, 42.3% (95% CI: 32.2, 52.8) said it was because they always use new needles, and 39.5% (95% CI: 29.9, 48.7) cited being faithful to their sexual partner (Table 19).

**Table 19: Perceived HIV risk among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Perceived HIV risk (excluding known positives) [N=416]</b>				
High risk	186	44.7	45.1	40.0, 50.3
Medium risk	91	21.9	18.6	14.7, 22.4
Low risk	33	7.9	8.2	5.4, 11.0
No risk	93	22.4	25.1	21.4, 28.9
Does not know	13	3.1	3.0	1.3, 4.8
<b>Reason(s) for feeling at risk of HIV infection among those who felt at risk* [N=310]</b>				
Injects drugs	215	69.4	70.4	65.0, 75.9
Inconsistent condom use	119	38.4	38.7	33.2, 44.2
Drinks alcohol	64	20.6	22.6	17.6, 27.8
Often changes sex partners	66	21.3	20.2	15.3, 24.9
Uses drugs	71	22.9	21.0	15.9, 25.9

Shares needles	51	16.5	19.0	13.4, 24.7
Has multiple concurrent sex partners	52	16.8	17.1	12.1, 22.2
Has sex with women engaged in commercial sex	36	11.6	11.9	7.5, 16.2
Has sex with other people who inject drugs	36	11.6	11.1	6.9, 15.4
Engages in anal sex	23	7.4	7.5	2.3, 12.7
Others	1	0.3	0.2	0, 0.6
<b>Reason(s) for not feeling at risk of HIV infection among those who felt they are not at risk* [N=93]</b>				
I do not share needles	40	43.0	46.7	37.1, 56.5
I always inject with new needles	36	38.7	42.3	32.2, 52.8
I am faithful	40	43.0	39.5	29.9, 48.7
I believe my sexual partners are HIV-negative	10	10.8	12.8	5.0, 20.8
I always use condoms	12	12.9	11.1	4.1, 18.0
I never have sex with individuals engaged in commercial sex	9	9.7	9.5	2.0, 16.9
I always clean needles before injecting	8	8.6	9.3	2.4, 16.2
Others	5	5.4	4.5	0, 10.4
Does not engage in sex	4	4.3	4.0	0, 9.5
I do not have anal sex	3	3.2	3.3	0, 11.3
Does not know	1	1.1	1.1	0.6, 1.6

\*Question allowed for multiple responses

## 4.8 Experiences of people who inject drugs who are living with HIV

### 4.8.1 Experiences with HIV care and treatment services

Among PWID who had ever tested for HIV, 6.8% (95% CI: 3.8, 9.8) disclosed their last HIV test result to be positive. Of those, nearly all (97.8%; 95% CI: 79.2, 100) were on ART and of those on ART, 93.7% (95% CI: 90.5, 97.2) had been on ART for more than 6 months. Among those on ART, 94.7% (95% CI: 77.3, 100) had at least one HIV viral load test done during routine services (Table 20).

Among PWID who disclosed an HIV-positive status, 92.6% (95% CI: 75.2, 100) had been screened for TB at least once in the past 12 months. Nearly half (44.8%; 95% CI: 25.1, 65.3) had experienced TB symptoms in the past 12 months and 17.4% (95% CI: 4.8, 30.2) had ever been treated for TB (Table 20).

**Table 20: Experiences of HIV care and treatment services among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Self-reported result of last HIV test [N=420]</b>				
Positive	28	6.7	6.8	3.8, 9.8
Negative	383	91.2	90.2	86.4, 93.9
Not comfortable saying	3	0.7	0.9	0.1, 1.9
Does not know / remember	6	1.4	2.0	0, 4.2
<b>Currently on anti-retroviral therapy [N=28]</b>				
Yes	27	96.4	97.8	79.2, 100
No	1	3.6	2.2	0, 20.8
<b>Time on anti-retroviral therapy [N=27]</b>				

Less than 6 months	2	7.4	6.3	2.8, 9.5
More than 6 months	25	92.6	93.7	90.5, 97.2
<b>Has had an HIV viral load test done [N=27]</b>				
Yes	25	92.6	94.7	77.3, 100
No	2	7.4	5.3	0, 22.7
<b>Was screened for tuberculosis symptoms during any clinic visit in last 12 months [N=28]</b>				
Yes	25	89.3	92.6	75.2, 100
No	2	7.1	5.2	0, 22.2
Has not visited the clinic in the last 12 months	1	3.6	2.2	0, 5.7
<b>Experienced night sweats, cough, fever, or weight loss in last 12 months [N=28]</b>				
Yes	10	35.7	44.8	25.1, 65.3
No	18	64.3	55.2	34.7, 74.9
<b>Has ever been treated for tuberculosis [N=28]</b>				
Yes	5	17.9	17.4	4.8, 30.2
No	23	82.1	82.6	69.8, 95.2

#### 4.8.2 Experiences of stigma as a person living with HIV

Some PWID living with HIV felt ashamed of their HIV status: one-quarter (25.2%; 95% CI: 6.6, 43.9) strongly agreed and 12.7% (95% CI: 2.9, 21.3) agreed with the statement, "In the last 6 months I have felt ashamed because of my HIV status". Nearly two in ten (18.7%; 95% CI: 7.6, 29.2) PWID experienced people talking badly about them because of their HIV status in the last 6 months and 10.8% (95% CI: 3.1, 17.1) experienced this often. Nearly four in ten PWID had someone else disclose their HIV status without their permission in the last 6 months: 22.7% (95% CI: 7.7, 37.2) experienced this once, 6.6% (95% CI: 0, 13.9) experienced this a few times, and 12.1% (95% CI: 2.5, 21.6) experienced this often (Table 21).

**Table 21: Experiences of stigma as a person living with HIV among people who inject drugs, Unguja, Zanzibar, 2023**

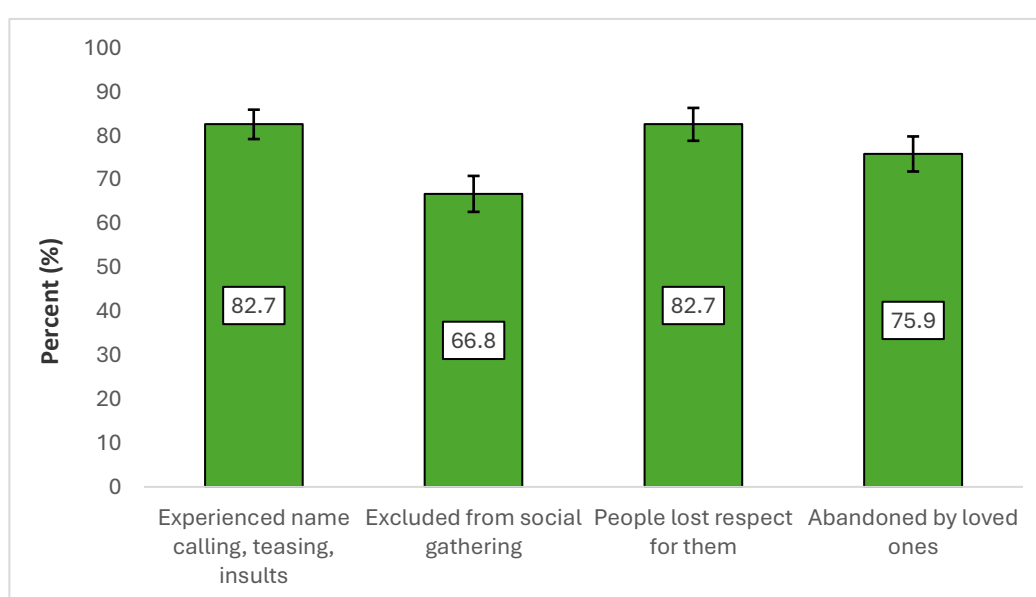
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Agreement with the following statement: "In the last 6 months, I have felt ashamed because of my HIV status." [N=28]</b>				
Strongly agree	7	25.0	25.2	6.6, 43.9
Agree	5	17.9	12.7	2.9, 21.3
Disagree	11	39.3	45.8	25.3, 67.8
Strongly disagree	5	17.9	16.3	5.7, 26.4
<b>In the last 6 months, have people talked badly about you because of your HIV status? [N=28]</b>				
Never	12	42.9	51.4	31.3, 72.9
Once	4	14.3	17.9	0, 40.4
A few times	6	21.4	18.7	7.6, 29.2
Often	5	17.9	10.8	3.1, 17.1

Not applicable because no-one knows my HIV status	1	3.6	1.1	0, 2.9
<b>In the last 6 months, did someone else disclose your HIV status without your permission? [N=28]</b>				
Never	15	53.6	57.5	39.8, 76.0
Once	6	21.4	22.7	7.7, 37.2
A few times	2	7.1	6.6	0, 13.9
Often	4	14.3	12.1	2.5, 21.6
Not applicable because no-one knows my HIV status	1	3.6	1.2	0, 3.3

## 4.9 Stigma as a person who injects drugs and mental health

### 4.9.1 Stigma related to injection drug use

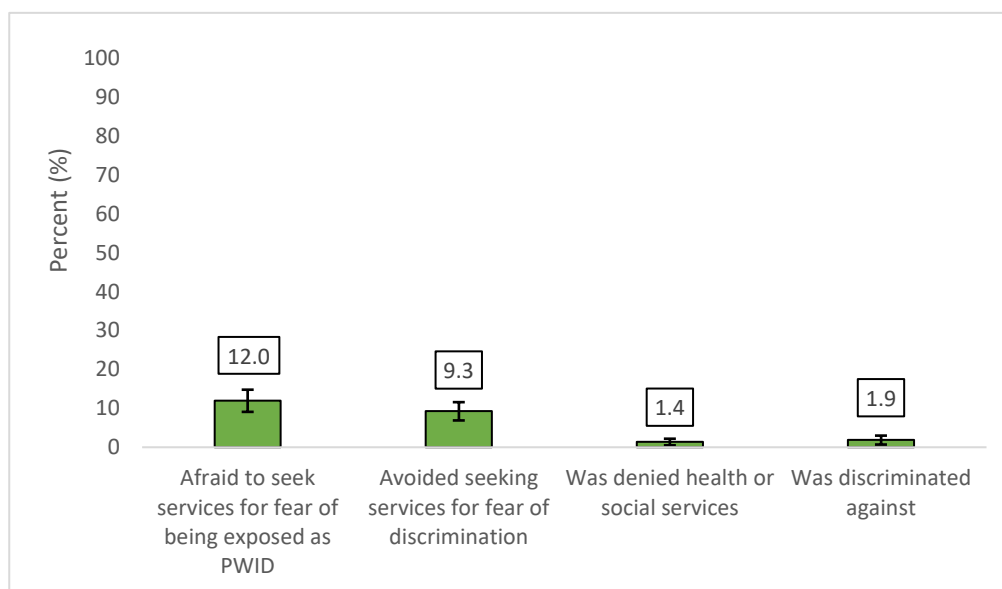
Being the target of stigma and/or discrimination as a PWID was very common in Unguja. Based on experiences from the past 6 months, 82.7% (95% CI: 79.3, 86.0) of PWID experienced name calling, teasing, or insults, 66.8% (95% CI: 62.7, 70.9) had been excluded from a social gathering, 82.7% (95% CI: 78.9, 86.4) reported that others had lost respect for them, and 75.9% (95% CI: 71.9, 79.9) were abandoned by their loved ones because they inject drugs (Figure 16; Table 22).



**Figure 16: Experiences of stigma and discrimination in the past 6 months among people who inject drugs, Unguja, Zanzibar, 2023**

#### 4.9.2 Avoidance of and experiences of discrimination in healthcare

In the last 12 months, 9.3% (95% CI: 6.9, 11.6) of PWID avoided seeking health or social services due to fear of being discriminated against because they inject drugs, 1.4% (95% CI: 0.5, 2.2) were denied health or social services, and 1.9% (95% CI: 0.7, 3.0) were discriminated against by a healthcare provider. In addition, 12.0% (95% CI: 9.1, 14.8) were afraid to seek health or social services because they were worried about being exposed as a PWID (Figure 17Figure 17). One in five (22.2%; 95% CI: 18.5, 26.0) knew where to report discrimination experienced during health services (Table 22).



**Figure 17: Avoidance of and experiences of discrimination in healthcare in the past 12 months among people who inject drugs, Unguja, Zanzibar, 2023**

**Table 22: Experiences of stigma, socially and in the healthcare setting, among people who inject drugs because of injection drug use, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Experiences of stigma as a PWID (% yes) [N=455]</b>				
Experienced name calling, teasing and insults	373	82.0	82.7	79.3, 86.0
Excluded from a social gathering	298	65.5	66.8	62.7, 70.9
Others have lost respect	374	82.2	82.7	78.9, 86.4
Abandoned by loved ones	343	75.4	75.9	71.9, 79.9
<b>Afraid to seek health or social services in last 12 months due to worry of being exposed as a PWID [N=455]</b>				
Yes	61	13.4	12.0	9.1, 14.8
No	394	86.6	88.1	85.2, 90.9
<b>Avoided seeking health or social services in last 12 months due to worry of being discriminated against as a PWID [N=455]</b>				
Yes	49	10.8	9.3	6.9, 11.6
No	406	89.2	90.7	88.4, 93.1



	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Had been denied health or social services in last 12 months because they are a PWID [N=455]</b>				
Yes	9	2.0	1.4	0.5, 2.2
No	446	98.0	98.7	97.8, 99.5
<b>Had been discriminated against by a healthcare provider because they are a PWID [N=455]</b>				
Yes	9	2.0	1.9	0.7, 3.0
No	446	98.0	98.2	97.0, 99.3
<b>Knew where to report discrimination experienced during health services [N=455]</b>				
Yes	113	24.8	22.2	18.5, 26.0
No	340	74.7	77.5	73.7, 81.2
Does not know	2	0.4	0.3	0, 0.7

### 4.9.3 Mental health

Feelings of anxiety, hopelessness, and worry were common among PWID in Unguja. More than half of PWID had little interest or pleasure in doing things that they previously enjoyed: 52.1% (95% CI: 47.4, 56.8) experienced this several days over the last 2 weeks, 1.7% (95% CI: 0.3, 3.0) experienced this more than half of the days, and 9.2% (95% CI: 6.8, 11.5) experienced this nearly every day. Feeling down, depressed, or hopeless was also common: 54.1% (95% CI: 49.5, 58.7) of PWID experienced this several days over the last 2 weeks, 5.1% (95% CI: 2.2, 8.0) experienced this more than half of the days, and 11.0% (95% CI: 8.2, 13.8) experienced this nearly every day (Table 23).

**Table 23: Experiences of worry and anxiety among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Over the last 2 weeks, frequency of having little interest or pleasure in doing things you have previously enjoyed [N=455]</b>				
Not at all	178	39.1	37.0	32.4, 41.5
Several days	224	49.2	52.1	47.4, 56.8
More than half the days	6	1.3	1.7	0.3, 3.0
Nearly every day	47	10.3	9.2	6.8, 11.5
<b>Over the last 2 weeks, frequency of feeling down, depressed, or hopeless [N=455]</b>				
Not at all	141	31.0	29.8	25.4, 34.2
Several days	242	53.2	54.1	49.5, 58.7
More than half the days	17	3.7	5.1	2.2, 8.0
Nearly every day	55	12.1	11.0	8.2, 13.8
<b>Over the last 2 weeks, frequency of feeling nervous, anxious, or on edge [N=455]</b>				

Not at all	176	38.7	37.3	32.9, 41.9
Several days	201	44.2	45.1	40.5, 49.8
More than half the days	12	2.6	3.4	0.9, 5.9
Nearly every day	65	14.3	13.8	11.0, 16.7
Does not remember	1	0.2	0.3	0, 0.6
<b>Over the last 2 weeks, frequency of not being able to stop or control worrying [N=455]</b>				
Not at all	178	39.1	37.4	33.0, 41.9
Several days	195	42.9	44.1	39.4, 48.7
More than half the days	15	3.3	4.2	1.8, 6.7
Nearly every day	64	14.1	13.7	10.8, 16.6
Does not remember	1	0.2	0.2	0, 0.4
No response	2	0.4	0.4	0, 1.0

#### 4.10 Experiences of arrest and physical and sexual violence

Six in ten (62.4%; 95% CI: 58.0, 66.8) PWID had been arrested in past 12 months. The most common reasons for arrest were drug use (52.8%; 95% CI: 46.4, 59.3), loitering (36.5%; 95% CI: 30.6, 42.8) and theft (29.1%; 95% CI: 23.1, 35.4). One-third (32.8%; 95% CI: 26.6, 39.4) of PWID had been arrested for more than one reason in the past 12 months (Table 24).

Experiences of violence varied among PWID in Unguja. Half (52.2%; 95% CI: 47.7, 56.7) of PWID experienced physical violence in the last 12 months. The most common perpetrators of violence were police (75.5%; 95% CI: 69.8, 81.8) and strangers (40.6%; 95% CI: 33.3, 48.2). Among those who experienced physical violence, 16.3% (95% CI: 12.2, 20.3) reported the violence to an authority. The most cited reasons for not reporting physical violence to the authorities were not knowing where to go or whether to report (32.2%; 95% CI: 25.8, 39.0), fear of retaliation (21.8%; 95% CI: 16.4, 27.0), and feeling ashamed or embarrassed (18.2%; 95% CI: 12.6, 24.1) (Table 24).

A minority (4.9%; 95% CI: 3.0, 6.8) of PWID were forced to have sex in the last 12 months. Among those forced to have sex, none reported the violence to an authority and 4.2% (95% CI: 0, 10.4) sought medical attention after the incident. The most cited reasons for not reporting were feeling ashamed or embarrassed (47.0%; 95% CI: 30.5, 64.5) and not knowing where to go or whether to report (30.4%; 95% CI: 14.2, 47.9) (Table 24).

**Table 24: Experiences of arrest, physical, and sexual violence among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Was arrested in past 12 months [N=455]</b>				
Yes	289	63.5	62.4	58.0, 66.8
No	166	36.5	37.6	33.2, 42.0
<b>Reason(s) for arrest in past 12 months among those who were arrested<sup>y</sup> [N=289]</b>				
Drug use	152	52.6	52.8	46.4, 59.3
Loitering	96	33.2	36.5	30.6, 42.8

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Theft	76	26.3	29.1	23.1, 35.4
Aggravated assault	41	14.2	15.6	9.9, 21.4
Selling drugs	23	8.0	7.1	3.1, 10.9
Other	7	2.4	3.4	0, 9.2
Engaging in commercial sex	5	1.7	1.6	0.5, 2.6
Arrested for more than one reason [N=289]	85	29.4	32.8	26.6, 39.4
<b>Experienced physical violence in past 12 months [N=455]</b>				
Yes	221	48.6	52.2	47.7, 56.7
No	234	51.4	47.8	43.3, 52.3
<b>Perpetrator(s) of physical violence in past 12 months, among those who experienced physical violence<sup>‡</sup> [N=221]</b>				
Police	160	72.4	75.5	69.8, 81.8
An unknown person / person on the street	83	37.6	40.6	33.3, 48.2
Family member	16	7.2	6.4	2.1, 10.6
Friend	11	5	5.3	0.9, 9.8
Community member	9	4.1	3.8	0, 7.6
Another PWID	7	3.2	2.0	0, 4.4
Drug dealer	3	1.4	1.1	0, 3.5
One-time sex partner	2	0.9	1.0	0.7, 1.4
Other	1	0.5	0.7	0, 1.8
Does not remember	1	0.5	0.4	0, 0.7
<b>Reported the violence to any authority, among those who experienced physical violence [N=221]</b>				
Yes	36	16.3	16.3	12.2, 20.3
No	182	82.4	81.8	76.7, 87.0
No response	3	1.4	1.9	0, 5.4
<b>Reason for not reporting physical violence to an authority [N=182]</b>				
Did not know where to go / that I should report	56	30.8	32.2	25.8, 39.0
Fear of retaliation	42	23.1	21.8	16.4, 27.0
Felt ashamed / embarrassed	30	16.5	18.2	12.6, 24.1
Negative experience with authorities in the past	28	15.4	14.8	8.7, 21.0
Fear of discrimination from family/community	10	5.5	4.8	2.4, 7.1
Fear of being stigmatized	11	6	4.5	2.0, 6.8
Other	4	2.2	2.9	0.6, 5.2
No response	1	0.5	0.6	0, 3.0
<b>Forced to have sex in past 12 months [N=455]</b>				
Yes	24	5.3	4.9	3.0, 6.8
No	428	94.1	94.6	92.7, 96.5
Does not remember	3	0.7	0.5	0, 0.9

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Perpetrator(s) of sexual violence (among those forced to have sex in past 12 months) ‡ [N=24]</b>				
Friend	5	20.8	20.9	7.9, 33.5
One-time sex partner	5	20.8	18.1	7.7, 28.0
Unknown person	3	12.5	18.0	2.0, 35.1
Another PWID	3	12.5	14.3	1.4, 28.5
Wife or girlfriend	3	12.5	11.9	1.2, 22.8
Other	2	8.3	8.7	0, 19.2
Does not remember	2	8.3	4.6	0, 12.0
Drug dealer	1	4.2	3.6	0, 10.3
Boyfriend or husband	2	8.3	5.9	0, 12.8
<b>Sought medical treatment after forced sex, among those forced to have sex in past 12 months [N=24]</b>				
Yes	1	4.2	4.2	0, 10.4
No	23	95.8	95.8	89.6, 100
<b>Reported the violence to any authority, among those who experienced sexual violence [N=24]</b>				
Yes	0	0	NC	NC
No	24	100	NC	NC
<b>Reason for not reporting sexual violence to an authority [N=24]</b>				
Felt ashamed / embarrassed	10	41.7	47.0	30.5, 64.5
Did not know where to go / that I should report	7	29.2	30.4	14.2, 47.9
Other	2	8.3	7.5	0, 14.7
Fear of retaliation	2	8.3	6.4	0, 12.1
Negative experience with authorities in the past	1	4.2	4.2	0, 19.4
Fear of being stigmatized	1	4.2	3.6	0, 8.1
No response	1	4.2	1.0	0, 1.1

‡Question allowed for multiple responses

## 4.11 Services for populations at risk for HIV

### 4.11.1 Awareness, access, and uptake of drug treatment programs

Nearly half (44.1%; 95% CI: 39.2, 49.0) of PWID in Unguja had tried to reduce or give up drug use in the past 6 months. Nearly three-quarters (73.1%; 95% CI: 68.8, 77.3) of PWID were aware of any drug treatment program in Unguja. Among those, 25.5% (95% CI: 20.5, 30.4) wanted or tried to enter a drug treatment program in the past 6 months of whom 97.2% (95% CI: 83.7, 100) were able to receive services (Table 25).

Approximately one in three (28.2%; 95% CI: 23.6, 32.6) PWID had ever received opioid agonist therapy (OAT). Of those, 76.6% (95% CI: 68.3, 85.2) were in OAT for more than 6 months. A small proportion (15.8%; 95% CI: 12.5, 19.1) of PWID had ever been prescribed a medication other than methadone to

stop using drugs and 18.8% (95% CI: 15.3, 22.2) had received any other treatment or therapy (e.g., detoxification, rehabilitation, counseling) for drug use in the past (Table 25).

**Table 25: Awareness, access, and uptake of drug treatment programs among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Tried to reduce or give up drug use in past six months [N=455]</b>				
Yes	215	47.3	44.1	39.2, 49.0
No	238	52.3	55.4	50.4, 60.3
Does not know	2	0.4	0.5	0, 1.1
<b>Awareness of and access to drug treatment programs in Unguja</b>				
<b>Aware of any drug treatment program in Unguja [N=455]</b>	338	74.3	73.1	68.8, 77.3
<b>Wanted or tried to enter drug treatment program in past 6 months [N=338]</b>	88	26.0	25.5	20.5, 30.4
<b>Was able to receive services [N=88]</b>	84	95.5	97.2	83.7, 100
<b>Type(s) or treatment received* [N=84]</b>				
OAT	51	60.7	60.0	51.2, 68.6
Peer/community counselling	33	39.3	39.3	30.3, 48.2
Outpatient counselling	24	28.0	26.9	17.8, 35.5
Inpatient counselling	17	20.2	18.5	10.1, 26.5
Detoxification with other drugs	12	14.3	13.5	5.9, 21.0
Other	8	9.5	11.1	1.5, 20.9
<b>Experience with opioid agonist therapy</b>				
<b>Ever received opioid agonist therapy [N=455]</b>	136	29.9	28.2	23.6, 32.6
<b>Duration of opioid agonist therapy [N=136]</b>				
More than 6 months	101	74.3	76.6	68.3, 85.2
Less than 6 months	31	22.8	21.8	13.7, 29.7
No response	4	2.9	1.6	0, 4.3
<b>Experience with other drug treatments</b>				
<b>Ever prescribed a medication other than methadone to stop using drugs [N=455]</b>				
Yes	79	17.4	15.8	12.5, 19.1
No	372	81.7	83.5	80.2, 86.9
Does not remember	4	0.9	0.7	0.1, 1.3
<b>Has had any other treatment or therapy for drug use (e.g., detox, rehab, counseling) [N=455]</b>				
Never	348	76.5	78.0	74.4, 81.6
In the past	91	20.0	18.8	15.3, 22.2
Is currently in treatment	13	2.9	2.7	1.3, 4.1
Does not know	1	0.2	0.2	0, 0.5
No response	2	0.4	0.4	0, 0.9

\*Question allowed for multiple responses

### 4.11.2 Pre-exposure prophylaxis awareness and uptake

One in five (19.9%; 95% CI: 16.1, 23.7) PWID had ever heard of pre-exposure prophylaxis (PrEP). Among those who had heard of PrEP, 12.0% (95% CI: 6.7, 17.1) had ever used PrEP. Among those who had heard of but never used PrEP, reasons for not using PrEP included not knowing where to get PrEP or not having PrEP available close to where they live (39.3%; 95% CI: 26.6, 50.6) and not wanting or not having time to access PrEP (22.3%; 95% CI: 14.4, 30.1) (Table 26).

**Table 26: Awareness and uptake of pre-exposure prophylaxis (PrEP) among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Awareness and use of pre-exposure prophylaxis (PrEP)</b>				
Has ever heard of PrEP [N=455]	97	21.3	19.9	16.1, 23.7
Has ever taken PrEP [N=97]	12	12.4	12.0	6.7, 17.1
Would take PrEP to help prevent HIV (among those who did not disclose that they were living with HIV and had never taken PrEP or have never heard about prep) [N=386]	137	35.5	31.1	27.6, 34.5
<b>Main reason has never taken PrEP [N=84]*</b>				
Not available where I live / does not know where to get PrEP	39	46.4	39.3	26.6, 50.6
Does not want it/does not have time	19	22.6	22.3	14.4, 30.1
Afraid of side effects	7	8.3	13.2	3.4, 24.0
Does not feel at risk	8	9.5	11.3	4.8, 18.1
Does not have information about PrEP	3	3.6	3.8	2.8, 5.0
Embarrassed to talk about it with doctor/nurse	2	2.4	1.9	0.3, 3.4
Other	3	3.6	4.7	0, 11.9
Does not know	3	3.6	3.5	0.3, 6.7

\* Excludes one individual who had disclosed testing HIV-positive more than 6 months prior

### 4.11.3 Engagement with peer educators and population at risk for HIV-friendly clinics

Nearly four in ten (38.1%; 95% CI: 33.4, 42.9) PWID engaged with a peer educator in the last 12 months. Of those, the majority interacted with a peer educator only once (22.4%; 95% CI: 15.3, 29.9) or twice (40.5%; 95% CI: 32.9, 47.9) during that period. Commonly provided services were information about HIV transmission and prevention (73.1%; 95% CI: 66.9, 79.4), general counseling from a peer counsellor (43.3%; 95% CI: 36.2, 50.1), linkage to HIV testing (35.9%; 95% CI: 28.5, 43.2), and condoms (28.4%; 95% CI: 20.5, 36.1) (Table 27).

One in five (19.3%; 95% CI: 15.4, 23.1) PWID sought HIV services from a clinic providing PWID-friendly services in the past 12 months. Among those, commonly received services were information about HIV transmission and prevention (40.0%; 95% CI: 29.4, 49.6), HIV testing (37.7%; 95% CI: 25.8, 49.0),

counseling from a peer counsellor (34.5%; 95% CI: 23.2, 45.6), and counseling from a professional or voluntary counseling and testing counselor (30.8%; 95% CI: 19.2, 42.6) (Table 27).

**Table 27: Engagement with peer educators and population at risk for HIV friendly clinics and services received by people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Received health services at a population at risk for HIV-friendly clinic and/or from a peer educator in the last 12 months [N=455]</b>				
Yes	206	45.3	43.9	39.0, 48.7
No	249	54.7	56.1	51.3, 61.0
<b>Had contact with a peer educator in past 12 months [N=455]</b>				
Yes	178	39.1	38.1	33.4, 42.9
No	273	60.0	60.5	55.7, 65.2
Does not remember	4	0.9	1.4	0, 3.2
<b>Number of contacts with peer educator in past 12 months among those who had any contact [N=178]</b>				
One time only	36	20.0	22.4	15.3, 29.9
Two times	75	42.1	40.5	32.9, 47.9
Three times	31	17.4	16.9	11.3, 22.3
Four times	6	3.4	4.6	0.4, 8.9
Five or more times	23	12.9	11.4	6.2, 16.2
No response	7	3.9	4.2	2.0, 6.5
<b>Service(s) received from a peer educator in past year* [N=178]</b>				
Information on sexually transmitted infections or HIV transmission or prevention	130	73.0	73.1	66.9, 79.4
General counseling from a peer counselor	81	45.5	43.3	36.2, 50.1
Linkage to HIV testing	65	36.5	35.9	28.5, 43.2
Condoms	54	30.3	28.4	20.5, 36.1
Information about tuberculosis	42	23.6	22.4	15.6, 29.1
Counseling from a professional or voluntary counseling and testing counselor	38	21.3	22.4	15.0, 29.8
Referral for tuberculosis screening	8	4.5	4.4	0, 8.8
ART services	6	3.4	4.0	0, 9.3
Opioid agonist therapy counselling services	8	4.5	4.0	0, 8.3
Testing for hepatitis	5	2.8	3.0	0, 7.4
Referral for care and treatment services	3	1.7	1.7	0, 5.0
Sexual and reproductive health services	1	0.6	0.7	0.4, 0.9
Referral for treatment of a sexually transmitted infection	1	0.6	0.7	0, 1.8
Pre-exposure prophylaxis	1	0.6	0.3	0.2, 0.4
Other	2	1.1	1.3	0, 4.8
<b>Peer educator was non-judgmental [N=178]</b>				

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Yes	141	79.2	81.6	75.5, 88.2
No	33	18.5	16.8	10.3, 22.9
Does not remember	4	2.2	1.6	0.2, 2.9
<b>Visited a clinic or drop-in center around Unguja providing services to PWID in past 12 months [N=455]</b>				
Yes	91	20.0	19.3	15.4, 23.1
No	347	76.3	75.6	71.2, 80.0
Does not remember	17	3.7	5.2	2.1, 8.2
<b>Service(s) received at PWID clinic* [N=91]</b>				
Information on sexually transmitted infections or HIV transmission or prevention	41	45.1	40.0	29.4, 49.6
HIV test	37	40.7	37.7	25.8, 49.0
General counseling from a peer counselor	33	36.3	34.5	23.2, 45.6
Counseling from a professional or voluntary counseling and testing counselor	27	29.7	30.8	19.2, 42.6
Condoms	17	18.7	15.9	8.1, 22.9
Information about tuberculosis	9	9.9	7.2	1.3, 12.6
Opioid agonist therapy	5	5.5	6.7	0, 38.8
Testing for hepatitis	5	5.5	6.2	0, 12.5
Anti-retroviral therapy services	4	4.4	5.2	0, 11.5
Referral for tuberculosis screening	2	2.2	3.6	0, 9.4
Sexual and reproductive health services	2	2.2	2.6	0, 6.0
Referral for care and treatment services	1	1.1	1.3	0, 5.1
Pre-exposure prophylaxis	1	1.1	0.8	0.5, 1.1
Other	1	1.1	1.7	1.1, 2.4

\*Question allowed for multiple responses

## 4.12 Access to and uptake of other healthcare services

### 4.12.1 Hepatitis testing

One-quarter (24.6%; 95% CI: 20.6, 28.7) of PWID in Unguja reported that they had been tested for hepatitis prior to the survey. Nearly half (46.4%; 95% CI: 38.2, 54.1) could not remember the type of hepatitis for which they were tested. Among those who had previously tested for hepatitis B, 17.7% (95% CI: 7.4, 27.1) reported a positive test result and among those who had previously tested for hepatitis C, 40.7% (95% CI: 28.4, 53.5) reported a positive test result (Table 28).

**Table 28: Hepatitis testing prior to the survey among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Has ever been tested for hepatitis [N=455]</b>				
Yes	119	26.2	24.6	20.6, 28.7



No	330	72.5	74.1	69.9, 78.3
Does not remember	6	1.3	1.2	0.2, 2.3
<b>Type of hepatitis testing done [N=119]</b>				
Hepatitis B only	13	10.9	11.9	6.5, 17.7
Hepatitis C only	20	16.8	18.2	11.5, 25.4
Both hepatitis B and hepatitis C	27	22.7	22.3	15.1, 29.2
Does not remember	57	47.9	46.4	38.2, 54.1
No response	2	1.7	1.2	0, 4.0
<b>Previous hepatitis test results</b>				
Hepatitis B positive [N=40]	8	20.0	17.7	7.4, 27.1
Hepatitis C positive [N=47]	18	38.3	40.7	28.4, 53.5

#### 4.12.2 COVID-19 vaccine uptake and beliefs

Nearly half (48.8%; 95%CI: 43.6, 53.9) of PWID had ever received a COVID-19 vaccine. Among those, 83.1% (95% CI: 78.3, 88.4) received their most recent dose more than six months prior to the survey. The main reasons cited for not receiving a COVID-19 vaccine were time constraints (30.0%; 95% CI: 24.6, 35.1), not knowing where to get vaccinated (22.3%; 95% CI: 16.8, 28.0), and being afraid of vaccine side effects (19.9%; 95% CI: 13.9, 26.2) (Table 29).

**Table 29: COVID-19 vaccination uptake and beliefs among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Ever received a COVID-19 vaccine [N=455]</b>				
Yes	214	47.0	48.8	43.6, 53.9
No	235	51.6	49.9	44.7, 55.1
Does not remember	6	1.3	1.3	0.2, 2.4
<b>Number of doses of COVID-19 vaccine received [N=214]</b>				
One	151	70.6	73.4	68.5, 78.7
Two	50	23.4	21.4	17.2, 25.4
Three or more	5	2.3	1.9	0, 4.5
Does not remember	8	3.7	3.3	0.8, 5.6
<b>Timing of last dose of COVID-19 vaccine [N=214]</b>				
In the last month	3	1.4	0.9	0.3, 1.5
Within the last 6 months but not in the last month	27	12.6	11.8	7.5, 16.0
More than 6 months ago	172	80.4	83.1	78.3, 88.4
Does not remember	12	5.6	4.2	1.1, 7.0
<b>Main reason for not receiving a COVID-19 vaccine [N=235]</b>				
Time constraints: difficult to find or make an appointment/ too busy/no time off work	74	31.5	30.0	24.6, 35.1
Does not know where to get vaccinated	51	21.7	22.3	16.8, 28.0

Afraid of Covid-19 vaccine side effects	42	17.9	19.9	13.9, 26.2
Does not want to get vaccinated	23	9.8	9.8	6.1, 13.4
Believes the vaccine is not safe	22	9.4	8.8	5.4, 12.0
Not eligible to get vaccinated	6	2.6	2.7	0.9, 4.6
The hours of operation are inconvenient / difficult to make appointment (operational issues)	6	2.6	2.4	0.5, 4.4
Too far away/does not have transportation	5	2.1	2.1	0, 5.1
No response	3	1.3	1.1	0, 2.4
Other	2	0.9	0.6	0, 1.6
Does not remember	1	0.4	0.2	0, 0.4

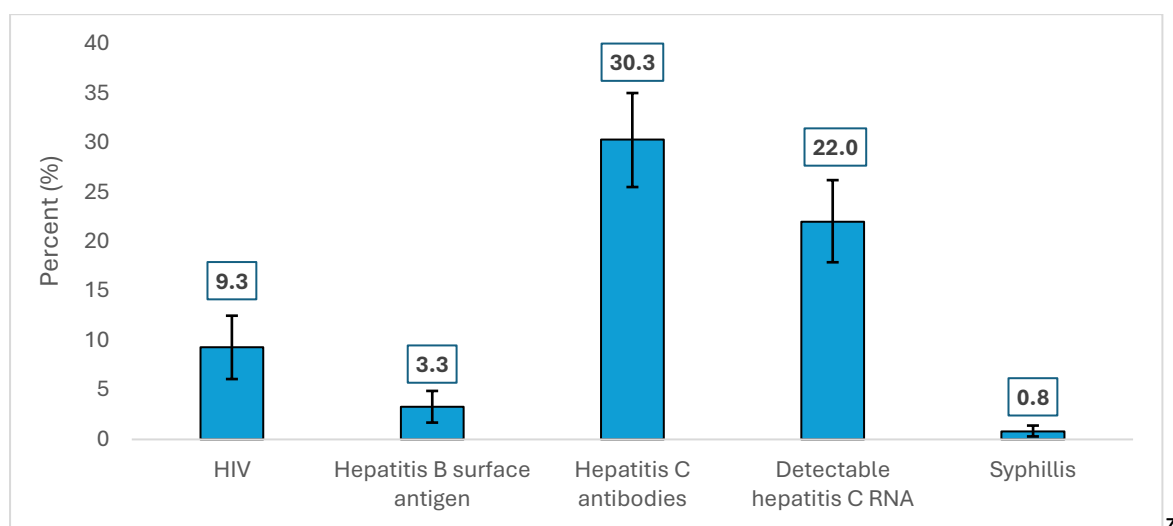
#### 4.13 HIV prevalence and incidence, and prevalence of hepatitis B, hepatitis C, syphilis, and co-infection

HIV prevalence among PWID was 9.3% (95% CI: 6.1, 12.5). Estimated HIV incidence was 0.7% (95%CI: 0.5, 0.9). The majority of PWID living with HIV (82.3%; 95% CI: 70.7, 94.6) had a CD4 count greater than or equal to 500 cells/ $\mu$ L. Two-thirds (66.1%; 95% CI: 37.4, 92.6) of PWID living with HIV had an undetectable HIV viral load (HVL) (<50 copies/mL), 4.5% (95% CI: 0, 9.8) had low-level viremia (LLV), and 29.5% (95% CI: 4.4, 56.9) were virally unsuppressed ( $\geq$ 1,000 copies/mL). There were no RITA recent cases of HIV infection (Table 30).

Prevalence of hepatitis B surface antigen was 3.3% (95% CI: 1.7, 4.9) and all participants who had a reactive test for hepatitis B surface antigen were core antibody (IgM) negative, indicating chronic infection. HBV-HIV co-infection was 0.9% (95% CI: 0, 1.8) (Table 30).

Hepatitis C antibodies were detected in 30.3% (95% CI: 25.6, 35.1) of PWID and the prevalence of active hepatitis C infection (measured by the presence of detectable HCV viral load) was 22.0% (95% CI: 17.8, 26.1). Among those who screened positive for hepatitis C antibodies, 72.5% (95% CI: 64.8, 80.8) had active hepatitis C infection. In addition, 3.5% (95% CI: 1.9, 5.2) of PWID were co-infected with HIV and active hepatitis C. Among PWID living with HIV, 63.1% (95% CI: 48.5, 76.8) had HCV antibodies compared to 27.0% (95% CI: 22.4, 31.7) of HIV-negative PWID (Table 30).

Syphilis antibody prevalence was 0.8% (95% CI: 0.2, 1.3). There were no cases of HIV-syphilis co-infection (Figure 18; Table 30).



**Figure 18: Prevalence of HIV, hepatitis B surface antigen, hepatitis C antibodies, detectable hepatitis C viral load, and syphilis among people who inject drugs, Unguja, Zanzibar, 2023**

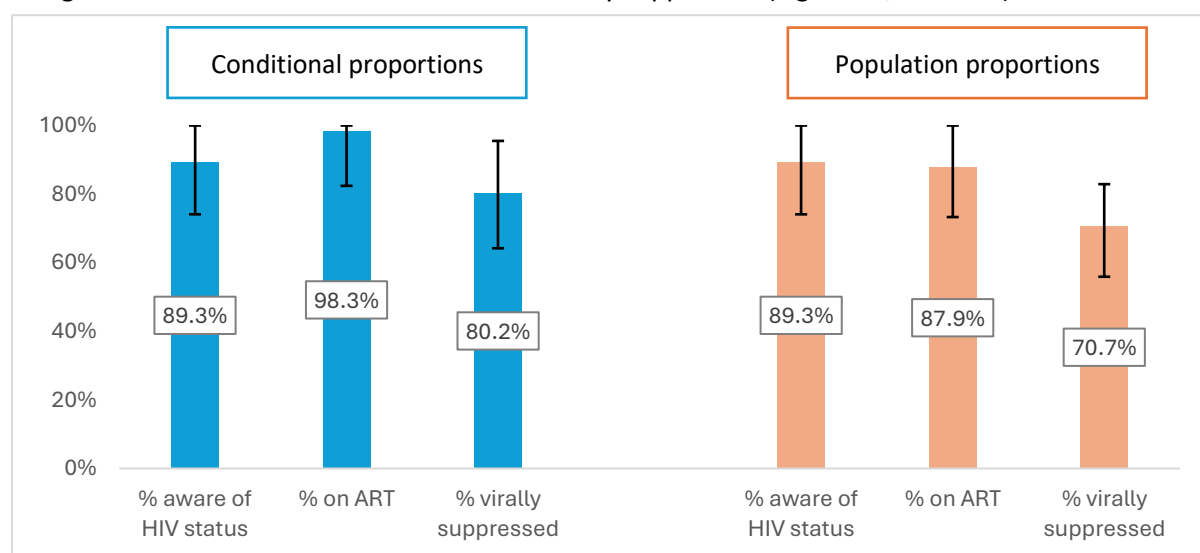
**Table 30: Prevalence of HIV, hepatitis B, hepatitis C, and syphilis among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence and related laboratory results</b>				
<b>HIV prevalence [N=455]</b>	41	9.0	9.3	6.1, 12.5
<b>HIV viral load [N=41]</b>				
<50 copies/mL	30	73.2	66.1	37.4, 92.6
50–999 copies/mL	2	4.9	4.5	0, 9.8
≥ 1,000 copies/mL	9	22.0	29.5	4.4, 56.9
<b>CD4 count [N=41]</b>				
<200 cells/μL	1	2.4	2.2	0, 5.4
200–349 cells/μL	1	2.4	1.3	0.5, 1.7
350–499 cells/μL	6	14.6	14.3	2.8, 25.3
≥ 500 cells/μL	33	80.5	82.3	70.7, 94.6
<b>Recent HIV infection using a recent infection testing algorithm (RITA)</b>				
<b>RITA results [N=41]</b>				
RITA recent	0	0	NC	NC
RITA long-term	41	100	NC	NC
<b>Hepatitis B</b>				
Hepatitis B surface antigen prevalence [N=455]	15	3.3	3.3	1.7, 4.9
Hepatitis B core antibody prevalence [N=455]	4	0.9	0.9	0.1, 1.7
<b>Hepatitis C</b>				
Hepatitis C antibody prevalence [N=455]	142	31.2	30.3	25.6, 35.1
Hepatitis C detectable viral load [N=455]	98	21.5	22.0	17.8, 26.1

Hepatitis C detectable viral load among those who screened positive for hepatitis C antibodies [N=142]	98	69.0	72.5	64.8, 80.2
Hepatitis C antibody prevalence among people who inject drugs living with HIV [N=41]	28	68.3	63.1	48.5, 76.8
Hepatitis C antibody prevalence among people how inject drugs not living with HIV [N=414]	114	27.5	27.0	22.4, 31.7
<b>Syphilis</b>				
Syphilis antibody prevalence [N=455]	4	0.9	0.8	0.2, 1.3
<b>Co-infection</b>				
HIV-hepatitis B co-infection [N=455]	3	0.7	0.9	0, 1.8
HIV-hepatitis C co-infection [N=455]	28	6.2	3.5	1.9, 5.2
HIV-syphilis co-infection [N=455]	0	0	0	NC

#### 4.14 Progress towards the UNAIDS 95-95-95 targets

Awareness of HIV-positive status was defined as people living with HIV who disclosed a prior HIV diagnosis or had a suppressed HIV viral load (<1,000 copies/mL). In Unguja, 89.3% (95% CI: 74.1, 100) of PWID living with HIV were aware of their HIV status. Being on ART was defined as those who disclosed current use of ART or had a suppressed viral load. Among PWID living with HIV who knew their HIV status, 98.3% (95% CI: 82.4, 100) were on ART. Viral suppression was defined as an HIV viral load <1,000 copies/mL. Of PWID living with HIV who knew their HIV status and were on ART, 80.2% (95% CI: 64.2, 95.5) were virally suppressed. When analyzed at the population level, 87.9% of PWID living with HIV were on ART and 70.7% were virally suppressed (Figure 19; Table 31).



**Figure 19: Progress towards 95-95-95 targets among people who inject drugs, Unguja, Zanzibar, 2023**

**Table 31: Progress towards the UNAIDS 95-95-95 targets among people who inject drugs, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
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Conditional proportions				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=41]</b>				
Known HIV-positive	38	92.7	89.3	74.1, 100
Newly identified HIV-positive	3	7.3	10.7	0, 25.9
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=38]</b>				
Yes	37	97.4	98.3	82.4, 100
No	1	2.6	1.7	0, 17.6
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;1,000 copies/mL [N=37]</b>				
Suppressed	32	86.5	80.2	64.2, 95.5
Not suppressed	5	13.5	19.8	4.5, 35.8
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=37]</b>				
Suppressed	30	81.1	75.4	53.4, 95.8
Not suppressed	7	18.9	24.6	4.3, 46.6
Population proportions				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=41]</b>				
Known HIV-positive	38	92.7	89.3	74.1, 100
Newly identified HIV-positive	3	7.3	10.7	0, 25.9
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=41]</b>				
Yes	37	90.2	87.9	73.3, 100
No	4	9.8	12.1	0, 26.7
<b>3<sup>rd</sup> 95: HIV viral load suppression (&lt;1,000 copies/mL) [N=41]</b>				
Suppressed	32	78.1	70.7	55.9, 82.9
Not suppressed	9	21.9	29.3	17.1, 44.1
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=37]</b>				
Suppressed	30	73.2	66.3	52.2, 78.7
Not suppressed	11	26.8	33.7	21.3, 47.8

## 4.15 Bivariate analysis

### 4.15.1 HIV prevalence by socio-demographic characteristics

There were no statistical differences in HIV prevalence based on age. HIV prevalence decreased as education level increased from 15.6% (95% CI: 1.0, 30.5) among those with no formal education to 7.8% (95% CI: 3.6, 11.9) among those who had some or completed secondary education; however, these differences were not statistically significant. HIV prevalence was similar between PWID who had migrated to Unguja (9.7%; 95% CI: 3.7, 15.5) and those who were native to Unguja (9.2%; 95% CI: 5.6, 12.7) (Table 32).

**Table 32: HIV prevalence among people living with HIV who inject drugs by sociodemographic characteristics, Unguja, Zanzibar, 2023**

[N=41]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
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HIV prevalence by age group				
20–24	1	5.9	3.7	0, 10.7
25–29	6	9.5	11.4	1.4, 21.8
30–34	3	3.5	4.4	0.3, 8.4
35–39	7	8.1	10.1	1.4, 18.8
≥40	24	11.8	10.5	6.0, 15.1
Level of education				
No school	3	15.8	15.6	1.0, 30.5
Some or completed primary	23	9.5	10.0	5.1, 14.9
Some or completed secondary	15	7.8	7.8	3.6, 11.9
More than secondary	0	0	NC	NC
Migration				
Migrated to Unguja	9	12.3	9.7	3.7, 15.5
Lived whole life in Unguja	32	8.4	9.2	5.6, 12.7
Income				
<50,000	3	14.3	15.6	0, 32.9
50,000–120,000	5	6.4	12.2	2.9, 21.3
120,001–200,000	10	10.9	22.2	7.4, 36.9
200,001–500,000	11	6.0	21.1	8.5, 33.4
>500,000	12	14.5	28.9	13.2, 44.4

#### 4.15.2 HIV prevalence by vulnerability factors

No statistically significant differences in HIV prevalence were observed among PWID who had experienced violence, stigma, and discrimination (Table 33).

**Table 33: HIV prevalence among people who are living with HIV and inject drugs by vulnerability factors, Unguja, Zanzibar, 2023**

[N=41]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Arrested in past 12 months</b>				
Yes	25	8.7	9.4	5.1, 13.6
No	16	9.6	9.1	4.5, 13.7
<b>Experienced physical violence in past 12 months</b>				
Yes	15	6.8	8.0	3.1, 12.7
No	26	11.1	11.0	6.1, 14.8
<b>Forced to have sex in past 12 months</b>				
Yes	2	8.3	8.8	0, 19.4
No	39	9.1	9.3	6.0, 12.6
<b>Has experienced name calling, teasing or insults</b>				
Yes	29	7.8	8.2	4.9, 11.5
No	12	14.8	14.6	6.1, 23.1
<b>Has been excluded from a social gathering</b>				
Yes	27	9.1	9.5	5.4, 13.7

No	14	8.9	8.8	4.1, 13.4
<b>Has been abandoned by loved ones</b>				
Yes	32	9.3	9.1	5.5, 12.7
No	9	8.3	10.5	4.3, 16.8
<b>Others have lost respect for him/her</b>				
Yes	33	8.8	9.1	5.6, 12.7
No	8	9.9	10.0	2.9, 16.8
<b>Has comprehensive HIV knowledge</b>				
Yes	12	7.4	6.5	2.5, 10.5
No	29	9.9	10.8	6.3, 15.5

#### 4.15.3 HIV prevalence by injection and sexual risk behaviors

HIV prevalence was higher among those who had injected drugs for 7 or more years 10.2% (95% CI: 6.2, 14.2) compared to those who had injected drugs for 3 years or less (5.1%; 95% CI: 0, 12.4). However, this difference was not statistically significant. No statistically significant differences were observed in HIV prevalence between PWID who had shared needles and those who had not, either ever or in the past month (Table 34).

HIV prevalence was higher among PWID who had not asked or paid a “*dokta*” (someone who helps PWID inject) to inject them in the past month (13.3%; 95% CI: 8.5, 18.1) compared to those who always (2.6%; 95% CI: 0, 5.9) or sometimes (4.1%; 95% CI: 1.0, 7.1) had a “*dokta*” inject them in the past month. HIV prevalence was also higher among PWID who had engaged in commercial sex in the past month (23.9%; 95% CI: 9.9, 38.7) compared to those who had not (4.3%; 95% CI: 1.3, 7.3) (Table 34).

**Table 34: HIV prevalence among people living with HIV who inject drugs, by injection and sexual risk behaviors, Unguja, Zanzibar, 2023**

[N=41]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence by time injecting</b>				
3 years or less	2	3.6	5.1	0, 12.4
4–6 years	5	7.1	8.0	1.9, 14.2
≥7 years	34	10.3	10.2	6.2, 14.2
<b>Can get a clean needle/syringe anytime needed</b>				
Yes	28	7.9	8.5	4.4, 12.6
No	13	13.1	12.2	5.6, 18.7
<b>Has ever shared a needle</b>				
Yes	22	11	11.1	5.6, 16.5
No	19	7.5	7.9	3.9, 12.0
<b>Used a needle previously used by someone else in past month</b>				
Yes	9	10.1	8.9	2.9, 14.8
No	13	11.7	12.8	4.4, 20.9
<b>Used a needle/syringe after someone else had used it at last injection</b>				

Yes	7	14.0	13.4	3.9, 22.7
No	33	8.2	8.5	5.2, 11.8
<b>How often asked or paid a 'dokta' to inject them in past month</b>				
Always	2	3.1	2.6	0, 5.9
Sometimes	5	3.9	4.1	1.0, 7.1
Never	34	13.0	13.3	8.5, 18.1
<b>Had any type of sexual partner in past month</b>				
Yes	17	7.3	8.9	3.7, 14.2
No	24	11.5	10.2	6.1, 14.3
<b>Had sex in the past month where no payment was involved</b>				
Yes	12	7.1	9.5	3.2, 15.8
No	15	10.1	7.8	3.4, 12.1
<b>Paid someone for sex in the past month<sup>¥</sup></b>				
Yes	10	7.5	9.9	2.5, 17.4
No	19	11.1	10.2	5.6, 14.9
<b>Engaged in commercial sex in the past month<sup>¥</sup></b>				
Yes	10	23.3	23.9	9.9, 38.7
No	7	6.4	4.3	1.3, 7.3
<b>Experienced symptoms of a sexually transmitted infection in past 6 months</b>				
Yes	10	11.2	14.0	4.9, 23.2
No	31	8.5	8.0	4.9, 11.2

<sup>¥</sup> Among PWID who reported selling or buying sex

#### 4.16 Comparisons of key findings between 2007, 2012, 2019, and 2023 surveys

The demographic characteristics of survey participants have changed over time. Participants have gotten significantly older. The median participant age increased from 35 years in 2019 to 38 years in 2023 and those aged 35+ increased from 51.0% in 2019 to 65.9% in 2023 ( $p<0.001$ ). There was also a decrease in education levels, with smaller proportions of 2023 participants having at least some or completing secondary education (43.1% in 2023 versus 47.7% in 2019;  $p=0.172$ ) or going beyond secondary education (0.1% in 2023 versus 2.3% in 2019;  $p<0.002$ ) compared to 2019 (Table 35).

While the median age at first injections has remained consistent over the past three surveys, the proportion of long-term injectors has grown. In 2012, 36.9% of PWID had been injecting for 7 years or more compared to 46.1% in 2019 and 72.6% in 2023. Other significant changes from 2019 to 2023 were a decrease in using a clean needle at last injection (from 91.1% in 2019 to 86.8% in 2023;  $p=0.043$ ) and a decrease in the proportion of PWID who reported being able to get a clean needle anytime (from 86.6% in 2019 to 78.4% in 2023;  $p=0.001$ ). The proportion of PWID who reported using a needle already used by someone else in the past month has not changed (Table 35).

There were significant increases in sexual risk behaviors from 2019 to 2023. The proportion of PWID who paid someone for sex in the past month increased from 24.3% in 2019 to 43.5% in 2023 ( $p<0.001$ ). The proportion of PWID who engaged in commercial sex in the past month also increased

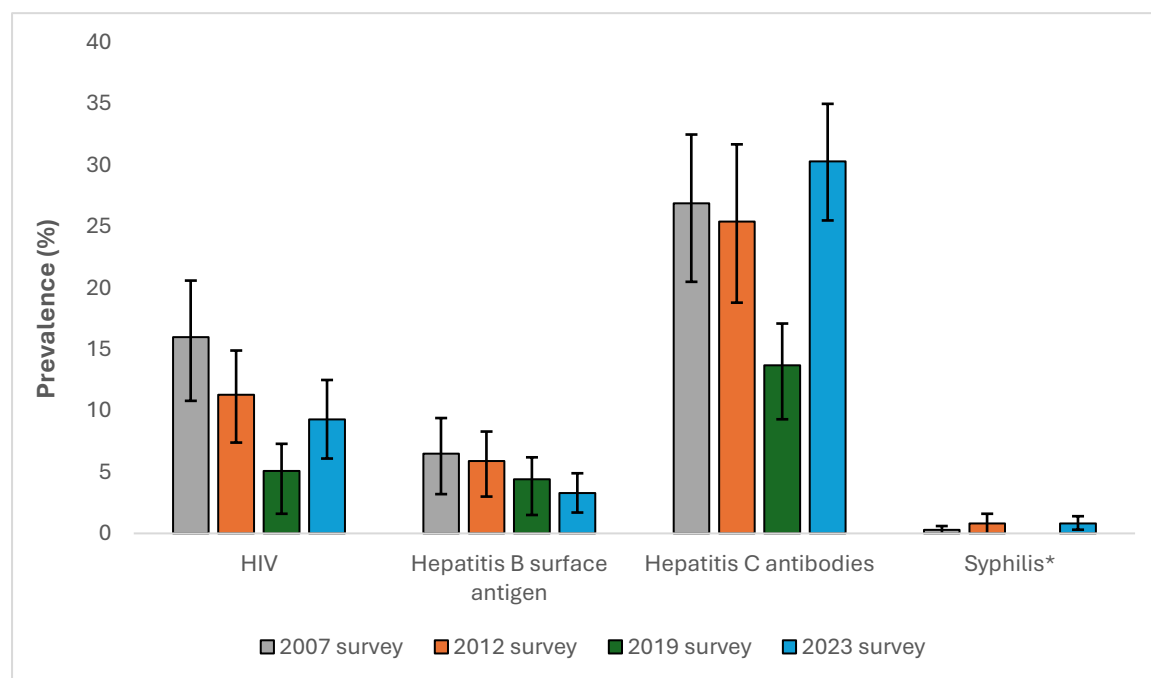


from 11.7% in 2019 to 26.2% in 2023 ( $p<0.001$ ). Experiences of STI symptoms in the past 6 months also increased from 15.1% in 2019 to 20.3% in 2023 ( $p=0.044$ ) (Table 35).

Self-perception of HIV risk among PWID also changed from 2019 to 2023. The proportion of PWID who perceived themselves to be at high risk of HIV decreased from 57.4% in 2019 to 45.1% in 2023 ( $p<0.001$ ) while the proportion who believed themselves to be at no risk increased from 18.8% to 25.1% ( $p=0.028$ ). Although there were some significant gains in HIV-related knowledge from 2019 to 2023, the proportion of PWID who agreed that sharing needles increases the risk of HIV went down (96.1% to 91.8%;  $p=0.008$ ) (Table 35).

PWID who reported ever testing for HIV increased from 82.2% in 2019 to 90.8% in 2023 ( $p<0.001$ ). The proportion who tested and received results in the past 12 months also increased significantly, from 44.1% to 59.4% ( $p<0.001$ ). However, PWID who reported having contact with a peer educator in the year prior to the survey decreased from 57.8% in 2019 to 38.1% in 2023 ( $p<0.001$ ) (Table 35).

There was an increase in HIV prevalence among PWID from 5.1% in 2019 to 9.3% in 2023 ( $p=0.017$ ). Hepatitis C antibody prevalence also increased from 13.7% in 2019 to 30.3% in 2023 ( $p<0.001$ ). There were no significant changes in hepatitis B surface antigen 2019 to 2023 (Table 35).



**Figure 20: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among people who inject drugs in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

*\*Syphilis from the 2019 survey was not included because it measured active infection while other surveys rounds measured lifetime infection.*

**Table 35: Key findings among people who inject drugs in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

	2007	2012	2019	2023	p-value 2019 vs 2023
<b>SOCIO-DEMOGRAPHIC CHARACTERISTICS</b>					
<b>Age (years)</b>					
15–19	0.7%	0.3%	1.7%	0.0%	-
20–24	14.3%	11.0%	6.6%	3.7%	0.051
25–29	28.6%	28.9%	18.7%	13.4%	<b>0.033</b>
30–34	24.0%	23.9%	22.0%	17.4%	0.087
≥35	32.4%	35.8%	51.0%	65.9%	<b>&lt;0.001</b>
Median age of sample	31 years	32 years	35 years	38 years	
<b>Sex</b>					
Female	3.0%	1.5%	0.9%	1.6%	0.355
<b>Level of education</b>					
No school		3.2%	3.9%	4.1%	0.880
Some or completed primary		55.7%	46.1%	52.7%	0.051
Some or completed secondary		39.2%	47.7%	43.1%	0.172
More than secondary		1.8%	2.3%	0.1%	<b>0.002</b>
<b>Ways of earning money</b>					
Formally employed	13.2%	5.4%	7.0%	12.6%	<b>0.005</b>
Self-employed / non-formal		89.9%	87.1%	80.5%	<b>0.008</b>
Studying or not currently working		1.2%	3.6%	3.6%	1.000
Engaged in illegal activities, including engaging in commercial sex	14.1%	9.4%	4.2%	3.4%	0.535
<b>INJECTION RISK BEHAVIORS</b>					
Median age at first injection	20 years	26 years	26 years	25 years	
<b>Duration of injection drug use</b>					
3 years or less	7.2%	48.0%	32.3%	12.2%	<b>&lt;0.001</b>
4–6 years	19.6%	15.1%	21.6%	15.2%	<b>0.014</b>
7 years or more	73.2%	36.9%	46.1%	72.6%	<b>&lt;0.001</b>
<b>Types of drugs injected in past 3 months</b>					
White heroin	96.9%	99.4%	85.0%	87.6%	<b>&lt;0.001</b>
Brown heroin	2.3%	11.2%	28.8%	19.0%	<b>&lt;0.001</b>
Cocaine			3.9%	-	
Amphetamines			0.4%	-	
Prescription drugs		0.3%	0.2%	3.4%	<b>&lt;0.001</b>
<b>Access to clean needles and needle sharing</b>					
Able to get a clean needle anytime	52.7%	52.1%	86.6%	78.4%	<b>0.001</b>
Used a needle already used by someone else in past month	53.8%	29.1%	18.7%	18.5%	0.939
Used a clean needle at last injection	62.9%	71.4%	91.1%	86.8%	<b>0.043</b>

					p-value 2019 vs 2023
	2007	2012	2019	2023	
<b>SEXUAL RISK BEHAVIORS</b>					
Paid someone for sex in the past month		22.2%	24.3%	43.5%	<0.001
Engaged in commercial sex in past month		8.4%	11.7%	26.2%	<0.001
<b>VULNERABILITY FACTORS</b>					
Experienced physical violence in past 12 months	57.1%	59.7%	46.0%	52.2%	0.067
Experienced forced sex in past 12 months			10.2%	4.9%	0.002
Arrested in past 12 months	73.9%	66.1%	62.1%	62.4%	0.927
<b>Perceived risk for HIV</b>					
High risk	91.0%	56.9%	57.4%	45.1%	<0.001
Medium risk	1.9%	7.3%	15.9%	18.6%	0.304
Low risk	0.5%	5.7%	6.4%	8.2%	0.319
No risk	6.6%	30.1%	18.8%	25.1%	0.028
<b>HIV knowledge</b>					
Agrees that HIV risk can be reduced by having sex with one uninfected partner	93.1%	88.0%	85.8%	81.9%	0.118
Agrees that sharing needles when injecting drugs increases the risk of HIV infection	96.3%	99.2%	96.1%	91.8%	0.008
Agrees that cleaning needles/syringes between injections reduces HIV risk	67.9%	66.0%	52.1%	60.8%	0.009
Disagrees that you can get HIV from a mosquito bite		73.7%	62.8%	80.3%	<0.001
Agrees a healthy-looking person can have HIV			90.8%	77.3%	<0.001
Disagrees that you can get HIV by sharing food with someone who is living with HIV			85.6%	86.0%	0.866
Agrees using a condom every time you have sex reduced risk of HIV transmission			75.4%	67.8%	0.013
Has comprehensive HIV knowledge			34.4%	36.4%	0.537
<b>ACCESS TO AND UPTAKE OF SERVICES</b>					
Ever used a male condom	65.8%	60.3%	78.0%	71.5%	0.028
Can always get a male condom when needed	72.0%	71.9%	88.6%	89.9%	0.593
Ever tested for HIV	22.0%	68.3%	82.2%	90.8%	<0.001
Tested for HIV and received results in past 12 months		38.0%	44.1%	59.4%	<0.001
Visited drop-in center/clinic for population at risk for HIV-friendly services	--	28.1%	23.3%	19.3%	0.148
Contact with a peer educator in past year	--	70.8%	57.8%	38.1%	<0.001
<b>DISEASE PREVALENCE</b>					
Experienced symptoms of a sexually transmitted infection in past 6 months		16.8%	15.1%	20.3%	0.044
HIV	16.0%	11.3%	5.1%	9.3%	0.017
Hepatitis C antibody	26.9%	25.4%	13.7%	30.3%	<0.001
Hepatitis B surface antigen	6.5%	5.9%	4.4%	3.3%	0.397
Syphilis	Lifetime infection	0.3%	0.8%	0.8%	

					p-value 2019 vs 2023
		2007	2012	2019	2023
	Active infection			0.2%	
<b>PROGRESS TOWARDS THE UNAIDS 95-95-95 TARGETS</b>					
	% of PWID aware of HIV status			47.5%	89.3%
	% of PWID on anti-retroviral therapy (among those aware of HIV status)			88.1%	87.9%
	% of PWID virally suppressed (among those on anti-retroviral therapy)			97.6%	70.7%

## 4.17 Conclusions and key considerations

### 4.17.1 Socio-demographic characteristics

The population of PWID in Unguja continues to be predominantly male and **appears to be an aging population** of people who have been injecting drugs for many years. Given that the proportion of injectors below 35 years of age has continuously decreased since the 2012 survey, this could reflect that efforts to prevent young people from starting to inject drugs have been successful. It may also **signal challenges with reaching long-term injectors** with the resources and interventions they need to stop injecting.

### 4.17.2 Risk behaviors and vulnerability factors among people who inject drugs

Although major strides were made from 2012 to 2019 in the availability of clean needles, **access to clean needles and use of clean needles at last injection fell in 2023**. Most PWID reporting obtaining needles from pharmacies but cited cost, stock-outs, and vendors not wanting to sell them needles as challenges to access. **Knowledge of the HIV risk associated with sharing needles decreased** from 2019 to 2023; however, instances of needle sharing in the past month were similar, both directly and indirectly, representing an ongoing HIV and hepatitis C risk for PWID. **Half of PWID reported ever overdosing** and nearly all had seen another person overdose.

- **Key consideration: Sensitizing gatekeepers**, including people like pharmacists who sell injection equipment, and educating PWID **on the importance of using clean and sterile injecting equipment** might help to increase availability of and acceptability of providing clean needles, reduce needle sharing, and help control the transmission of blood-borne infections.
- **Key consideration:** Facilitating and supporting the operationalization of free distribution of sterile injection equipment and cleaning materials (**Needle Syringe Program**) could improve access to clean needles for PWID and **result in fewer instances of needle sharing**. This could ultimately **reduce the transmission of blood-borne disease**.

**Both the buying and selling of sex increased from 2019 to 2023**, and HIV prevalence was significantly higher among PWID who had engaged in commercial sex in the past month compared to those who had not. **Experiences of STI symptoms in the past 6 months also increased** from 2019 to 2023. And among PWID who experienced STI symptoms, notable proportions either did not seek treatment or were extremely delayed in seeking treatment. The **majority of PWID reported not using a condom** with their most recent partner, whether transactional or non-transactional, and although male condoms were reported to be accessible, one in three PWID had never used one. We found a mix of increases and decreases in HIV-related knowledge, with **opportunities to improve knowledge of U=U among PWID**.

- **Key consideration: Strengthening HIV information, education, and communication** interventions among PWID may increase awareness of HIV risk factors, promote reductions in risk behaviors, and increase uptake of prevention services.

**Experiences of stigma and discrimination, physical violence, and arrest were common** among PWID in Unguja. The most common perpetrators of physical violence were police. A **minority of those who**

**experienced violence or forced sex reported the incident** to authorities. PWID living with HIV also experienced stigma related to their HIV status. However, stigma and discrimination appeared to more commonly come from the community as opposed to health care providers.

- **Key consideration: Providing sensitization to the community and to law enforcement on drug addiction as a health issue** as well as the rights and appropriate treatment of PWID could reduce violence, stigma, and discrimination towards this population.

**Feelings of anxiety, hopelessness, and worry were common** among PWID in Unguja, potentially highlighting a need to make mental health services more widely available to this population.

#### **4.17.3 Access to and uptake of HIV and other health services and progress towards the UNAIDS 95-95-95 targets**

**Three in ten PWID were not aware of any drug treatment program in Unguja.** Of those who were aware, a minority wanted or tried to enter a drug treatment program in the past 6 months. The majority of these PWID were able to receive services, suggesting that programs are accessible. However, the fact that these PWID were still injecting and thus eligible to participate in the survey **suggests that the programs did not succeed in helping PWID to stop injecting.** In addition, among PWID who participated in the survey and had ever received OAT, three-quarters were in OAT for more than 6 months. This highlights the need to improve retention in OAT services.

- **Key consideration: Demand creation interventions that aim to increase awareness of and demand for rehabilitation programs** (sober houses, detox, opioid agonist therapy) could help ensure that all PWID are aware of drug treatment options and increase the number of PWID accessing those options.
- **Key consideration: Investigating the root causes of poor retention in OAT services could identify opportunities to improve those services** and increase the proportion of PWID who are able to successfully complete the recovery program.

**A minority of PWID were aware of PrEP and uptake was limited** among those who had heard of PrEP. More broadly, uptake of HIV services both from peer educators and PWID-friendly clinics in the past year was also limited. **Contact with a peer educator in the past year has been steadily decreasing** since the 2012 survey, highlighting a missed opportunity for reaching PWID with health and HIV services.

- **Key consideration: Increasing the number of PWID reached through both facility and outreach-based PRH-friendly services** could increase opportunities to provide HIV, PrEP, and hepatitis education as well as other HIV prevention services such as HIV testing.
- **Key consideration: Expanding access to PrEP to incorporate long-acting injectable PrEP for PWID** could be essential for addressing HIV prevention.

**The first of the 95-95-95 targets, HIV diagnosis, had not been reached.** While ever testing and testing for HIV increased from 2019 to 2023, four in ten PWID had not tested for HIV in the past year. In addition, the majority of PWID did not access HIV testing services routinely (monthly or quarterly). This highlights a **programmatic gap in reaching PWID with routine HIV testing. Three-quarters of**

**PWID had never heard of HIV self-testing**, although most reported they would use an HIV self-test if it was recommended to them.

- **Key consideration: Strengthening access to and uptake of routine HIV testing services, including promoting the use of self-test kits** and making them easily accessible, might support HIV awareness and linkage to prevention and treatment services.

Among PWID who disclosed that they were living with HIV, nearly all were on ART, had at least one HIV viral load test done during routine services, and had been screened for TB at least once in the past 12 months. The **largest gap in achieving the UNAIDS 95-95-95 targets was in the third 95**, reaching HIV viral suppression. Given that the majority of PWID who had a known HIV-positive status were on ART, high viral loads could be the result of poor ART adherence.

- **Key consideration: Improving adherence counseling, strengthening “undetectable equals untransmittable” or U=U messaging**, and ensuring frequent interactions between PWID who are on ART and health care workers to give **ART reminders** may improve adherence to treatment and subsequently, viral suppression levels.

#### **4.17.4 HIV prevalence and incidence, and prevalence of hepatitis B, hepatitis C, and syphilis among people who inject drugs**

There was **high prevalence of HIV and active HCV infection among PWID**. Both HIV and hepatitis C antibody prevalence increased significantly from 2019 to 2023. However, the **estimated incidence of HIV among PWID suggested new HIV infections were decreasing**. In addition, PWID living with HIV had a higher prevalence of hepatitis C antibodies than PWID who were HIV-negative. There were **no significant changes in hepatitis B surface antigen prevalence**.

- **Key consideration: Having HCV treatment immediately available and accessible** could cure those who currently have an active infection and reduce the level of active hepatitis C within this population.
- **Key consideration: Providing consistent screening for hepatitis C** and ensuring the availability and accessibility of HCV viral load tests to confirm active infection could improve monitoring of ongoing transmission and identify new infections.
- **Key consideration: Prioritizing targeted prevention interventions for HIV** such as education on safer sex practices, HIV testing, and pre-exposure prophylaxis (PrEP), could help reduce HIV infection among PWID in Zanzibar.

## 5 MEN WHO HAVE SEX WITH MEN

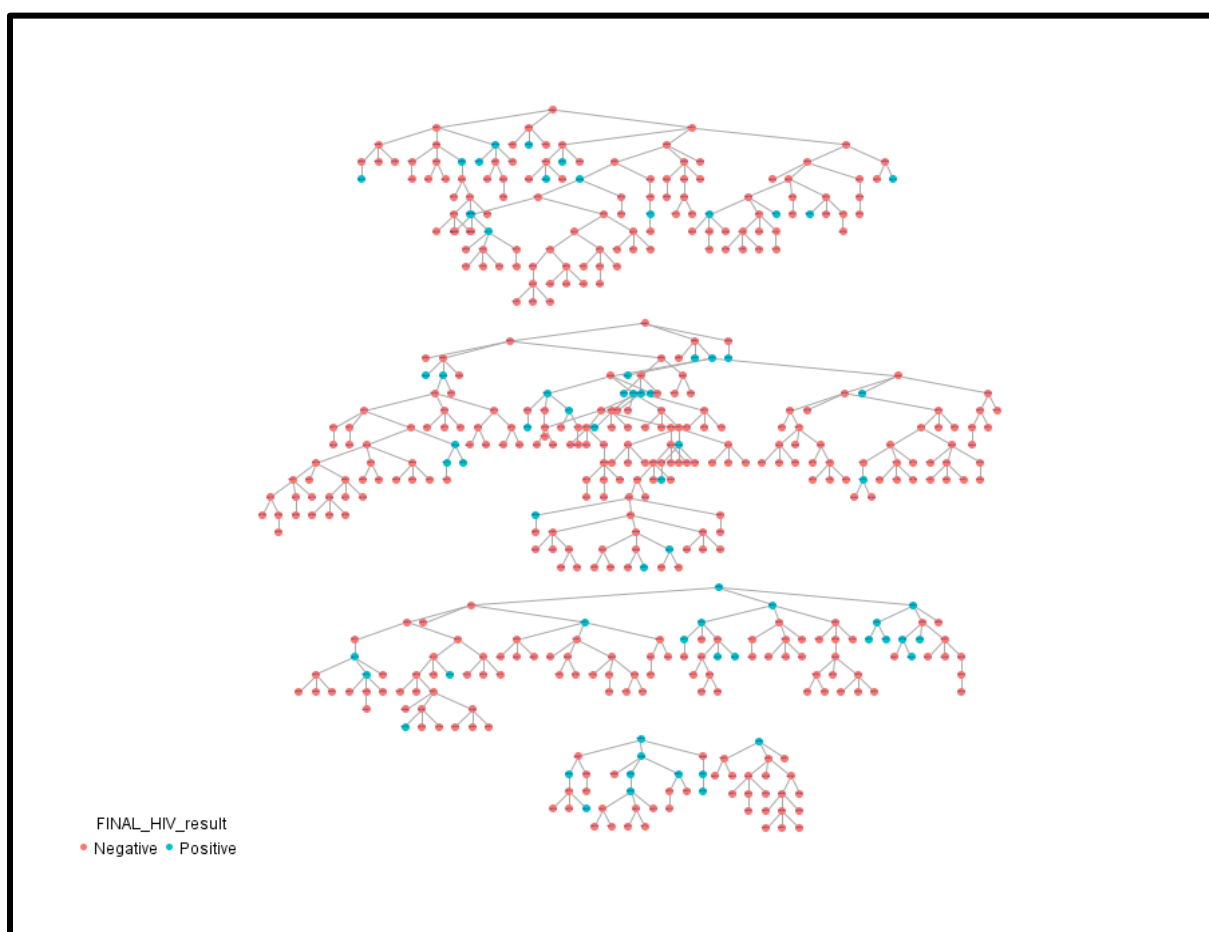
From July to September 2023, 485 MSM were enrolled in the survey. The survey started with five seeds and no new seeds were introduced during data collection. A total of 1,185 coupons were distributed (including seeds) and 494 (42%) individuals presented survey coupons at the survey site. Of those, 2% were ineligible to participate. Figure 21 presents recruitment, eligibility, and participation data.



**Figure 21: Recruitment, eligibility, and participation among men who have sex with men, Unguja, Zanzibar 2023**

The seed with the longest chain in this survey had 14 waves and 204 participants (including the seed). This was also the chain with the greatest number of participants. The two shortest chains had five waves with 21 and 27 participants, respectively. Convergence and equilibrium were achieved for key variables including HIV prevalence. Figure 22 shows the pattern of recruitment among survey participants by HIV status.





**Figure 22: Recruitment tree by HIV result among men who have sex with men, Unguja, Zanzibar, 2023**

## 5.1 Population size estimate

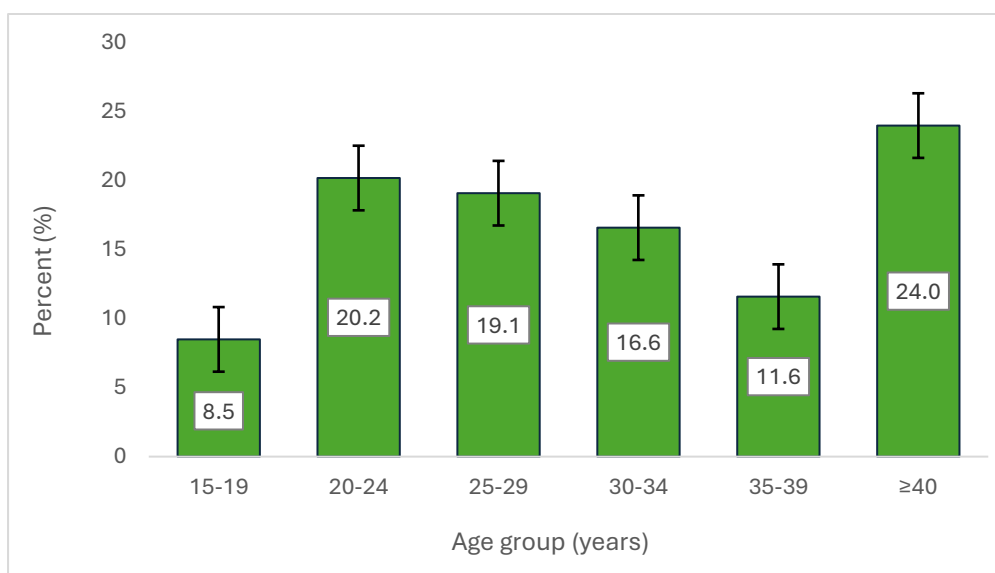
The study team estimated that there were 3,254 (95% credible interval: 1550, 5629) MSM in Unguja which represents 1.1% (95% CI: 0.5, 1.9) of the male population aged 15–49 years in Unguja<sup>5</sup>.

## 5.2 Socio-demographic characteristics

We enrolled 485 MSM aged 15 to 68 years with a median age of 30 years (IQR: 24, 39 years). Nearly a quarter (24.0%; 95% CI: 18.7, 29.5) of MSM were 40 years or older (Figure 23; Table 36).

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<sup>5</sup> Ministry of Finance and Planning, Tanzania National Bureau of Statistics and President's Office - Finance and Planning, Office of the Chief Government Statistician, Zanzibar. (2022). The 2022 Population and Housing Census: Age and Sex Distribution Report. Tanzania Zanzibar. Males aged 15-49 years = 300,080.



**Figure 23: Age distribution of men who have sex with men, Unguja, Zanzibar, 2023**

The majority of MSM had not gone beyond secondary level of education: 27.8% (95% CI: 23.1, 32.5) had either partially or fully completed primary school, 66.1% (95% CI: 61.4, 70.8) had either partially or fully completed secondary education, and 5.0% (95% CI: 3.2, 6.8) had gone beyond secondary education. A small proportion (1.1%; 95% CI: 0.3, 6.8) had no formal education. Most (90.2%; 95% CI: 86.6, 93.8) MSM were able to read and write (Table 36).

The majority (81.6%; 95% CI: 77.3, 85.8) of MSM were originally from Unguja. More than half (58.8%; 95% CI: 53.4, 64.2) of MSM had never been married, 23.9% (95% CI: 19.2, 28.6) were either separated, divorced, or widowed, and 15.1% (95% CI: 11.1, 19.2) were currently married or living with a female partner. A small proportion (1.7%; 95% CI: 0.6, 2.8) were living with a male partner, and 0.5% (95% CI: 0.1, 0.9) were living with both male and female partners (Table 36).

**Table 36: Demographic characteristics of men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Age group (years) [N=485]				
15–19	30	6.2	8.5	4.8, 12.2
20–24	103	21.2	20.2	15.6, 25.8
25–29	108	22.3	19.1	15.2, 23.1
30–34	67	13.8	16.6	12.3, 20.9
35–39	62	12.8	11.6	8.5, 14.6
≥ 40	115	23.7	24.0	18.7, 29.5
Median age in years (inter-quartile range)	30 years	(24, 39 years)		
Age range	Min. 15–Max. 68 years			
Level of education [N=485]				
No formal education	7	1.4	1.1	0.3, 6.8
Some or completed primary	136	28.0	27.8	23.1, 32.5
Some or completed secondary	309	63.7	66.1	61.4, 70.8

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
More than secondary	33	6.8	5.0	3.2, 6.8
Literacy [N=485]				
Able to read and write	448	92.3	90.2	86.6, 93.8
Able to read only	9	1.9	2.9	0.9, 4.9
Not able to read nor write	27	5.6	6.7	3.6, 9.9
No response	1	0.2	0.2	0, 0.5
Marital status [N=485]				
Never married	300	61.9	58.8	53.4, 64.2
Separated/divorced/widowed	111	22.9	23.9	19.2, 28.6
Married to a woman or living with a female partner	61	12.6	15.1	11.1, 19.2
Living with a male partner	10	2.0	1.7	0.6, 2.8
Married and/or living with both male and female partners	3	0.6	0.5	0.1, 0.9
Number of years lived in Unguja [N=485]				
Less than 1 year	4	0.8	1.2	0.2, 2.7
1 to 5 years	35	7.2	7.5	5.0, 10.1
More than 5 years	47	9.7	9.7	6.6, 12.8
Whole life	399	82.3	81.6	77.3, 85.8
Migration [N=485]				
Migrated to Unguja	86	17.7	18.5	14.2, 22.7
Lived whole life in Unguja	399	82.3	81.5	77.3, 85.8
Way(s) of earning money [N=485]				
Informal employment	310	63.9	66.4	61.6, 71.2
Unemployed/student	56	11.5	14.5	10.3, 18.6
Formal employment	75	15.5	12.4	9.4, 15.4
Engaged in commercial sex or agent of someone engaged in commercial sex	44	9.1	6.7	4.5, 8.9
Income earned in past month (TZS) [N=485]				
< 50,000	46	9.5	9.4	6.6, 12.3
50,000–120,000	89	18.4	21.9	17.3, 26.5
120,001–200,000	114	23.5	24.5	20.1, 28.8
200,001–500,000	165	34.0	31.0	26.5, 35.5
> 500,000	71	14.6	13.2	9.9, 16.5
Median amount earned in past month (TZS) (inter-quartile range)	TZS 200,000	(TZS 100,000, 400,000)		
Income range	Min. 1,000–Max. 4,000,000 TZS			

### 5.3 Sexual history

For more than half (58.1%; 95% CI: 52.2, 63.7) of MSM, their first sexual partner was male. A small proportion (5.5%; 95% CI: 3.3, 7.8) had their first male and female sexual partners at the same age.

The median age at first sex with a male partner was 18 years (IQR: 15, 23 years). One in five (21.6%; 95% CI: 17.2, 25.9) MSM did not consent the first time they had sex with a male partner. The median age at first sex with a male partner among those who did not consent was 17 years (IQR: 14, 22 years). More than half (58.3%; 95% CI: 53.2, 63.5) of MSM received payment or goods of some kind from their first male partner in exchange for sex (Table 37).

The majority (82.3%; 95% CI: 78.1, 86.6) of MSM had sex with a woman at least once in their lifetime. Among those, the median age at first sex with a female partner was 20 years (IQR: 17, 23 years) (Table 37).

**Table 37: First sexual experiences among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Sex(es) of first sexual partner [N=485]				
Male	293	60.4	58.1	52.5, 63.7
Female	167	34.4	36.3	30.9, 41.7
First male and female partners were at same age	25	5.2	5.5	3.3, 7.8
Age at first sex with a man [N=485]				
< 10	23	4.7	3.7	2.1, 5.2
10–14	77	16.0	16.5	12.3, 20.7
15–19	183	37.7	36.3	31.6, 41.1
20+	202	41.6	43.5	37.9, 49.1
Median age in years (inter-quartile range)	18 years	(15, 23 years)		
Age range	Min. 6–Max. 57 years			
Relationship with first male sexual partner [N=485]				
Boyfriend/partner	189	39.0	40.5	35.5, 45.4
Friend/acquaintance/coworker	124	26.6	23.4	19.7, 28.2
Stranger	47	9.7	11.1	7.5, 14.7
Client	45	9.3	8.9	6.2, 11.5
Authority figure	32	6.6	7.2	4.3, 9.5
Relative	30	6.2	5.1	3.3, 7.0
Neighbor	13	2.7	2.7	1.0, 4.4
Other	5	1.0	0.6	0.1, 1.1
Gave consent at first sex with a man [N=485]				
Yes	373	76.9	77.5	73.0, 81.9
No	105	21.6	21.6	17.2, 25.9
Does not remember / no response	7	1.4	1.0	0.3, 16.8
Median age in years among those who did NOT consent to first sex with male partner (inter-quartile range) [N=105]	17 years	(14, 22 years)		

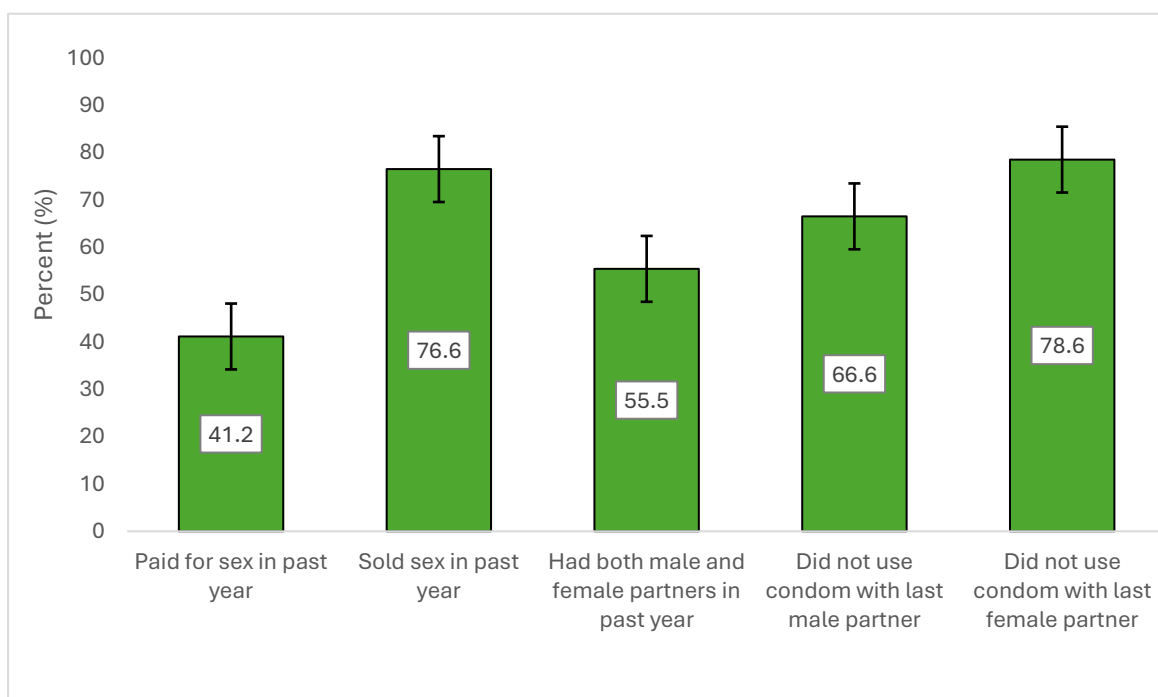
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Received payment or something else in exchange for sex from first male partner [N=485]				
Yes	274	56.5	58.3	53.2, 63.5
No	209	43.1	41.4	36.2, 46.5
No response	2	0.4	0.3	0, 0.6
Ever had sex with a woman [N=485]				
Yes	403	83.1	82.3	78.1, 86.6
No	82	16.9	17.7	13.4, 21.9
Age at first sex with a woman [N=403]				
< 10	1	0.2	0.1	0, 0.2
10–14	17	4.2	5.0	2.2, 7.8
15–19	176	43.7	45.1	39.3, 50.9
20+	209	51.9	49.9	43.8, 55.8
Median age in years (inter-quartile range)	20 years	(17, 23 years)		
Age range	Min. 8–Max. 46 years			
Someone in family knows that is MSM [N=485]				
Yes	168	34.6	31.3	26.4, 36.3
No	300	61.9	66.1	61.1, 71.1
Does not know	17	3.5	2.6	1.3, 3.9

## 5.4 Sexual partnerships and sexual HIV risk behaviors

### 5.4.1 Overview of sexual partnerships and HIV risk behaviors

Half (52.8%; 95% CI: 45.9, 59.8) of MSM identified as insertive, 29.7% (95% CI: 24.2, 35.3) identified as versatile, and 17.2% (12.6, 21.9) identified as receptive. Two-thirds (66.6%; 95% CI: 61.8, 71.3) of MSM did not use a condom at last sex with a male partner and 78.6% (95% CI: 74.0, 83.3) of MSM who ever had a female partner did not use a condom at last sex with a female partner (Table 38).

Half (55.5%; 95% CI: 50.4, 60.7) of MSM had both male and female sexual partners in the past year. Four in ten (41.2%; 95% CI: 36.6, 46.0) MSM paid someone else for sex in the past year. More than three-quarters (76.6%; 95% CI: 72.3, 80.9) of MSM engaged in commercial sex in the past year (Figure 24). Two-thirds (66.4%; 95% CI: 59.3, 69.2) of MSM had either used alcohol before sex or had a sexual partner who used alcohol before sex, and 35.9% (95% CI: 32.4, 44.0) had either used drugs before sex or had a sexual partner who used drugs before sex (Table 38).



**Figure 24: HIV risk behaviors among men who have sex with men, Unguja, Zanzibar, 2023**

The median number of sexual partners, including both male and female partners, in the past month among MSM was 4 partners (IQR: 2, 8 partners). The median number of male sexual partners was 3 partners (IQR: 1, 5 partners) and the median number of female sexual partners (among those who had a female sexual partner) was 2 partners (IQR: 1, 4 partners) (Table 38).

**Table 38: Recent sexual partnerships among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Typical sexual role [N=485]</b>				
Insertive	233	48.0	52.8	45.9, 59.8
Versatile	165	34.0	29.7	24.2, 35.3
Receptive	86	17.7	17.2	12.6, 21.9
No response	1	0.2	0.2	0, 0.4
<b>Used condom at last sex with a male partner [N=485]</b>				
Yes	175	36.1	33.0	28.3, 37.8
No	308	63.5	66.6	61.8, 71.3
Does not remember	2	0.4	0.4	0, 0.8
<b>Used condom at last sex with a female partner among those who ever had a female partner [N=403]</b>				
Yes	92	22.8	21.4	16.7, 26.0
No	311	77.2	78.6	74.0, 83.3

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Sex of sexual partners in past year [N=485]</b>				
Male and female	283	58.4	55.5	50.4, 60.7
Male only	202	41.6	44.5	39.3, 49.6
<b>Bought sex in past year [N=485]</b>				
Yes	206	42.5	41.2	36.3, 46.0
No	279	57.5	58.8	54.0, 63.7
<b>Engaged in commercial sex in past year [N=485]</b>				
Yes	375	77.3	76.6	72.2, 81.0
No	110	22.7	23.4	19.0, 27.8
<b>Has ever had sex where either partner used alcohol beforehand [N=485]</b>				
Yes	322	66.4	64.3	59.3, 69.2
No	160	33.0	35.2	30.3, 40.2
Does not remember	3	0.6	0.5	0, 1.0
<b>Used a condom at last sex where either partner used alcohol beforehand [N=322]</b>				
Yes	115	35.7	34.4	32.4, 44.0
No	195	60.6	65.0	52.8, 64.5
Does not remember	12	3.7	3.2	1.3, 5.0
<b>Has ever had sex where either partner used drugs beforehand [N=485]</b>				
Yes	174	35.9	34.4	28.9, 39.9
No	306	63.1	65.0	59.5, 70.4
Does not remember	5	1.0	0.6	0.1, 1.1
<b>Used a condom at last sex where either partner used drugs beforehand [N=174]</b>				
Yes	54	31.0	29.4	21.3, 37.3
No	115	66.1	68.9	61.1, 76.9
Does not remember	5	2.9	1.8	0.4, 3.1
<b>Number of sexual partners in past month</b>				
Median number (IQR) of female partners (among those who had a female partner in the past month) [N=229]	2 partners	(1, 4 partners)		
Median number (IQR) of male partners [N=485]	3 partners	(1, 5 partners)		
Median total partners (IQR) [N=485]	4 partners	(2, 8 partners)		

\*IQR = inter-quartile range

### 5.4.2 Sex with non-transactional partners

Eight in ten (82.8%; 95% CI: 78.7, 86.8) MSM ever had sex with a non-transactional male partner. Of those, 82.4% (95% CI: 75.5, 89.3) had sex with a non-transactional male partner in the past month. The median number of non-transactional partners in the past month was 2 partners (IQR: 1, 3 partners) for both insertive and receptive partners (Table 39).

Two-thirds (66.7%; 95% CI: 60.9, 72.4) of MSM who had insertive sex with a non-transactional partner in the past month did not use a condom at last sex with this partner type. The most common reasons for not using a condom at last sex were not liking the feel of condoms (43.0%; 95% CI: 33.7, 52.6) and being with a steady or trusted partner (25.4%; 95% CI: 18.8, 31.8). A similar proportion (63.4%; 95% CI: 53.5, 72.8) of MSM who had receptive sex with a non-transactional partner in the past month did not use a condom at last sex with this partner type. The most common reasons for not using a condom at last sex were the same: not liking the feel of condoms (40.4%; 95% CI: 30.3, 50.6) and being with a steady or trusted partner (31.9%; 95% CI: 22.3, 42.2) (Table 39).

Seven in ten (69.9%; 95% CI: 64.9, 74.9) MSM ever had sex with a female partner without any payment involved. Of those, 54.1% (95% CI: 47.9, 60.1) had sex with a female partner in past month without any payment. The median number of non-transactional female partners in the past month was 2 partners (IQR: 1, 3 partners). Three-quarters (76.3%; 95% CI: 69.6, 83.3) of MSM who had a non-transactional female partner in the past month did not use a condom at last sex with this partner type. The most common reasons for not using a condom were being with a steady or trusted partner (37.3%; 95% CI: 62.3, 41.6) and not liking the feel of condoms (35.8%; 95% CI: 29.5, 41.9) (Table 39).

**Table 39: Sexual partnerships and HIV risk behaviors with non-paying/non-paid partners among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Sex with non-transactional male partners (no payment involved)</b>				
Ever had sex with male partner without any payment [N=485]	409	84.3	82.8	78.7, 86.8
Had sex with male partner in past month without any payment [N=409]	339	82.9	82.4	75.5, 89.3
<b>Type of sex with non-paying/non-paid male partners in past month [N=339]</b>				
Insertive	172	50.7	55.8	49.9, 62.1
Receptive	78	33.0	20.0	15.1, 24.8
Versatile	89	26.3	24.1	18.7, 29.5
<b>Insertive sex with non-paying/non-paid receptive male partners in past month</b>				
<b>Number of non-paying/non-paid receptive male partners in past month [N=261]</b>				
None	6	2.3	1.9	0, 4.5
1	94	36.0	38.6	31.4, 46.1
2 or more	161	61.7	59.5	52.3, 66.4
Median number (IQR) of receptive male partners in past 30 days without payment	2 partners	(1, 3 partners)		



Used condom at last insertive sex with non-paying/non-paid male partner [N=261]				
Yes	83	31.8	32.4	26.7, 38.1
No	174	66.7	66.7	60.9, 72.4
Does not remember	4	1.5	1.0	0, 2.0
Reason for not using a condom at last insertive sex with a non-paying/non-paid male partner [N=174]				
Does not like the feel of condoms	72	41.4	43.0	33.7, 52.6
Was with a steady or trusted partner	49	28.2	25.4	18.8, 31.8
Too drunk or high to use a condom	9	5.2	7.8	2.0, 13.9
Did not think about it	15	8.6	7.3	3.2, 11.3
Partner objected	8	4.6	5.4	1.8, 9.0
Did not have a condom	9	5.2	5.0	0, 10.2
Has never used / does not know how to use	4	2.3	2.9	0, 1.1
Things happened too fast	6	3.5	2.6	0.4, 4.6
Believes condoms do not work	1	0.5	0.2	0, 0.6
Other	1	0.5	0.4	0, 1.1
Receptive sex with non-paying/non-paid insertive male partners in past month				
Number of non-paying/non-paid insertive male partners in past month [N=167]				
None	2	1.2	1.0	0, 3.7
1	65	38.9	40.7	30.3, 51.7
2 or more	100	59.9	58.2	47.5, 68.6
Median number (IQR) of non-paying male insertive partners in past month	2 partners	(1, 3 partners)		
Used condom at last receptive sex with non-paying/non-paid male partner [N=167]				
Yes	52	31.1	35.5	26.1, 45.6
No	113	67.7	63.4	53.5, 72.8
Does not remember	2	1.2	1.0	0, 2.1
Reason for not using a condom at last receptive sex with a non-paying/non-paid male partner [N=113]				
Does not like the feel of condoms	44	38.9	40.4	30.3, 50.6
Was with a steady or trusted partner	33	29.2	31.9	22.3, 42.2
Did not think about it	8	7.0	5.8	1.5, 9.9
Did not have a condom	7	6.2	4.9	1.7, 7.8
Things happened too fast	3	2.7	3.8	83, 4.9
Too drunk or high to use a condom	4	3.5	3.4	0, 6.7
Partner objected	5	4.4	3.3	0, 7.1
Believes condoms do not work	2	1.8	1.5	0, 3.7
Test routinely or before sex	2	1.8	1.1	0, 2.1
Other	3	2.7	2.3	0, 9.4
Does not remember / no response	2	1.8	1.6	0, 4.1
Sex with female partners without any payment among those who ever had sex with a female partner				

<b>Ever had sex with a female partner without any payment [N=485]</b>	343	70.7	69.9	64.9, 74.9
<b>Had sex with a female partner in past month without any payment [N=343]</b>	190	55.4	54.1	48.0, 60.0
<b>number of non-paying/non-paid female partners in past month [N=190]</b>				
1	85	44.7	41.0	31.5, 50.1
2 or more	105	55.3	59.0	49.9, 68.5
Median number (IQR) of non-paying/non-paid female partners in past month	2 partners	(1, 3 partners)		
<b>Used condom with last non-paying/non-paid female partner [N=190]</b>				
Yes	50	26.3	23.7	17.1, 30.3
No	136	71.6	74.7	68.1, 81.5
Does not remember	4	2.1	1.6	0.1, 3.0
<b>Reason for not using a condom at last receptive sex with a non-paying/non-paid female partner [N=136]</b>				
Was with a steady or trusted partner	56	41.2	38.3	29.8, 46.7
Does not like the feel of condoms	48	35.3	36.9	26.9, 47.0
Did not think about it	8	7.4	6.6	0.4, 12.8
Did not have a condom	10	5.9	7.2	1.0, 13.3
Things happened too fast	6	4.4	4.7	1.2, 8.2
Too drunk or high to use a condom	3	2.2	2.2	0.2, 4.3
Partner objected	2	1.4	1.4	0, 3.1
Other	3	2.2	2.6	0, 6.3

*\*IQR = inter-quartile range*

### 5.4.3 Sex with transactional partners

#### 5.4.3.1 Engaging in commercial sex with male partners

Eight in ten (82.0%; 95% CI: 77.9, 86.0) MSM ever engaged in commercial sex with a male partner. Among those, 69.9% (95% CI: 65.1, 74.9) engaged in commercial sex with a male partner in the past month. The median number of paying male partners in the past month was 2 partners (IQR: 1, 3 partners). Among MSM who had insertive sex with a paying male partner in the past month, 59.8% (95% CI: 52.7, 66.8) did not use a condom at last sex with this partner type. The most common reasons for not using a condom at last insertive sex with a paying male partner were not liking the feel of condoms (45.7%; 95% CI: 34.3, 57.0) and being with a steady or trusted partner (25.4%; 95% CI: 18.5, 31.7) (Table 40).

Among MSM who had receptive sex with a paying male partner in the past month, 59.3% (95% CI: 50.9, 67.7) did not use a condom at last sex with that partner type. The most common reasons for not using a condom were not liking the feel of condoms (49.1%; 95% CI: 37.1, 61.1) and being with a steady or trusted partner (18.4%; 95% CI: 9.4, 27.2) (Table 40).

**Table 40: HIV sexual risk behaviors with paying male partners among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Sex with paying male partners				
Ever engaged in commercial sex with a man [N=485]	401	82.7	82.0	77.9, 86.0
Engaged in commercial sex with a man in past month [N=401]	278	69.3	69.9	65.1, 74.9
Type(s) of sex with paying male partners in past month [N=278]				
Insertive	127	45.6	49.0	41.7, 56.5
Receptive	78	28.1	27.1	20.2, 34.0
Versatile	73	26.3	23.9	17.9, 29.7
Number of paying male sexual partners in past month [N= 278]				
1	105	37.8	42.0	34.7, 49.6
2 or more	173	62.2	58.0	50.4, 65.3
Median number (inter-quartile range) of paying male partners in past 30 days	2 partners	(1, 3 partners)		
Condom use with paying male sexual partners				
Used condom at last <u>insertive</u> sex with paying male partner [N=203]				
Yes	75	36.9	38.9	31.9, 46.2
No	124	61.1	59.8	52.7, 66.8
Does not remember	4	2.0	1.2	0, 3.2
Reason for not using a condom at last <u>insertive</u> sex with a paying male partner [N=124]				
Does not like the feel of condoms	59	47.6	45.7	34.3, 57.0
Was with a steady or trusted partner	34	27.4	25.4	18.5, 31.7
Did not think about it	10	8.1	8.5	2.1, 15.0
Partner objected	4	3.2	6.3	1.9 11.2
Did not have a condom	7	5.6	4.4	0.0, 9.9
Things happened too fast	5	4	3.1	0.5, 5.6
Other	3	2.4	5.0	0.4, 10.0
No response	2	1.6	1.6	0.0, 7.6
Used condom at last <u>receptive</u> sex with paying male partner [N=152]				
Yes	59	38.8	38.3	29.3, 47.4
No	89	58.6	59.3	50.9, 67.7
Does not remember	4	2.6	2.4	0, 9.2
Reason for not using a condom at last <u>receptive</u> sex with a paying male partner [N=89]				
Does not like the feel of condoms	43	48.3	49.1	37.1, 61.1
Was with a steady or trusted partner	17	19.1	18.4	9.4, 27.2
Did not think about it	10	11.2	11.0	2.0, 20.1
Did not have a condom	7	7.9	9.1	1.6, 19.9

Partner objected	3	3.4	2.9	2.4, 3.2
Things happened too fast	2	2.3	2.6	0, 6.4
Believes condoms do not work	1	1.1	1.1	0, 3.5
Too drunk or high to use a condom	2	2.3	0.9	0, 2.7
Other	2	2.2	1.4	0, 7.9
Does not know / no response	2	2.2	3.5	0, 7.9

#### 5.4.3.2 Buying sex from male partners

Nearly four in ten (37.9%; 95% CI: 33.2, 42.5) MSM ever paid a male partner for sex. Of those, 59.8% (95% CI: 52.6, 67.1) paid another man for sex in the past month. The median number of paid male partners in the past month was 2 partners (IQR: 1, 3 partners). Among MSM who had insertive sex with a paid male partner in the past month, 61.7% (95% CI: 49.5, 74.2) did not use a condom at last sex with this partner type. The most common reasons for not using a condom were not liking the feel of condoms (43.8%; 95% CI: 33.6, 53.2) and being with a steady or trusted partner (22.3%; 95% CI: 14.4, 30.4). More than half (59.9%; 95% CI: 44.4, 75.7) of MSM who had receptive sex with a paid male partner in the past month did not use a condom at last sex with this partner type. The most common reasons for not using a condom were being with a steady or trusted partner (34.7%; 95% CI: 26.4, 45.3) and not liking the feel of condoms (33.2%; 95% CI: 26.2, 38.1) (Table 41).

**Table 41: HIV sexual risk behaviors with paid male partners among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Buying sex from male partners				
Ever paid a male partner for sex [N=485]	204	42.1	37.9	33.2, 42.5
Paid a male partner for sex in past month [N=204]	120	58.8	59.8	52.6, 67.1
Type(s) of sex with paid male partners in past month [N=120]				
Insertive	59	49.2	50.1	40.5, 59.9
Receptive	23	19.2	16.7	10.5, 22.5
Versatile	38	31.6	33.2	24.0, 42.7
Number of paid male partners in past month [N=120]				
1	55	45.8	44.8	32.8, 56.6
2	65	54.2	55.2	43.5, 67.2
Median number (inter-quartile range) of paid male partners in past 30 days	2 partners	(1, 3 partners)		
Condom use with paid male sexual partners				
Used condom at last <u>insertive</u> sex with paid male partner [N=97]				
Yes	35	36.1	34.9	24.7, 44.9
No	58	59.8	61.7	49.5, 74.2
Does not remember	4	4.1	3.4	0, 14.5
Reason for not using a condom at last <u>insertive</u> sex with a paid partner [N=58]				

Does not like the feel of condoms	29	50.0	43.8	33.6, 53.1
Was with trusted partner	12	20.7	22.3	14.4, 30.4
Too drunk or high to use a condom	3	5.2	9.1	2.7, 12.2
Did not think about it	4	6.9	5.7	2.1, 9.2
Did not have any condoms	3	5.2	3.2	0.8, 5.2
Partner objected	1	1.7	1.3	1.1, 1.5
Other	2	3.4	6.7	0, 22.1
Things happened too fast	4	6.9	7.8	3.7, 11.9
<b>Condom use at last <u>receptive</u> sex with paid male partner [N=61]</b>				
Yes	25	41.0	38.7	25.6, 51.6
No	35	57.4	59.9	44.4, 75.7
Does not remember	1	1.6	1.4	0.0, 16.3
<b>Reason for not using a condom at last <u>receptive</u> sex with a paid partner [N=35]</b>				
Was with a trusted partner	9	25.7	34.7	26.4, 45.3
Does not like the feel of condoms	15	42.9	33.2	26.2, 38.1
Did not have a condom	5	14.3	9.5	5.6, 12.3
Did not think about it	3	8.6	6.1	3.5, 8.2
Partner objected	1	2.8	3.7	2.8, 4.4
Other	1	2.9	10.5	0, 24.6
No response	1	2.8	2.3	1.0, 3.5

#### 5.4.3.3 Transactional sex with female partners

Approximately one-quarter (24.0%; 95% CI: 19.7, 28.2) of MSM had ever been paid for sex by a female partner. Of those, 60.8% (95% CI: 52.9, 69.2) did not use condom at last sex with this partner type. The most common reasons for not using a condom at last sex were not liking the feel of condoms (35.4%; 95% CI: 23.0, 47.9) and being with a steady or trusted partner (25.1%; 95% CI: 17.4, 32.9) (Table 42).

Six in ten (62.8%; 95% CI: 57.7, 67.9) MSM had ever paid a female partner for sex, among whom 44.6% (95% CI: 37.4, 51.4) paid a female partner for sex in the past month. The median number of paid female partners in the past month was 2 partners (IQR: 1, 2 partners). Six in ten (59.8%; 95% CI: 50.4, 69.3) MSM who paid a female partner for sex in the past month did not use a condom at last sex with this partner type (Table 42).

**Table 42: HIV sexual risk behaviors with paying and paid female partners among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Sex with paying female partners</b>				
<b>Ever paid by a woman for sex [N=485]</b>	131	27.0	24.0	19.7, 28.2
<b>Used condom at last sex with paying female partner [N=131]</b>				
Yes	51	38.9	35.3	28.5, 41.7
No	74	56.5	60.8	52.9, 69.2

Does not remember	6	4.6	3.9	0, 8.7
<b>Reason for not using a condom at last sex with a paying female partner [N=74]</b>				
Does not like the feel of condoms	26	35.1	35.4	23.0, 47.9
Was with a steady or trusted partner	20	27.0	25.1	17.4, 32.5
Did not have a condom	9	12.2	11.3	3.7, 18.7
Did not think about it	6	8.1	7.4	2.7, 11.7
Partner objected	4	5.4	6.5	0, 19.9
Too drunk or high to use a condom	2	2.7	6.0	0, 15.4
Things happened too fast	4	5.4	5.1	1.3, 8.8
Does not know / no response	3	4.1	3.2	0.6, 5.7
<b>Sex with paid female partners</b>				
<b>Ever paid a woman for sex [N=485]</b>	296	61.0	62.8	57.7, 67.9
<b>Paid a woman for sex in past month [N=296]</b>	148	50.0	44.6	37.4, 51.4
<b>Number of paid female partners sex in past month [N=148]</b>				
1	63	42.6	40.9	30.7, 50.7
2 or more	85	57.4	59.1	49.3, 69.2
Median number (inter-quartile range) of paid female partners in past 30 days	2 partners	(1, 2 partners)		
<b>Condom use at last sex with paid female partner [N=148]</b>				
Yes	57	38.5	38.8	29.3, 48.3
No	87	58.8	59.8	50.4, 69.3
Does not remember	4	2.7	1.5	0.1, 2.6
<b>Reason for not using a condom at last sex with a paid female partner [N=87]</b>				
Does not like the feel of condoms	42	48.3	49.0	35.4, 62.9
Was with a trusted partner	16	18.4	16.3	10.1, 22.3
Did not think about it	8	9.2	11.6	3.4, 20.0
Partner objected	4	4.6	7.8	1.5, 14.7
Did not have a condom	9	10.3	6.7	2.3, 10.2
Things happened too fast	4	4.6	4.3	0.2, 8.3
Too drunk or high to use a condom	1	1.1	1.1	0, 3.1
Other	3	3.5	3.2	0, 13.4

#### 5.4.4 Group sex

One third (33.2%; 95% CI: 27.9, 38.5) of MSM had ever participated in group sex. Among those, six in ten (59.6%; 95% CI: 51.2, 68.5) had group sex in past month. Nearly one-quarter (23.3%; 95% CI: 15.3, 31.5) of those who had participated in group sex reported that the last time they had group sex there were six or more sexual partners involved. Among those who engaged in group sex in the past month, the last time they had group sex, the majority (87.0%; 95% CI: 80.1, 94.1) did not use a condom (Table 43).

**Table 43: Group sex and condom use in group sex among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Experiences of group sex</b>				
Ever had group sex [N=485]	158	32.6	33.2	27.9, 38.5
Had group sex in past month [N=158]	89	56.3	59.6	51.2, 68.5
<b>Number of partners at last group sex [N=158]</b>				
3	58	36.7	35.7	25.2, 46.2
4–5	66	41.8	40.9	31.2, 50.6
≥ 6	34	21.5	23.3	15.3, 31.5
<b>Number of partners who used a condom at last group sex [N=158]</b>				
None	102	64.6	67.5	60.2, 75.1
1–2	23	14.5	12.8	7.7, 17.9
≥ 3	33	20.9	19.7	13.2, 26.0
<b>All partners in group used a condom at last group sex [N=158]</b>				
Yes	23	14.6	13.0	5.9, 19.9
No	135	85.4	87.0	80.1, 94.1

## 5.5 Condom access and sexually transmitted infections

Nearly three-quarters (72.5%; 95% CI: 67.9, 77.1) of MSM reported they can get a male condom every time they need (Table 44).

Eight in ten (81.6%; 95% CI: 77.3, 85.9) MSM had heard of STIs. Three in ten (29.1%; 95% CI: 24.5, 33.7) experienced STI symptoms in the past 6 months. Among those who experienced STI symptoms, 72.7% (95% CI: 64.5, 81.2) sought treatment because of those symptoms. Among those who sought treatment for STI symptoms, 43.1% (31.7, 54.9) had symptoms for more than one month prior to seeking treatment. In the past 12 months, 15.8% (95% CI: 12.1, 19.4) of MSM were diagnosed with an STI by a healthcare provider. Among those, 49.1% (95% CI: 40.6, 58.3) told their partners and 62.5% (95% CI: 54.7, 71.0) stopped having sex while experiencing symptoms (Table 44).

**Table 44: Access to condoms and experiences of sexually transmitted infections among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Can get a male condom every time needs one [N=485]</b>				
Yes	358	73.8	72.5	68.1, 77.1
No	90	18.6	20.5	16.2, 24.8
No response	37	7.6	7.0	4.6, 9.3

<b>Has ever heard of diseases that can be transmitted through sexual intercourse (sexually transmitted infections) [N=485]</b>				
Yes	410	84.5	81.6	77.3, 85.9
No	75	15.5	18.4	14.1, 22.7
<b>Experience of symptoms of a sexually transmitted infection in the past six months [N=485]</b>				
Experienced pain while urinating	114	23.5	23.4	19.2, 27.6
Had unusual genital discharge	77	15.9	16.2	12.3, 20.1
Had genital or anal sores or ulcers	68	14.0	14.3	10.6, 18.0
Experienced symptoms of a sexually transmitted infection in past 6 months	143	29.5	29.1	24.5, 33.7
<b>Treatment seeking behaviors related to symptoms of a sexually transmitted infection</b>				
<b>In the past six months, sought treatment because of symptoms of a sexually transmitted infection [N=143]</b>				
<b>Time from onset of symptoms until seeking treatment [N=102]</b>				
Less than one week	33	32.4	27.6	15.0, 39.5
More than one week but less than one month	21	20.6	22.4	11.0, 33.7
More than one month	43	42.2	43.1	31.7, 54.9
Does not know or remember	5	4.9	6.9	0, 15.4
<b>Was diagnosed with a sexually transmitted infection by a healthcare provider in past 12 months [N=485]</b>				
Yes	78	16.1	15.8	12.1, 19.4
No	400	82.5	82.7	79.0, 89.5
Does not remember	7	1.4	1.5	0.4, 2.6
<b>Action taken last time experienced sexually transmitted infection symptoms or was diagnosed by a healthcare provider</b>				
Told my partner [N=158]	69	43.7	49.1	40.6, 58.3
Stopped having sex [N=158]	88	55.7	62.5	54.7, 71.0
Always used condoms (among those who did not stop having sex) [N=67]	13	19.4	24.6	14.4, 36.5

## 5.6 Alcohol and drug use

### 5.6.1 Alcohol use

Six in ten (59.9%; 95% CI: 54.8, 65.1) MSM reported consuming alcohol. Among them, three in ten (31.6%; 95% CI: 26.2, 36.8) consumed alcohol four or more times per week during the past month. Almost the same proportion (29.9%; 95% CI: 23.6, 36.4) consumed alcohol two to three times a week.



One-quarter (24.8%; 95% CI: 19.0, 30.7) of MSM who consumed alcohol had six or more drinks on one occasion either daily or almost daily<sup>6</sup> (Table 45).

**Table 45: Alcohol consumption among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Alcohol consumption in the past month [N=485]</b>				
Consumed alcohol	294	62.1	58.6	53.5, 63.8
Did not consume alcohol	191	39.4	41.4	36.2, 46.5
<b>Frequency of consuming alcohol in past month [N=301]</b>				
4 or more times a week	97	32.2	31.6	26.2, 36.8
2–3 times a week	86	28.6	29.9	23.6, 36.4
2–4 times a month	67	22.3	22.4	17.4, 27.4
Once a month or less	44	14.6	13.8	9.9, 17.7
Never	3	1.0	1.1	0, 3.8
Does not remember / no response	4	1.3	1.1	0.1, 2.0
<b>Typical number of drinks per day [N=301]</b>				
1 or 2	85	28.2	28.6	22.9, 34.3
3 or 4	66	21.9	22.9	17.3, 28.6
5 or 6	46	15.3	16.0	10.5, 21.5
7, 8 or 9	46	15.3	13.8	9.6, 17.8
10 or more	47	15.6	16.2	11.3, 21.1
Does not remember	9	3.0	2.0	1.0, 3.2
No response	2	0.7	0.5	0, 1.0
<b>Frequency of having six or more drinks on one occasion [N=301]</b>				
Daily or almost daily	70	23.3	24.8	19.0, 30.7
Weekly	46	15.3	12.1	9.5, 14.5
Monthly	27	9.0	6.7	4.2, 9.0
Less than monthly	43	14.3	14.2	9.9, 18.5
Never	113	37.5	41.4	35.0, 48.1
No response	2	0.7	0.7	0, 2.1

### 5.6.2 Drug use

Four in ten (39.3%; 95% CI: 33.5, 45.1) MSM smoked tobacco on a daily basis. A similar proportion (41.3%; 95% CI: 35.7, 47.0) smoked, inhaled, swallowed, or snorted drugs in the past 3 months for non-medical reasons. Among those, the most common use of non-injection drugs was smoking

<sup>6</sup> Consider one beer, a glass of wine, a shot of hard liquor, or cup of gong as one drink.

hashish or marijuana (87.3%; 95% CI: 79.1, 95.4) followed by the use of heroin through non-injection means (33.2%; 95% CI: 25.0, 41.5) (Table 46).

Overall, 13.7% (95% CI: 9.9, 17.6) of MSM had ever injected drugs. Among those who ever injected drugs, 26.4% (95% CI: 13.1, 38.7) injected drugs in the past 3 months and almost all injected heroin (Table 46).

**Table 46: Drug use among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Frequency of smoking tobacco [N=485]</b>				
Daily	193	39.8	39.3	33.5, 45.1
Less than daily	63	13.0	11.5	8.6, 14.4
Not at all	226	46.6	48.8	43.0, 54.6
No response	3	0.6	0.4	0, 0.8
<b>Smoked, inhaled, swallowed, or snorted any drugs in the past three months for non-medical reasons [N=485]</b>				
Yes	195	40.2	41.3	35.6, 46.9
No	288	59.4	58.4	53.0, 64.0
Does not remember	2	0.4	0.3	0, 0.7
<b>Types of non-injection drugs used in past three months* [N=195]</b>				
Smoked hashish/marijuana	170	87.2	87.3	79.1, 95.4
<i>Kichupa</i> (inhaling heroin vapor using a bottle)	28	14.4	16.6	9.0, 24.3
Smoked heroin	30	15.4	15.5	7.8, 23.3
Valium	19	9.7	12.3	4.6, 20.1
Mixed cocktail	17	8.7	10.2	2.8, 18.0
Methadone	9	4.6	5.3	0, 12.2
Chase the dragon (inhaling heroin vapor)	9	4.6	5.1	0, 12.1
Snorted heroin	11	5.6	4.6	0, 9.4
Smoked crack cocaine	6	3.1	4.5	0, 12.8
Snorted cocaine	8	4.1	4.5	0, 11.5
Khat	7	3.6	2.8	0, 7.3
Pain killers (prescription drugs)	1	0.5	0.9	0, 4.0
<b>Used heroin via non-injection methods in past three months [N=195] (inhaled, smoked, mixed cocktail, chase the dragon, <i>kichupa</i>)</b>				
Yes	62	31.8	33.2	25.0, 41.5
<b>Use of multiple non-injection drugs in past three months</b>				
Used more than one type of non-injection drug in past three months [N=195]	60	30.8	35.1	26.8, 43.5
<b>Injection drug use</b>				
Has ever injected drugs [N=485]	73	15.1	13.7	9.9, 17.6
Injected drugs in the past 3 months [N=73]	23	31.5	26.4	13.1, 38.7
<b>Drugs used at last injection [N=23]</b>				

Heroin (brown/white) and other heroin mixtures	22	95.6	94.8	87.5, 100
Does not remember	1	4.4	5.2	0, 12.5

¥ Question allowed for multiple response

## 5.7 HIV knowledge, testing, and risk perception

### 5.7.1 HIV knowledge

Participants were asked five standard knowledge questions related to HIV. Those who were able to respond correctly to all five questions were considered to have comprehensive knowledge of HIV, as per the UNAIDS definition. Four in ten (42.4%; 95% CI: 37.4, 47.5) MSM had comprehensive knowledge on HIV. Participants were also asked two questions related to the concept of U=U. Seven in ten (69.7%; 95% CI: 65.0, 74.4) MSM agreed that ARVs can decrease the amount of HIV in someone's blood to the point where it is not detectable in a laboratory test. More than half (55.8%; 95% CI: 50.7, 60.8) of MSM agreed that a person on ART cannot pass HIV to a sexual partner once they are virally suppressed (Table 47).

**Table 47: HIV knowledge among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV knowledge [N=485]</b>				
Agrees having one uninfected, faithful partner reduces risk of HIV transmission	418	86.2	82.8	78.7, 86.9
Disagrees that a person can get HIV from a mosquito bite	412	84.9	83.4	79.2, 87.6
Agrees using a condom every time you have sex reduces risk of HIV transmission	359	74.0	71.0	65.9, 76.2
Agrees a healthy-looking person can have HIV	379	78.1	77.5	72.9, 82.1
Disagrees that you can get HIV by sharing food with someone who is living with HIV	432	89.1	87.0	83.0, 90.9
<b>Has comprehensive HIV knowledge [N=485]</b>				
Yes	212	43.7	42.4	37.4, 47.5
No	273	56.3	57.6	52.5, 62.6
<b>Knowledge related to U=U (Undetectable=Untransmittable) [N=485]</b>				
Agrees that anti-retroviral therapy can decrease the amount of HIV in someone's blood to the point where it is not detectable in a laboratory test	347	71.5	69.7	65.0, 74.4
Agrees that a person on anti-retroviral therapy cannot pass HIV to a sexual partner once they are virally suppressed	277	57.1	55.8	50.7, 60.8

### 5.7.2 HIV testing, including self-testing

Nine in ten (91.0%; 95% CI: 87.8, 94.3) MSM knew where to get a confidential HIV test. The majority (87.9%; 95% CI: 84.3, 91.6) had been tested for HIV at least once in their lifetime. Of those and excluding MSM known to be living with HIV, four in ten (41.2%; 95% CI: 35.5, 46.8) had an HIV test

within the last 3 months, 15.8% (95% CI: 11.9, 19.6) had an HIV test in the past 3 to 6 months, 8.0% (95% CI: 4.9, 11.1) had an HIV test in the past 6 to 12 months, and 30.1% (95% CI: 24.4, 35.9) had an HIV test longer than a year before the survey. Excluding MSM known to be living with HIV, 7.2% (95% CI: 4.2, 10.1) and 11.5% (8.3, 14.4) reported routinely testing for HIV every month and every 3 months, respectively (Table 48).

Among MSM who have never been tested for HIV, reasons for not testing included fear of knowing one's status (40.5%; 95% CI: 28.2, 52.9), not feeling at risk of HIV (30.0%; 95% CI: 16.4, 43.6), and not seeing the importance of testing for HIV (21.1%; 95% CI: 10.1, 32.5) (Table 48).

Three in ten (29.5%; 95% CI: 25.1, 34.0) MSM had ever heard of an HIV self-test. Among those, 23.6% (95% CI: 15.3, 32.0) had ever taken an HIV self-test. Among those who had never used an HIV self-test, 70.4% (95% CI: 65.4, 75.3) would use one if recommended to them. Half (52.0%; 95% CI: 43.2, 61.1) of MSM who would not use an HIV self-test kit even if it was recommended to them said that the primary reason was not knowing how to use it (Table 48).

**Table 48: HIV testing history, including awareness and uptake of HIV self-testing, among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV testing history</b>				
Knows where to get confidential HIV test [N=485]	448	92.4	91.0	87.8, 94.3
Has ever tested for HIV [N=485]	441	90.9	87.9	84.3, 91.6
Has ever tested for HIV with their steady partner [N=441]	192	43.5	41.4	36.5, 46.2
<b>Last tested for HIV and received results, excluding known positives [N=399]</b>				
In the past 3 months	176	44.1	41.2	35.5, 46.8
3–6 months ago	70	17.5	15.8	11.9, 19.6
More than 6 months ago but within the past year	33	8.3	8.0	4.9, 11.1
Over one year ago	102	25.6	30.1	24.4, 35.9
Does not remember	18	4.5	4.9	2.7, 7.2
<b>Normal HIV testing frequency excluding known positives [N=441]</b>				
No pattern/routine testing	260	59.0	61.9	57.0, 66.7
Every month	39	8.8	7.2	4.2, 10.1
Every 3 months	64	14.5	11.5	8.3, 14.4
Every 6 months	20	4.5	3.5	1.7, 5.3
Once per year	48	10.9	13.9	10.2, 17.9
No response	10	2.3	2.1	0.6, 3.5
<b>Why has never tested for HIV<sup>‡</sup> [N=44]</b>				
Fear of knowing HIV status	19	43.1	40.5	28.2, 52.9
Does not feel at risk	13	29.6	30.0	16.4, 43.6
Not important for me	8	18.2	21.1	10.1, 32.5
Did not know where to go	3	6.8	10.6	2.6, 19.1

Negative attitude of health care workers	2	4.5	2.9	0, 8.7
Other	1	2.3	2.1	0, 6.4
Concerned about confidentiality	1	2.3	1.3	0, 3.8
<b>HIV self-testing</b>				
Has ever heard of an HIV self-test [N=485]	153	31.5	29.5	25.0, 34.0
Has ever taken an HIV self-test [N=153]	33	21.6	23.6	15.3, 32.0
<b>Would use an HIV self-test kit if it was recommended to them (excludes people known to be living with HIV) [N=452]</b>				
Yes	331	73.2	70.4	65.4, 75.3
No	116	25.7	28.9	24.0, 33.9
No response	5	1.1	0.6	0.4, 0.8
<b>Primary reason for not wanting to use an HIV self-test kit (excludes people known to be living with HIV) [N=116]</b>				
Does not know how to use the self-test kit	56	48.3	52.0	43.2, 61.1
Would rather test at a health facility	21	18.1	16.4	10.4, 22.0
Afraid of HIV results	15	12.9	11.5	6.5, 16.2
Does not trust the HIV self-test	8	6.9	6.3	2.3, 10.1
Does not have a private space to do the test / is worried others would see	3	2.6	3.4	0, 12.1
Other	10	8.6	8.2	4.0, 12.3
No response	3	2.6	2.3	0, 4.7

‡ Question allowed for multiple responses

### 5.7.3 Perceived HIV risk

Half (51.0%; 95% CI: 45.9, 56.2) of MSM, excluding those known to be living with HIV, perceived themselves to be at high risk of acquiring HIV. The most cited reasons for feeling at risk of acquiring HIV were having anal sex (63.9%; 95% CI: 58.0, 70.0), inconsistent condom use (56.4%; 95% CI: 50.0, 62.9), having multiple concurrent sexual partners (44.1%; 95% CI: 38.1, 50.1), and frequently changing sexual partners (40.5%; 95% CI: 34.6, 46.3). MSM who did not feel at risk of acquiring HIV gave several reasons for not feeling at risk. The most common reason was that they believed their sexual partners were not living with HIV (39.0%; 95% CI: 27.8, 50.6), they always use condoms (36.6%; 95% CI: 26.5, 47.1), and they were faithful (34.8%; 95% CI: 26.5, 42.5) (Table 49).

**Table 49: HIV risk perception among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Perceived HIV risk (excludes people known to be living with HIV [N=441])</b>				
High risk	222	50.3	51.0	45.9, 56.2
Medium risk	84	19.1	16.4	12.8, 19.9
Low risk	31	7.0	7.3	4.7, 9.9
No risk	82	18.6	19.1	15.1, 23.0
Does not know	22	5.0	6.3	3.2, 9.5

Reason(s) for feeling at risk of HIV infection among those who felt at risk <sup>‡</sup> [N=337]				
Has anal sex	209	62.0	63.9	58.0, 70.0
Inconsistent condom use	187	55.5	56.4	50.0, 62.9
Has multiple concurrent sex partners	152	45.1	44.1	38.1, 50.1
Often changes sex partners	132	39.2	40.5	34.6, 46.3
Drinks alcohol	112	33.2	33.2	27.5, 39.0
Has sex with individuals engaged in commercial sex	48	14.2	14.1	9.7, 18.5
Uses drugs	16	4.7	4.1	1.4, 6.8
Injects drugs	10	3.0	3.0	1.0, 5.0
Other	8	2.4	2.3	0.6, 4.0
No response	1	0.3	0.2	0, 0.5
Reason(s) for not feeling at risk of HIV infection among those who felt they are not at risk <sup>‡</sup> [N=82]				
Believes sexual partners are not living with HIV	29	35.5	39.0	27.8, 50.6
Always uses condoms	28	34.1	36.6	26.5, 47.1
Is faithful	31	37.8	34.8	26.5, 42.5
Tests for HIV frequently	5	6.1	6.2	0, 12.8
Does not solicit or engage in commercial sex	2	2.4	1.3	0, 4.3
Does not remember	1	1.2	0.7	0, 3.0
Other	16	19.5	3.5	1.8, 5.1

<sup>‡</sup> Question allowed for multiple response

## 5.8 Experiences of men who have sex with men who are living with HIV

### 5.8.1 Experiences with HIV care and treatment services

Among MSM who had ever tested for HIV, 6.6% (95% CI: 3.9, 9.2) disclosed that they were living with HIV. Of those, 96.7% (95% CI: 75.4, 100) were on ART and the majority (91.2%; 95% CI: 87.3, 95.2) of those on ART had been on ART for more than 6 months. Most (87.7%; 95% CI: 68.2, 100) MSM on ART had ever had an HIV viral load test (Table 50).

The majority (85.2%; 95% CI: 64.5, 100) of MSM who disclosed that they were living with HIV reported being screened for TB symptoms at least once during a clinic visit in last 12 months. Approximately half (54.7%; 95% CI: 34.4, 76.2) had experienced symptoms of TB such as night sweats, cough, fever, or weight loss in the last 12 months. Two in ten (22.2%; 95% CI: 10.3, 33.0) had ever been treated for TB (Table 50).

**Table 50: Experiences of HIV care and treatment services among men who have sex with men who are living with HIV, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Self-reported result of last HIV test [N=442]</b>				
Positive	32	7.2	6.6	3.9, 9.2
Negative	406	91.9	91.9	88.9, 94.9
Did not receive results	1	0.2	0.8	0, 2.1

Does not know / remember	3	0.7	0.7	0, 1.6
<b>Currently on anti-retroviral therapy [N=32]</b>				
Yes	31	96.9	96.7	75.4, 100
No	1	3.1	3.3	0, 24.6
<b>How long has been on anti-retroviral therapy [N=31]</b>				
Less than 6 months	3	9.7	8.8	4.8, 12.7
More than 6 months	28	90.3	91.2	87.3, 95.2
<b>Has had HIV viral load test done [N=31]</b>				
Yes	25	80.6	87.7	68.2, 100
No	6	19.4	12.3	0, 31.9
<b>Was screened for tuberculosis symptoms during any clinic visit in last 12 months [N=32]</b>				
Yes	28	87.5	85.2	64.5, 100
No	4	12.5	14.8	0, 35.5
<b>Experienced night sweats, cough, fever, or weight loss in last 12 months [N=32]</b>				
Yes	15	46.9	54.7	34.4, 76.2
No	17	53.1	45.3	23.7, 65.6
<b>Has ever been treated for tuberculosis [N=32]</b>				
Yes	9	28.1	22.2	10.3, 33.0
No	23	71.9	77.8	67.0, 89.7

### 5.8.2 Experiences of stigma as a person living with HIV

Among participants who disclosed that they were living with HIV, 13.6% (95% CI: 4.6, 22.2) reported that, in the past 6 months, people had spoken badly about them a few times because of their HIV status and 17.7% (95% CI: 6.6, 27.7) reported that this had happened often. Similar proportions of MSM living with HIV reported that, in the past 6 months, someone else had disclosed their HIV status without their permission often (13.1%; 95% CI: 2.4, 24.0) and a few times (14.0%; 95% CI: 4.6, 23.1) (Table 51).

**Table 51: Experiences of stigma as a person living with HIV among men who have sex with men, Unguja, Zanzibar, 2023**

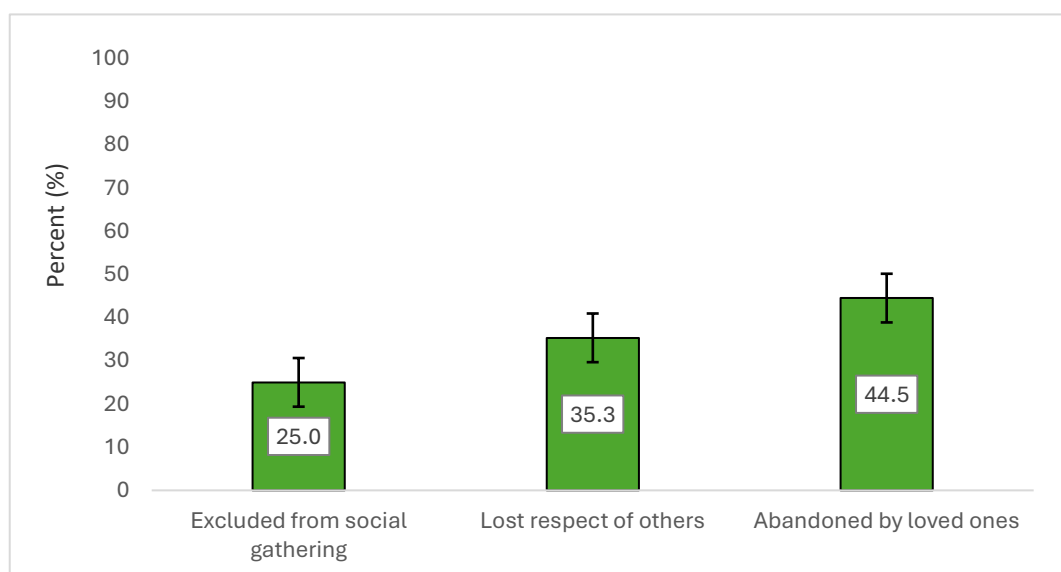
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Agreement with the following statement: "In the last 6 months, I have felt ashamed because of my HIV status." [N=32]</b>				
Strongly agree	8	25.0	16.4	0, 34.9
Agree	6	18.8	20.3	5.6, 35.5
Disagree	12	37.5	37.1	15.2, 58.9
Strongly disagree	6	18.8	26.2	6.2, 47.6
<b>In the last 6 months, have people talked badly about you because of your HIV status? [N=32]</b>				
Never	13	40.6	49.2	34.2, 66.2

Once	2	6.2	7.5	0.3, 15.0
A few times	5	15.6	13.6	4.6, 22.2
Often	7	21.9	17.7	6.6, 27.7
Not applicable because no-one knows my HIV status	5	15.6	12.0	3.5, 19.6
<b>In the last 6 months, did someone else disclose your HIV status without your permission? [N=32]</b>				
Never	16	50.0	54.8	35.6, 71.8
Once	3	9.4	8.2	0.6, 15.7
A few times	5	15.6	14.0	4.6, 23.1
Often	4	12.5	13.1	2.4, 24.0
Not applicable because no-one knows my HIV status	4	12.5	9.9	0.7, 18.6

## 5.9 Stigma as a man who has sex with men and mental health

### 5.9.1 Stigma related to having sex with other men

Stigma and discrimination were common among MSM in Unguja. Based on experiences from the past 6 months, 25.0% (95% CI: 20.2, 29.9) of MSM had been excluded from a social gathering, 35.3% (95% CI: 30.4, 40.3) reported that others had lost respect for them, and 44.5% (95% CI: 39.2, 49.7) were abandoned by their loved ones because they had sex with men (Figure 25; Table 52).



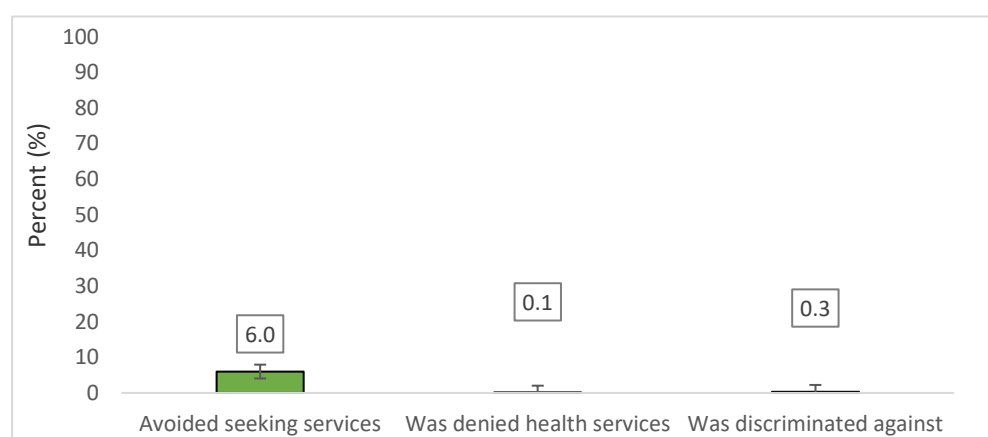
**Figure 25: Experiences of stigma and discrimination in the past 6 months among men who have sex with men, Unguja, Zanzibar, 2023**

### 5.9.2 Avoidance of and experiences of discrimination in healthcare

In the last 12 months, 6.0% (95% CI: 3.3, 8.7) of MSM avoided seeking health or social services due to fear of being discriminated against because they are MSM, 0.1% (95% CI: 0, 0.2) were denied health services because they are MSM, and 0.3% (95% CI: 0.1, 0.6) were discriminated against by a



healthcare provider because they are MSM (Figure 26). Fewer than one in five (17.2%; 95% CI: 13.8, 20.6) MSM knew where to report discrimination experienced during health services (Table 52).



**Figure 26: Avoidance and experiences of discrimination in healthcare in the past 12 months among men who have sex with men, Unguja, Zanzibar, 2023**

**Table 52: Experiences of stigma, socially and in the healthcare setting, among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Experiences of stigma as a man who has sex with other men (% yes) [N=485]</b>				
Experienced name calling, teasing and insults	250	51.5	49.0	43.5, 54.6
Excluded from a social gathering	123	25.4	25.0	20.2, 29.9
Others have lost respect	170	35.1	35.3	30.4, 40.3
Abandoned by loved ones	221	45.6	44.5	39.2, 49.7
<b>Afraid to seek health or social services in last 12 months due to worry of being exposed as a man who has sex with other men[N= 485]</b>				
Yes	38	7.8	7.8	4.9, 10.7
No	447	92.2	92.2	89.3, 95.0
<b>Avoided seeking health or social services in last 12 months due to worry of being discriminated against as a man who has sex with other men [N=485]</b>				
Yes	25	5.2	6.0	3.3, 8.7
No	460	94.1	94.0	91.3, 96.7
<b>Has been denied health or social services in last 12 months because he is a man who has sex with other men [N=485]</b>				
Yes	2	0.4	0.1	0, 0.2
No	483	99.6	99.9	99.8, 100
<b>Has been discriminated against by a healthcare provider because he is a man who has sex with other men [N=485]</b>				

Yes	4	0.8	0.3	0.1, 0.6
No	481	99.2	99.7	99.4, 99.9
<b>Knew where to report discrimination experienced during health services [N=485]</b>				
Yes	88	18.1	17.2	13.8, 20.6
No	394	81.2	82.3	78.9, 85.8
Does not know	3	0.6	0.5	0, 0.9

### 5.9.3 Mental health

Feelings of anxiety, hopelessness, and worry were reported by approximately half of MSM in Unguja. When asked how often over the past 2 weeks they had little interest or pleasure in doing things that they previously enjoyed, 40.3% (95% CI: 35.5, 45.0) experienced this several days, 1.4% (95% CI: 0, 2.9) experienced this more than half of the days, and 6.6% (95% CI: 3.7, 9.4) experienced this nearly every day. When asked about feeling down, depressed, or hopeless over the last two weeks, 37.8% (95% CI: 32.8, 42.7) of MSM experienced this several days, 3.8% (95% CI: 1.4, 6.2) experienced this more than half of the days, and 8.8% (95% CI: 5.5, 12.1) experienced this nearly every day (Table 53).

**Table 53: Experiences of worry and anxiety among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Over the last 2 weeks, frequency of having little interest or pleasure in doing things you have previously enjoyed [N=485]</b>				
Not at all	251	51.8	51.8	46.9, 56.6
Several days	200	41.2	40.3	35.5, 45.0
More than half the days	6	1.2	1.4	0, 2.9
Nearly every day	28	5.8	6.6	3.7, 9.4
<b>Over the last 2 weeks, frequency of feeling down, depressed, or hopeless [N=485]</b>				
Not at all	246	50.7	50.0	44.7, 54.6
Several days	188	38.8	37.8	32.8, 42.7
More than half the days	15	3.1	3.8	1.4, 6.2
Nearly every day	36	7.4	8.8	5.5, 12.1
<b>Over the last 2 weeks, frequency of feeling nervous, anxious, or on edge [N=485]</b>				
Not at all	278	57.3	54.6	49.3, 59.8
Several days	160	33.0	31.3	26.6, 35.9
More than half the days	11	2.3	4.5	0.9, 8.1
Nearly every day	35	7.2	9.0	5.5, 12.5
No response	1	0.2	0.7	0, 1.9
<b>Over the last 2 weeks, frequency of not being able to stop or control worrying [N=485]</b>				
Not at all	282	58.1	54.9	49.8, 60.0

Several days	149	30.7	30.5	25.9, 35.0
More than half the days	16	3.3	4.1	1.8, 6.4
Nearly every day	36	7.4	9.1	5.6, 12.6
No response	2	0.4	1.4	0, 2.9

## 5.10 Experiences of arrest and physical and sexual violence

One-third (34.4%; 95% CI: 29.3, 39.6) of MSM reported to have been arrested in the past 12 months. The most common reasons for arrest were loitering (35.3%; 95% CI: 27.5, 43.4), assault (21.0%; 95% CI: 13.9, 28.2), drug use (19.8%; 95% CI: 10.5, 29.2), and being an MSM (18.4%; 95% CI: 11.6, 25.4) (Table 54).

Experiences of violence varied among MSM in Unguja. More than one in five (22.7%; 95% CI: 18.6, 26.8) experienced physical violence in the last 12 months, while 12.2% (95% CI: 8.9, 15.5) were forced to have sex in the last 12 months.

Among those who experienced physical violence, 57.3% (95% CI: 48.8, 66.2) reported the perpetrator of that violence to be a police officer and 34.3% (95% CI: 25.5, 43.3) reported it to be a stranger. Among MSM who experienced physical violence, 13.5% (95% CI: 5.3, 21.0) reported the violence to an authority. The most cited reasons for not reporting physical violence to the authorities were not knowing where to go or that they should report it (31.0%; 95% CI: 21.4, 41.0), feeling ashamed or embarrassed (25.9%; 95% CI: 18.8, 32.0), and fear of retaliation (17.6%; 95% CI: 10.2, 24.9) (Table 54).

Among those who were forced to have sex, 1.1% (95% CI: 0.6, 1.3) reported the violence to an authority, and 5.0% (95% CI: 0, 13.0) sought medical attention after the incident. The most cited reasons for not reporting were feeling ashamed or embarrassed (55.5%; 95% CI: 41.2, 70.4) and not knowing where to go or that they should report (21.7%; 95% CI: 10.4, 33.1) (Table 54).

**Table 54: Experiences of arrest and violence among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Was arrested in past 12 months [N=485]</b>				
Yes	173	35.7	34.4	29.3, 39.6
No	312	64.3	65.6	60.4, 70.7
<b>Reason(s) for arrest in past 12 months among those who were arrested<sup>y</sup> [N=173]</b>				
Loitering	57	32.9	35.3	27.5, 43.4
Aggravated assault	35	20.2	21.0	13.9, 28.2
Drug use	33	19.1	19.8	10.5, 29.2
Because of being a man who has sex with other men	30	17.3	18.4	11.6, 25.4
Theft	21	12.1	10.4	6.6, 14.2
Road traffic offences	17	9.8	8.2	4.4, 11.6
Selling drugs	9	5.2	4.4	1.1, 7.6
Other reasons	5	2.9	3.1	1.6, 4.6

Engaging in commercial sex	4	2.3	3.0	0.6, 5.5
<b>Experienced physical violence in past 12 months [N=485]</b>				
Yes	121	24.9	22.7	18.6, 26.8
No	363	74.8	77.1	72.9, 81.2
No response	1	0.2	0.2	0, 0.5
<b>Perpetrator(s) of physical violence in past 12 months, among those who experienced physical violence* [N=121]</b>				
Police	67	55.4	57.3	48.8, 66.2
An unknown person / person on the street	40	33.1	34.3	25.5, 43.3
Friend	14	11.6	11.9	2.5, 21.4
Family member	13	10.7	9.4	2.6, 15.9
Boyfriend or husband	5	4.1	4.2	0, 9.7
Other	4	3.3	3.2	0, 9.3
One-time sex partner	4	3.3	2.8	0, 8.4
Drug dealer	1	0.8	0.7	0, 3.7
Wife / girlfriend	1	0.8	0.2	0, 0.3
<b>Reported the violence to any authority, among those who experienced physical violence [N=121]</b>				
Yes	20	16.5	13.5	5.3, 21.0
No	101	83.5	86.5	78.9, 94.7
<b>Reason for not reporting physical violence to an authority [N=101]</b>				
Did not know where to go / that they should report	24	23.8	31.0	21.4, 41.0
Felt ashamed / embarrassed	32	31.7	25.9	18.8, 32.0
Fear of retaliation	16	15.8	17.6	10.2, 24.9
Negative experience with authorities in the past	9	8.9	8.8	0, 18.4
Fear of discrimination from family/community	7	6.9	6.5	2.8, 10.1
Other	9	8.9	5.9	2.8, 8.6
Fear of being stigmatized	2	2.0	1.4	0, 2.8
No response	2	2.0	2.8	0, 6.3
<b>Forced to have sex in past 12 months [N=485]</b>				
Yes	62	12.8	12.2	8.9, 15.5
No	422	87.0	87.6	84.2, 90.9
Does not remember	1	0.2	0.2	0, 0.4
<b>Sought medical treatment after forced sex, among those forced to have sex in past 12 months [N=62]</b>				
Yes	5	8.1	5.0	0, 13.0
No	55	88.7	93.1	75.5, 100
Does not remember	2	3.2	1.9	0, 16.4
<b>Reported the violence to any authority, among those who experienced sexual violence [N=62]</b>				
Yes	1	1.6	1.1	0.6, 1.3
No	60	96.8	98.5	98.0, 99.4

No response	1	1.6	0.3	0, 0.8
<b>Reason for not reporting sexual violence to an authority [N=60]</b>				
Felt ashamed / embarrassed	31	51.7	55.5	41.2, 70.4
Did not know where to go / that they should report	12	20.0	21.7	10.4, 33.1
Fear of being stigmatized	7	11.7	7.7	2.0, 12.6
Fear of discrimination from family / community	5	8.3	6.5	1.1, 11.5
Fear of retaliation	3	5.0	6.2	0, 13.1
Other	2	3.3	2.4	0, 13.9

\*Question allowed for multiple response

## 5.11 Services for populations at risk for HIV

### 5.11.1 Pre-exposure prophylaxis awareness and uptake

Fewer than three in ten (27.5%; 95% CI: 22.9, 32.0) MSM had ever heard of PrEP. Among those who had heard of PrEP, 13.9% (95% CI: 2.1, 25.1) had ever used PrEP and among those, almost half (48.3%; 95% CI: 31.0, 65.1) had used PrEP in the last 6 months. Among MSM who did not disclose that they were living with HIV and had never taken PrEP, 39.8% (95% CI: 35.5, 44.0) would take PrEP to help prevent HIV infection. Among those who had heard of but never used PrEP, reasons for not using PrEP included not knowing where to get PrEP (37.0%; 95% CI: 28.5, 45.1) and not wanting PrEP (22.8%; 95% CI: 15.5, 30.2) (Table 55).

**Table 55: Awareness and uptake of pre-exposure prophylaxis among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Awareness and use of pre-exposure prophylaxis (PrEP)</b>				
Has ever heard of PrEP [N=485]	149	30.7	27.5	22.9, 32.0
Has ever taken PrEP [N=149]	27	18.1	13.9	2.1, 25.1
Has taken PrEP in the last 6 months [N=26]	13	50.0	48.3	31.0, 65.1
Would take PrEP to help prevent HIV (among those who had never taken PrEP or had not heard of PrEP AND did not disclose that they were living with HIV) [N=386]	166	43.0	39.8	35.5, 44.0
<b>Main reason has never taken PrEP (excludes known positives) [N=120]</b>				
Does not know where to get PrEP	47	39.2	37.0	28.5, 45.1
Does not want PrEP	26	21.7	22.8	15.5, 30.2
Afraid of side effects	11	9.2	8.9	5.1, 12.5
Not available where I live	7	5.8	8.8	0, 19.0
Does not feel at risk for HIV	9	7.5	5.9	3.0, 8.5
Embarrassed to talk about it with doctor/nurse	2	1.7	3.4	2.8, 4.1
Does not want others to find out is using PrEP	1	0.8	1.1	0, 2.4
Other	14	11.7	10.1	5.8, 14.0
Does not know	3	2.5	2.1	0, 4.1

### 5.11.2 Engagement with peer educators and population at risk for HIV-friendly clinics

Over one-third (35.1%; 95% CI: 30.5, 39.6) of MSM received health services from a peer educator and/or at a PRH-friendly clinic in the last 12 months (Table 56).

Three in ten (30.3%; 95% CI: 25.7, 34.8) MSM engaged with a peer educator in the last 12 months. Of those, 27.9% (95% CI: 19.9, 36.5) interacted with a peer educator only once and 43.3% (95% CI: 34.9, 51.9) interacted with a peer educator twice during that period. The most commonly provided services were information about HIV transmission and prevention (78.2%; 95% CI: 70.3, 86.0), linkage to HIV testing (43.1%; 95% CI: 34.7, 51.6), general counseling from a peer counselor (41.4%; 95% CI: 31.3, 51.7), condoms (32.3%; 95% CI: 24.1, 40.2), and counseling from a professional or voluntary counseling and testing counselor (32.2%; 95% CI: 21.4, 43.3) (Table 56).

One in ten (11.7%; 95% CI: 9.0, 14.5) MSM sought HIV services from a clinic providing MSM-friendly services in the past year. Among those, the most common services received were HIV testing (48.4%; 95% CI: 38.2, 58.3), information about HIV transmission and prevention (40.4%; 95% CI: 28.3, 52.6), and condoms (27.9%; 95% CI: 18.5, 36.5) (Table 56).

**Table 56: Engagement with peer educators and population at risk for HIV-friendly clinics and services received by men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Received health services at a population at risk for HIV-friendly clinic and/or from a peer educator in the last 12 months [N=485]</b>				
Yes	181	37.3	35.1	30.5, 39.6
No	304	62.7	64.9	60.3, 69.4
<b>Had contact with a peer educator in past 12 months [N=485]</b>				
Yes	155	32.0	30.3	25.7, 34.8
No	328	67.6	69.4	64.8, 73.9
Does not remember / no response	2	0.4	0.2	0, 0.4
<b>Number of contacts with peer educator in past 12 months among those who had any contact [N=155]</b>				
One time only	36	23.2	27.9	19.9, 36.5
Two times	62	40.0	43.3	34.9, 51.9
Three times	22	14.2	11.3	5.7, 16.3
Four times	11	7.1	5.3	1.3, 9.1
Five or more times	19	12.3	9.5	4.3, 14.3
No response	5	3.2	2.7	0, 8.6
<b>Service(s) received from a peer educator in past year* [N=155]</b>				
Information on sexually transmitted infections or HIV transmission or prevention	121	78.1	78.2	70.3, 86.0

Linkage to HIV testing	65	41.9	43.1	34.7, 51.6
General counseling from a peer counselor	62	40.0	41.4	31.3, 51.7
Condoms	52	33.5	32.3	24.1, 40.2
Counseling from a professional/voluntary counseling and testing counselor	46	29.7	32.2	21.4, 43.3
Information about tuberculosis	26	16.8	16.3	8.6, 24.4
Referral for sexually transmitted infection treatment	3	1.9	3.6	0, 13.2
Other	2	1.3	1.5	0, 5.8
Referral for tuberculosis screening	3	1.9	1.4	0, 4.5
Pre-exposure prophylaxis	2	1.3	0.7	0, 1.6
Lubricant	1	0.6	0.5	0, 2.2
Does not remember	5	3.2	3.4	0.8, 5.9
<b>Peer educator was non-judgmental [N=155]</b>				
Yes	138	89.0	91.5	87.3, 96.2
No	14	9.0	7.1	3.3, 10.5
Does not remember	3	1.9	1.4	0, 3.5
<b>Visited a clinic or drop-in center around Unguja providing services to men who have sex with men in past 12 months [N=485]</b>				
Yes	69	14.2	11.7	9.0, 14.5
No	407	83.9	85.7	82.4, 89.0
Does not remember	8	1.7	2.1	0.2, 4.1
No response	1	0.2	0.2	0, 0.6
<b>Service(s) received at clinic serving men who have sex with men* [N=69]</b>				
HIV test	35	50.7	48.4	38.2, 58.3
Information on sexually transmitted infection or HIV transmission or prevention	28	40.6	40.4	28.3, 52.6
Condoms	23	32.9	27.9	18.5, 36.5
Anti-retroviral therapy services	3	4.3	6.1	0, 14.3
Counseling from a professional/ voluntary counseling and testing counselor	3	4.3	6.1	0, 14.4
General counseling from a peer counselor	5	7.1	4.7	0, 9.9
Information about tuberculosis	3	4.3	3.4	0, 8.1
Lubricant	1	1.4	1.6	0, 7.7
Pre-exposure prophylaxis	1	1.4	1.1	0, 5.0

\*Question allowed for multiple responses

## 5.12 Access to and uptake of other healthcare services

### 5.12.1 Hepatitis testing and hepatitis vaccination

One in five (21.5%; 95% CI: 17.7, 25.2) MSM reported that they had been tested for hepatitis prior to the survey. Of those, more than half (58.0%; 95% CI: 48.6, 67.9) could not remember the type of hepatitis for which they were tested. Among those who had previously tested for hepatitis B, 4.1%

(95% CI: 0, 12.5) reported a positive test result and among those who had previously tested for hepatitis C, 18.5% (95% CI: 7.3, 30.5) reported a positive test result (Table 57).

**Table 57: Hepatitis testing prior to the survey among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Has ever been tested for hepatitis [N=485]</b>				
Yes	129	26.6	21.5	17.7, 25.2
No	348	71.8	77.2	73.3, 80.9
Does not remember	8	1.6	1.3	0.3, 2.2
<b>Type of hepatitis testing done<sup>‡</sup> [N=129]</b>				
Hepatitis B only	13	10.1	8.6	3.6, 13.3
Hepatitis C only	11	8.5	6.5	2.2, 10.6
Both hepatitis B and hepatitis C	33	25.6	26.1	18.4, 33.9
Does not remember	71	55.0	58.0	48.6, 67.9
No response	1	0.8	0.7	0.0, 2.5
<b>Previous hepatitis test results</b>				
Hepatitis B positive [N=46]	2	4.3	4.1	0, 12.5
Hepatitis C positive [N=44]	7	15.9	18.5	7.3, 30.5

<sup>‡</sup>Question allowed for multiple responses

### 5.12.2 COVID-19 vaccine uptake and beliefs

Nearly half (47.7%; 95% CI: 42.4, 52.8) of MSM had ever received a COVID-19 vaccine. Among those, the majority (73.1%; 95% CI: 65.5, 80.8) received one dose and 85.1% (95% CI: 80.3, 90.1) received their most recent dose more than six months prior to the survey. The main reasons cited for not receiving a COVID-19 vaccine were time constraints (21.1%; 95% CI: 16.4, 25.6), not knowing where to get a vaccine (21.2%; 95% CI: 14.5, 27.9), and being afraid of vaccine side effects (20.6%; 95% CI: 15.4, 25.3) (Table 58).

**Table 58: COVID-19 vaccination uptake and beliefs among men who have sex with men, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Has ever received a COVID-19 vaccine [N=485]</b>				
Yes	237	48.9	47.7	42.4, 52.8
No	239	49.3	50.6	45.4, 55.8
Does not remember	9	1.9	1.7	0.3, 3.0
<b>Number of doses of COVID-19 vaccine received [N=237]</b>				
One	171	72.2	73.1	65.5, 80.8
Two	50	21.1	19.5	15.2, 23.5
Three or more	9	3.8	5.1	0, 12.3
Does not remember	7	3.0	2.3	1.0, 3.5



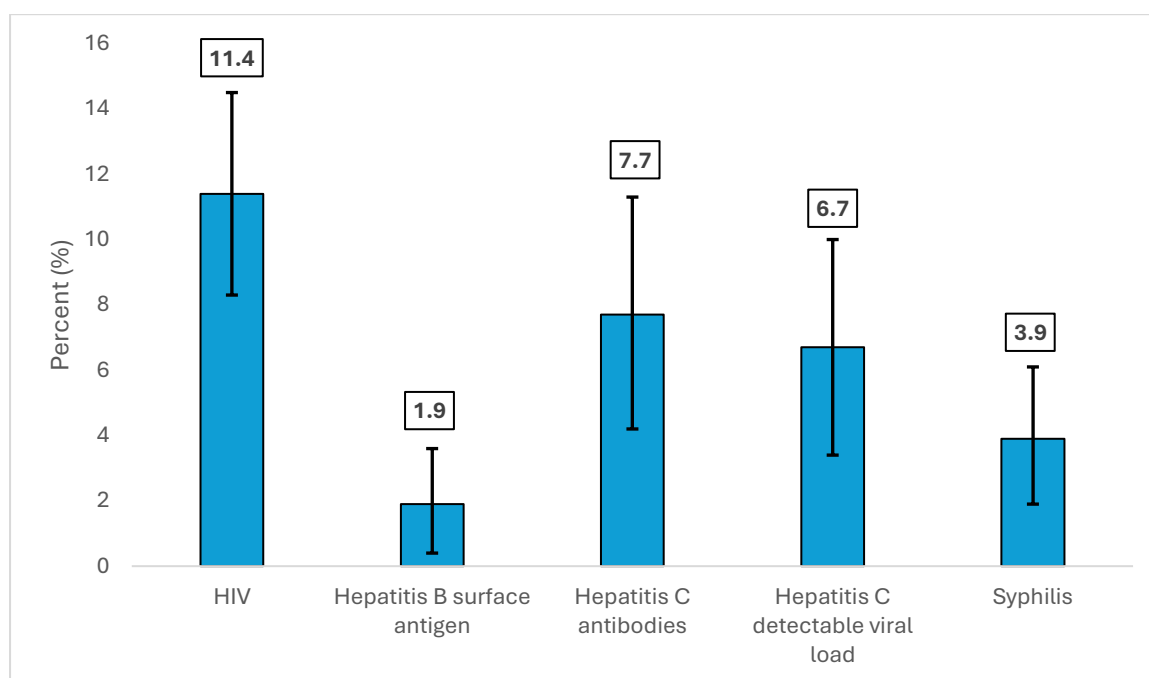
<b>Timing of last dose of COVID-19 vaccine [N=237]</b>				
In the last month	5	2.1	2.7	0, 6.1
Within the last 6 months but not in the last month	17	7.2	5.6	3.1, 8.0
More than 6 months ago	192	81.0	85.1	80.3, 90.1
Does not remember	23	9.7	6.6	3.4, 9.3
<b>Main reason for not receiving a COVID-19 vaccine [N=239]</b>				
Time constraints: difficult to find or make an appointment/ too busy/no time off work	51	21.3	21.1	16.4, 25.6
Did not know where to get vaccinated	47	19.7	21.2	14.5, 27.9
Afraid of COVID-19 vaccine side effects	58	24.3	20.6	15.4, 25.3
Does not want to get vaccinated	36	15.1	13.1	8.9, 17.1
Believes vaccine is not safe	14	5.9	6.0	2.4, 9.4
The hours of operation are inconvenient	10	4.2	5.1	2.0, 8.0
Not eligible to get vaccinated	7	2.9	4.9	1.0, 8.9
Other	7	2.9	3.9	0.6, 7.2
Too far away/does not have transportation	2	0.8	0.9	0, 3.2
Does not remember	2	0.8	1.7	0, 4.5
No response	5	2.1	1.7	0, 5.4

### 5.13 HIV prevalence and incidence, and prevalence of hepatitis B, hepatitis C, syphilis, and co-infection

HIV prevalence among MSM was 11.4% (95% CI: 8.3, 14.5). Estimated HIV incidence was 1.1% (95%CI: 0.8, 1.4). Just over half (55.2%; 95% CI: 41.3, 70.0) of MSM living with HIV had a CD4 count greater than or equal to 500 cells/ $\mu$ L. A similar proportion (53.1%; 95% CI: 40.6, 66.9) had an undetectable HIV viral load (< 50 copies/mL), while 5.9% (95% CI: 4.4, 7.3) had LLV, and 41.0% (95% CI: 27.2, 53.3) were virally unsuppressed ( $\geq$  1,000 copies/mL). There was one RITA recent case of HIV infection (1.2%; 95% CI: 0, 9.3) (Figure 27; Table 59).

Prevalence of hepatitis B surface antigen among MSM was 1.9% (95% CI: 0.2, 3.4). All participants who had a reactive test for hepatitis B surface antigen were core antibody (IgM) negative, indicating chronic infection. Prevalence of co-infection with HIV was 0.6% (95% CI: 0.1, 1.1) (Figure 27; Table 59).

Hepatitis C antibodies were detected in 7.7% (95% CI: 4.1, 11.2) of MSM. Prevalence of active hepatitis C infection among MSM (measured by the presence of detectable HCV viral load) was 6.7% (95% CI: 3.4, 10.0). Prevalence of active hepatitis C co-infection with HIV was 0.9% (95% CI: 0, 2.3). Among MSM who screened positive for HCV antibodies, 87.3% (95% CI: 70.6, 100) had a detectable HCV viral load and 48.0% (95% CI: 27.9, 66.2) had ever injected drugs (Figure 27; Table 59).



**Figure 27: Prevalence of HIV, hepatitis B surface antigen, hepatitis C antibodies, detectable hepatitis C viral load, and syphilis among men who have sex with men, Unguja, Zanzibar, 2023**

**Table 59: Prevalence of HIV, hepatitis B surface antigen, hepatitis C virus, and syphilis among men who have sex with men, Unguja, Zanzibar, 2023**

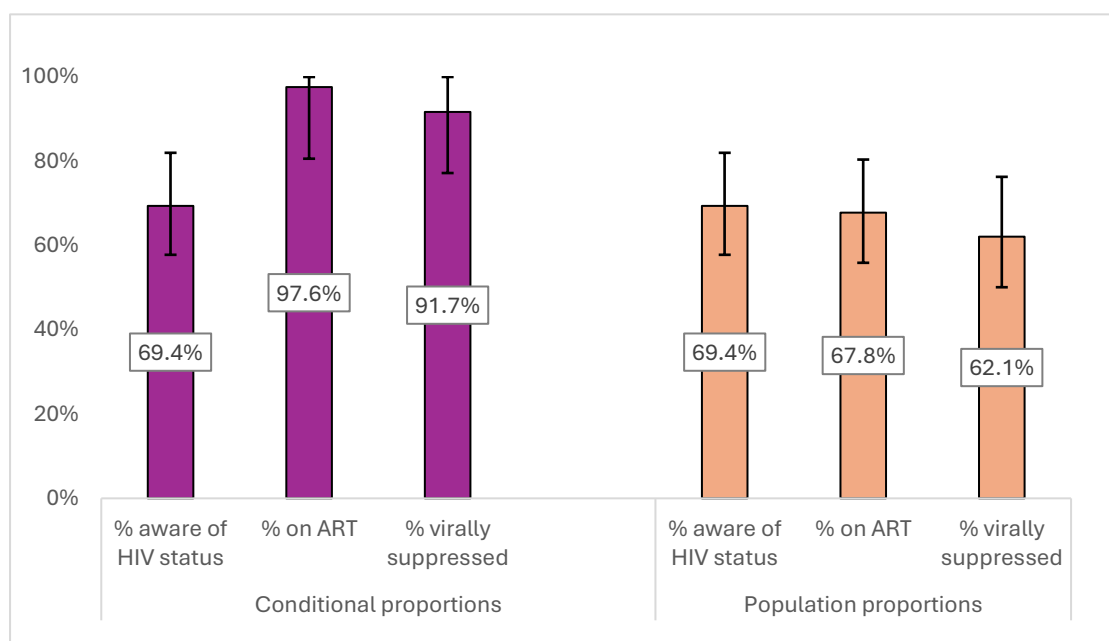
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence and related laboratory results</b>				
<b>HIV prevalence [N=485]</b>	68	14.0	11.4	8.3, 14.5
<b>HIV viral load [N=68]</b>				
<50 copies/mL	31	45.6	53.1	40.6, 66.9
50–999 copies/mL	4	5.9	5.9	4.4, 7.3
≥ 1,000 copies/mL	33	48.5	41.0	27.2, 53.3
<b>CD4 count [N=68]</b>				
<200 cells/μL	4	5.9	4.0	0, 8.4
200–349 cells/μL	11	16.2	13.6	3.5, 23.1
350–499 cells/μL	20	29.4	27.3	9.5, 44.8
≥ 500 cells/μL	33	48.5	55.2	41.3, 70.0
<b>Recent HIV infection</b>				
<b>Recent HIV infection results (using recent infection testing algorithm, RITA) [N=68]</b>				
RITA recent	1	1.5	1.2	0, 9.3
RITA long-term	66	97.1	96.6	87.6, 100
Inconclusive	1	1.5	2.2	0, 5.4
<b>Hepatitis B</b>				
Hepatitis B surface antigen prevalence [N=485]	8	1.7	1.9	0.2, 3.4

Hepatitis B core antibody prevalence [N=485]	2	0.4	0.4	0, 0.9
<b>Hepatitis C</b>				
HCV antibody prevalence [N=485]	31	6.4	7.7	4.1, 11.2
Hepatitis C detectable viral load [N=485]	25	5.2	6.7	3.4, 10.0
Hepatitis C detectable viral load among those who screened positive for hepatitis C antibodies [N=31]	25	80.6	87.3	70.6, 100
<b>Syphilis</b>				
Syphilis antibody prevalence [N=485]	19	3.9	3.9	1.7, 5.9
<b>Co-infection</b>				
HIV-hepatitis B co-infection [N=485]	2	0.4	0.9	0, 2.3
HIV-hepatitis C co-infection [N=485]	5	1.0	0.6	0.1, 1.1
HIV-syphilis co-infection [N=485]	9	1.9	1.9	0.3, 3.5
<b>Characteristics of men who have sex with men who screened positive for hepatitis C antibodies [N=31]</b>				
Had a detectable hepatitis C viral load	25	80.7	87.3	70.6, 100
Ever injected drugs	19	61.3	48.0	27.9, 66.2

## 5.14 Progress toward the UNAIDS 95-95-95 targets

Awareness of HIV-positive status was defined as people living with HIV who disclosed a prior HIV diagnosis or had a suppressed HIV viral load (<1,000 copies/mL). In Unguja, 69.4% (95% CI: 57.8, 82.0) of MSM living with HIV were aware of their HIV status. Being on ART was defined as those who disclosed current use of ART or had a suppressed viral load. Among MSM living with HIV who knew their HIV status, 97.6% (95% CI: 80.6, 100) were on ART. Viral suppression was defined as an HIV viral load <1,000 copies/mL. Among MSM living with HIV who knew their HIV status and were on ART, 91.7% (95% CI: 77.2, 100) were virally suppressed (Figure 28; Table 60).

Figure 28 presents both conditional proportions (calculated using the value of each data point as the denominator for the subsequent data point) and population proportions (calculated using the number of people living with HIV as the denominator for all data points) for progress towards the 95-95-95 targets. At a population level, among MSM living with HIV, 67.8% (95% CI: 55.9, 80.4) were on ART and 62.1% (95% CI: 50.1, 76.3) were virally suppressed (Figure 28; Table 60).



**Figure 28: Progress towards UNAIDS 95-95-95 targets among men who have sex with men, Unguja, Zanzibar, 2023**

**Table 60: Progress towards the UNAIDS 95-95-95 targets among men who have sex with men, Unguja, Zanzibar, 2023**

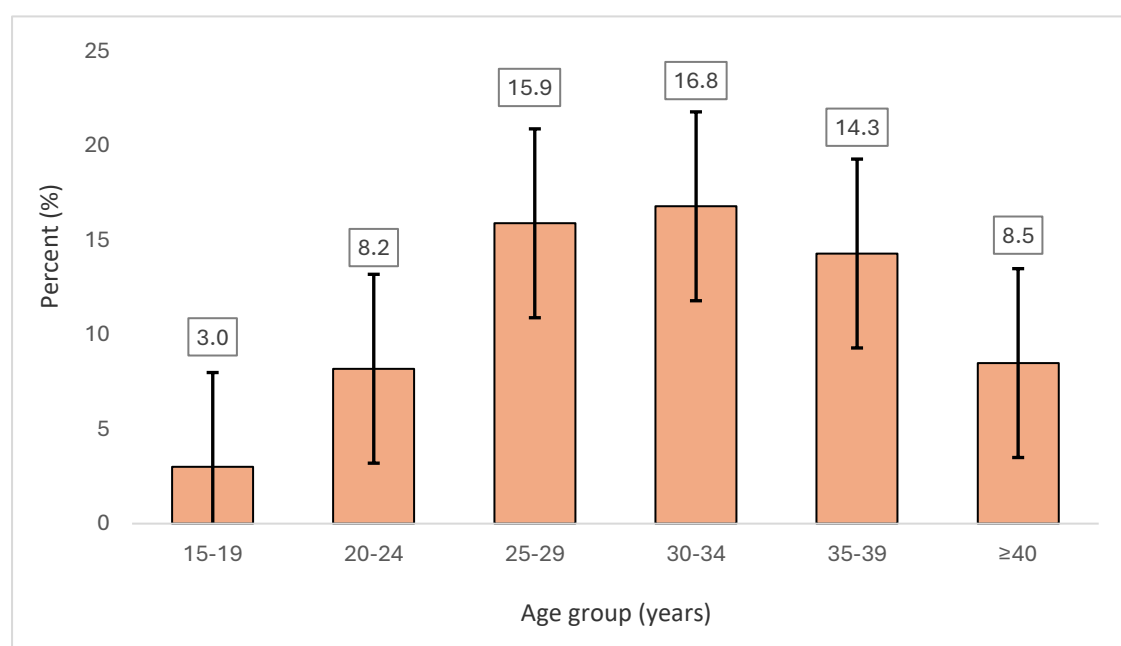
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Conditional proportions</b>				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=68]</b>				
Known HIV-positive	44	64.7	69.4	57.8, 82.0
Newly identified HIV-positive	24	35.3	30.6	17.9, 42.2
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=44]</b>				
Yes	43	97.7	97.6	80.6, 100
No	1	2.3	2.4	0, 19.4
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;1,000 copies/mL [N=43]</b>				
Suppressed	36	83.7	91.7	77.2, 100
Not suppressed	7	16.3	8.3	0, 22.8
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=43]</b>				
Suppressed	32	74.4	82.9	76.9, 90.9
Not suppressed	11	25.6	17.1	9.1, 23.2
<b>Population proportions</b>				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=68]</b>				
Known HIV-positive	44	64.7	69.4	57.8, 82.0
Newly identified HIV-positive	24	35.3	30.6	17.9, 42.2
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=68]</b>				

Yes	43	63.2	67.8	55.9, 80.4
No	25	36.8	32.2	19.6, 44.1
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;1,000 copies/mL [N=68]</b>				
Suppressed	36	52.9	62.1	50.1, 76.3
Not suppressed	32	47.1	37.9	23.7, 49.9
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=68]</b>				
Suppressed	32	47.1	56.3	43.9, 70.4
Not suppressed	36	52.9	43.7	29.6, 56.1

## 5.15 Bivariate analysis

### 5.15.1 HIV prevalence by socio-demographic characteristics

HIV prevalence was 11.4% (95% CI: 8.3, 14.5) among enrolled MSM. Prevalence of HIV among MSM peaked at 16.8% (95% CI: 6.9, 26.7) among those aged 30–34 years. Prevalence was lowest among MSM aged 15–19 years (3.0%; 95% CI: 0, 7.1) (Figure 29; Table 61).



**Figure 29: HIV prevalence among men who have sex with men by age group, Unguja, Zanzibar, 2023**

HIV prevalence among MSM who had continued their education beyond secondary school was similar to prevalence among MSM who had not gone to school (26.1%; 95%CI: 12.1, 40.2 and 27.7%; 95% CI: 0.0, 58.3, respectively). These prevalences were higher than the prevalence among MSM who had either partially or fully completed primary school (8.4%; 95% CI: 4.4, 12.5) and MSM who had either partially or fully completed secondary school (11.3% ; 95% CI: 7.3, 15.3) (Table 61).

HIV prevalence was higher among MSM who were not originally from Unguja (18.4%; 95% CI: 9.0, 27.9) compared to MSM who were originally from Unguja (9.8%; 95%CI: 6.7, 13.0), although this difference was not statistically significant. HIV prevalence was highest among MSM who earned

money through illegal activities (35.0%; 95% CI: 20.0, 50.1) compared to those who earned money through formal employment (19.9%; 95% CI: 10.1, 29.7), informal employment (9.0%; 95% CI: 5.2, 12.8), and those who were unemployed or students (4.4%; 95% CI: 0.2, 8.6). There were no statistically significant differences in HIV prevalence among MSM based on income earned in the past month (Table 61).

**Table 61: HIV prevalence among men who have sex with men who are living with HIV by sociodemographic characteristics, Unguja, Zanzibar, 2023**

[N=68]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence by age group</b>				
15–19	2	6.7	3.0	0, 6.9
20–24	11	10.7	8.2	3.6, 12.8
25–29	22	20.4	15.9	8.9, 23.0
30–34	13	19.4	16.8	7.2, 26.4
35–39	11	17.7	14.3	4.7, 23.9
≥ 40	9	7.8	8.5	2.5, 14.3
<b>Level of education</b>				
No school	2	28.6	27.7	0, 58.3
Some or completed primary	16	11.8	8.4	4.4, 12.5
Some or completed secondary	40	12.9	11.3	7.3, 15.3
More than secondary	10	30.3	26.1	12.1, 40.2
<b>Marital status</b>				
Never married	46	15.3	11.8	7.9, 15.8
Married or cohabitating	9	12.5	11.9	3.0, 20.8
Separated, divorced, widowed	13	11.5	10.1	4.4, 15.9
<b>Migration</b>				
Migrated to Unguja	19	22.1	18.4	9.0, 27.9
Lived whole life in Unguja	49	12.3	9.8	6.7, 13.0
<b>Ways of earning money</b>				
Illegal activities (engaging in commercial sex / agent)	17	38.7	35.0	20.0, 50.1
Formal	16	21.3	19.9	10.1, 29.7
Informal	31	10.0	9.0	5.2, 12.8
Unemployed/student	4	7.1	4.4	0.2, 8.6
<b>Income earned in past month (TZS)</b>				
< 50,000	7	15.2	10.9	3.7, 18.1
50,000–120,000	10	11.2	6.2	2.5, 9.7
120,001–200,000	17	14.9	14.3	7.5, 21.1
200,001–500,000	23	13.9	13.4	7.5, 19.4
> 500,000	11	15.5	10.5	4.0, 17.0

### 5.15.2 HIV prevalence by vulnerability factors

No statistically significant differences in HIV prevalence were observed when comparing MSM who had experienced different types of violence, stigma, or discrimination (Table 62).

**Table 62: HIV prevalence among men who have sex with men who are living with HIV, by vulnerability factors, Unguja, Zanzibar, 2023**

[N=68]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Arrested in past 12 months</b>				
Yes	23	13.3	11.8	6.5, 17.1
No	45	14.4	11.2	7.4, 15.1
<b>Experienced physical violence in past 12 months</b>				
Yes	13	10.7	8.1	4.2, 12.0
No	55	15.2	12.5	8.6, 16.3
<b>Forced to have sex in past 12 months</b>				
Yes	6	9.7	5.4	1.5, 9.2
No	62	14.7	12.3	8.7, 15.9
<b>Has experienced name calling, teasing or insults</b>				
Yes	40	16.0	13.9	8.6, 19.3
No	28	11.9	9.0	5.4, 12.5
<b>Has been excluded from a social gathering</b>				
Yes	22	17.9	13.2	6.4, 20.1
No	45	12.5	10.6	7.3, 14.0
Does not remember	1	100	NC	NC
<b>Has been abandoned by loved ones</b>				
Yes	29	13.1	10.7	6.0, 15.3
No	39	14.9	12.2	7.8, 16.6
<b>Others have lost respect for him</b>				
Yes	30	17.7	13.3	7.9, 18.8
No	38	12.1	10.4	6.9, 14.0
<b>Has comprehensive HIV knowledge</b>				
Yes	32	15.1	12.4	7.6, 17.2
No	36	13.2	10.7	6.9, 14.5

### 5.15.3 HIV prevalence by sexual risk behaviors

HIV prevalence was higher among MSM whose age at first sex with a man was below 10 years old (29.6%; 95%CI: 11.8, 46.0) when compared to those whose age at first sex with a man was 10–14 years (13.7%; 95%CI: 7.1, 20.3), 15–19 years (8.6%; 95% CI: 5.1, 12.2), or 20 and older (11.4%; 95% CI: 5.6, 17.3). HIV prevalence was significantly higher among versatile (18.5%; 95% CI: 11.2, 25.8) and receptive MSM (17.2%; 95% CI: 9.3, 24.9) compared to insertive MSM (5.6%; 95% CI: 2.4, 8.8). Finally, HIV prevalence was higher among MSM who had never injected drugs (12.6%; 95% CI: 9.1, 16.1) than those who had (3.9%; 95% CI: 0.1, 7.8). No other significant differences were observed in HIV prevalence based on HIV sexual risk behaviors (Table 63).

**Table 63: HIV prevalence among men who have sex with men who are living with HIV, by sexual risk behaviors, Unguja, Zanzibar, 2023**

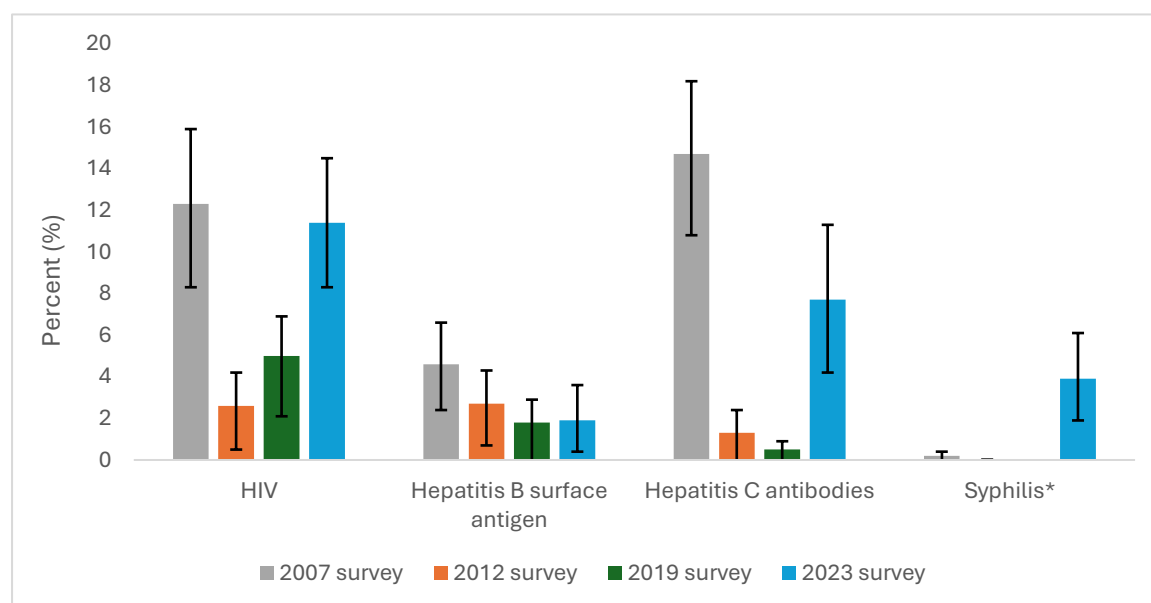
[N=68]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Age at first sex with a man</b>				
< 10 years	7	30.4	29.6	11.8, 46.0
10–14 years	16	20.8	13.7	7.1, 20.3
15–19 years	23	12.6	8.6	5.1, 12.2
≥ 20 years	22	10.9	11.4	5.6, 17.3
<b>Gave consent at first sex with a man</b>				
Yes	44	11.8	10.1	6.4, 13.7
No	24	22.9	16.8	10.1, 23.4
<b>Age at first sex with a woman [N=53] among those who ever had sex with a woman</b>				
< 10 years	0	0	NC	NC
10–14 years	1	5.9	6.0	0, 18.1
15–19 years	20	11.4	9.6	4.8, 14.5
≥ 20 years	32	15.3	11.9	7.5, 16.3
<b>Typical sex role</b>				
Receptive	21	24.4	17.2	9.3, 24.9
Versatile	34	20.6	18.5	11.2, 25.8
Insertive	13	5.6	5.6	2.4, 8.8
<b>Sex(es) of sexual partners in past year</b>				
Male and female	33	11.7	10.4	6.2, 14.6
Male only	35	17.3	12.7	7.7, 17.7
<b>Experienced symptoms of a sexually transmitted infection in past 6 months</b>				
Yes	22	15.4	10.8	5.7, 16.1
No	46	13.5	11.6	7.7, 15.6
<b>Paid a man for sex in past month among those who ever paid a man for sex</b>				
Yes	16	13.3	9.6	4.5, 14.5
No	10	11.9	13.9	4.0, 23.6
<b>Paid a woman for sex in past month among those who ever paid a woman for sex</b>				
Yes	13	8.8	6.6	2.0, 11.3
No	21	14.2	12.1	6.7, 17.6
<b>Engaged in commercial sex with a man in past month among those who ever engaged in commercial sex with another man</b>				
Yes	45	16.2	12.5	8.2, 16.7
No	14	11.5	9.6	4.4, 14.9
<b>Solicited or engaged in commercial sex with another man in past month among those who ever solicited or engaged in commercial sex</b>				



Yes	48.0	15.1	11.4	7.5, 15.3
No	11.0	11.1	10.1	4.5, 15.6
<b>Ever had group sex</b>				
Yes	27	17.1	13.3	7.4, 19.3
No	41	12.5	10.5	6.8, 14.1
<b>Used drugs other than alcohol in the last three months among those who ever used non-injection drugs</b>				
Yes	24	12.3	10.4	5.1, 15.8
No	44	15.3	12.2	8.4, 15.9
<b>Has ever injected drugs</b>				
Yes	4	5.5	3.9	0.1, 7.8
No	64	15.5	12.6	9.1, 16.1

### 5.16 Comparison of key findings from 2007, 2012, 2019 and 2023 surveys

The demographics of the 2023 sample differed from the samples that participated in the 2012 and 2019 surveys. The median age increased from 23 years in 2012 and 2019 to 30 years in 2023. In addition, the proportion of MSM who had never married decreased from 79.2% in 2019 to 58.8% in 2023 ( $p<0.001$ ) with a corresponding increase in MSM who were separated, divorced, or widowed (from 7.8% in 2019 to 24.3% in 2023;  $p<0.001$ ). MSM in the 2023 survey also reported lower levels of education, with 66.1% ending their education at the secondary level compared to 80.5% in 2019 ( $p<0.001$ ) (Table 64).



**Figure 30: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among men who have sex with men in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

*\*Syphilis from the 2019 survey was not included because it measured active infection while other surveys rounds measured lifetime infection.*

There was significant increase in the proportion of MSM who reported using drugs other than alcohol in the past month (36.9% in 2019 versus 46.0% in 2023;  $p=0.009$ ). We also observed a significant increase in the proportion of MSM who had ever injected drugs, from 0.3% in 2019 to 13.7% in 2023 ( $p<0.001$ ) (Table 64).

Transactional sex with male partners increased significantly from 2019 to 2023. The proportion of MSM who reported engaging in commercial sex with a man in the past month, among those who ever engaged in commercial sex, increased from 53.8% in 2019 to 69.9% in 2023 ( $p=0.008$ ); however, this was lower than in 2012 (92.1%). Similarly, the proportion of MSM who paid another man for sex in the past month increased from 46.6% in 2019 to 59.8% in 2023 ( $p=0.006$ ); however, this was lower than 78.7% in 2012. The proportion of MSM who reported engaging in group sex in the past month increased significantly, from 45.3% in 2019 to 59.6% in 2023 ( $p=0.036$ ) (Table 64).

While there was no significant change in experiences of physical violence from 2019 to 2023, the proportion of MSM who experienced forced sex decreased from 25.6% in 2019 to 12.2% in 2023 ( $p<0.001$ ). The proportion of MSM who reported being arrested in the 12 months prior to the survey increased from 27.4% in 2019 to 34.4% in 2023 ( $p=0.033$ ) (Table 64).

HIV testing among MSM increased significantly from 2019 to 2023. The proportion of MSM who had ever tested for HIV increased from 69.9% in 2019 to 87.9% in 2023 ( $p<0.001$ ), and the proportion who reported testing in the past 12 months increased from 44.2% in 2019 to 65.3% in 2023 ( $p<0.001$ ). However, MSM engagement with PRH-friendly services decreased from 2019 to 2023. The percentage of MSM who reported visiting a clinic or drop-in center for MSM services decreased from 22.2% in 2019 to 11.7% in 2023 ( $p<0.001$ ). Similarly, those who reported having contact with a peer educator in the year prior to the survey decreased from 38.9% in 2019 to 30.3% in 2023 ( $p=0.010$ ) (Table 64).

There were significant increases in HIV and HCV antibody prevalence among MSM in Unguja from 2019 to 2023. HIV prevalence increased from 5.0% in 2019 to 11.4% in 2023 ( $p=0.001$ ) and HCV antibody prevalence increased from 0.5% in 2019 to 7.7% in 2023 ( $p<0.001$ ). The syphilis test used in 2019 is not directly comparable to what was used in 2023; however, prevalence of lifetime infection increased from 0.8% in 2012 to 3.9% in 2023 (Table 64).

Gains were made towards the first and second of the UNAIDS 95-95-95 targets among MSM from 2019 to 2023. The proportion of MSM who were aware that they were living with HIV increased from 59.7% in 2019 to 69.4% in 2023 ( $p=0.366$ ) while the proportion of MSM who had been diagnosed with HIV and were on ART increased from 92.9% in 2019 to 97.6% in 2023 ( $p=0.416$ ). However, viral load suppression decreased among MSM on ART from 97.9% in 2019 to 91.7% in 2023 ( $p=0.455$ ) (Table 64).

**Table 64: Key findings among men who have sex with men in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

	2007	2012	2019	2023	p-value 2019 vs 2023
<b>SOCIO-DEMOGRAPHIC CHARACTERISTICS</b>					
<b>Age (years)</b>					
15–19	9.9%	31.4%	19.3%	8.5%	<b>&lt;0.001</b>

	2007	2012	2019	2023	p-value 2019 vs 2023
20–24	24.1%	30.1%	42.6%	20.2%	<0.001
25–29	22.1%	17.2%	21.0%	19.1%	0.500
30–34	20.8%	12.7%	5.8%	16.6%	<0.001
≥ 35	23.1%	8.6%	11.3%	35.6%	<0.001
Median age of sample	28 years	23 years	23 years	30 years	
<b>Marital status</b>					
Never married	58.3%	83.3%	79.2%	58.8%	<0.001
Currently married/living with a partner	28.8%	5.8%	13.0%	16.9%	0.125
Separated/divorced/widowed	12.8%	10.9%	7.8%	24.3%	<0.001
<b>Level of education</b>					
No formal education	-	0.6%	0.9%	1.1%	0.778
Some or completed primary education	-	13.6%	13.4%	27.8%	<0.001
Some or completed secondary education	-	81.6%	80.5%	66.1%	<0.001
More than secondary education	-	4.2%	5.2%	5.0%	0.898
<b>Sex of live-in partner</b>					
No live-in partner	48.7%	59.3%	81.0%	82.1%	0.687
Male	38.0%	33.5%	5.8%	2.3%	0.009
Female	13.3%	7.2%	13.2%	15.6%	0.336
<b>RISK BEHAVIORS</b>					
Used drugs other than alcohol in the past 3 months	60.3%	39.8%	36.9%	46.0%	0.009
Ever injected drugs			0.3%	13.7%	
Sex with both male and female in past 12 months			62.7%	55.5%	0.039
Someone in family knows I have sex with men			27.0%	31.3%	0.182
<b>Condom use</b>					
Condom use at last insertive sex with non-paying male partner	25.6%	36.6%	37.8%	32.4%	0.262
Condom use at last receptive sex with non-paying male partner	15.6%	47.1%	42.0%	35.5%	0.247
Condom use at last sex with a woman where no payment was involved	22.4%	42.9%	26.5%	22.6%	0.338
<b>Transactional sex and group sex</b>					
Engaged in commercial sex with a man in past month (among those who ever engaged in commercial sex)	63.9%	92.1%	53.8%	69.9%	0.008
Ever engaged in commercial sex with a woman		12.2%	35.6%	24.0%	<0.001
Bought sex from a man in past month (among those who ever bought sex)		78.7%	46.6%	59.8%	0.006

	2007	2012	2019	2023	p-value 2019 vs 2023
Bought sex from a woman in past month		28.6%	43.7%	44.6%	0.872
Engaged in group sex in past month		61.2%	45.3%	59.6%	<b>0.036</b>
<b>VULNERABILITY FACTORS</b>					
Experienced physical violence in past 12 months	35.2%	41.6%	20.7%	22.7%	0.493
Experienced forced sex in past 12 months			25.6%	12.2%	<b>&lt;0.001</b>
Arrested in past 12 months	25.0%	13.9%	27.4%	34.4%	<b>0.033</b>
Perceives self to be at high risk for HIV	62.7%	65.0%	44.7%	51.0%	0.083
<b>HIV knowledge</b>					
Agrees having one uninfected, faithful partner reduces risk of HIV transmission			91.6%	82.8%	0.001
Agrees using a condom every time you have sex reduced risk of HIV transmission			81.1%	71.0%	<b>0.003</b>
Agrees a healthy-looking person can have HIV			87.3%	77.5%	<b>0.001</b>
Disagrees that mosquito bite can transmit HIV infection			75.9%	83.4%	<b>0.008</b>
Disagrees that you can get HIV by sharing food with someone who is HIV+			90.7%	87.0%	0.100
Has comprehensive HIV knowledge			48.5%	42.4%	0.073
<b>ACCESS TO AND UPTAKE OF SERVICES</b>					
Ever used lubricant during sex	82.4%	85.9%	81.3%	88.2%	<b>0.005</b>
Used a condom at last sex with lubricant	13.5%	36.5%	33.7%	31.3%	0.497
Ever tested for HIV	18.8%	68.2%	69.9%	87.9%	<b>&lt;0.001</b>
Tested for HIV and received results in past 12 months		53.7%	44.2%	65.3%	<b>&lt;0.001</b>
Visited drop-in center/clinic for services for men who have sex with men	N/A	13.3%	22.2%	11.7%	<b>&lt;0.001</b>
Contact with a peer educator in past year	N/A	53.6%	38.9%	30.3%	<b>0.010</b>
<b>DISEASE PREVALENCE</b>					
Experienced symptoms of a sexually transmitted infection in past 6 months	20.8%	23.1%	26.2%	29.1%	0.360
HIV	12.3%	2.6%	5.0%	11.4%	<b>0.001</b>
Hepatitis C antibody prevalence	14.7%	1.3%	0.5%	7.7%	<b>&lt;0.001</b>
Hepatitis B antigen prevalence	4.6%	2.7%	1.8%	1.9%	0.916
Syphilis					
Lifetime infection	0.2%	0.8%		3.9%	
Active infection			0.0%		
<b>PROGRESS TOWARDS THE UNAIDS 95-95-95 TARGETS</b>					
% of MSM aware of HIV status	-	-	59.7%	69.4%	0.366

	2007	2012	2019	2023	p-value 2019 vs 2023
% of MSM on anti-retroviral therapy (among those aware of HIV status)	-	-	92.9%	97.6%	0.416
% of MSM virally suppressed (among those on anti-retroviral therapy)	-	-	97.9%	91.7%	0.455

## 5.17 Conclusions

### 5.17.1 Socio-demographic characteristics

The **composition of the 2023 survey sample differed** in socio-demographic characteristics from the previous two surveys with a higher median age, lower levels of education, and a larger proportion of MSM who were separated, divorced, or widowed.

### 5.17.2 Risk behaviors and vulnerability factors

**HIV sexual risk behaviors were common.** Most MSM reported **multiple sexual partners** in the month prior to the survey and a majority **did not use a condom** with their last sexual partner. While transactional sex with female partners decreased from 2019 to 2023, **transactional sex with male partners and engaging in group sex increased.** **Drug use, including injection drug use, also increased** from 2019 to 2023.

- **Key consideration: Increasing condom education and ensuring condom outlets** are in accessible and MSM-friendly locations could increase condom use.

**Fewer than half of MSM had comprehensive HIV knowledge** and HIV knowledge significantly decreased from 2019 to 2023. We also observed opportunities to improve knowledge of U=U among MSM.

- **Key consideration: Strengthening HIV information, education, and communication** interventions among MSM may increase awareness of HIV risk factors, promote reductions in risk behaviors, and increase uptake of prevention services.
- **Key consideration: Ensuring that services provided to MSM include counseling about the harms of illicit and injection drug use** and information on treatment and recovery services, could benefit those who are injecting drugs and prevent others from starting.

**One-third of MSM had been arrested in the past year**, an increase from 2019, and **more than one in five experienced physical violence** in the last 12 months. The most common perpetrators of physical violence were the police, and **very few MSM who experienced physical violence reported the violence** to an authority. **Experiences of stigma and discrimination from the community** and from family members were also common. Conversely, experiences of stigma and discrimination from health care providers were not common.

- **Key consideration: Ensuring that safe and confidential channels for reporting violence** are available, easily accessible, and known to MSM could increase reporting of these incidents and linkage of victims to appropriate services.

- **Key consideration: Providing sensitization to the community and to law enforcement** on the rights and appropriate treatment of members of populations at risk for HIV could reduce violence, stigma, and discrimination towards these populations.

### **5.17.3 Access to and uptake of HIV and other health services and progress towards the UNAIDS 95-95-95 targets**

Despite sexual risk behaviors being common, **overall uptake of HIV prevention services, including through PRH-friendly providers, was low.** However, some gains were made in HIV testing from 2019. While routine HIV testing (e.g., monthly or quarterly) was not common, the **proportion of MSM who had ever tested for HIV and who reported testing in the 12 months prior to the survey increased from 2019 to 2023.** Also, although awareness of HIV self-testing was limited it was largely acceptable among MSM who had never used a self-test.

- **Key consideration:** Focusing efforts to **engage MSM in routine HIV testing services**, including by ensuring that testing services are available in venues frequented by MSM, could help to close the remaining gap in the first 95.
- **Key consideration:** **Increasing distribution and availability of HIV self-test kits** may increase utilization of HIV testing services.

**A minority of MSM had ever heard of PrEP.** Among those who had never taken PrEP and were not known to be living with HIV, four in ten would take PrEP. In the past year, **small proportions of MSM received services from peer educators and MSM-friendly clinics**, and these proportions were significantly lower than in 2019.

- **Key consideration:** **Increasing awareness of PrEP** among MSM through MSM friendly channels, including peer educators, could increase PrEP uptake and ultimately contribute to the reduction of HIV acquisition.
- **Key consideration:** **Increasing awareness among MSM of PRH-friendly services** and integrating MSM-friendly services within other PRH-friendly organizations could increase access to prevention services provided through PRH-friendly outlets for more MSM.

**The largest gap in the 95-95-95 targets was in the first 95**, ensuring that those living with HIV are aware of their status. Although progress had been made since the 2019 survey, three of every ten MSM living with HIV were unaware of their status. This highlights a continuing challenge in routinely reaching all MSM with HIV testing services. In addition, **a decrease was observed in viral suppression among MSM on ART from 2019 to 2023.**

- **Key consideration:** **Interventions that address gaps in the 1st 95** such as expanded HIV testing, including self-testing, could help to close these gaps.
- **Key consideration:** **Interventions that address gaps in the 3<sup>rd</sup> 95** such as improving adherence counseling, strengthening U=U messaging, and ensuring frequent interactions between MSM who are on ART and health care workers to give ART reminders **may improve adherence to treatment** and subsequently, viral suppression levels.

#### **5.17.4 Prevalence and incidence of HIV, and prevalence of hepatitis B, hepatitis C, and syphilis among men who have sex with men**

**HIV prevalence among MSM increased significantly from 2019 to 2023.** This survey found that one in ten MSM was living with HIV, with a higher prevalence among versatile and receptive MSM compared to insertive MSM. The **estimated incidence of MSM suggests that HIV infections are increasing.**

- **Key consideration: Increasing the number of MSM reached with prevention services,** including HIV education, HTS, and PrEP, could help to prevent new HIV infections in this population.

The prevalence of hepatitis C exposure and active hepatitis C were both high, and the **prevalence of hepatitis C antibodies increased significantly from 2019 to 2023.** This is consistent with the observed increase in injection drug use among MSM between the two surveys. In addition, the prevalence of **syphilis exposure among MSM was higher in 2023 than in any previous survey.** **Focusing on targeted prevention interventions such as education on safer sex practices, Expanded HIV testing and PrEP,** could help lower HIV infection among MSM in Zanzibar.

## 6 WOMEN ENGAGED IN COMMERCIAL SEX AND SEXUALLY EXPLOITED GIRLS (WCS/SEG)

From May to August 2023, 598 WCS/SEG were enrolled in the survey. The survey started with 4 seeds and 4 seeds were added during data collection. A total of 1,655 coupons were distributed (including seeds) and 727 individuals presented survey coupons at the survey site. Of those, 82% were eligible to participate (Figure 31).

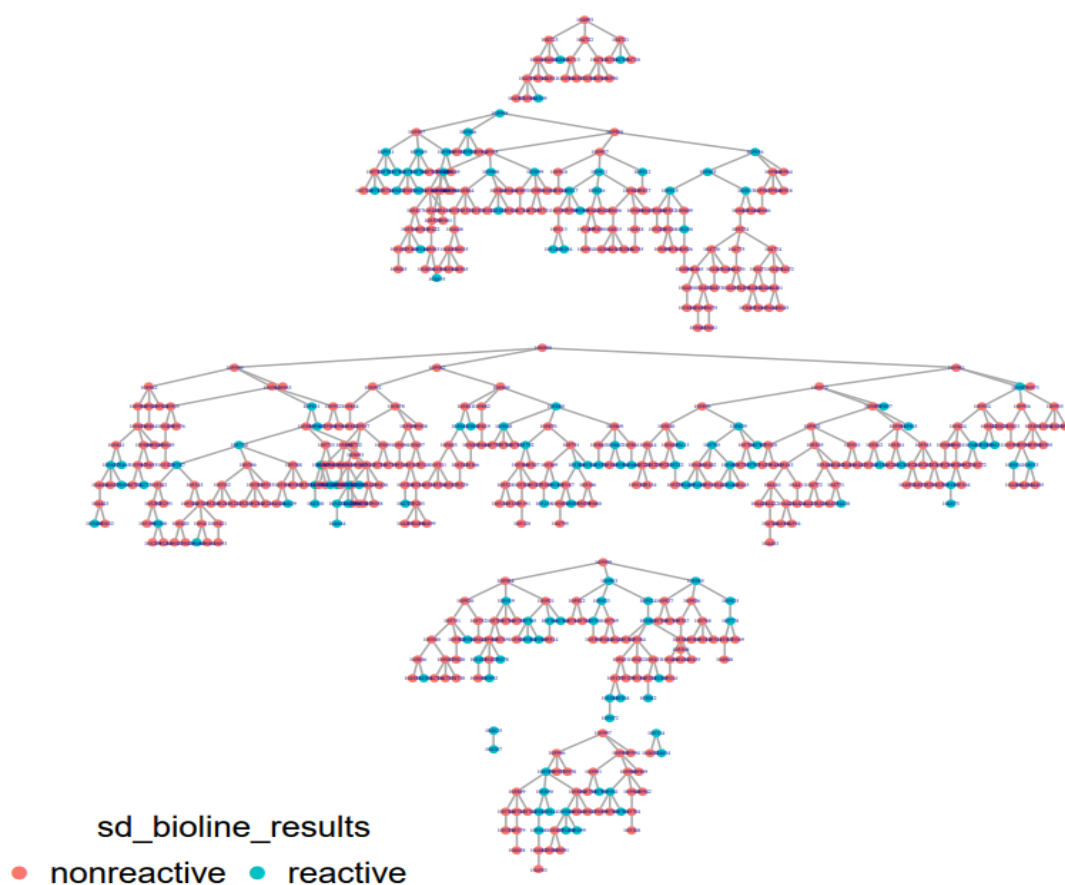
The longest chain in this survey had 11 waves and 148 participants including the seed. The chain with the largest number of participants had 10 waves and 291 participants. Two chains had only a single wave with 2 and 3 participants, respectively. Convergence and equilibrium were achieved for key variables including HIV prevalence. Figure 31 presents a summary of recruitment, eligibility and participation data.



**Figure 31: Recruitment, eligibility, and participation among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

Figure 32 shows the pattern of recruitment among survey participants by HIV status.





**Figure 32: Pattern of recruitment among women engaged in commercial sex and sexually exploited girls by HIV status, Unguja, Zanzibar, 2023**

## 6.1 Population size estimate

The study team estimated that there were 5,787 (95% credible interval: 3488, 8701) WCS/SEG in Unguja, which represents 1.6% of the female population aged 15–49 in Unguja<sup>7</sup>.

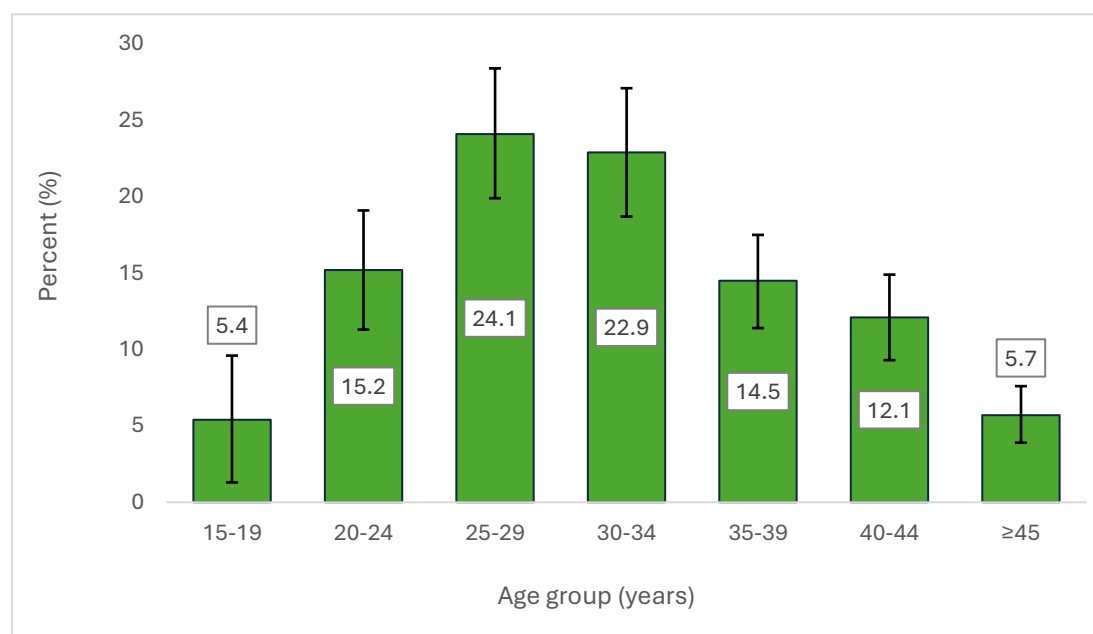
## 6.2 Socio-demographic characteristics

We enrolled 598 WCS/SEG aged 15 to 55 years with a median age of 31.5 years (IQR: 27, 38 years) (Figure 33). Just over half (54.3%; 95% CI: 49.5, 59.0) of WCS/SEG did not go beyond primary school, while 3.6% (95% CI: 2.0, 5.1) had no formal education. Most (89.0%; 95% CI: 86.1, 92.0) WCS/SEG

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<sup>7</sup> Ministry of Finance and Planning, Tanzania National Bureau of Statistics and President's Office - Finance and Planning, Office of the Chief Government Statistician, Zanzibar. (2022). *The 2022 Population and Housing Census: Age and Sex Distribution Report*. Tanzania Zanzibar. Females aged 15–49 years = 367,684.

were able to read and write. Almost two-thirds (63.8%; 95% CI: 59.4, 68.3) of WCS/SEG were either separated, divorced, or widowed, 34.6% (95% CI: 30.2, 39.0) had never been married, and 0.9% (95% CI: 0.2, 1.6) and 0.6% (95% CI: 0.0, 1.2) were currently living with a partner or married, respectively. Most (86.8%; 95% CI: 83.2, 90.4) WCS/SEG had biological children (Table 63).



**Figure 33: Age distribution of women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

WCS/SEG had a median income of 300,000 TZS (IQR: 200,000 TZS, 500,000 TZS) in the past month. The majority (91.5%; 95% CI: 89.1, 94.0) of WCS/SEG reported that sex was their main source of income. One-quarter (25.5%; 95% CI: 21.7, 29.3) of WCS/SEG reported having another source of income (Table 63).

**Table 65: Sociodemographic characteristics of women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Age group (years) [N=598]				
15–19	24	4.0	5.4	1.3,9.6
20–24	81	13.5	15.2	11.3,19.1
25–29	141	23.6	24.1	19.9,28.4
30–34	136	22.7	22.9	18.7,27.1
35–39	95	15.9	14.5	11.4,17.5
40–44	78	13.0	12.1	9.3,7.6
≥ 45	43	7.2	5.7	3.9,7.6
Median age in years (inter-quartile range)	31.5 years	(27, 38 years)		
Age range	Min. 15–Max. 55 years			
Level of education [N=598]				
No school	21	3.5	3.6	2.0, 5.1

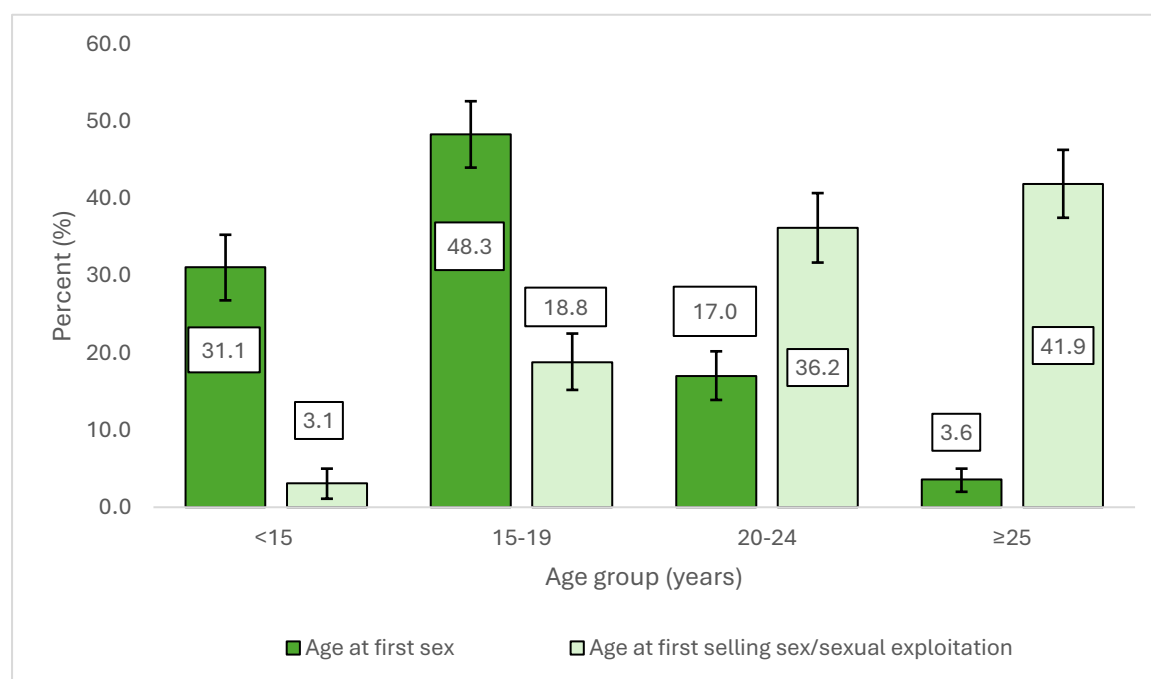
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Some or completed primary	321	53.7	54.3	49.5, 59.0
Some or completed secondary	250	41.8	41.3	36.6, 46.1
More than secondary	6	1.0	0.8	0, 1.7
<b>Literacy [N=598]</b>				
Able to read and write	532	89.0	89.0	86.1, 92.0
Able to read only	17	2.8	2.8	1.5, 4.2
Not able to read nor write	49	8.2	8.2	5.5, 10.8
<b>Marital status [N=598]</b>				
Separated/divorced/widowed	383	64.0	63.8	59.4, 68.3
Never married	205	34.3	34.6	30.2, 39.0
Living with partner	6	1.0	0.9	0.2, 1.6
Married	4	0.7	0.6	0, 1.2
<b>Migration [N=485]</b>				
Migrated to Unguja	353	59.0	58.1	52.1, 64.0
Lived whole life in Unguja	245	40.1	41.9	36.0, 47.9
<b>Number of years lived in Unguja [N=598]</b>				
Less than 1 year	41	6.9	8.2	5.0, 11.4
1 to 5 years	151	25.3	23.8	18.9, 28.7
More than 5 years	161	26.9	26.1	21.8, 30.2
Whole life	245	40.9	41.9	35.7, 48.2
<b>Has biological children [N=598]</b>				
Yes	527	88.1	86.8	83.2, 90.4
No	71	11.9	13.2	9.6, 16.8
Median number (inter-quartile range) of biological children	2 children	(1, 3 children)		
<b>Commercial sex is main source of income [N=598]</b>				
Yes	549	91.8	91.5	89.1, 94.0
No	49	8.2	8.5	6.0, 10.1
<b>Has another source of income besides commercial sex [N=598]</b>				
Yes	159	26.6	25.5	21.7, 29.3
No	439	73.4	74.5	70.7, 78.3
<b>Other source(s) of income among those who have an income source apart from commercial sex* [N=159]</b>				
Petty trading	70	44.0	46.2	38.6, 54.1
Private business	59	37.1	37.8	29.7, 45.9
Self-employed	24	15.1	13.1	6.9, 19.1
Employed by government/parastatal	16	10.1	10.1	4.1, 16.3
Other	4	2.5	2.6	1.0, 4.3
Housekeeping / cleaning	3	1.9	2.1	0.1, 4.1
Barmaid	3	1.9	1.8	0, 4.0

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Other illegal activities	1	0.6	0.6	0, 3.3
Income earned in past month (TZS) [N=598]				
< 50,000	31	5.2	5.1	2.9, 7.3
50,000–120,000	75	12.5	12.6	9.5, 15.6
120,001–200,000	110	18.4	18.6	15.1, 22.1
200,001–500,000	243	40.6	42.0	37.8, 46.2
> 500,000	139	23.2	21.8	18.3, 25.2
Median amount earned in past month (TZS) (inter-quartile range)	300,000	(200,000 – 500,000)		
	Min. 10,000–Max. 9,000,000 TZS			

‡ Question allowed for multiple responses

### 6.3 Sexual history and profile of commercial sex / sexual exploitation

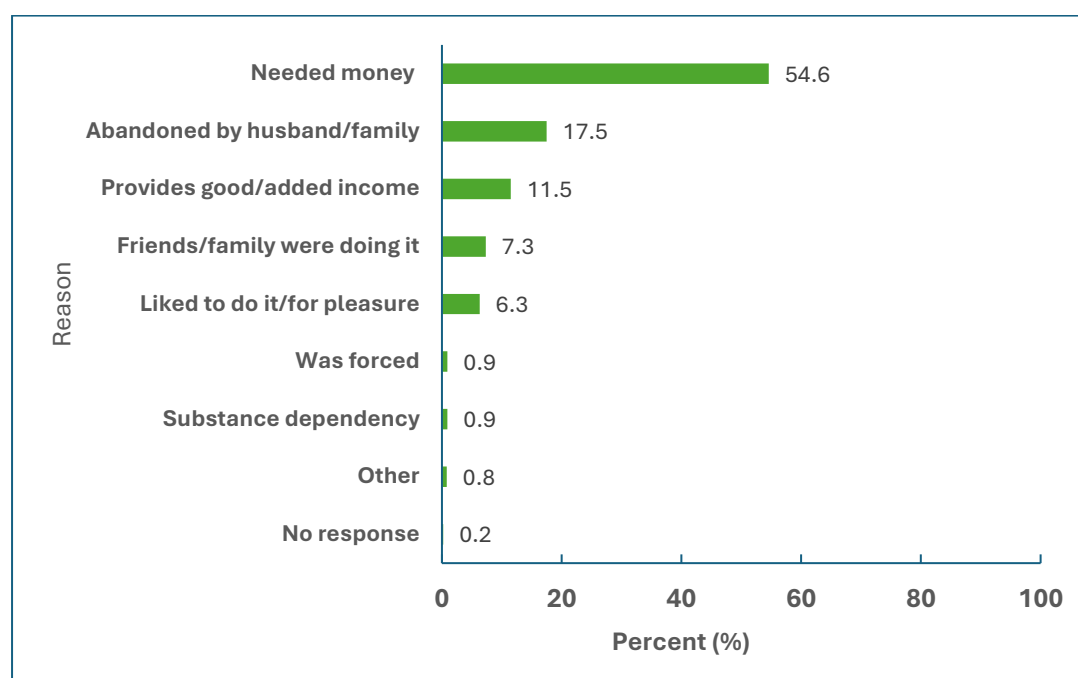
The median age at first sex among WCS/SEG was 17 years (IQR: 15, 19 years). Nearly one-third (31.1%; 95% CI: 26.9, 35.4) had their sexual debut before 15 years of age. The median age at first engaging in commercial sex or first sexual exploitation ranged from 12 to 42 years, with a median of 23 years (IQR: 20, 28 years) (Figure 34). WCS/SEG had been engaging in commercial sex or sexually exploited for a median of 7 years (IQR: 3, 12 years) (Table 66).



**Figure 34: Age at first sex and first engaging in commercial sex or sexual exploitation among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

The most commonly cited reasons for entering commercial sex or sexual exploitation were needing money to pay debts or support family (54.6%; 95% CI: 50.1, 59.0), being abandoned by one's husband or family 17.5% (95% CI: 13.8, 21.1), and because it provided good or added income (11.5%; 95% CI:

8.5, 14.5). Seven in ten WCS/SEG (72.9%; 95% CI: 68.9, 77.0) reported that no one in their family knew they engaged in commercial sex or had been sexually exploited (Figure 35; Table 66).



**Figure 35: Most important reason for entering into commercial sex among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

**Table 66: History of engaging in commercial sex or sexual exploitation among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Age at first sex [N=598]				
< 15 years	176	29.4	31.1	26.9, 35.4
15–19 years	294	49.2	48.3	44.0, 52.6
20–24 years	103	17.2	17.0	13.8, 20.1
≥ 25 years	25	4.2	3.6	2.2, 5.2
Median age in years (inter-quartile range)	17 years (15–19 years)			
Age range	Min. 10–Max. 37 years			
Age first time engaged in commercial sex / sexually exploited girls [N=598]				
< 15 years	17	2.8	3.1	1.2, 5.1
15–19 years	111	18.6	18.8	15.1, 22.4
20–24 years	217	36.3	36.2	31.7, 40.7
≥ 25 years	253	42.3	41.9	37.5, 46.3
Median age in years (inter-quartile range)	23 years (20, 28 years)			
Age range	Min. 12–Max. 42 years			
Duration of engaging in commerical sex (years) [N=598]				

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
3 years or less	166	27.8	31.8	27.0, 36.7
4–6 years	128	21.4	23.3	19.6, 26.9
7–9 years	93	15.6	13.8	11.2, 16.5
≥ 10 years	211	35.3	31.1	26.6, 35.6
Median number of years engaging in commercial sex / sexually exploited (inter-quartile range)	7 years (3, 12 years)			
Range of number of years engaging in commercial sex / sexually exploited	Min. <1 year–Max. 36 years			
Most important reason for entering into commercial sex / sexual exploitation [N=598]				
Needed money	336	56.2	54.6	50.1, 59.0
Abandoned by husband/family	100	16.7	17.5	13.8, 21.1
Provides good/added income	62	10.4	11.5	8.5, 14.5
Friends/family were doing it	46	7.7	7.3	5.1, 9.4
Liked to do it/for pleasure	34	5.7	6.3	4.0, 8.6
Substance dependency	7	1.1	0.9	0.2, 1.8
Was forced	6	1.0	0.9	0.2, 1.5
Other	6	1	0.8	0.1, 1.5
No response	1	0.2	0.2	0, 0.5
Someone in family knows she engages in commercial sex / is sexually exploited [N=598]				
Yes	164	27.4	25.3	21.4, 29.1
No	424	70.9	72.9	68.9, 77.0
Does not know	10	1.7	1.8	0.8, 2.9

Four in ten (42.2%; 95% CI: 37.7, 46.6) WCS/SEG reported that the primary way they met clients was at pubs, bars, or other venues selling alcohol, 23.1% (95% CI: 19.6, 26.6) cited night clubs or full moon parties, and 20.4% (95% CI: 16.8, 24.1) reported that they primarily met clients through phone or internet. The majority of WCS/SEG (82.3%; 95% CI: 79.2, 85.4) reported meeting clients in more than one way. WCS/SEG reported a median of two clients on the last day they worked or were sexually exploited (Table 67).

Eight in ten (83.0%; 95% CI: 79.8, 86.4) WCS/SEG used a condom with their last client on the last day they worked. Among those who did not use condom with their most recent client, the most commonly reported reasons were that the client paid more for sex without a condom (19.7%; 95% CI: 14.1, 25.4), the client objected (19.1%; 95%CI: 13.4, 24.5) and that she was with a trusted client (18.1%; 95% CI: 12.7, 23.9) (Table 67).

Most (90.3%; 95% CI: 87.4, 93.3) WCS/SEG had ever used alcohol before sex or had a sexual partner who used alcohol before sex. Of those, 75.6% (95% CI: 71.9, 79.5) used a condom the last time they had sex. One-third (32.1%; 95% CI: 27.7, 36.8) of WCS/SEG had ever used drugs before sex or had a

sexual partner who used drugs before sex. Of those, 63.1% (95% CI: 55.3, 70.9) used a condom the last time they had sex (Table 67).

**Table 67: Overview of commercial sex or sexual exploitation and condom use among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Primary place to meet clients [N=598]				
Pubs / bars / venues selling local alcohol	268	44.8	42.2	37.7, 46.6
Night clubs / full moon parties	126	21.1	23.1	19.6, 26.6
Through phone or internet	121	20.2	20.4	16.8, 24.1
On the street	28	4.7	3.6	2.1, 5.1
Through an agent	8	1.3	3.0	0.6, 5.4
Guest houses / hotels	17	2.8	2.9	1.6, 4.3
Private rooms	14	2.3	2.4	1.2, 3.7
Brothels	11	1.8	1.5	0.6, 2.6
Other	5	0.8	0.9	0.1, 1.8
Meets clients at more than one type of venue [N=598]				
Yes	470	76.6	82.3	79.2, 85.4
No	128	21.4	17.7	14.6, 20.8
Number of clients on last day worked [N=598]				
One	182	30.4	32.6	28.4, 36.8
Two	154	25.8	23.9	20.5, 27.5
Three	156	26.1	27.7	23.8, 31.7
Four or more	106	17.7	15.7	12.7, 18.8
Median number (inter-quartile range) of clients on last day of commercial sex / sexual exploitation	2 clients	(1, 3 clients)		
Range of number of clients on last day of commercial sex / sexual exploitation	Min. 1–Max. 22 clients			
Used condom with last client on last day engaged in commercial sex [N=598]				
Yes	498	83.3	83.0	79.8, 86.4
No	99	16.6	16.7	13.4, 19.9
Does not remember	1	0.2	0.3	0, 0.7
Reason did not use a condom with last client on last day engaged in commercial sex [N=99]				
Client paid more for sex without a condom	18	18.2	19.7	14.1, 25.4
Client objected	22	22.2	19.1	13.4, 24.5
Was with a trusted client	17	17.2	18.1	12.7, 23.9

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Does not like the feel of condoms	10	10.1	10.2	6.3, 14.3
Too drunk/high to use	9	9.1	9.9	4.9, 15.3
Did not have any condoms	7	7.1	8.7	4.5, 13.1
Things happened too fast	11	11.1	8.7	5.1, 12.1
Did not think about it	1	1.0	0.5	0.5, 0.6
Other	3	3.0	3.3	1.0, 5.6
No response	1	1.0	1.7	0, 10.7
<b>Ever had sex with a person where either used alcohol beforehand [N=598]</b>				
Yes	551	92.1	90.3	87.4, 93.3
No	47	7.9	9.7	6.8, 12.6
<b>Used a condom last time had sex with someone where either used alcohol beforehand [N=551]</b>				
Yes	419	76.0	75.6	71.9, 79.5
No	120	21.8	22.2	18.4, 26.0
Does not remember	12	2.2	2.2	0.5, 3.9
<b>Ever had sex with a person where either used drugs beforehand [N=598]</b>				
Yes	193	32.3	32.1	27.7, 36.8
No	380	63.5	64.5	59.9, 69.0
Does not remember	25	4.2	3.4	1.9, 4.9
<b>Used a condom last time had sex with someone where either used drugs beforehand [N=193]</b>				
Yes	121	32.3	63.1	55.3, 70.9
No	66	63.5	34.4	26.9, 42.1
Does not remember	6	4.2	2.5	0.7, 4.2

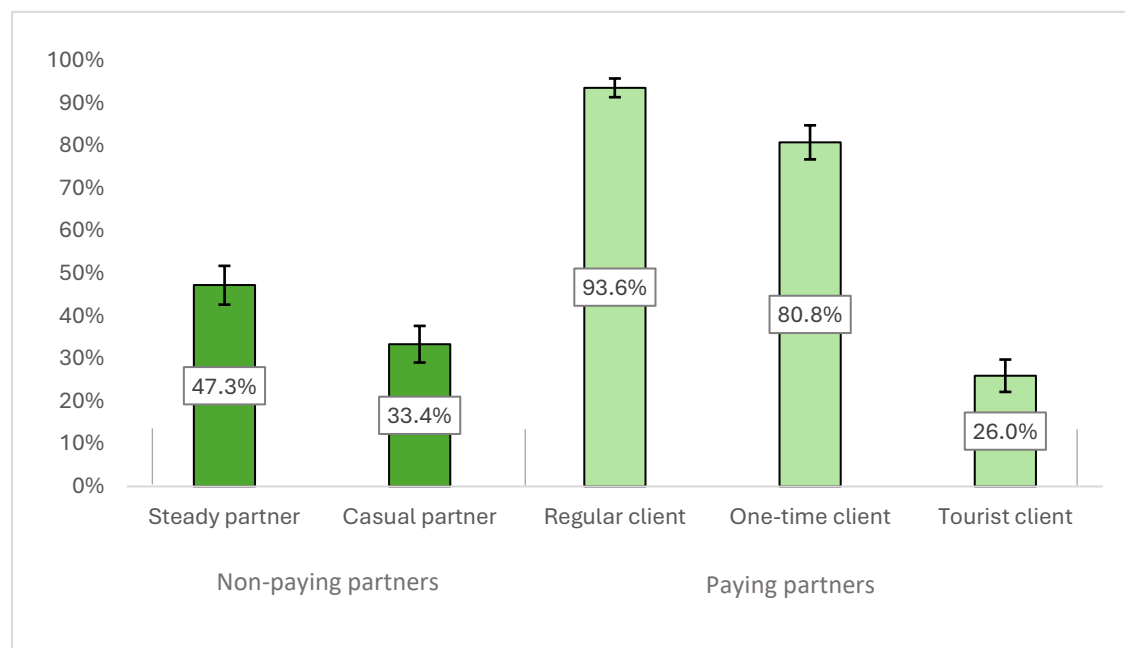
## 6.4 Sexual partnerships and HIV sexual risk behaviors

### 6.4.1 Sexual partners

Recent partner types varied among WCS/SEG and included both non-paying and paying partners. Less than half (47.3%; 95% CI: 42.7, 51.8) of WCS/SEG had sex with a steady, non-paying partner in the past month, while fewer (33.4%; 95% CI: 29.1, 37.7) had sex with a casual, non-paying partner in the past month. The majority of WCS/SEG had sex with a regular, paying client and a one-time client in the past month (93.6%; 95% CI: 91.4, 95.8 and 80.8%; 95% CI: 76.8, 84.8, respectively). Just over one-quarter



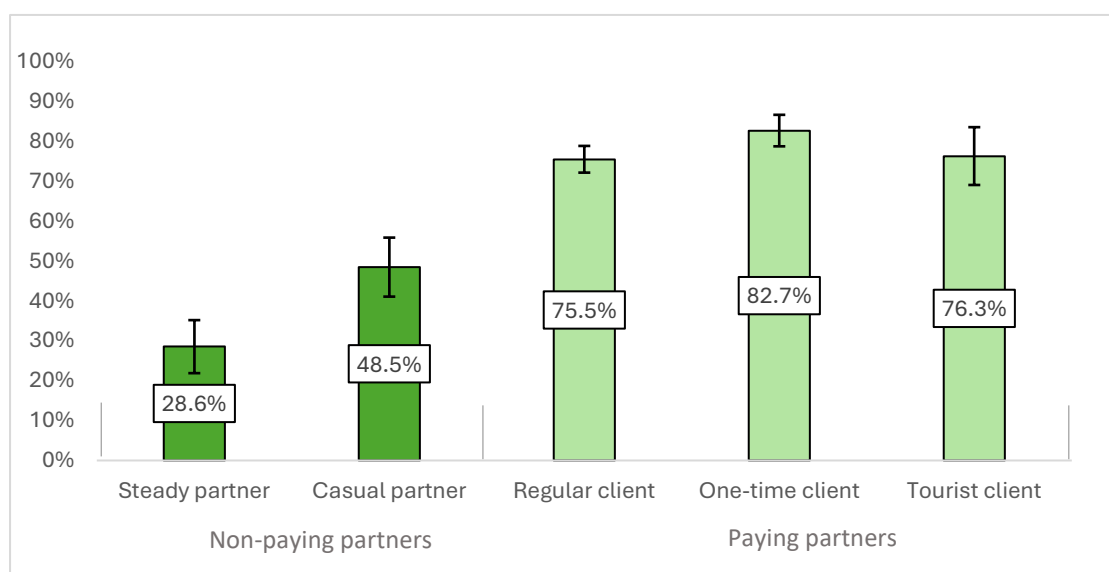
(26.0%; 95% CI: 22.2, 29.8) of WCS/SEG had sex with a paying tourist client in the past month (Figure 36).



**Figure 36: Non-paying and paying partner types in the past month among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

#### 6.4.2 Condom use

Condom use at last sex varied by partner type but was lowest with non-paying partners (Figure 37). Among WCS/SEG who had sex with a steady partner in the past month, 28.6% (95% CI: 21.9, 35.2) used a condom with their non-paying steady partner at last sex. Nearly half (48.5%; 95% CI: 41.1, 55.9) of WCS/SEG who had sex with a casual partner in the past month used a condom at last sex with a casual partner. Condom use was higher with paying clients. Among those who had paying clients in the past month, 75.5% (95% CI: 72.2, 78.9) of WCS/SEG used a condom with a regular client at last sex, 82.7% (95% CI: 78.8, 86.7) with a one-time client, and 76.3% (95% CI: 70.3, 81.2) with a tourist client (Table 68).



**Figure 37: Condom use at last sex by partner type among women engaged in commercial sex and sexually exploited girls in the past month, Unguja, Zanzibar, 2023**

WCS/SEG reported different reasons for not using condoms at last sex, depending on the partner type. The most common reasons given for not using a condom at last sex with non-paying partners were that they were with a trusted partner or that the partner objected. For all paying partner types, the most common reason reported for not using a condom at last sex was that the client objected (Table 68).

**Table 68: Sexual partnerships and HIV sexual risk behaviors among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Had sex with a non-paying steady partner in past month [N=511]</b>				
Yes	278	54.4	55.3	51.6, 59.0
No	231	45.2	44.1	40.4, 47.8
No response/Does not remember	2	0.4	0.6	0.1, 1.0
<b>Used a condom at last sex with a steady partner among those who had sex with a steady partner in the past month [N=278]</b>				
Yes	81	29.1	28.6	21.9, 35.2
No	196	70.5	71.3	64.7, 77.8
Does not remember	1	0.4	0.2	0, 0.4
<b>Reason did not use a condom at last sex with a steady partner [N=196]</b>				
Was with husband / trusted partner	151	77.0	77.6	68.7, 86.5
Partner objected	29	14.8	15.1	7.6, 22.7
Does not like the feel of condoms	6	3.1	3.4	0, 7.4
Did not have any condoms	2	1.0	1.2	1.1, 1.4

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Too drunk / high to use	2	1.0	0.7	0, 2.2
Things happened too fast	2	1.0	0.5	0, 1.4
Condoms are too expensive	1	0.5	0.3	0, 1.0
Condoms do not work	1	0.5	0.4	0, 1.2
Did not think about it	1	0.5	0.2	0.1, 0.2
No response	1	0.5	0.6	0, 1.9
<b>Had sex with a casual, non-paying partner in past month [N=276]</b>				
Yes	193	69.9	69.6	63.9, 75.2
No	83	30.1	30.4	24.8, 36.2
<b>Used a condom at last sex with a casual, non-paying partner among those who had sex with a casual, non-paying partner in the past month [N=193]</b>				
Yes	92	47.7	48.5	41.1, 55.9
No	101	51.3	51.5	44.1, 58.9
<b>Reason did not use a condom at last sex with a casual, non-paying partner [N=101]</b>				
Was with a trusted partner	49	48.5	52.4	42.0, 63.4
Partner objected	33	32.7	33.6	23.1, 40.0
Too drunk / high to use	4	4.0	3.9	0.6, 7.1
Things happened too fast	5	5.0	4.3	0, 13.9
Did not think about it	5	5.0	2.8	0.7, 4.8
Did not have any condoms	2	2.0	2.4	0, 4.9
Condoms do not work	2	2.0	1.9	0, 4.4
Does not like the feel of condoms	1	1.0	0.6	0, 2.1
<b>Had sex with a one-time, paying client in past month [N=578]</b>				
Yes	508	87.9	84.8	80.5, 89.1
No	63	10.9	13.2	9.5, 16.9
Does not remember	7	1.2	2.0	0, 5.0
<b>Used a condom at last sex with a one-time client among those who had sex with a one-time client in past month [N=508]</b>				
Yes	417	82.1	82.7	78.8, 86.7
No	87	17.1	16.8	12.8, 20.8
Does not remember	4	0.8	0.5	0, 1.1
<b>Reason did not use a condom at last sex with a one-time client [N=87]</b>				
Client objected	29	33.3	31.2	22.1, 40.2
Client paid more for sex without condom	20	23.0	25.2	16.1, 34.5

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Was with a trusted client	6	6.9	9.1	3.4, 15.2
Too drunk / high to use	7	8.0	7.8	3.3, 12.2
Things happened too fast	8	9.2	7.0	3.1, 10.5
Does not like the feel of condoms	5	5.7	6.4	1.7, 11.3
Did not think about it	4	4.6	4.2	0.2, 8.1
Did not have any condoms	3	3.5	3.8	0.3, 7.5
Believes condoms do not work	1	1.2	0.9	0, 2.7
Other	4	4.6	4.4	0, 15.3
<b>Had sex with a regular client in past month [N=587]</b>				
Yes	567	96.6	95.4	92.6, 98.3
No	19	3.2	4.3	1.5, 7.2
Does not remember	1	0.2	0.3	0, 1.2
<b>Used a condom at last sex with a regular client among those who had sex with a regular client in the past month [N=567]</b>				
Yes	423	74.6	75.5	72.2, 78.9
No	141	24.9	24.2	20.7, 27.5
Does not remember	3	0.5	0.3	0, 0.7
<b>Primary reason did not use a condom at last sex with a regular client [N=141]</b>				
Client objected	63	44.7	44.1	37.4, 50.5
Was with a trusted client	29	20.6	22.5	17.5, 27.8
Does not like the feel of condoms	14	9.9	10.8	7.4, 14.3
Too drunk / high to use	12	8.5	8.5	5.0, 12.1
Did not have any condoms	5	3.5	4.2	2.2, 6.4
Things happened too fast	5	3.5	2.6	1.2, 3.9
Did not think about it	5	3.5	2.2	1.5, 2.8
Believes condoms do not work	1	0.7	0.6	0, 1.4
Other	6	4.3	3.3	1.5, 5.1
No response	1	0.7	1.2	0, 7.1
<b>Had sex with a paying tourist client in past month</b>				
Yes	170	49.0	48.0	22.2, 29.8
No	177	51.0	52.0	46.0, 58.1
<b>Used a condom at last sex with a tourist client among those who had a regular client in the past month [N=169]</b>				
Yes	126	74.6	76.3	69.1, 83.6
No	42	24.9	23.4	16.1, 30.6
Does not remember	1	0.6	0.3	0.2, 0.4
<b>Reason did not use a condom at last sex with a tourist client [N=42]</b>				

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Client objected	17	40.5	36.8	21.9, 51.2
Client paid more for sex without condom	11	26.2	26.6	14.1, 39.2
Too drunk / high to use	2	4.8	10.2	2.8, 18.3
Does not like the feel of condoms	4	9.5	9.7	1.9, 17.5
Was with a trusted client	4	9.5	7.9	1.0, 14.4
Other	4	9.5	8.8	0, 23.9

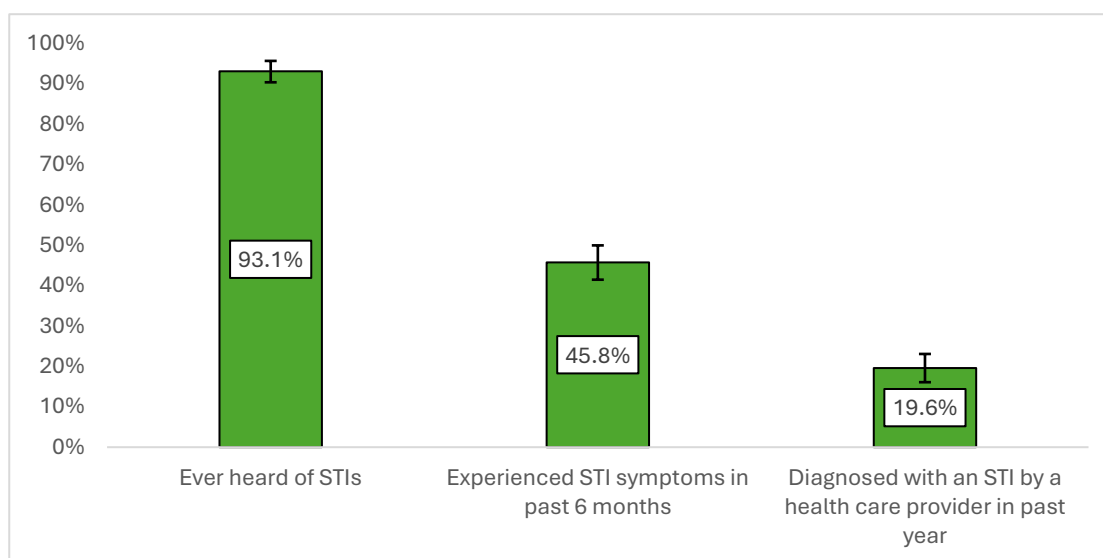
## 6.5 Condom access and sexually transmitted infections

### 6.5.1 Male and female condom access and use

Most (88.3%; 85.6, 91.0) WCS/SEG reported they could get a male condom every time they need one. Fewer than two in ten (16.9%; 95% CI: 13.9, 19.9) WCS/SEG had ever used a female condom (Table 69).

### 6.5.2 Experiences with sexually transmitted infections

The majority (93.1%; 95% CI: 90.4, 95.7) of WCS/SEG had heard of STIs and nearly half (45.8%; 95% CI: 41.5, 50.0) had experienced STI symptoms in the past six months. Of those who experienced STI symptoms in the past six months, 82.2% (95% CI: 76.3, 87.9) sought treatment. Three in ten (31.2%; 95% CI: 25.3, 37.3) WCS/SEG who sought treatment for STI symptoms waited more than one month from the onset of symptoms before seeking treatment. Two in ten (19.6%; 95% CI: 16.1, 23.1) WCS/SEG were diagnosed with an STI by a healthcare provider in the past 12 months (Figure 38; Table 69).



**Figure 38: Experiences of sexually transmitted infections among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

**Table 69: Access to male condoms, use of female condoms, and experiences of sexually transmitted infections among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Can get a male condom every time needs one [N=598]</b>				
Yes	527	88.1	88.3	85.6, 91.0
No	61	10.2	10.1	7.6, 12.6
No response	10	1.7	1.6	0.6, 2.6
<b>Use of female condoms</b>				
Has ever used a female condom [N=598]	112	18.7	16.9	13.9, 19.9
Used a female condom in last month [N=112]	46	41.1	42.3	35.1, 49.5
<b>Has ever heard of diseases that can be transmitted through sexual intercourse (STIs) [N=598]</b>				
Yes	563	94.1	93.1	90.4, 95.7
No	35	5.9	6.9	4.4, 9.6
<b>Experience of symptoms of a sexually transmitted infection in the past six months [N=598]</b>				
Experienced pain while urinating	219	36.6	39.5	35.2, 43.7
Had unusual genital discharge	143	23.9	26.6	22.9, 30.4
Had genital or anal sores or ulcers	48	8.0	8.6	6.0, 11.3
Experienced symptoms of a sexually transmitted infection in past 6 months	257	43.0	45.8	41.5, 50.0
<b>Treatment seeking behaviors related to symptoms of a sexually transmitted infection</b>				

<b>In the past six months, sought treatment because of symptoms of a sexually transmitted infection [N=257]</b>	213	82.9	82.2	76.3, 87.9
<b>Time from onset of symptoms until seeking treatment [N=213]</b>				
Less than one week	90	42.3	40.1	32.9, 47.1
More than one week but less than one month	42	19.7	18.7	12.6, 24.7
More than one month	63	29.6	31.2	25.3, 37.3
Does not know or remember	18	8.5	9.9	4.0, 16.1
<b>Was diagnosed with a sexually transmitted infection by a healthcare provider in past 12 months [N=598]</b>				
Yes	107	17.9	19.6	16.1, 23.1
No	491	82.1	80.4	76.9, 83.9
<b>Action taken last time experienced symptoms of a sexually transmitted infection or was diagnosed by a healthcare provider</b>				
Told my partner [N=274]	92	33.6	32.5	17.8, 37.2
Stopped having sex [N=274]	145	52.9	52.7	47.6, 57.8
Always used condoms (among those who did not stop having sex) [N=123]*	53	43.1	42.7	35.2, 50.2

\* Excludes six WCS/SEG who did not respond to whether they stopped having sex

## 6.6 Alcohol and drug use

### 6.6.1 Alcohol use

The majority (79.9%; 95% CI: 75.3, 82.8) of WCS/SEG consumed alcohol in the past month and 67.0% (95% CI: 62.5, 71.5) consumed alcohol in the past week while engaged in commercial sex. Nearly three in ten (27.5%; 95% CI: 23.6, 31.5) WCS/SEG who reported consuming alcohol had six or more drinks on one occasion daily or almost daily (Table 70).

**Table 70: Alcohol consumption among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Alcohol consumption [N=598]</b>				
Consumed alcohol in past month	478	79.9	79.9	75.3, 82.8
Consumed alcohol while engaged in commercial sex during past week	402	67.2	67.0	62.5, 71.5
<b>Frequency of consuming alcohol in past month [N=501]</b>				
4 or more times a week	247	49.3	46.4	41.6, 51.1
2–3 times a week	97	19.4	21.5	17.1, 25.9
2–4 times a month	82	16.4	16.3	12.7, 19.9
Once a month or less	52	10.4	10.8	8.3, 13.2
Never	20	4.0	4.0	1.3, 6.6
Does not remember / no response	3	0.6	1.1	0, 2.3

Typical number of drinks per day [N=501]				
1 or 2	99	19.8	18.3	14.8, 21.8
3 or 4	99	19.8	20.4	16.5, 24.4
5 or 6	109	21.8	22.4	18.5, 26.2
7, 8 or 9	83	16.6	18.2	14.3, 22.1
10 or more	103	20.6	19.1	15.5, 22.6
Does not remember	6	1.2	1.4	0.2, 2.5
No response	2	0.4	0.3	0, 0.9
Frequency of having six or more drinks on one occasion [N=501]				
Daily or almost daily	146	29.1	27.5	23.6, 31.5
Weekly	107	21.4	22.2	18.8, 25.5
Monthly	42	8.4	8.1	5.4, 10.8
Less than monthly	70	14.0	13.4	10.2, 16.7
Never	132	26.3	28.2	23.9, 32.6
No response	4	0.8	0.6	0, 1.2

### 6.6.2 Drug use

Approximately one-third of WCS/SEG reported smoking tobacco: 14.3% (95% CI: 10.8, 17.7) reported smoking daily and 19.8% (95% CI: 16.5, 23.1) reported smoking less than daily. Fewer than two in ten (15.8%; 95% CI: 12.4, 19.2) WCS/SEG smoked, inhaled, swallowed, or snorted any drugs in the past three months for non-medical reasons. Among those who reported non-injection drug use, the most used drug was marijuana (78.9%; 95% CI: 68.8, 89.2). Injection drug use among WCS/SEG was low (4.2%; 95% CI: 2.4, 6.1) (Table 71).

**Table 71: Non-injection and injection drug use among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
Frequency of smoking tobacco [N=598]				
Daily	81	13.5	14.3	10.8, 17.7
Less than daily	119	19.9	19.8	16.5, 23.1
Not at all	395	66.1	65.5	61.1, 69.9
Does not know	2	0.3	0.3	0, 0.7
No response	1	0.2	0.1	0, 4
Smoked, inhaled, swallowed, or snorted any drugs in the past three months for non-medical reasons [N=598]				
Yes	91	15.2	15.8	12.4, 19.2
No	503	84.1	83.8	80.4, 87.3
Does not remember	4	0.7	0.4	0, 0.7
Types of non-injection drugs used in past three months <sup>§</sup> [N=91]				
Smoked hashish/marijuana	70	76.9	78.9	68.8, 89.2
Smoked heroin	12	13.2	16.6	4.9, 28.6



Khat	12	13.2	12.2	4.4, 20.0
Valium	10	11	12.0	2.9, 21.2
Inhaled cocaine	6	6.6	9.7	0, 25.8
Smoked crack cocaine	6	6.6	6.3	0, 12.7
Mixed cocktail	5	5.5	5.4	0, 11.3
Pain killers (prescription drugs)	4	4.4	5.2	0, 12.1
Chase the dragon (inhaling heroin vapor)	4	4.4	4.8	0, 14.8
<i>Kichupa</i> (inhaling heroin vapor using a bottle)	4	4.4	3.6	0, 9.5
Inhaled heroin	3	3.3	2.7	0, 8.5
Sniffed petrol, glue	1	1.1	1.3	0, 7.5
Methadone	1	1.1	0.4	0, 2.4
Does not remember	1	1.1	0.4	0, 1.9
No response	1	1.1	0.2	0, 0.8
<b>Injection drug use</b>				
Has ever injected drugs [N=598]	29	4.8	4.2	2.4, 6.1
Suspects at least one sexual partner of injecting drugs [N=598]	56	9.4	9.9	6.5, 13.1

‡Question allowed for multiple responses

## 6.7 HIV knowledge, testing, and risk perception

### 6.7.1 HIV knowledge

Participants were asked five standard knowledge questions related to HIV. Those who were able to respond correctly to all five questions were considered to have comprehensive knowledge of HIV, as per the UNAIDS definition. Fewer than four in ten (35.7%; 95% CI: 31.7, 39.7) WCS/SEG had comprehensive knowledge on HIV. Participants were also asked two questions related to the concept of undetectable equals untransmittable (U=U). Six in ten (57.5%; 95% CI: 52.7, 62.3) WCS/SEG agreed that ARVs can decrease the amount of HIV in someone's blood to the point where it is not detectable in a laboratory test. Just over half (54.1%; 95% CI: 49.6, 58.7) of WCS/SEG agreed that a person on ART cannot pass HIV to a sexual partner once they are virally suppressed (Table 72).

**Table 72: HIV knowledge among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV knowledge [N=598]</b>				
Agrees having one uninfected, faithful partner reduces risk of HIV transmission	436	72.9	72.4	68.4, 76.4
Disagrees that a person can get HIV from a mosquito bite	529	88.5	89.1	86.4, 91.7
Agrees using a condom every time you have sex reduces risk of HIV transmission	437	73.1	71.5	67.5, 75.6
Agrees a healthy-looking person can have HIV	439	73.4	74.5	70.5, 78.6
Disagrees that you can get HIV by sharing food with someone who is living with HIV	552	92.3	91.7	89.2, 94.1
<b>Has comprehensive HIV knowledge [N=598]</b>				

Yes	219	36.6	35.7	31.7, 39.7
No	379	63.4	64.3	60.4, 68.2
<b>Knowledge related to U=U (Undetectable=Untransmittable) [N=598]</b>				
Agrees that anti-retroviral therapy can decrease the amount of HIV in someone's blood to the point where it is not detectable in a laboratory test	344	57.5	57.5	52.7, 62.3
Agrees that a person on anti-retroviral therapy cannot pass HIV to a sexual partner once they are virally suppressed	337	56.4	54.1	49.6, 58.7

### 6.7.2 HIV testing, including self-testing

The majority (95.5%; 95% CI: 93.3, 97.7) of WCS/SEG had been tested for HIV at least once in their lifetime. Of those and excluding WCS/SEG known to be living with HIV, almost half (46.5%; 95% CI: 41.9, 51.1) had an HIV test within the last 3 months, 18.3% (95% CI: 14.3, 22.3) had an HIV test in the past 3 to 6 months, 9.0% (95% CI: 5.7, 12.5) had an HIV test in the past 6 to 12 months, and 23.8% (95% CI: 20.7, 26.9) had an HIV test more than a year before the survey. Nearly one in three (32.0%; 95% CI: 27.4, 36.6) WCS/SEG, excluding WCS/SEG known to be living with HIV, reported testing for HIV at least every 3 months (Table 73).

Among WCS/SEG who have never been tested for HIV (4.0%; 95% CI: 2.3, 6.5), reasons for not testing included not seeing the importance of testing for HIV (33.4%; 95% CI: 16.8, 50.3), fear of knowing one's status (25.1%; 95% CI: 11.9, 37.8), not knowing where to go for testing (19.5%; 95% CI: 0, 45.7), and not feeling that they were at risk (18.6%; 95% CI: 6.8, 30.0) (Table 73).

Fewer than half (46.3%; 95% CI: 42.9, 49.8) of WCS/SEG had ever heard of an HIV self-test. Among those, 31.0% (95% CI: 25.1, 36.6) had ever used a self-test. Among those who had never used an HIV self-test, 74.6% (95% CI: 69.7, 79.5) would use one if recommended to them. The main reasons reported for not wanting to use an HIV self-test kit were being afraid of test results (42.8%; 95% CI: 32.6, 53.5), not knowing how to use a self-test kit (24.1%; 95% CI: 17.4, 30.2), and preferring to test at a health facility (23.5%; 95% CI: 17.4, 29.5) (Table 73).

**Table 73: HIV testing history, including awareness and uptake of HIV self-testing, among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV testing history</b>				
Knows where to get confidential HIV test [N=598]	554	92.6	91.8	89.1, 94.6
Has ever tested for HIV [N=598]	575	96.2	95.5	93.3, 97.7
Has ever tested for HIV with their steady partner [N=598]	240	41.7	42.2	38.6, 45.9
<b>Last tested for HIV and received results, excluding known positives [N=458]</b>				
In the past 3 months	217	47.4	46.5	41.9, 51.1
3–6 months ago	89	19.4	18.3	14.3, 22.3

More than 6 months ago but within the past year	38	8.3	9.0	5.7, 12.5
Over one year ago	102	22.3	23.8	20.7, 26.9
Does not remember	11	2.4	2.1	0.8, 3.4
No response	1	0.2	0.2	0.1, 0.3
<b>Normal HIV testing frequency excluding known positives [N=458]</b>				
No pattern/routine testing	183	40.0	42.3	37.5, 47.1
Every 3 months	160	34.9	32.0	27.4, 36.6
Every 6 months	33	7.2	5.6	3.5, 7.6
Once per year	80	17.5	19.6	16.5, 22.7
No response	2	0.4	0.5	0.1, 0.8
<b>Why has never tested for HIV* [N=22]</b>				
Not important for me	7	31.8	33.4	16.8, 50.3
Fear of knowing status	7	31.8	25.1	11.9, 37.8
Did not know where to go	2	9.1	19.5	0, 45.7
Does not feel at risk	5	22.7	18.6	6.8, 30.0
Distance	1	4.5	6.2	0, 15.0
Concerned about confidentiality	2	9.1	4.8	0, 10.2
<b>HIV self-testing</b>				
Has ever heard of an HIV self-test [N=598]	290	48.5	46.3	42.9, 49.8
Has ever taken an HIV self-test [N=290]	98	33.8	31.0	25.1, 36.6
<b>Would use an HIV self-test kit if it was recommended to them (excludes people known to be living with HIV) [N=389]</b>				
Yes	293	75.3	74.6	69.7, 79.5
No	95	24.4	25.3	20.4, 30.2
No response	1	0.3	0.1	0.0, 0.2
<b>Primary reason for not wanting to use an HIV self-test kit (excludes people known to be living with HIV) [N=95]</b>				
Afraid of HIV results	34	35.8	42.8	32.6, 53.5
I do not know how to use the self-test kit	28	29.5	24.1	17.4, 30.2
I would rather test at a health facility	25	26.3	23.5	17.4, 29.5
I do not have a private space to do the test / am worried others would see	4	4.2	5.3	0, 14.9
No response	4	4.2	4.4	1.1, 7.8

\*Question allowed for multiple responses

### 6.7.3 Perceived HIV risk

Excluding WCS/SEG known to be living with HIV, half of WCS/SEG in Unguja (53.3%; 95% CI: 48.6, 58.0) perceived themselves to be at high risk for HIV infection and 19.5% (95% CI: 15.8, 23.1) perceived themselves to be at medium risk. Commonly cited reasons for feeling at risk of HIV infection were often changing sexual partners (72.5%; 95% CI: 67.8, 77.4) having multiple concurrent sexual partners

(57.3%; 95% CI: 52.8, 62.5), drinking alcohol (41.1%; 95% CI: 36.2, 46.1), and inconsistent condom use (29.3%; 95% CI: 24.5, 34.0) (Table 74).

**Table 74: HIV risk perception among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Perceived HIV risk (excluding people living with HIV) [N=473]</b>				
High risk	245	51.8	53.3	48.6, 58.0
Medium risk	103	21.8	19.5	15.8, 23.1
Low risk	44	9.3	9.0	6.1, 11.9
No risk	61	12.9	13.8	10, 17.7
Does not know	20	4.2	4.4	2.6, 6.2
<b>Reason(s) for feeling at risk of HIV infection among those who felt at risk* [N=392] (excludes known positives=125)</b>				
Often changes sex partners	264	67.3	72.5	67.8, 77.4
Has multiple concurrent sex partners	219	55.9	57.3	52.8, 62.5
Drinks alcohol	149	38	41.1	36.2, 46.1
Inconsistent condom use	121	30.9	29.3	24.5, 34.0
Engages in anal sex	55	14	15.7	10.5, 21.1
Uses drugs	7	1.8	2.7	0, 8.0
Injects drugs	3	0.8	1.0	0, 2.3
Has sex with people who inject drugs	5	1.3	1.0	0, 2.0
Shares needles	2	0.5	0.5	0, 1.0
Other	17	4.3	4.6	0.6, 8.5
No response	3	0.8	0.6	0.1, 1.1
<b>Reason(s) for not feeling at risk of HIV infection among those who felt they are not at risk* [N=61] (excludes known positives)</b>				
Always uses condoms	51	83.6	82.7	72.9, 92.5
Is faithful	8	13.1	12.4	6.0, 18.9
Believes sexual partners are HIV-free	6	9.8	9.9	5.3, 14.6
Does not have anal sex	2	3.3	2.6	0, 6.8
Other	7	11.5	15.0	6.9, 23.4

\*Question allowed for multiple responses

## 6.8 Experiences of women engaged in commercial sex and sexually exploited girls living with HIV

### 6.8.1 Experiences with HIV care and treatment services

Among WCS/SEG who had ever tested for HIV, 15.9% (95% CI: 11.7, 20.1) disclosed that they were living with HIV. Among those who disclosed that they were living with HIV, 94.2% (95% CI: 80.1, 100)

reported being on ART. Of those, the majority (91.0%; 95% CI: 85.1, 96.6) had been on ART for more than 6 months and most (87.9%; 95% CI: 73.1, 100) had ever had an HIV viral load test (Table 75).

Eight in ten (78.7%; 95% CI: 69.0, 88.1) WCS/SEG who disclosed that they were living with HIV reported being screened for TB symptoms at least once during a clinic visit in the last 12 months. One-third (32.0%; 95% CI: 22.9, 41.0) had experienced symptoms of TB such as night sweats, cough, fever, or weight loss in the last 12 months. Nearly one-quarter (24.9%; 95% CI: 15.3, 34.7) had ever been treated for TB (Table 75).

**Table 75: Experiences of HIV care and treatment services among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Self-reported result of last HIV test [N=578]</b>				
Positive	97	16.8	15.9	11.7, 20.1
Negative	473	81.8	82.7	78.5, 86.9
Did not receive results	5	0.5	1.1	0.1, 2.1
Does not know / remember	3	0.9	0.3	0, 0.6
<b>Currently on anti-retroviral therapy (ART) [N=97]</b>				
Yes	90	92.8	94.2	80.1, 100
No	7	7.2	5.8	0, 19.9
<b>How long has been on ART [N=90]</b>				
Less than 6 months	5	5.6	7.1	1.5, 2.4
More than 6 months	84	93.3	91.0	85.1, 96.6
Does not know / remember	1	1.1	1.9	1.5, 2.4
<b>Has had HIV viral load test done [N=90]</b>				
Yes	81	90.0	87.9	73.1, 100
No	5	5.6	8.1	0.3, 16.2
Does not know / remember	4	4.4	4.0	0, 18.7
<b>Was screened for tuberculosis symptoms during any clinic visit in last 12 months [N=97]</b>				
Yes	78	80.4	78.7	69.0, 88.1
No	15	15.5	15.7	6.4, 25.1
Has not visited clinic in last 12 months	4	4.1	5.6	1.8, 9.6
<b>Experienced night sweats, cough, fever, or weight loss in last 12 months [N=97]</b>				
Yes	31	32.0	32.0	22.9, 41.0
No	65	37.0	66.9	56.7, 77.3
Does not remember	1	1.0	1.1	0, 10.9
<b>Has ever been treated for tuberculosis [N=97]</b>				
Yes	22	22.7	24.9	15.3, 34.7
No	73	75.3	73.2	61.6, 84.5
Does not know / remember	2	2.1	1.9	0, 13.0

## 6.8.2 Experiences of stigma as a person living with HIV

Among WCS/SEG who disclosed that they were living with HIV, 22.3% (95% CI: 13.4, 30.9) reported that people had spoken badly about them a few times because of their HIV status in the past six months and 16.9% (95% CI: 10.1, 23.9) reported that this had happened often. Nearly half of WCS/SEG living with HIV reported that someone had disclosed their HIV status without their permission in the past six months: 15.9% (95% CI: 8.8, 23.2) reported this had happened often, 14.8% (95% CI: 7.3, 22.5) a few times, and 18.5% (95% CI: 5.6, 31.5) once (Table 76).

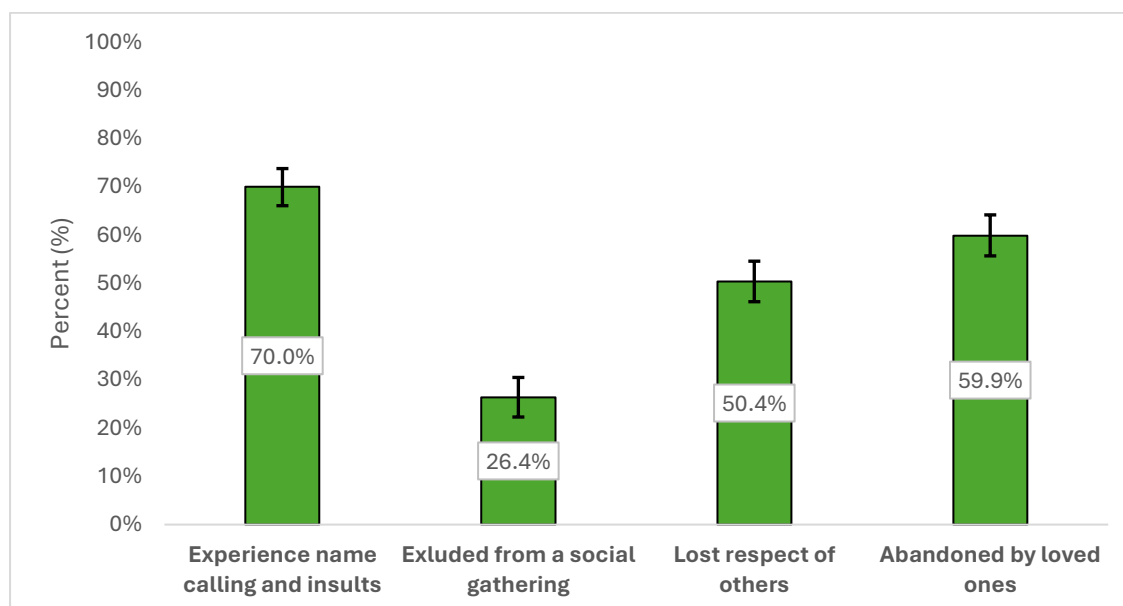
**Table 76: Experiences of stigma as a person living with HIV among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Agreement with the following statement: "In the last 6 months, I have felt ashamed because of my HIV status." [N=97]</b>				
Strongly agree	26	26.8	25.7	15.4, 35.9
Agree	20	20.6	20.3	13.9, 26.5
Disagree	47	48.5	48.3	39.3, 57.3
Strongly disagree	4	4.1	5.7	0, 13.8
<b>In the last 6 months, have people talked badly about you because of your HIV status? [N=97]</b>				
Never	40	41.2	40.1	29.1, 50.8
Once	14	14.4	15.7	7.6, 23.9
A few times	25	25.8	22.3	13.4, 30.9
Often	14	14.4	16.9	10.1, 23.9
Not applicable because no-one knows my HIV status	4	4.1	5.1	1.3, 9.1
<b>In the last 6 months, have you been verbally insulted, harassed, or threatened because of your HIV status? [N=97]</b>				
Never	57	58.8	59.5	50.7, 68.5
Once	14	14.4	15.6	8.4, 22.9
A few times	16	16.5	14.7	8.4, 20.7
Often	6	6.2	6.3	2.2, 10.4
Not applicable because no-one knows my HIV status	4	4.1	4.0	1.0, 6.8
<b>In the last 6 months, did someone else disclose your HIV status without your permission? [N=97]</b>				
Never	48	49.5	47.4	33.7, 60.8
Once	18	18.6	18.5	5.6, 31.5
A few times	14	14.4	14.8	7.3, 22.5
Often	13	13.4	15.9	8.8, 23.2
Not applicable because no-one knows my HIV status	4	4.1	3.4	2.9, 3.7

## 6.9 Stigma as a women engaged in commercial sex or sexually exploited girl and mental health

### 6.9.1 Stigma related to commercial sex or sexual exploitation

Being the target of stigma and/or discrimination because of engaging in commercial sex or being sexually exploited was common. Based on experiences from the last 6 months, 26.4% (95% CI: 22.3, 30.5) of WCS/SEG had been excluded from a social gathering, 50.4% (95% CI: 46.2, 54.6) reported that others had lost respect for them, and 59.9% (95% CI: 55.6, 64.1) were abandoned by their loved ones (Figure 39; Table 77).



**Figure 39: Experiences of stigma and discrimination in the last 6 months among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

### 6.9.2 Avoidance of and experiences of discrimination in healthcare

In the last 12 months, 5.0% (95% CI: 3.2, 6.7) of WCS/SEG avoided seeking health or social services due to fear of being discriminated against because they engaged in commercial sex or were being sexually exploited, 2.9% (95% CI: 1.0, 4.8) of WCS/SEG were denied health services in the last 12 months because they were an WCS/SEG, and 1.9% (95% CI: 0.2, 3.5) of WCS/SEG were discriminated against by a healthcare provider in the last 12 months because they engaged in commercial sex or were being sexually exploited. One in four (25.0%; 95% CI: 21.0, 28.9) WCS/SEG knew where to report discrimination experienced during health services (Table 77).

**Table 77: Experiences of stigma, socially and in the healthcare setting, among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Experiences of stigma as an WCS/SEG (% yes) [N=598]</b>				
Experienced name calling, teasing and insults	412	68.9	70.0	66.2, 73.9

Excluded from a social gathering	149	24.9	26.4	22.3, 30.5
Others have lost respect	294	49.2	50.4	46.2, 54.6
Abandoned by loved ones	339	56.7	59.9	55.6, 64.1
<b>Afraid to seek health or social services in last 12 months due to worry of being exposed as an WCS/SEG [N= 598]</b>				
Yes	51	8.5	8.9	6.4, 11.4
No	547	91.5	91.1	88.6, 93.6
<b>Avoided seeking health or social services in last 12 months due to worry of being discriminated against as an WCS/SEG [N= 598]</b>				
Yes	32	5.4	5.0	3.2, 6.7
No	566	94.6	95.0	93.3, 96.8
<b>Has been denied health or social services in last 12 months because WCS/SEG [N= 598]</b>				
Yes	15	2.5	2.9	0.9, 4.8
No	583	97.5	97.1	95.1, 99.0
<b>Has been discriminated against by a healthcare provider because WCS/SEG [N= 598]</b>				
Yes	8	1.3	1.8	0.1, 3.5
No	590	98.7	98.2	96.4, 99.9
<b>Knew where to report discrimination experienced during health services [N=598]</b>				
Yes	149	24.9	25.0	21.0, 28.9
No	446	74.6	74.8	70.9, 78.7
Does not know / remember	1	0.2	0.1	0, 0.3
No response	2	0.3	0.2	0, 0.3

### 6.9.3 Mental health

Feelings of anxiety, hopelessness, and worry were reported by more than half of WCS/SEG in Unguja. When asked how often over the past two weeks they had little interest or pleasure in doing things that they previously enjoyed, 48.4% (95% CI: 44.1, 52.6) experienced this several days, 1.6% (95% CI: 0.8, 2.5) experienced this more than half of the days, and 10.3% (95% CI: 7.7, 13.0) experienced this nearly every day. When asked about feeling down, depressed, or hopeless over the last two weeks, 48.9% (95% CI: 44.7, 53.1) of WCS/SEG experienced this several days, 1.9% (95% CI: 0.9, 3.0) experienced this more than half of the days, and 15.8% (95% CI: 12.6, 19.0) experienced this nearly every day (Table 78).

**Table 78: Experiences of worry and anxiety among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Over the last 2 weeks, frequency of having little interest or pleasure in doing things you have previously enjoyed [N=598]</b>				
Not at all	244	40.8	38.9	34.7, 43.0



Several days	275	46	48.4	44.1, 52.6
More than half the days	14	2.3	1.6	0.8, 2.5
Nearly every day	57	9.5	10.3	7.7, 13
Does not remember	8	1.3	0.7	0.2, 1.3
<b>Over the last 2 weeks, frequency of feeling down, depressed, or hopeless [N=598]</b>				
Not at all	201	33.6	31.7	27.8, 35.7
Several days	283	47.3	48.9	44.8, 53.1
More than half the days	13	2.2	1.9	0.9, 2.9
Nearly every day	88	14.7	15.8	12.6, 18.9
Does not remember	13	2.7	1.6	0.7, 2.5
<b>Over the last 2 weeks, frequency of feeling nervous, anxious, or on edge [N=598]</b>				
Not at all	283	47.3	45.4	41.1, 49.8
Several days	234	39.1	39.7	35.4, 44.0
More than half the days	9	1.5	1.3	0.5, 2.0
Nearly every day	65	10.9	12.7	9.7, 15.7
Does not remember	7	1.2	0.9	0.2, 1.6
<b>Over the last 2 weeks, frequency of not being able to stop or control worrying [N=598]</b>				
Not at all	295	49.3	48.3	44.1, 52.5
Several days	216	36.1	36.9	32.7, 41.0
More than half the days	10	1.7	1.0	0.4, 1.7
Nearly every day	66	11.0	12.4	9.5, 15.3
Does not remember	11	1.8	1.4	0.5, 2.2

## 6.10 Experiences of arrest and physical and sexual violence

Nearly half (44.8%; 95% CI: 40.0, 49.7) of WCS/SEG reported to have been arrested in the past 12 months. The most common reasons for arrest were engaging in commercial sex (82.0%; 95% CI: 76.8, 87.4) and loitering (52.2%; 95% CI: 46.3, 58.4) (Table 79).

Experiences of violence varied among WCS/SEG in Unguja. Three in ten (30.7%; 95% CI: 26.4, 34.9) WCS/SEG experienced physical violence in the last 12 months, of whom 17.8% (95% CI: 11.2, 24.3) reported the violence to an authority. The most cited reasons for not reporting experiences of physical violence to the authorities were fear of retaliation (57.4%; 95% CI: 48.1, 67.1), fear of discrimination from one's family or community (13.3%; 95% CI: 8.0, 18.6), and fear of being stigmatized (10.4%; 95% CI: 2.6, 18.5) (Table 79).

Approximately two in ten (22.9%; 95% CI: 19.2, 26.7) WCS/SEG were forced to have sex in the last 12 months. Of those, 5.7% (95% CI: 0.3, 10.9) reported the sexual violence to an authority. The most cited reasons for not reporting experiences of forced sex to the authorities were fear of retaliation (53.1%; 95% CI: 44.8, 61.3), fear of discrimination from one's family or community (18.4%; 95% CI: 12.1, 24.9), and feeling ashamed or embarrassed (12.5%; 95% CI: 7.9, 16.9) (Table 79). Among those who experienced forced sex in the past 12 months, 14.9% (95% CI: 7.3, 22.4) sought medical attention after the experience (Table 79).

**Table 79: Experiences of arrest and violence among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Was arrested in past 12 months [N=598]</b>				
Yes	288	48.2	44.8	40.0, 49.7
No	309	51.7	55.0	50.1, 59.9
No response	1	0.2	0.2	0, 0.5
<b>Reason(s) for arrest in past 12 months among those who were arrested<sup>y</sup> [N=288]</b>				
Engaging in commercial sex	225	78.1	82.0	76.8, 87.4
Loitering	139	48.3	52.2	46.3, 58.4
Theft	6	2.1	3.9	0, 10.5
Drug use	8	2.8	3.1	0, 7.4
Aggravated assault	9	3.1	3.0	0, 7.0
Selling or being in possession of local alcohol	5	1.7	1.0	0, 2.7
Selling drugs	3	1.0	0.9	0, 2.6
Does not remember	2	0.7	0.3	0.1, 0.6
No response	2	0.7	0.4	0, 0.7
<b>Experienced physical violence in past 12 months [N=598]</b>				
Yes	188	31.1	30.7	26.4, 34.9
No	409	68.4	69.2	65.0, 73.4
No response	1	0.2	0.1	0, 0.3
<b>Perpetrator(s) of physical violence in past 12 months, among those who experienced physical violence<sup>y</sup> [N=188]</b>				
Police	81	43.1	42.1	34.3, 49.8
One-time client	70	37.2	39.7	32.5, 47.1
Wife / girlfriend of a client	41	21.8	28.7	21.0, 37.1
Another WCS/SEG	20	10.6	11.0	3.1, 19.1
Boyfriend or husband	16	8.5	8.5	2.7, 14.4
An unknown person / person on the street	13	6.9	7.9	0, 15.9
Friend	10	5.3	6.2	0, 14.5
Family member	4	2.1	2.2	0, 7.7
Regular client	2	1.1	1.2	0, 5.6
Other	9	4.8	4.2	0, 9.3
<b>Reported the violence to any authority, among those who experienced physical violence [N=188]</b>				
Yes	36	19.2	17.8	11.2, 24.3
No	152	80.8	82.2	75.7, 88.8
<b>Reason for not reporting physical violence to an authority [N=152]</b>				
Fear of retaliation	82	53.9	57.4	48.1, 67.1
Fear of being discrimination by family/community	20	13.2	13.3	8.0, 18.6

Fear of being stigmatized	13	8.6	10.4	2.6, 18.5
Felt ashamed / embarrassed	17	11.2	8.1	4.0, 11.9
Did not know where to go / that I should report	5	3.3	3.0	0.3, 5.6
Negative experience with authorities in the past	1	0.7	0.5	0, 1.9
Other	10	6.6	5.9	2.8, 8.9
No response	4	2.6	1.3	0.4, 2.0
<b>Forced to have sex in past 12 month [N=598]</b>				
Yes	139	23.2	22.9	19.2, 26.7
No	458	76.6	76.8	72.9, 80.5
Does not remember	1	0.2	0.3	0, 0.7
<b>Sought medical treatment after forced sex, among those forced to have sex in past 12 months [N=139]</b>				
Yes	20	14.4	14.9	7.3, 22.4
No	118	84.9	84.3	76.6, 92.2
Does not remember	1	0.7	0.7	0, 1.7
<b>Reported the violence to any authority, among those who experienced sexual violence [N=139]</b>				
Yes	11	7.9	5.7	0.3, 10.9
No	128	92.1	94.3	89.1, 99.7
<b>Reason for not reporting sexual violence to an authority [N=128]</b>				
Fear of retaliation	66	51.6	53.1	44.8, 61.3
Fear of being discrimination by family/community	22	17.2	18.4	12.1, 24.9
Felt ashamed / embarrassed	17	13.3	12.5	7.9, 16.9
Fear of being stigmatized	7	5.5	4.5	1.5, 7.4
Did not know where to go / that I should report	5	3.9	4.3	0.3, 8.3
Negative experience with authorities in the past	2	1.5	1.6	0, 8.3
Other	8	6.2	4.8	2.2, 7.2
No response	1	0.8	0.9	0, 3.2

\*Question allowed for multiple responses

## 6.11 Services for populations at risk for HIV

### 6.11.1 Pre-exposure prophylaxis awareness and uptake

More than a third (35.0%; 95% CI: 30.6, 39.3) of WCS/SEG had ever heard of pre-exposure prophylaxis (PrEP). Among those who had heard of PrEP, 18.8% (95% CI: 12.4, 25.4) had ever used PrEP, of whom 70.0% (95% CI: 56.6, 82.8) had used PrEP in the last 6 months. Among those who have never used PrEP, reasons included not knowing where to get PrEP (24.2%; 95% CI: 17.9, 30.4), not wanting PrEP (22.0%; 95% CI: 15.6, 28.3), PrEP not being available where an WCS/SEG lived (6.4%; 95% CI: 3.3, 9.5), and fear of side effects from taking PrEP (9.2%; 95% CI: 5.2, 13.0) (Table 80).

Two in ten (19.4%; 95% CI: 15.9, 22.9) WCS/SEG had ever heard of post-exposure prophylaxis (PEP) (Table 80).

**Table 80: Awareness and uptake of pre-exposure and post-exposure prophylaxis among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Awareness and use of PrEP</b>				
Has ever heard of PrEP [N=598]	231	38.6	35.0	30.6, 39.3
Has ever taken PrEP [N=231]	43	18.6	18.8	12.4, 25.4
Has taken PrEP in the last 6 months [N=40]*	29	72.5	70.0	56.6, 82.8
Is still on PrEP [N=29]	9	31.0	33.3	16.2, 50.7
Would take PrEP to help prevent HIV (among those who had never taken PrEP or had not heard of PrEP AND did not disclose they were living with HIV) [N=448]	241	53.8	51.6	47.8, 55.3
<b>Main reason has never taken PrEP (excludes known positives) [N=172]</b>				
Does not know where to get PrEP	42	24.4	24.2	17.9, 30.4
Does not want PrEP	39	22.7	22.0	15.6, 28.3
Not available where I live	13	7.6	6.4	3.3, 9.5
Afraid of side effects	17	9.9	9.2	5.2, 13.0
Does not feel at risk for HIV	10	5.8	6.3	2.9, 9.6
Embarrassed to talk about it with doctor/nurse	5	2.9	3.5	0.2, 6.9
Does not want others to know	3	1.7	1.5	0.2, 2.7
Did not get enough information	13	7.6	6.4	3.3, 9.5
Other	9	5.2	6.3	2.3, 10.3
Does not know	18	9.6	10.8	5.9, 15.8
No response	3	1.6	1.5	0, 6.6
<b>Awareness and use of PEP</b>				
Has ever heard of PEP [N=598]	117	19.6	19.4	15.9, 22.9
Has ever taken PEP [N=117]	17	14.5	14.3	8.0, 20.7
Has taken PEP in the last 6 months [N=15]*	10	66.7	69.9	56.6, 82.8

\*Excludes WCS/SEG who were known be living with HIV

### 6.11.2 Engagement with peer educators and population at risk for HIV-friendly clinics

Half (50.5%; 95% CI: 45.7, 55.2) of WCS/SEG received services from a PRH-friendly clinic and/or from a peer educator in the last 12 months (Table 81).

Fewer than half (45.5%; 95% CI: 40.7, 50.3) of WCS/SEG engaged with a peer educator in the last 12 months. Of those, over one-third (35.2%; 95% CI: 30.4, 40.1) interacted with a peer educator only once during that period. The most commonly provided services were information about HIV transmission and prevention (76.2%; 95% CI: 70.9, 81.3), linkage to HIV testing (56.2%; 95% CI: 50.5, 62.1), and condoms (40.3%; 95% CI: 34.6, 45.9) (Table 81).

Fewer than one in five (18.3%; 95% CI: 0.9, 35.6) WCS/SEG sought HIV services from a clinic providing WCS/SEG-friendly services in the past 12 months. The most commonly received services were HIV

testing (67.8%; 95% CI: 59.1, 77.1), information about HIV transmission and prevention (56.3%; 95% CI: 47.7, 64.7), and condoms (48.6%; 95% CI: 40.5, 55.8) (Table 81).

**Table 81: Engagement with peer educators and population at risk for HIV-friendly clinics and services received by women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Received health services at a population at risk for HIV-friendly clinic and/or from a peer educator in the last 12 months [N=598]</b>				
Yes	313	52.3	50.5	45.7, 55.2
No	285	47.7	49.5	44.8, 54.3
<b>Had contact with a peer educator in past 12 months [N=598]</b>				
Yes	280	46.8	45.5	40.7, 50.3
No	316	52.8	54.4	49.6, 59.2
Does not remember	2	0.3	0.1	0.0, 0.3
<b>Number of contacts with peer educator in past 12 months among those who had any contact [N=280]</b>				
One time only	92	32.9	35.2	30.4, 40.1
Two times	80	28.6	28.0	22.7, 33.1
Three times	39	13.9	13.0	8.4, 17.5
Four times	25	8.9	8.8	5.8, 11.8
Five or more times	33	11.8	11.3	7.5, 15
No response	11	3.9	3.8	0, 8.3
<b>Service(s) received from a peer educator in past year<sup>‡</sup> [N=280]</b>				
Information on STI or HIV transmission or prevention	222	79.3	76.2	70.9, 81.3
Linkage to HIV testing	155	55.4	56.2	50.5, 62.1
Condoms	116	41.4	40.3	34.6, 45.9
General counseling from a peer counselor	60	21.4	23.7	17.8, 29.8
Information about TB	26	9.3	10.3	5.1, 15.5
Counseling from a professional/VCT counselor	31	11.1	9.4	5.8, 12.9
Sexual and reproductive health services	19	6.8	5.7	1.4, 9.9
ART services	16	5.7	5.5	1.0, 10.0
Linkage to testing for hepatitis	12	4.3	4.8	0, 9.9
Information about PrEP	10	3.6	4.3	0, 9.3
Referral for care and treatment services	9	3.2	2.9	0, 6.8
Referral for STI treatment	2	0.7	0.5	0, 1.4
Other	6	2.1	2.8	0, 7.1
Does not remember	3	1.1	1.1	0, 3.7
No response	1	0.4	0.2	0.1, 0.3
<b>Peer educator was non-judgmental [N=280]</b>				

Yes	221	78.9	79.8	73.7, 86.0
No	56	20	19.2	13.2, 25.3
Does not remember	2	0.7	0.5	0.1, 0.9
No response	1	0.4	0.5	0, 2.8
<b>Visited a clinic or drop-in center around Unguja providing services to WCS/SEG in past 12 months [N=598]</b>				
Yes	116	19.4	18.2	14.6, 21.9
No	474	79.3	80.7	77.0, 84.5
Does not remember	7	1.2	0.8	0.2, 1.5
No response	1	0.1	0.2	0, 0.6
<b>Service(s) received at WCS/SEG-friendly clinic* [N=116]</b>				
HIV test	74	63.8	67.8	59.1, 77.1
Information on STI or HIV transmission or prevention	69	59.5	56.3	47.7, 64.7
Condoms	65	56.0	48.6	40.5, 55.8
Counseling from a professional/VCT counselor	16	13.8	14.5	5.6, 23.4
General counseling from a peer counselor	10	8.6	7.3	0.2, 14.3
Information about TB	10	8.6	6.8	0.8, 12.5
Sexual and reproductive health services	8	6.9	6.1	0, 12.2
Referral for STI treatment	2	1.7	3.8	0, 13.3
ART services	3	2.6	1.9	0, 6.5
Testing for hepatitis	4	3.4	1.8	0, 5.5
Referral for PMTCT or family planning	2	1.7	1.3	0, 5.6
Referral for TB screening	2	1.7	0.9	0, 3.8
Referral for care and treatment services	1	0.9	0.8	0, 5.2
PrEP	1	0.9	0.8	0, 5.1
Other	3	2.6	2.1	0, 7.1

\*Question allowed for multiple responses

## 6.12 Access to and uptake of other healthcare services

### 6.12.1 Hepatitis testing and hepatitis vaccination

One in five (22.2%; 95% CI: 18.4, 26.0) WCS/SEG reported that they had been tested for hepatitis prior to the survey. Of those, six in ten (59.1%; 95% CI: 50.4, 67.9) could not remember the type of hepatitis for which they were tested (Table 82).

**Table 82: Hepatitis testing prior to the survey among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Has ever been tested for hepatitis [N=598]</b>				
Yes	155	25.9	22.1	18.3, 25.9
No	431	72.1	75.7	71.8, 79.6

Does not remember	12	2.0	2.2	0.9, 3.5
<b>Type of hepatitis testing done* [N=155]</b>				
Hepatitis B only	18	11.6	11.3	5.7, 16.9
Hepatitis C only	1	0.7	0.8	0, 2.5
Both hepatitis B and hepatitis C	45	29	28.8	21.5, 36.1
Does not remember	91	58.7	59.1	50.4, 67.9

\*Question allowed for multiple responses

### 6.12.2 COVID-19 vaccine uptake and beliefs

Four in ten (42.8%; 95% CI: 38.4, 47.3) WCS/SEG had ever received a COVID- 19 vaccine. Among those, three-quarters (74.3%; 95% CI: 69.6, 79.0) received one dose and 77.0% (95% CI: 72.0, 82.0) received their most recent dose more than six months prior to the survey. The main reasons cited for not receiving a COVID-19 vaccine were being afraid of vaccine side effects (35.0%; 95% CI: 29.0, 40.9, time constraints (24.3%; 95% CI: 19.7, 29.1), and not wanting to get vaccinated (19.0%; 95% CI: 14.7, 23.4) (Table 83).

**Table 83: COVID-19 vaccination uptake and beliefs among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Has ever received a COVID-19 vaccine [N=598]</b>				
Yes	269	45.0	42.8	38.4, 47.3
No	325	54.3	56.6	52.1, 61.1
Does not remember	4	0.7	0.6	0, 1.1
<b>Number of doses of COVID-19 vaccine received [N=269]</b>				
One	203	68.6	74.3	69.6, 78.9
Two	60	20.3	23.3	19.0, 27.5
Three or more	1	0.3	0.4	0, 1.3
Does not remember	5	1.7	2.1	0.4, 3.7
<b>Timing of last dose of COVID-19 vaccine [N=269]</b>				
In the last month	9	3.3	2.5	0.9, 4.2
Within the last six months but not in the last month	50	18.6	18.8	13.8, 23.8
More than six months ago	202	75.1	76.8	71.7, 81.9
Does not remember	8	3.0	1.9	0.4, 3.3
<b>Main reason for not receiving a COVID-19 vaccine [N=325]</b>				
Afraid of Covid-19 side effects	121	37.2	35.0	29.0, 40.9
Time constraints: difficult to find or make an appointment/ too busy/no time off work	68	20.9	24.3	19.7, 29.1
Does not want to get vaccinated	60	18.5	19.0	14.7, 23.4
Does not know where to get vaccinated	20	6.2	6.7	3.3, 10.1
The hours of operation are inconvenient	12	3.7	3.2	1.2, 5.3
Not eligible to get vaccinated	7	2.2	1.9	0.2, 3.5

I was away	3	0.9	1.2	0.4, 2.1
Too far away/does not have transportation	3	0.9	0.9	0, 3.3
Vaccine is not safe	4	1.2	0.5	0, 1.1
Other	4	1.2	0.9	0, 2.3
Does not remember	4	1.2	1.0	0.3, 1.8
No response	19	5.8	5.1	1.0, 9.3

### 6.13 HIV prevalence and incidence, and prevalence of hepatitis B, hepatitis C, syphilis, and co-infection

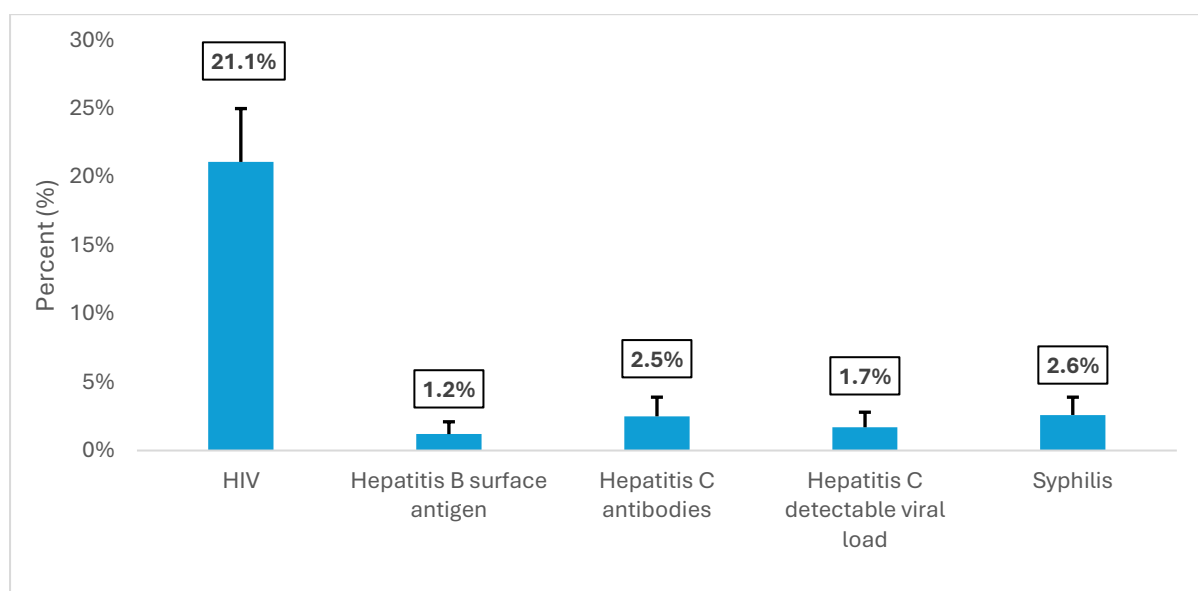
HIV prevalence among WCS/SEG was 21.1% (95%CI: 17.2, 25.0). Estimated HIV incidence was 3.2% (95%CI: 2.7, 3.8). Three-quarters (74.7%; 95%CI: 67.7, 81.4) of WCS/SEG living with HIV had a CD4 count greater than or equal to 500 cells/ $\mu$ L. Two-thirds (67.6%; 95% CI: 59.4, 75.4) of WCS/SEG living with HIV had an undetectable HIV viral load (< 50 copies/mL), while 11.6% (95% CI: 5.9, 17.4) had LLV, and 20.8% (95% CI: 14.1, 27.7) were virally unsuppressed ( $\geq$  1,000 copies/mL). There were two RITA recent cases of HIV infection (3.2%; 95% CI: 0, 10.5) (Figure 40; Table 84).

Prevalence of hepatitis B surface antigen among WCS/SEG was 1.2% (95% CI: 0.3, 2.1). All participants who had a reactive test for hepatitis B surface antigen were core antibody (IgM) negative, indicating chronic infection. Prevalence of co-infection with HIV was 0.4% (95% CI: 0, 0.8) (Figure 40; Table 84).

Hepatitis C antibodies were detected in 2.5% (95% CI: 1.1, 4.0) of WCS/SEG. Prevalence of active hepatitis C infection among WCS/SEG (measured by the presence of detectable HCV viral load) was 1.7% (95% CI: 0.6, 2.7). Prevalence of active hepatitis C co-infection with HIV was 0.9% (95%CI: 0.2, 1.5). Among WCS/SEG who screened positive for HCV antibodies, 65.4% (95% CI: 44.2, 86.4) had active hepatitis C infection, 68.1% (95%CI: 46.4, 90.0) had ever injected drugs, and 44.8% (95% CI: 18.4, 72.0) had a sexual partner who they suspected injected drugs (Figure 40; Table 84).

Syphilis treponemal antibody prevalence among WCS/SEG was 2.6% (95% CI: 1.3, 4.0) and the prevalence of HIV-syphilis co-infection was 1.1% (95%CI: 0.3, 1.8). Among WCS/SEG with HIV infection, 3.2% (95%CI: 0, 10.5) had recent infection (Figure 40; Table 84).





**Figure 40: Prevalence of HIV, hepatitis B surface antigen, hepatitis C antibodies, detectable hepatitis C viral load, and syphilis among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar, 2023**

**Table 84: Prevalence of HIV, hepatitis B, hepatitis C, and syphilis among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar, 2023**

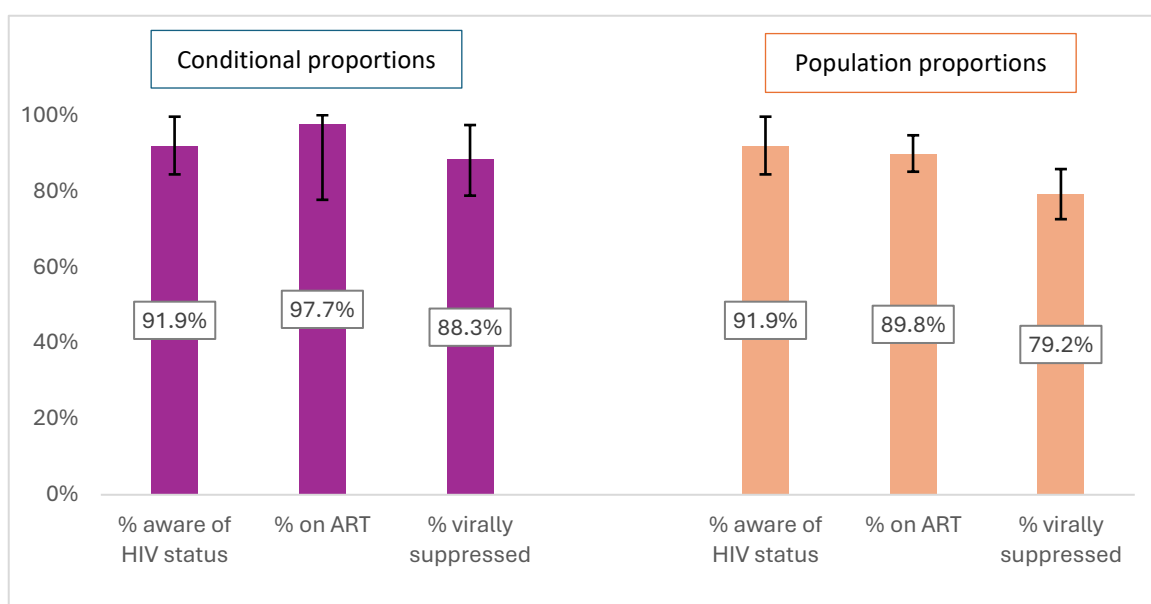
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence and related laboratory results</b>				
<b>HIV prevalence [N=598]</b>	138	23.1	21.1	17.2, 25.0
<b>HIV viral load [N=138]</b>				
< 50 copies/mL	97	70.3	67.6	59.4, 75.4
50–999 copies/mL	15	10.9	11.6	5.9, 17.4
≥ 1,000 copies/mL	26	18.8	20.8	14.1, 27.7
<b>CD4 count [N=138]</b>				
< 200 cells/μL	6	4.3	4.5	1.1, 7.9
200–349 cells/μL	9	6.5	8.0	3.7, 12.4
350–499 cells/μL	15	10.9	12.9	7.1, 18.7
≥ 500 cells/μL	108	78.3	74.7	67.7, 81.4
<b>Recent HIV infection</b>				
<b>RITA results [N=138]</b>				
RITA recent	2	1.4	3.2	0, 10.5
RITA long-term	135	97.8	96.3	89.1, 100
Inconclusive	1	0.7	0.4	0, 0.8
<b>Hepatitis B</b>				
HBV surface antigen prevalence [N=598]	9	1.5	1.2	0.3, 2.1

HBV core antibody prevalence [N=598]	4	0.7	0.6	0, 1.3
<b>Hepatitis C</b>				
Hepatitis C antibody prevalence [N=598]	15	2.5	2.5	1.1, 4.0
Hepatitis C detectable viral load [N=598]	10	1.8	1.7	0.6, 2.7
Hepatitis C detectable viral load among those who screened positive for hepatitis C antibodies [N=15]	10	66.7	65.4	44.2, 86.5
<b>Syphilis</b>				
Syphilis antibody prevalence [N=598]	16	2.7	2.6	1.3, 4.0
<b>Co-infection</b>				
HIV-hepatitis B co-infection [N=598]	4	0.7	0.4	0, 0.8
HIV-hepatitis C co-infection [N=598]	6	1.0	0.9	0.2, 1.5
HIV-syphilis co-infection [N=598]	7	1.2	1.1	0.3, 1.8
<b>Characteristics of WCS/SEG who screened positive for HCV antibodies [N=15]</b>				
Had a detectable hepatitis C viral load	10	66.7	65.4	40.4, 90.4
Ever injected drugs	10	66.7	68.1	46.4, 90.0
Had a sexual partner who they suspected injected drugs	6	40.0	44.8	18.4, 72.0

## 6.14 Progress towards the UNAIDS 95-95-95 targets

Awareness of HIV-positive status was defined as people living with HIV who disclosed a prior HIV diagnosis or had a suppressed HIV viral load (<1,000 copies/mL). In Unguja, 92.0% (95% CI: 84.5, 99.6) of WCS/SEG living with HIV were aware of their HIV status. Being on ART was defined as those who disclosed current use of ART or had a suppressed viral load. Among WCS/SEG living with HIV who knew their HIV status, 97.7% (95% CI: 77.7, 100) were on ART. Viral suppression was defined as an HIV viral load <1,000 copies/mL. Of WCS/SEG living with HIV who knew their HIV status and were on ART, 88.3% (95% CI: 78.8, 97.4) were virally suppressed (**Figure 41**; Table 85).

presents both conditional proportions (calculated using the value of each data point as the denominator for the subsequent data point) and population proportions (calculated using the number of people living with HIV as the denominator for all data points) for progress towards the 95-95-95 targets. At a population level, among WCS/SEG living with HIV, 89.8% (95% CI: 85.1, 94.7) were on ART and 79.2% (95% CI: 72.6, 85.8) were virally suppressed (Figure 41; Table 85).



**Figure 41: Progress towards UNAIDS 95-95-95 targets among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

**Table 85: Progress towards UNAIDS 95-95-95 targets among women engaged in commercial sex and sexually exploited girls, Unguja, Zanzibar, 2023**

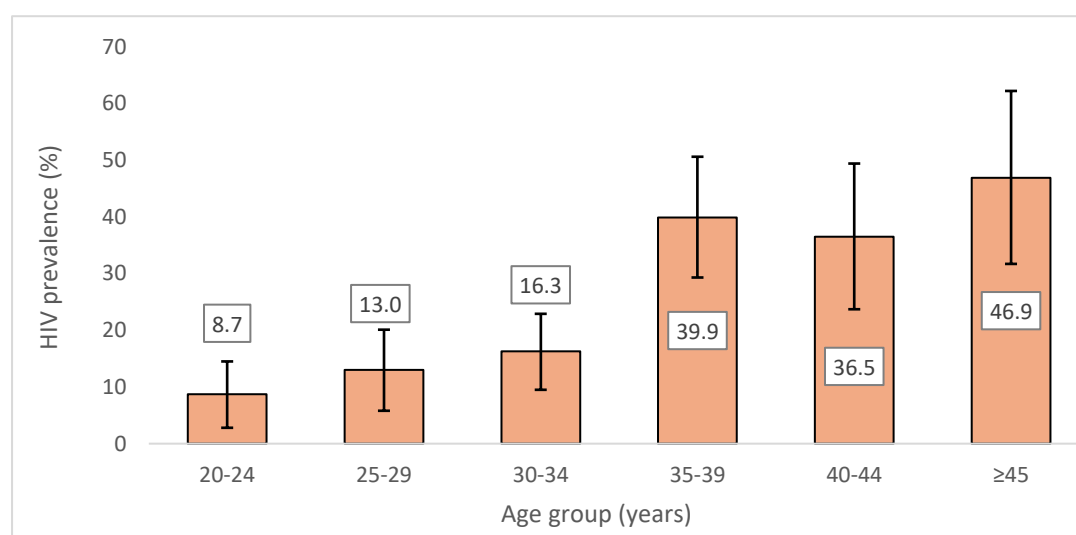
	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Conditional proportions</b>				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=138]</b>				
Known HIV-positive	125	90.6	91.9	84.4, 99.6
Newly identified HIV-positive	13	9.4	8.1	0.4, 15.6
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=125]</b>				
Yes	122	97.6	97.7	77.7, 100
No	3	2.4	2.3	0.2, 2.3
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;1,000 copies/mL [N=122]</b>				
Suppressed	112	91.8	88.3	78.8, 97.4
Not suppressed	10	8.2	11.7	2.6, 21.2
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=43]</b>				
Suppressed	98	80.3	76.4	68.3, 84.0
Not suppressed	24	19.7	23.6	16.0, 31.7
<b>Population proportions</b>				
<b>1<sup>st</sup> 95: Known HIV-positive status [N=138]</b>				
Known HIV-positive	125	90.6	91.9	84.4, 99.6
Newly identified HIV-positive	13	9.4	8.1	0.4, 15.6
<b>2<sup>nd</sup> 95: Current on anti-retroviral therapy [N=138]</b>				
Yes	122	88.4	89.8	85.1, 94.7

No	16	11.6	10.2	5.3, 14.9
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;1,000 copies/mL [N=138]</b>				
Suppressed	112	81.2	79.2	72.6, 85.8
Not suppressed	26	18.8	20.8	14.2, 37.6
<b>3<sup>rd</sup> 95: HIV viral load suppression at &lt;50 copies/mL [N=138]</b>				
Suppressed	98	71.0	68.7	60.0, 76.9
Not suppressed	40	30.0	31.3	23.1, 39.9

## 6.15 Bivariate analysis

### 6.15.1 HIV prevalence by socio-demographic characteristics and history of engaging in commercial sex

The prevalence of HIV among WCS/SEG significantly increased with age. There were no WCS/SEG aged 15–19 years living with HIV (Figure 42; Table 86).



**Figure 42: HIV prevalence among women engaged in commercial sex and sexually exploited girls by age, Unguja, Zanzibar, 2023**

WCS/SEG with no formal education also had a significantly higher HIV prevalence compared to other education levels. HIV prevalence was significantly higher among WCS/SEG who migrated to Unguja (28.0%; 95%CI: 22.7, 33.4) compared to those who had lived in Unguja their whole life (11.4%; 95% CI: 7.1, 15.7) (Table 86).

HIV prevalence was significantly higher among WCS/SEG who started engaging in commercial sex at 25 years of age and older than younger age groups as well as those who had been engaging in commercial sex for 10 or more years compared to those who had been engaging in commercial sex for less time (Table 86).

**Table 86: HIV prevalence by sociodemographic characteristics and history of engaging in commercial sex among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar, 2023**

[N=138]	Crude n	Crude HIV Prevalence (%)	Weighted percent (%)	Weighted 95% CI
<b>HIV prevalence by age group</b>				
15–19	0	0	0	0
20–24	8	9.9	8.7	2.8, 14.5
25–29	20	14.2	13.0	5.8, 20.1
30–34	23	16.9	16.3	9.5, 22.9
35–39	40	42.1	39.9	29.3, 50.6
40–44	27	34.6	36.5	23.7, 49.4
≥45	20	46.5	46.9	31.7, 62.2
<b>Level of education</b>				
No school	11	52.4	55.0	33.2, 77.7
Some or completed primary	78	24.3	23.2	17.7, 28.7
Some or completed secondary	49	19.6	15.6	11.4, 19.9
More than secondary	0	0	0	0
<b>Migration</b>				
Migrated to Unguja	104	29.5	28.0	22.7, 33.4
Lived whole life in Unguja	34	13.9	11.4	7.1, 15.7
<b>Age first time engaged in commercial sex</b>				
< 19	19	14.8	13.1	6.7, 19.4
20–24	26	11.9	8.8	4.9, 12.7
25+	93	36.8	35.8	28.9, 42.8
<b>Number of years of engaging in commercial sex</b>				
3 years or less	31	18.7	16.9	10.2, 23.8
4–6 years	21	16.4	15.1	8.5, 21.5
7–9 years	15	16.1	15.1	8.0, 22.1
10 years or more	71	33.7	32.4	25.6, 39.2

### 6.15.2 HIV prevalence by vulnerability factors

WCS/SEG who had been arrested in the past 12 months had a significantly higher HIV prevalence (28.6%; 95%CI: 22.5, 34.8) than those who had not been arrested (15.0%; 95%CI: 10.7, 19.3). No other statistically significant differences in HIV prevalence were observed when comparing WCS/SEG who had experienced different types of violence, stigma, or discrimination (Table 87).

**Table 87: HIV prevalence by vulnerability factors among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar, 2023**

	Crude n	Crude HIV prevalence (%)	Weighted percentage (%)	Weighted 95 % CI
<b>Arrested in past 12 months</b>				
Yes	85	29.5	28.6	22.5, 34.8
No	53	17.2	15.0	10.7, 19.3

<b>Experienced physical violence in past 12 months</b>				
Yes	44	22.9	19.9	13.6, 26.1
No	94	23.4	21.6	17.1, 26.1
<b>Forced to have sex in past 12 months</b>				
Yes	40	28.8	27.8	19.2, 36.6
No	98	21.4	19.1	14.7, 23.5
<b>Has experienced name calling, teasing or insults</b>				
Yes	84	20.4	18.5	14.2, 22.7
No	53	29.1	27.4	20.2, 34.5
Does not remember	1	33.3	19.8	0, 59.0
<b>Has been excluded from a social gathering</b>				
Yes	35	23.5	21.1	14.4, 27.9
No	103	23	21.2	16.7, 25.6
<b>Has been abandoned by loved ones</b>				
Yes	76	22.4	21.6	16.4, 26.7
No	62	24.2	20.5	15.2, 25.7
<b>Others have lost respect for him/her</b>				
Yes	63	21.4	20.2	15.3, 25.3
No	74	24.9	22.1	17.2, 27.0
Does not remember	1	33.3	20.3	0, 60.7

### 6.15.3 HIV prevalence by risk behaviors

No statistically significant differences in HIV prevalence were observed among WCS/SEG when analyzing risk behaviors and experiences of STI symptoms.

**Table 88: HIV prevalence among women engaged in commercial sex and sexually exploited girls in Unguja by risk behaviors, Unguja, Zanzibar, 2023**

[N138]	Crude n	Unweighted percent (%)	Weighted percent (%)	Weighted 95% CI
<b>Consumed alcohol while working<sup>8</sup></b>				
Yes	85	21.1	20.2	15.8, 24.7
No	31	31.1	27.4	17.4, 37.5
<b>Used non injected drugs in past 3 months</b>				
Yes	14	15.4	14.0	6.2, 21.7
No	124	24.5	22.4	18.0, 26.8
<b>Ever injected drugs</b>				
Yes	12	41.4	38.6	21.2, 56.6
No	125	22.2	20.2	16.2, 24.2
No response	1	100	NC	NC

<sup>8</sup> Two WCS/SEG didn't report the consumption of alcohol

Number of clients on last day worked				
One	49	26.9	22.7	15.9, 29.5
Two	31	19.9	19.1	11.9, 26.1
Three	38	24.7	25.6	18.4, 32.7
Four	20	18.9	14.2	7.6, 21.0
Experienced symptoms of a sexually transmitted infection in the past 6 months				
Yes	68	26.5	23.6	18.2, 29.2
No	70	20.5	18.9	14.2, 23.5

## 6.16 Comparison of key findings from 2007, 2012, 2019 and 2023 surveys

The median age was similar across the three most recent samples; however, in the 2023 survey there was a significant increase in the proportion of WCS/SEG aged 15–19 years ( $p=0.002$ ). There has been a steady increase in the proportion of WCS/SEG who migrated to Unguja over the past three surveys. The increase from 51.3% in 2019 to 58.1% in 2023 was statistically significant ( $p=0.019$ ) ().

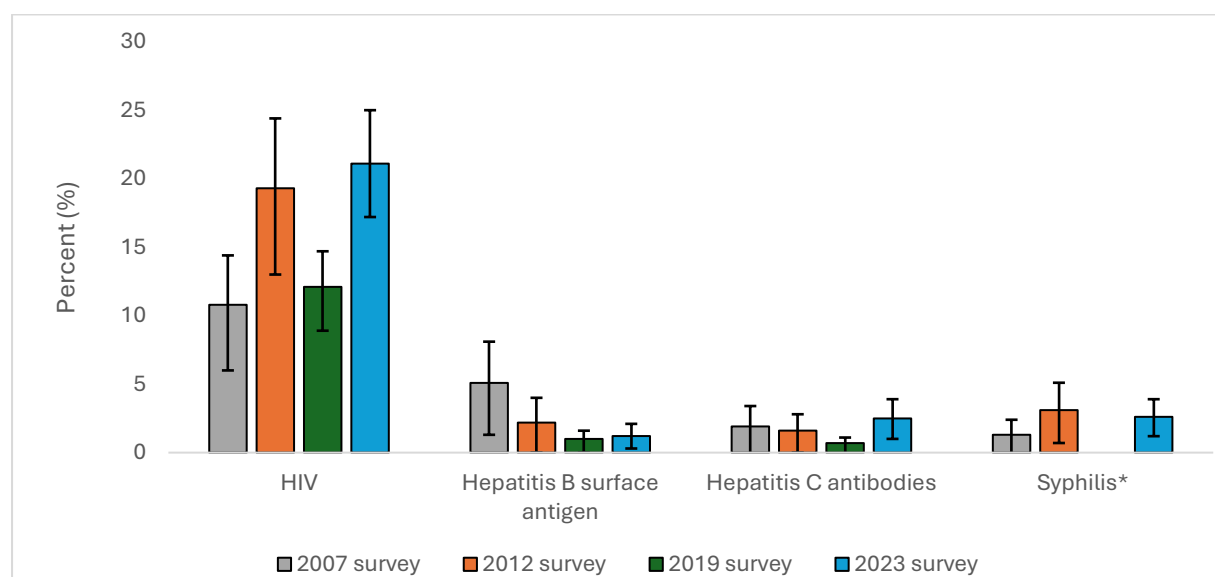
There was no change in the median duration of engaging in commercial sex (7 years) between the 2019 and 2023 rounds. No significant change was found in non-injection drug use from 2019 to 2023; however, injection drug use increased from 1.8% to 4.2% ( $p=0.016$ ). There was a decrease in the levels of violence experienced by WCS/SEG, with experiences of physical violence and forced sex both decreasing significantly from 2019 to 2023. Conversely, the proportion of WCS/SEG who had been arrested in the past 12 months increased from 31.5% in 2019 to 44.8% in 2023 ( $0<0.001$ ) (Table 89).

HIV knowledge significantly decreased from 2019 to 2023, with comprehensive HIV knowledge dropping from 52.5% to 35.7% ( $p<0.001$ ). There were also significant changes in stigma related to HIV, with the proportion of WCS/SEG who agreed with the statement that people with HIV should be ashamed of themselves increasing from 31.1% in 2019 to 36.6% in 2023 ( $p=0.046$ ) (Table 89).

The majority of WCS/SEG (95.5%) reported ever having tested for HIV in 2023, a significant increase from 91.0% in 2019 ( $p=0.002$ ). In addition, more WCS/SEG 2023 reported testing for HIV in the 12 months prior to the survey in 2023 (73.9%) than in 2019 (63.0%) ( $p<0.001$ ). And while there was a significant decrease in the proportion of WCS/SEG who reported visiting a drop-in center or clinic for WCS/SEG services in the past year (39.4% in 2019 versus 18.2% in 2023;  $p<0.001$ ), there was a significant increase in the proportion of WCS/SEG who had contact with a peer education in the same timeframe (37.0% in 2019 versus 45.5% in 2023;  $p=0.003$ ) (Table 89).

Several biological measures showed significant increases from 2019 to 2023. The proportion of WCS who experienced STI symptoms in the past month increased from 19.5% in 2019 to 45.8% in 2023 ( $p<0.001$ ). HIV prevalence increased from 12.1% in 2019 to 21.1% in 2023 ( $p<0.001$ ). In addition, HIV prevalence increased among 20–24-year-olds ( $p<0.001$ ), those who reported engaging in commercial sex for 3 years or less ( $p<0.001$ ), and those who were native to Unguja ( $p<0.001$ ). The prevalence of hepatitis C antibodies increased from 0.7% in 2019 to 2.5% in 2023 ( $p=0.014$ ) (Table 89).

Finally, there was significant improvement in the first of the UNAIDS 95-95-95 targets. The proportion of WCS/SEG living with HIV who were aware of their status increased from 72.5% in 2019 to 91.9% in 2023 ( $p < 0.001$ ). No significant changes were found in the other two targets (Table 89).



**Figure 43: Trend in HIV, hepatitis B surface antigen, hepatitis C antibodies, and syphilis prevalence among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

*\*Syphilis from the 2019 survey was not included because it measured active infection while other surveys rounds measured lifetime infection.*

**Table 89: Key findings among women engaged in commercial sex and sexually exploited girls in Unguja, Zanzibar from 2007, 2012, 2019, and 2023 surveys among people at risk for HIV**

	2007	2012	2019	2023	p-value 2019 vs 2023
<b>SOCIO-DEMOGRAPHIC CHARACTERISTICS</b>					
<b>Age</b>					
15–19	16.5%	6.6%	2.0%	5.4%	<b>0.002</b>
20–24	27.4%	15.9%	16.0%	15.2%	0.705
25–29	24.4%	29.3%	28.5%	24.1%	0.086
30–34	15.6%	25.3%	19.9%	22.9%	0.209
35+	16.1%	22.9%	33.6%	32.4%	0.661
Median age of sample	26 years	30.5 years	31 years	31.5 years	
<b>Migration</b>					
Migrated to Unguja		45.8%	51.3%	58.1%	<b>0.019</b>
Lived whole life in Unguja		54.2%	48.7%	41.9%	<b>0.019</b>
<b>Level of income</b>					
< 50,000 TZS	25.6%	20.6%	2.3%	3.3%	0.298



	2007	2012	2019	2023	p-value 2019 vs 2023
50,000–120,000 TZS	31.5%	31.5%	26.0%	14.3%	<0.001
120,001–200,000 TZS	28.5%	20.7%	26.1%	18.6%	0.002
≥ 200,001 TZS	14.4%	27.2%	45.6%	63.8%	<0.001
<b>RISK BEHAVIORS</b>					
Used non-injection drugs other than alcohol in the past 3 months	9.6%	19.8%	12.9%	15.8%	0.156
Ever injected drugs	2.8%	4.1%	1.8%	4.2%	0.016
<b>Duration of engaging in commercial sex</b>					
≤ 3 years	42.1%	39.4%	35.7%	31.8%	0.156
4–6 years	25.3%	22.7%	20.0%	23.3%	0.169
7–9 years	15.7%	11.2%	13.1%	13.8%	0.724
≥ 10 years	16.9%	26.7%	31.2%	31.1%	0.970
Median duration of engaging in commercial sex (years)	5 years	5 years	7 years	7 years	
<b>Always used condom in past month with:</b>					
Steady partner	26.2%	24.0%	24.3%	20.4%	0.258
Casual, non-paying partners	28.1%	68.2%	23.8%	33.6%	0.071
One-time clients	47.1%	79.0%	59.9%	61.4%	0.619
Regular clients	44.1%	71.8%	57.2%	56.1%	0.714
Tourist/foreign clients	46.9%	86.0%	73.3%	62.6%	0.032
Used condom with last client on last day worked	55.7%	78.9%	72.7%	72.5%	0.938
<b>VULNERABILITY FACTORS</b>					
Experienced physical violence in past 12 months	37.2%	43.7%	41.9%	30.7%	<0.001
Experienced sexual violence in past 12 months			32.3%	22.9%	<0.001
Arrested in past 12 months	23.3%	27.3%	31.5%	44.8%	<0.001
<b>Perceived risk of HIV</b>					
High risk	83.8%	56.5%	50.9%	53.3%	0.447
Medium risk	9.2%	8.8%	13.6%	19.5%	0.011
Low risk	1.6%	7.5%	10.9%	9.0%	0.316
No risk	5.4%	27.1%	23.6%	13.8%	<0.001
<b>HIV knowledge and stigma</b>					
Agrees having one uninfected, faithful partner reduces risk of HIV transmission			86.4%	72.4%	<0.001
Agrees using a condom every time you have sex reduced risk of HIV transmission			82.2%	71.5%	<0.001
Agrees a healthy-looking person can have HIV			89.2%	74.5%	<0.001

	2007	2012	2019	2023	p-value 2019 vs 2023
Disagrees that mosquito bite can transmit HIV infection			79.9%	89.1%	<0.001
Disagrees that you can get HIV by sharing food with someone who is living with HIV			96.2%	91.7%	0.001
Has comprehensive HIV knowledge			52.5%	35.7%	<0.001
Believes people with HIV should be ashamed of themselves	36.5%	63.4%	31.1%	36.6%	0.046
I would feel ashamed if I were infected with HIV	35.0%	63.4%	38.2%	33.0%	0.062
It is women engaged in commercial sex/sexually exploited girls who spread HIV in the community	36.9%	47.7%	45.2%	20.7%	<0.001
<b>ACCESS TO AND UPTAKE OF SERVICES</b>					
Ever tested for HIV	32.9%	77.2%	91.0%	95.5%	0.002
Tested for HIV and received results in the past 12 months	18.1%	50.8%	63.0%	73.9%	<0.001
Knows where to obtain an HIV test	52.9%	84.3%	91.7%	91.8%	0.950
Visited drop-in center/clinic for women engaged in commercial sex/sexually exploited girls services in past year		13.8%	39.4%	18.2%	<0.001
Contact with peer educator in past year		27.6%	37.0%	45.5%	0.003
<b>DISEASE PREVALENCE</b>					
Experienced symptoms of a sexually transmitted infection in past 6 months	15.3%	24.8%	19.5%	45.8%	<0.001
HIV	10.8%	19.3%	12.1%	21.1%	<0.001
HIV prevalence among 20–24 year-olds	4.0%	25.7%	3.8%	8.7%	<0.001
HIV prevalence among those who reported engaging in commercial sex for ≤3 years	3.6%	18.5%	7.1%	16.9%	<0.001
HIV prevalence among those native to Unguja	--	20.4%	6.2%	11.4%	0.001
Hepatitis C antibody	1.9%	1.6%	0.7%	2.5%	0.014
Hepatitis B surface antigen	5.1%	2.2%	1.0%	1.2%	0.742
Syphilis	Lifetime infection	1.3%	3.1%	2.6%	
	Active infection		0.1%		
<b>PROGRESS TOWARDS THE UNAIDS 95-95-95 TARGETS</b>					
% of women engaged in commercial sex/sexually exploited girls aware of HIV status			72.5%	91.9%	<0.001
% of women engaged in commercial sex/sexually exploited girls on anti-retroviral therapy (among those aware of HIV status)			94.3%	97.7%	0.221

	2007	2012	2019	2023	p-value 2019 vs 2023
% of women engaged in commercial sex/sexually exploited girls virally suppressed (among those on anti-retroviral therapy)			87.0%	88.3%	0.798

## 6.17 Conclusions and key considerations

### 6.17.1 Socio-demographic characteristics

More than half of WCS/SEG were aged 30 years and above. For the majority of WCS/SEG in Unguja, commercial sex was their main source of income, and they had **entered into commercial sex due to financial hardship**.

- **Key consideration:** Supporting **economic empowerment initiatives** may provide alternative means of securing income for girls and women and give them an avenue other than commercial sex to support themselves and their families.

### 6.17.2 Risk behaviors and vulnerability factors

WCS/SEG had several different types of sexual partners, some non-paying and some paying, with paying partners being the most common. **Condom use was less common** with non-paying partners than with paying partners, and reasons for not using condoms with paying partners centered around financial incentives and trust.

- **Key consideration: Increasing HIV awareness and HIV prevention education** with the larger community may help to increase the proportion of clients who are willing to use a condom when paying for sex.
- **Key consideration: Economic empowerment initiatives** may play a role in providing WCS/SEG with the means to accept lower prices or deny sex with a client if the client does not agree to use a condom.

Nearly **half of WCS/SEG experienced at least one STI symptom in the past 6 months**, a significant increase from 2019. However, **some did not seek treatment** and among those who did, one-third waited more than a month from the onset of symptoms. Because STIs can increase the risk of HIV transmission, this highlights an added risk among WCS/SEG for HIV acquisition.

- **Key consideration: Integrating information about STI symptoms, risks, prevention, and treatment into other HIV and health education interventions** could increase knowledge about STIs among WCS/SEG and increase the proportion of WCS/SEG who seek early treatment for symptoms.

Nearly one in three WCS/SEG experienced **physical violence**, and one in five were **forced to have sex** in the last 12 months. **Reporting these incidents to the authorities was not common**. While WCS/SEG continue to experience stigma and discrimination from their families and community, discrimination when seeking health care services is uncommon.

- **Key consideration: Providing sensitization to the community and to law enforcement on** the rights and appropriate treatment of members of populations at risk for HIV could reduce violence, stigma, and discrimination towards these populations.
- **Key consideration: Ensuring that safe and confidential channels for reporting violence** are available, easily accessible, and known to WCS/SEG could increase reporting of these incidents and linkage of victims to appropriate services.
- **Key consideration: Strengthening services for SEG in particular** could further benefit this exploited group when they are identified by police.

### **6.17.3 Access to and uptake of HIV and other health services and progress towards the UNAIDS 95-95-95 targets**

**Uptake of HIV testing among WCS/SEG was relatively high**, with almost half testing for HIV in the last 3 months and nearly two-thirds testing in the last 6 months, which is in alignment with national HIV testing guidelines for PRH (every 6 months). **Fewer than half of WCS/SEG had ever heard of an HIV self-test**; however, seven in ten would use one if recommended to them.

- **Key consideration: Focusing efforts to support WCS/SEG in utilizing HIV testing services routinely** could help to close the remaining gap in the first 95 and bring program performance in line with national guidelines.
- **Key consideration: Increasing distribution and availability of HIV self-test kits** may increase utilization of HIV testing services.

**PrEP awareness was low** among WCS/SEG and among those who had ever heard of PrEP, use of PrEP was also low. **Fewer than half of WCS/SEG were reached by a peer educator in the last 12 months**, although this represented a larger proportion of WCS/SEG than in the previous survey. A minority accessed HIV services from WCS/SEG-friendly clinics.

- **Key consideration: Increasing awareness of PrEP** among WCS/SEG through WCS/SEG friendly channels including peer educators could increase PrEP uptake and ultimately contribute to the reduction of HIV acquisition.
- **Key consideration: Increasing the reach and coverage of peer educators** and strengthening HIV prevention interventions at venues where WCS/SEG meet clients (e.g., bars and night clubs) could increase access to prevention services.

While the second 95-95-95 target has been achieved, there were **still gaps in the first and third 95 targets**. The largest gap was in the third 95, reaching viral suppression, with eight in ten WCS/SEG living with HIV virally suppressed. Considering the high achievement in the second 95, gaps in viral suppression may be due to poor ART adherence.

- **Key consideration: Interventions that address gaps in the 1st 95** such as expanded HIV testing, including self-testing, could help to close these gaps.

- **Key consideration: Interventions that address gaps in the 3<sup>rd</sup> 95** such as improving adherence counseling, strengthening U=U messaging, and ensuring frequent interactions between WCS/SEG who are on ART and health care workers to give ART reminders **may improve adherence to treatment** and subsequently, viral suppression levels.

#### **6.17.4 Prevalence of HIV, hepatitis B, hepatitis C, and syphilis among women engaged in commercial sex and sexually exploited girls**

**One in five WCS/SEG in Unguja living with HIV** and the estimated incidence of WCS/SEG suggests HIV infections are increasing. HIV prevalence was higher among WCS/SEG in older age groups (aged 35 years and older) compared to younger age groups. However, compared to the previous survey, there was an increase in HIV prevalence among 20-24 year olds and among those who had spent less time engaged in commercial sex.

- **Key consideration: Targeting prevention services**, including HIV education, HTS, and PrEP, **to younger WCS/SEG as well as those who are newly engaging in commercial sex** could help to prevent new HIV infections in this population.

The prevalence of hepatitis B, hepatitis C and syphilis were relatively low among WCS/SEG in Unguja. However, **hepatitis C increased significantly** since the 2019 survey, in line with an increase in injection drug use.

- **Key consideration: Ensuring that services provided to WCS/SEG include counseling about the harms of illicit and injection drug use** and information on treatment and recovery services, could benefit those who are injecting drugs and prevent others from starting.

## 7 APPENDICES

### **Appendix A: Informed consent for formative assessment (people who inject drugs, men who have sex with men, and women engaged in commercial sex) Unguja**

#### **Survey title**

Survey among people who inject drugs (PWID), men who have sex with men (MSM), and women engaged in commercial sex (WCS), Zanzibar, Tanzania, 2022/2023

#### **Introduction**

You are being asked to take part in an interview as a part of a research survey. Before you decide to join, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

We wish to find out about the characteristics, behavior, and attitudes of people who inject drugs (PWID), men who have sex with men (MSM), and women engaged in commercial sex (WCS). We also want to understand more about HIV-related services that are available to these groups and how much they use those services. This is part of a larger survey where we are measuring the amount of HIV in these populations. We are asking you to help provide information that will help us learn more about these populations and help us conduct the larger survey. The survey will help us develop programs to improve health in PWID, MSM, and WCS in Unguja. This survey will be carried out by the Zanzibar Integrated HIV, TB, and Leprosy Program, the Centers for Disease Control and Prevention, and the University of California, San Francisco in the United States of America.

All information you provide for this survey is confidential. Names are not recorded anywhere, and nothing can be attributed to you personally.

#### **Do I have to take part?**

It is up to you to decide whether or not to take part. If you do not decide to take part in the survey, there will be no penalty to you. If you do decide to take part in the survey, you will be given this information sheet to keep and be asked to give verbal consent. If you decide to take part in this survey, you are still free to withdraw at any time and without giving a reason. There will be no penalty to you for withdrawing.

#### **What will happen to me if I take part?**

If you agree to participate in this survey, you will be asked to take part in an individual interview which takes between 45 and 60 minutes. Your responses to the questions we ask today will help us plan for the larger survey planned for later this year. You will be able to skip any questions that you do not want to answer.

We will take notes on what you say during the discussion. The notes will be used to help us keep an accurate record of what is said during the interviews and focus group discussions for when we write the report. We will not record any names. We will not collect any blood and you will not be asked to take any kind of test.

#### **What are the risks to me for taking part in the interview?**

There are no physical risks associated with this survey. There may be minimal psychological discomfort. For example, some questions might make you feel uncomfortable because they ask about sensitive issues. You may refuse or decline to answer any questions that you do not want to answer. You can leave the interview at any time.

**What are the benefits to me for taking part in the interview?**

You may not benefit directly from being in the survey. However, your thoughts and experiences will help us better understand what is needed to improve HIV services for to better meet the needs of key and vulnerable populations in your community. Improved services could help vulnerable members of your community protect themselves and their partners from HIV and other sexually transmitted infections.

**Confidentiality**

We will not use your name or any other identifiers. We will assign a code number to your interview on our notes. This code will not be linked to your name. We will destroy the notes after the survey is done.

**Costs and Compensation**

There is no cost to you for being in the survey. We will compensate you for transportation costs.

**Contact for further information**

If you have questions about this survey, about the conduct of anyone involved with the survey, or about any injury you receive because of taking part in the survey, you may contact the following:

**Dr. Mohamed Dahoma**

**Program Manager, Zanzibar Integrated HIV, TB, and Leprosy Program**

**Mobile number: +255 777 461 870**

**Mr. Ahmed Suleiman Said**

**Head of Strategic Information, Zanzibar Integrated HIV, TB, and Leprosy Program**

**Mobile number +255 777 199090/0689539520**

If you have any questions or concerns about how you are being treated as a survey participant or if you wish to lodge complaints, you may contact the Zanzibar Medical Ethical Committee at +255-54-31089/90.

Do you have any question?

**Consent**

You have read and/or had the explanation of this survey read to you, you have been given a copy of this form, a chance to ask questions, and you know that you can refuse to participate. Do you agree to take part in the interview? (Staff to circle one answer only)

YES

NO

**Statement of Consent**

I understand the purpose of the survey, including all procedures, risks, and benefits to my participation. Any questions I might have had regarding participation have been answered to my satisfaction.

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of survey staff

\_\_\_\_\_  
Date

## **Appendix B: Informed consent for formative assessment (stakeholders), Unguja**

### **Survey title**

Survey among people who inject drugs (PWID), men who have sex with men (MSM), and women engaged in commercial sex (WCS), Zanzibar, Tanzania, 2022/2023

### **Introduction**

You are being asked to take part in an interview as a part of a research survey. Before you decide to join, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether you wish to take part.

We wish to find out about the characteristics, behavior, and attitudes of people who inject drugs (PWID), men who have sex with men (MSM), and women engaged in commercial sex (WCS). We also want to understand more about HIV-related services that are available to these groups and how much they use those services. This is part of a larger survey where we are measuring the amount of HIV in these populations. We are asking you to help provide information that will help us learn more about these populations and help us conduct the larger survey. The survey will help us develop programs to improve health in PWID, MSM, and WCS in Unguja. This survey will be carried out by the Zanzibar Integrated HIV, TB, and Leprosy Program, the Centers for Disease Control and Prevention, and the University of California, San Francisco in the United States of America.

All information you provide for this survey is confidential. Names are not recorded anywhere, and nothing can be attributed to you personally.

### **Do I have to take part?**

It is up to you to decide whether or not to take part. If you do not decide to take part in the survey, there will be no penalty to you. If you do decide to take part in the survey, you will be given this information sheet to keep and be asked to give verbal consent. If you decide to take part in this survey, you are still free to withdraw at any time and without giving a reason. There will be no penalty to you for withdrawing.

### **What will happen to me if I take part?**

If you agree to participate in this survey, you will be asked to take part in an individual interview which takes between 45 and 60 minutes. Your responses to the questions we ask today will help us plan for the larger survey planned for later this year. You will be able to skip any questions that you do not want to answer.

We will take notes on what you say during the discussion. The notes will be used to help us keep an accurate record of what is said during the interviews and focus group discussions for when we write the report. We will not record any names. We will not collect any blood and you will not be asked to take any kind of test.

### **What are the risks to me for taking part in the interview?**

There are no physical risks associated with this survey. There may be minimal psychological discomfort. For example, some questions might make you feel uncomfortable because they ask about sensitive issues. You may refuse or decline to answer any questions that you do not want to answer. You can leave the interview at any time.



**What are the benefits to me for taking part in the interview?**

You may not benefit directly from being in the survey. However, your thoughts and experiences will help us better understand what is needed to improve HIV services for to better meet the needs of key and vulnerable populations in your community. Improved services could help vulnerable members of your community protect themselves and their partners from HIV and other sexually transmitted infections.

**Confidentiality**

We will not use your name or any other identifiers. We will assign a code number to your interview on our notes. This code will not be linked to your name. We will destroy the notes after the survey is done.

**Costs and Compensation**

There is no cost to you for being in the survey. We will compensate you for transportation costs.

**Contact for further information**

If you have questions about this survey, about the conduct of anyone involved with the survey, or about any injury you receive because of taking part in the survey, you may contact the following:

Dr. Mohamed Dahoma  
Program Manager, Zanzibar Integrated HIV, TB, and Leprosy Program  
Mobile number: +255 777 461 870

Mr. Ahmed Suleiman Said  
Head of Strategic Information, Zanzibar Integrated HIV, TB, and Leprosy Program  
Mobile number +255 777 199090/0689539520

If you have any questions or concerns about how you are being treated as a survey participant or if you wish to lodge complaints, you may contact the Zanzibar Medical Ethical Committee at +255-54-31089/90. Do you have any questions?

**Consent**

You have read and/or had the explanation of this survey read to you, you have been given a copy of this form, a chance to ask questions, and you know that you can refuse to participate. Do you agree to take part in the interview? (Staff to circle one answer only)

YES

NO

**Statement of Consent**

I understand the purpose of the survey, including all procedures, risks, and benefits to my participation. Any questions I might have had regarding participation have been answered to my satisfaction.

\_\_\_\_\_  
Signature of participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of survey staff

\_\_\_\_\_  
Date

## **Appendix C: Unguja formative assessment key informant interview guide (non-government staff)**

Date:

Interviewer name:

Interviewee details

Name:

Title:

Organization:

Phone number:

Email address:

### **A. <INSERT POPULATION at risk for HIV GROUP> CHARACTERISTICS**

- A1.** Can you describe your experience and interactions with <INSERT PRH GROUP> in your work?
- Probe: How long have you been working with this <INSERT PRH GROUP>?
  - Probe: How often do you interact with <INSERT PRH GROUP>? In what situations do you meet them? Where do you see them or meet with them?
- A2.** Where are they from geographically? From Unguja, Pemba, other parts of Tanzania, or abroad? About what percentage roughly of <INSERT PRH GROUP> are from Unguja? Do they move a lot in and out of Unguja?

### **B. SERVICE PROVISION**

- B1.** How many organizations provide services for <INSERT PRH GROUP> in Unguja? Can you give us their contact details, physical address, and describe what kind of services they provide?
- B2.** What services is your organization providing to <INSERT PRH GROUP>?
- B3.** When and where do you provide these services?
- B4.** Do the authorities, especially the police and other law enforcement (e.g., neighborhood watch (polisi jamii), community guards, government organizations/institutions), make your work difficult? Which authorities are supportive of your work with PRH?
- B5.** How much turn-over is there among your clientele? Are they usually the same people or do they change a lot? If they change a lot, how frequently do they change?
- B6.** How would you characterize the <INSERT PRH GROUP> served by this organization?
- Probe: Age group, location/residence, receptiveness to services, SES, PRH sub-group (e.g., WCS: high/middle/low, MSM: insertive/receptive/versatile)
- B7.** How would you characterize <INSERT PRH GROUP> who have refused participation or engagement in your agency's services? What are some of the main reasons for them not participating?
- Probe: Age group, location/residence, receptiveness to services, socioeconomic status, social class (e.g., WCS: high/middle/low, MSM: insertive/receptive/versatile)
- B8.** Which strategies did you use to overcome these challenges?

### C. SURVEY PLANNING

- C1.** We intend to reimburse clients (*insert amount*) for transport and participation at their first visit and (*insert amount*) for successful recruitment. Is our planned re-imbursement appropriate?
- C2.** Sometime when we do these surveys, people pretend to be a part of this group so they can get the compensation. Do you think our planned benefits are such that we'd have to deal with impersonators? If so, how would we best deal with this issue?
- C3.** Can you advise us how we can confirm true <INSERT PRH GROUP> or identify impersonators?
  - Probe: What are identifying characteristics/behaviors? (e.g., track marks for PWID)
- C4.** We need a few <INSERT PRH GROUP> who know a lot of others <INSERT PRH GROUP> and are well-liked by others. Would you (or your outreach workers/staff) be able to help us identify a few of these people to be our initial participants (seeds)?
- C5.** Have there been any recent changes or trends in the environment (including political, social, etc.) over the past year that might impact <INSERT PRH GROUP> willingness to participate in this survey?

## **Appendix D: Unguja formative assessment key informant interview guide (people who inject drugs, men who have sex with men and women engaged in commercial sex)**

Date:

Interviewer name(s):

Venue:

Start time:

End time:

How was this participant referred to be interviewed?

### **A. Survey Logistics**

**A1.** We want to compensate people's time and transport, but we don't want to offer compensation that is too much. By "too much" we mean an amount that makes it hard for people to say 'no' even if they really do not want to participate. We don't want people to pretend they are part of the group so that they can join the survey for cash.

The first survey visit takes about 2-3 hours. We would like to give *(insert amount here)* for transport cost, time spent on the questionnaire, and time spent on the blood testing. Is this about the right amount?

Probe: If no, what amount would more appropriate? Is it more or less?

**A2.** At the end of visit 1, we will give people 3 recruitment coupons to recruit their friends. We will explain that they should recruit people like them (i.e., other [PRH group]), how can we encourage survey participants recruit people who are really [PRH group]? How can we be sure that the people who show up to the survey site are really [PRH group]?

**A3.** Survey participants will be paid for each person they successfully recruit to the survey. For the second visit, they will be at the survey office to get reimbursed for the people they recruit. If we pay *(insert amount here)* for each of the coupons, will this about the right amount?

Probe: If no, what amount would more appropriate? Is it more or less? And why?

**A4.** How likely do you think it will be for your friends to return to the survey office for the second visit to collect their secondary compensation? How can we encourage survey participants to return for the second visit?

**A5.** In general, what time of day and what days of the week are most convenient for you for interviews and clinic visits? Would office hours in the evenings, mornings, or weekends be more acceptable than during the work week?

### **Questions related to the feasibility of Respondent Driven Sampling procedures:**

*Let me describe a little how we want to find people to make interviews. We will give participants 3 coupons (show example of coupons) to give out to friends who are also <INSERT PRH GROUP>. For each friend who shows up with the coupon, the person who recruited them will get a small amount of money. Your friend will also be interviewed, get free HIV testing and STI screening and treatment, be told about HIV and how to prevent it, and get coupons to give out to his friends so they can also participate. Now we would like to know ...*

## **B. Recruitment**

- B1.** How many members of the PRH group that live in and around Unguja do you know personally (they know you, you know them by name) and have seen in the past week? In the past month? Please take your time to think about this. You don't need to tell me their names, jobs or popularity, but I just want to know about how many people you know.
- B2.** Is it easy for you to contact them? How often do you see them?
- B3.** What kinds of things do you typically do together? Where do you typically go to meet other members of the PRH group?
- B4.** Of those people you said you know, about how many of them are open about their behavior? Would you say most of them, some or very few?
- B5.** How can we make it easier for people who are not open about their behavior to participate in the survey?
- B6.** Do you have peer leaders or someone who is influential in the <INSERT PRH GROUP> community? This would be someone who knows a lot of other <INSERT PRH GROUP> and is well liked by peers. Would they be willing to talk to us? *[Ask them to ask the identified peer leaders to contact our staff. Perhaps a potential seed.]*
- B7.** Sometimes there are different groups of <INSERT PRH GROUP> that hang out and associate with one another. Can you describe the different <INSERT PRH GROUP> groups in Unguja? Do they go by different names?  
Probe: What names do they go by? Of the groups you can think of, are there groups you don't have any contact with?
- B8.** Have there been any recent changes or trends in the environment (including political, social etc.) over the past year that might impact <INSERT PRH GROUP> willingness to participate in this survey?

## **C. Characteristics of Peers and the <INSERT POPULATION at risk for HIV GROUP> community**

- C1.** Where are your peers mostly from? Are your peers from within Unguja only or also from nearby urban centers like Pemba, Tanga, Dar es Salaam, Mombasa, etc.? How many are from other countries, how many are from elsewhere in Tanzania? Do they move a lot in and out of Unguja? Do they travel within Unguja, if so where?
- C2.** Which areas of Unguja do you and your friends usually frequent? What hours/days?  
Probe: Which bars, restaurants or similar places do you and your friends go to? What hours?
- C3.** Are there any support organizations that are well known among you and your peers? What are their names? Are you part of any group or organization for <insert PRH group>?
- C4.** Are there HIV-related services available to you? Are you able to access them? What kinds of services?
- C5.** What are some high-risk behaviors (e.g. unprotected sex, group sex, sharing needles etc.) that your peers engage in?
- C6. PWID only:** What drugs are common on the streets? Have you heard of flash blood? Are there other risky practices like this one that drug users engage in that you are aware of?
- C7. PWID only:** Where do you go to buy drugs? Where do you go to inject drugs?

#### **D. WOMEN ENGAGED IN COMMERCIAL SEX ONLY**

**Ask these additional questions only if the interviewee is known to engage in commercial sex or volunteers the information that they engage in commercial sex.**

**D1.** How/where do you (your peers) typically find clients? By internet/social media? By phone? On the street? At hotels? At bars?

**D2.** Do some WCS work in brothels? Where are the brothels? Would we have to contact the person in charge to recruit from brothels?

**D3.** In which areas/places do WCS work?

**D4.** Do you or your peers give your earnings from commercial sex to someone, such as an intermediary or an agent, sometimes called a pimp?

**Probe:** What are the names by which you call these intermediaries (e.g. pimps, agents, etc.)? If yes, which WCS typically use (*appropriate word*), and which ones do not? Do they force WCS to do this work? Do they control your activities? Do they care where you go and who you interact with?

#### **Behavior–Terminology**

<b>Terms</b>	<b>Local terms/Slang</b>
<b>E1.</b> Gay identified man	
<b>E2.</b> Non-gay identified man	
<b>E3.</b> Top partner	
<b>E4.</b> Bottom partner	
<b>E5.</b> Versatile partner	
<b>E6.</b> Two men in a relationship/dating	
<b>E7.</b> Male who engages in commercial sex	
<b>E8.</b> Club or venue for gay men	
<b>E9.</b> Older gay man	
<b>E10.</b> Younger gay man	
<b>E11.</b> Oral sex	
<b>E12.</b> Anal sex	
<b>E13.</b> Sex without a condom	
<b>E14.</b> Women engaged in commercial sex	
<b>E15.</b> Venue where WCS meet clients	
<b>E16.</b> Agent/pimp	
<b>E17.</b> Flashflood	
<b>E18.</b> Shooting gallery	

Terms	Local terms/Slang
E19. Lubricant	
E20. More local terminology?	

## **Appendix E: Unguja formative assessment focus group discussion guide (people who inject drugs, men who have sex with men and women engaged in commercial sex)**

Date:

Interviewer name(s):

Note-taker name:

Venue:

Start time:

End time:

Number of participants:

Number of participants who remained until the end of the FGD:

### **Introduction**

*Before we begin, please put your cell phone and other mobile devices on silent. In this discussion, we will ask you questions about yourself and your friends. When I say “friends”, “colleagues”, “peers” or “people like you” I mean people you know who are <INSERT PRH GROUP>. Like it says in the consent form, our discussion is completely confidential. I ask that all facilitators and participants be open to hearing out and respecting each other’s answers. There are no right or wrong answers here. Let me start by explaining the survey that we are starting next month. In the survey, we would like to interview people like you about HIV and what they do or maybe don’t do to prevent it. We also want to give free HIV testing and free screening for sexually transmitted infections and treatment if necessary. We will tell you how to protect yourself from HIV and other infections. We would also like to ask participants to recruit a few friends like them to participate in the survey. There are no costs to join the survey and we will not collect any names. People who take part in the survey will get up to (insert amount) for the first visit, and up to (insert amount) if they can recruit some of their friends to also join the survey. The HIV, STI, and behavioral information learned in the survey will help us plan better health services for individuals like yourselves. Being a part of the discussion today does not mean you will have to be in the main survey. Today’s discussion is to gather information to plan the survey logistics to suit participants and to make sure we ask good questions during the survey.*

### **A. Survey Logistics**

**A1.** What sounds most interesting about this survey? Why? What sounds least interesting? Why?

**A2.** What do you think would prevent your friends from coming to see us? How can we overcome such reasons?

**Probe:** Would your peers participate if they knew the survey is for <INSERT PRH GROUP>?

**A3.** We want to compensate for people’s time and transport but we don’t want to offer too much. We don’t want people to pretend they are part of the group so that they can join the survey for cash.

- a. The first survey visit takes about 2-3 hours. We would like to give (insert amount) for transport cost, (insert amount) for time spent on the questionnaire, and another (insert amount) for time spent on the blood testing. That comes to (insert amount). Is this about the right amount?

**Probe:** If no, what amount would be more appropriate? Is it more or less?

- b. At the end of visit 1, we will give people 3 recruitment coupons to recruit their friends. They will be compensated for each person they successfully recruit to the survey. For



the second visit, participants will be at the survey office for about 30 minutes to get their results and to be reimbursed for the people they recruit. If we pay (insert amount) for each of the coupons, is this about the right amount?

**Probe:** If no, what amount would more appropriate? Is it more or less?

- A4.** In general, what time of day do you think people would be available for interviews and clinic visits? Would office hours in the evenings, mornings, or weekends be more acceptable than during the work week?

### **Questions related to the feasibility of Respondent Driven Sampling procedures**

*Let me describe a little how we want to find people to make interviews. We will give participants 3 coupons (show example of void/cancelled coupons) to give out to friends who are also <INSERT PRH GROUP>. For each friend who shows up with the coupon and enrolls in the survey, the person who recruited them will get a small amount of money. Your friend will also be interviewed, get free HIV testing and STI screening and treatment, be told about HIV and how to prevent it. The recruits who are eligible and who agree to enroll will also receive coupons to give out to their friends so they can also participate.*

### **B. Recruitment**

- B1.** How can we make it easier for people who are not open about their behavior to participate in the survey?
- B2.** Do you know any well-known or influential members of the <INSERT PRH GROUP> community? This would be someone who knows a lot of other <INSERT PRH GROUP> and is well liked by peers. Would they be willing to talk to us? *[Interview and note taker: Take note of who is vocal for this question and ask them to have the potential seed contact the survey staff. Perhaps a potential seed.]*
- B3.** Sometimes there are different groups of <INSERT PRH GROUP> that hang out and associate with one another. Can you describe the different <INSERT PRH GROUP> groups in your community? Do they go by different names?

**Probe:** What names do they go by? Of the groups you can think of, are there groups you don't have any contact with? (Males engaged in commercial sex? Men who have sex with men, but do not identify themselves as 'gay'? (note these examples are more appropriate for MSM, others can be used for other groups) Older <INSERT PRH GROUP>? <INSERT PRH GROUP> with more money or a different educational status?)

- B4.** Have there been any recent changes in the population or the environment that might impact their willingness to participate in this survey?

### **C. Characteristics of peers and the <INSERT POPULATION at risk for HIV GROUP> community**

- C1.** Where are your peers mostly from? Are your peers from within Unguja only or also from nearby urban centers like Dar es Salaam, Mombasa, etc.? How many are from other countries, how many are from elsewhere in Tanzania? Do they move a lot in and out of Unguja to Unguja? Where in Unguja do they travel?
- C2.** Which areas of Unguja do you and your friends usually frequent? What hours?

**Probe:** Which bars, restaurants or similar places do you and your friends go to? What hours?

- C3.** Are there any support organizations that are well known among you and your peers? What are their names?

**Probe:** Health, legal, economic, social support and spiritual...

**D. PEOPLE WHO INJECT DRUGS ONLY**

**D1.** What drugs are most common on the streets? Have you heard of Flash blood? Are there other similar practices that drug users engage in that are high risk?

**E. WOMEN ENGAGED IN COMMERCIAL SEX ONLY**

*Ask these questions only if you have a group of women engaged in commercial sex or if there are people who volunteer information that they engage in commercial sex.*

- E1.** How/where do you (your peers) typically find clients? By internet/social media? By phone? On the street? At hotels? At bars?
- E2.** Do some individuals engaged in commercial sex in brothels? Where are the brothels? Would we have to contact the person in charge to recruit from brothels?

**F. Terminology (ASK ALL GROUPS)**

Terms	Local terms/Slang
<b>F1.</b> Gay identified man	
<b>F2.</b> Non-gay identified man	
<b>F3.</b> Top partner	
<b>F4.</b> Bottom partner	
<b>F5.</b> Versatile partner	
<b>F6.</b> Two men in a relationship/dating	
<b>F7.</b> Male engaged in commercial sex	
<b>F8.</b> Club or venue for gay men	
<b>F9.</b> Older gay man	
<b>F10.</b> Younger gay man	
<b>F11.</b> Oral sex	
<b>F12.</b> Anal sex	
<b>F13.</b> Sex without a condom	
<b>F14.</b> Women engaged in commercial sex	
<b>F15.</b> Venue where WCS meet clients	
<b>F16.</b> Agent/pimp	
<b>F17.</b> Flashblood	
<b>F18.</b> Shooting gallery	
<b>F19.</b> Lubrication	
<b>F20.</b> More local terminology?	

## Appendix F: Eligibility screening form for women engaged in commercial sex, men who have sex with men, and people who inject drugs

Eligibility screening form for WCS

Jina la Mhojaji: _____		Tarehe ya usaili: __ __ / __ __ / 2023	
1	<b>Amekwisha shiriki katika utafiti huu</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
2	<b>Anakuponi inayokubalika</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
3	<b>Ana umri miaka 15 na kuendelea</b> [Una miaka mingapi?] _____ Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
4	<b>Ameuza ngono katika kipindi cha mwezi mmoja uliopita?</b> [Ni lini mara ya mwisho ulifanya biashara ya ngono?] Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
5	<b>Ameishi Unguja kwa kipindi cha miezi 3?</b> [Umeishi hapa (Unguja) kwa muda gani?] Ndiyo / Hapana (zungushia moja) → Kama chini ya miezi 3, hastahili	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>KAMA ANASTAHILI, MPELEKE KWA MENEJA WA KUPONI</b>			

Eligibility screening form for people who inject drugs

Jina la Mhojaji: _____		Tarehe ya usaili: __ __ / __ __ / 2023	
1	<b>Amekwisha shiriki katika utafiti huu</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
2	<b>Anakuponi inayokubalika</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
3	<b>Ana umri miaka 15 na kuendelea</b> [Una miaka mingapi?] _____ Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
4	<b>Ametumia madawa ya kulevya kwa njia ya kujidunga sindano katika kipindi cha miezi mitatu iliyopita?</b> [Ni lini mara ya mwisho ulitumia madawa ya kulevya kwa njia ya sindano?] Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
5	<b>Ameishi Unguja kwa kipindi cha miezi 3?</b> [Umeishi hapa (Unguja) kwa muda gani?] Ndiyo / Hapana (zungushia moja) → Kama chini ya miezi 3, hastahili	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>KAMA ANASTAHILI, MPELEKE KWA MENEJA WA KUPONI</b>			

Eligibility screening form for people who inject drugs

<b>Jina la Mhojaji:</b> _____		<b>Tarehe ya usaili:</b> __ __ / __ __ / 2023	
<b>1</b>	<b>Amekwisha shiriki katika utafiti huu</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>2</b>	<b>Anakuponi inayokubalika</b> Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>3</b>	<b>Ana umri miaka 15 na kuendelea</b> [Una miaka mingapi?] _____ Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>4</b>	<b>Amafanya mapenzi na mwanaume mwenzie katika kipindi cha miezi mitatu iliyopita?</b> [Ni lini mara ya mwisho ulifanya mapenzi na mwanaume mwenzi kwa njia ya haja kubwa?] Ndiyo / Hapana (zungushia moja)	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>5</b>	<b>Ameishi Unguja kwa kipindi cha miezi 3?</b> [Umeishi hapa (Unguja) kwa muda gani?] Ndiyo / Hapana (zungushia moja) → Kama chini ya miezi 3, hastahili	Anastahili <input type="checkbox"/>	Hastahili <input type="checkbox"/>
<b>KAMA ANASTAHILI, MPELEKE KWA MENEJA WA KUPONI</b>			

## **Appendix G: Informed consent for survey participants (people who inject drugs, men who have sex with men and women engaged in commercial sex): UNGUJA**

### **Survey title**

Survey among men who have sex with men (MSM), women engaged in commercial sex (WCS), and people who inject drugs (PWID), Zanzibar, Tanzania, 2022/2023

### **Introduction**

You are being asked to take part in an interview as a part of a research survey. Before you decide to join, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

We wish to find out about the risk factors that put people like yourself at risk for HIV. We also want to measure the amount of HIV, understand how HIV is transmitted, and estimate the number of new infections of HIV in the community to which you belong. The survey will help us develop programs to improve health among MSM, WCS, and PWID in Unguja, Zanzibar. This survey will be carried out by the Zanzibar Integrated HIV, Hepatitis, TB, and Leprosy Programme, the Centers for Disease Control and Prevention, and the University of California, San Francisco in the United States of America.

### **Why am I being asked to participate in this survey?**

You are being asked to participate in this survey because you may be at risk of HIV and other sexually transmitted infections.

### **Do I have to take part?**

It is up to you to decide whether to take part. If you do not decide to take part in the survey, there will be no penalty to you. If you decide to take part, you are still free to withdraw at any time and without giving a reason. There will be no penalty to you for withdrawing.

### **What will happen to me if I take part?**

If you agree to participate in the survey, you will be asked to do the following:

- 1) You will be asked to take part in an interview which will take between 30 and 45 minutes of your time. You will be asked questions on risk factors, including current and past drug use, sexual behaviors, and condom use; social networks; and use of health services, including experience with stigma and knowledge about HIV. You will be able to skip any questions that you do not want to answer. The interview is completely confidential and will not have any personally identifying information on it. The data will be collected on a tablet.
- 2) You will be asked to give approximately 5 tablespoons of blood, drawn from your arm, using a clean disposable instrument. This blood specimen will be used for HIV, hepatitis B, hepatitis C, and syphilis testing. After blood is taken, the interviewer will label the specimen container with your coupon identification number (barcode). Your name will not be on the blood that you provide for the survey. Your coupon identification number (barcode) will only be seen by laboratory or survey staff. They will never see your name. After the specimens are collected, the counselor will conduct the HIV, hepatitis B, hepatitis C and syphilis rapid tests. You will receive the results for all the tests immediately, together with counseling and referrals for care and treatment as needed based on your test results. We will only conduct an HIV test if you agree to the test, and you agree to receive your test results.
- 3) If you have a positive HIV test result, part of the specimen you provided will be kept and used to perform additional tests. These tests include:

- A viral load test, which measures the amount of HIV in your blood. The viral load results will be returned to you during your second visit.
- A CD4 test, which measures the amount of white blood cells in your blood. You will not receive this test result as this test will be done as part of your routine care.
- A recency tests. Recency testing helps us estimate the rate at which people like you acquire HIV. You will not receive this test result as it does not change the routine care that you will receive.
- An HIV drug resistance test, which looks for ARV drugs that your HIV virus is resistant to. You will not receive this test result because there is a national guideline for testing and managing drug resistance. Your routine care will follow this guideline.

You may choose not to have your specimen used for these additional tests and still participate in this survey.

4) If you have a reactive hepatitis C test, part of the specimen you provided will be kept to do an additional test. This test will tell us whether your infection is new infection or one that you have had for at least six months.

The results of the additional hepatitis C test will be returned to you during your second visit. These test results will not change the care and treatment that you will receive. However, these test results will help you understand whether you can give hepatitis C to someone else.

You may choose not to have your specimen used for this additional test and still participate in this survey.

5) All participants will have an additional hepatitis B test done at the laboratory. This will help us to find infections that might be missed by the rapid test that we are doing here today. The results of the additional hepatitis B test will be returned to you during your second visit.

You may choose not to have your specimen used for this additional test and still participate in this survey.

6) Finally, we would like to store any blood that is left over after these tests anonymously at the Mnazi Mmoja Hospital laboratory for possible future testing. If your blood is tested in the future, you will not be informed of those results because your name will not be on any of the left-over samples. You may choose not to store your left-over blood specimen for future testing and still participate in this survey. If you give your consent for future testing, you will have until two weeks after the completion of the survey to withdraw your specimen, should you change your mind. You will need to contact the survey coordinator and provide them with your coupon number. After this time frame, all coupon numbers will be removed from the specimens in order to ensure that any future testing is anonymous. The necessary contact information is on this form.

7) There are no costs to you to participate. You will receive up to TZS 15,000 for your participation today. We will also ask for your help to find more people like you to join the survey. We will give you some coupons like the one you received to recruit others like yourself into the survey. If they enroll in the survey, you will receive TZS 5,000 for each person who enrolls. We will give you a full explanation of these procedures at the end of your visit today.

Including the interview and the counseling and test, the entire survey visit may take up to three hours.

### **What are the risks of participating in this survey?**

A risk involved in participating in this survey is that you might be seen being involved in this survey by others, which may identify you as part of a high-risk group.

The questionnaire includes personal questions about private things that may make you feel uncomfortable or embarrassed. If any question makes you feel uncomfortable or embarrassed, you can refuse to answer it and you can terminate the interview at any time.

During the blood draw, you may experience pain, bleeding, swelling, bruising, or in rare cases infection where the needle enters the skin. You may feel some lightheadedness or fainting, but this is very rare.

If you test positive for HIV, syphilis, hepatitis B and/or hepatitis C, you may feel anxious or depressed. Our survey staff may refer you to local counselors or support groups to help deal with these feelings.

**What are the benefits of participating in this survey?**

If you choose to be in this survey, you will receive free and confidential testing for HIV, syphilis, and hepatitis B & C infections. If needed, you will also be referred to clinics that can provide medical care and treatment. You will also receive condoms and educational information on HIV/AIDS, syphilis, and hepatitis B & C infections.

Overall, your participation will help health professionals and others in your community learn more about who is at risk for HIV, syphilis, and hepatitis B and hepatitis C infections. What we learn will help us try to improve education, prevention, and care programs for your community.

**Will my taking part in this survey be kept confidential?**

All information you provide for this survey is confidential. Names are not recorded anywhere, and nothing can be attributed to you personally. What you say in the interview will be private and your HIV, hepatitis B, hepatitis C, syphilis, CD4, HIV viral load, HCV viral load, hepatitis B lab results, and HIV drug resistance test results will be confidential, that is they will not have your name on them. You will get your test results by presenting your coupon to survey staff after 2 weeks from today.

**What will happen to the results of the survey?**

The results of the survey will be written up into a report and into a publication in an academic journal. These publications will be used to help design important programs to improve health and prevent HIV infection for people who inject drugs, women engaged in commercial sex, and men who have sex with men in Unguja. No persons will be identified in any report or publication.

**Do you have any question?**

**Contact for further information**

If you have questions about this survey, about the conduct of anyone involved with the survey, or about any injury you receive as a result of taking part in the survey, you may contact the following:

Dr. Mohamed Dahoma

Program Manager, Zanzibar Integrated HIV, Hepatitis, TB, and Leprosy Program

Mobile number: +255 777 461 870

Mr. Ahmed Suleiman Said

Head of Strategic Information, Zanzibar Integrated HIV, Hepatitis, TB, and Leprosy Program

Mobile number +255 777 199090/0689539520

If you have any questions or concerns about how you are being treated as a participant or if you wish to lodge complaints, you may contact the Zanzibar Medical Ethical Committee at +255-54-31089/90.

Your help will be of great value to us. Thank you for your time.

Survey staff to read the following statements allowed and tick the corresponding box based on participant's response:

- ☐ I confirm that I have read and understand the information sheet for the above survey and have had the opportunity to ask questions.
- ☐ I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care or legal rights being affected.
- ☐ I agree to take part in the above survey by participating in the interview on sexual behavior, drug use, use of health services, experiences with stigma and your knowledge about HIV. COVID – 19, Hepatitis and Monkey-pox
- ☐ I agree to take part in the above survey by giving blood for HIV, syphilis, and hepatitis B & C testing.
- ☐ I agree to receive the results of my HIV test, hepatitis B, hepatitis C, and syphilis.
- ☐ If I receive a positive HIV test result, I agree to take part in the above survey by having some of my remaining blood used for additional testing for HIV viral load, CD4, recency testing, and HIV drug resistance testing.
- ☐ I agree to take part in the above survey by having some of my remaining blood used for an additional test related to hepatitis B.
- ☐ If I receive a reactive hepatitis C test result, I agree to take part in the above survey by having some of my remaining blood used to measure the amount of hepatitis C virus in my blood.
- ☐ I agree to have some of my blood stored for possible future testing.

**Verbal consent given (circle one):**      Yes      No

\_\_\_\_\_  
Signature of person taking consent

\_\_\_\_\_  
Date



## Appendix H: Respondent driven sampling questionnaire, people who inject drugs

This questionnaire was administered using Open Data Kit. The Open Data Kit captured the date of the interview as well as the start and end times. The tool also captured the name of the interviewer.

### Section 1: Background characteristics

First, I would like to ask you a few questions on your background, including information on your age, education, occupation and income.			
No.	Questions	Coding categories	Skip to
q101	Document the participants sex	Male 1 Female 2	
q102	How old are you? <i>In completed years</i>	Years _____	
q103	How many years of education have you completed up to now?	Never went to school 1 Madrasa only 2 Did not complete primary 3 Completed primary 4 Did not complete secondary 5 Completed secondary 6 Higher than secondary education 7 No response 98	
q104	Can you read and write in Kiswahili?	Cannot read or write 1 Can read only 2 Can read and write 3 No response 98	
q105	How long have you lived here (Unguja)?  <i>If number of years is unknown, ask for an estimate. Round up for half years (e.g., for 1 ½ years–round up to 2).</i>	Whole life 1 Less than one year 2 1-5 years 3 More than 5 years 4	<b>If 1, do not ask qn 107</b>
q106	What is your current district of residence?	Magharibi A 1 Magharibi B 2 Kusini 3 Mjini 4 Kati 5 Kaskazini A 6 Kaskazini B 7 No fixed address 8 No response 98	
q107	<i>[If Q015=1 do not ask Q107]</i>  Where did you live before moving here?	Pemba 1 Mainland Tanzania 2 Outside of Tanzania 3 No response 98	

q108	What is your current marital status?  <i>Do not read out the possible answers. Mark only one response.</i> <i>If no response probe</i>	Currently married 0 Living with partner / cohabiting 1 Separated, divorced or widow 2 Never married 3 No response 98	
q109	<b>Currently</b> , with whom are you living?  <i>Read out the possible answers. Circle one only.</i>	Alone 1 With wife/husband 2 With girlfriend 3 With boyfriend 4 With family (including extended family) 5 With friends 6 No response 98	
q115	Do you have biological children?	Yes 1 No 2 No response 98	<b>to 110 to q110</b>
q116	How many biological children do you have?	_____	
q110	What was your total income earned in the <u>past month</u> ? <i>If exact amount is not known, ask for an estimate.</i>	TSh_____	
q111	How do you earn money?  <i>Do not read the possible answers out loud. Probe and mark all that are mentioned.</i>	Private business 1 Employed by government/parastatal 2 Employed in private sector 3 Self-employed 4 Tourism 5 Dala dala tout 6 Porter 7 Fisherman 8 Petty trading 9 Musician 10 Student 11 Currently unemployed 12 Selling drugs 13 engaging in commercial sex 14 Other Illegal activities 15 No response 98	
q112	<i>[For females only—ask if q102=2]</i> Did you recently [during the current survey] participate in a study like this one where you received an orange coupon (WCS study)?	Yes 1 No 2 Don't remember 97 No response 98	
q113	Did you participate in a study like this where you received a coupon about 5 years ago, in 2018?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q115 to q115 to q115</b>

q114	Which population was that study for?  <i>Select all mentioned</i> <i>Females can only mention PWID and WCS</i> <i>Males can only mention PWID and MSM</i>	PWID 1 MSM 2 WCS 3 Don't remember 97 No response 98	
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## Section 2: PWID Network

Now I would like to ask you some questions about other PWID that you may know, including the person who recruited you into this study.			
No.	Questions	Coding categories	Skip to
q200	INTERVIEWER (DO NOT READ OUT LOUD): Is participant a seed?	Yes 1 No 2	
q201	How many PWID do you know personally living in Unguja? <i>If the exact number is unknown, as for an estimate.</i>	_ _ _	
q202	How many of these (repeat the number in q201) PWID are 15 years and above?	_ _ _	
q203	How many of these (repeat the number in question 202) PWID have you seen during the <u>past one month</u> ? <i>If the exact number is unknown, as for an estimate.</i>	_ _ _	
q204	Of these (repeat number in q203) PWID, how many have you spoken to or seen in the last two weeks?	_ _ _	
q205	What is the primary reason you decided to accept a coupon and enroll in the study?  <i>Do not read responses. Circle one response only.</i>	For incentive 1 For STI/HIV test results 2 For Hepatitis B vaccine 3 Peer influence 4 Study seems interesting/useful 5 Had time to spend/I wasn't busy 6 Other 88 Don't know 97 No response 98	
q206	<i>[Do not ask if q200=1]</i> Would you have given a coupon to the same person who gave this coupon to you?	Yes 1 No 2 No response 98	
q207	<i>[Do not ask if q200=1]</i>  Which of the following best describes your relationship to the person who referred you to this study, that is, the person who gave you this coupon?  <i>Read the responses to the participant. Mark only one response.</i>	A stranger, someone you met for the first time 1 Someone you know, but not closely 2 A close friend, someone you know very well 3 A sexual partner 4 A family member or relation 5 A drug dealer 6 Someone you inject with 7 No response 98	to q210
q208	<i>[Do not ask if q200=1]</i>  About how long have you known your recruiter? <i>Do not read responses. Mark only one response.</i>	Less than a year 1 1-3 years 2 4-6 years 3 7-10 years 4 More than 10 years 5	

q209	<i>[Do not ask if q200=1]</i>  How often do you see your recruiter? <i>Do not read responses. Mark only one response.</i>	Every day 1 More than once per week, but not every day 2 Once per week 3 Once per month 4 Less than once per month 5 No response 98	
q210	Did you ever receive this object?  <i>Show object to participant</i>	Yes 1 No 2 No response 98	<b>to q301 to q301</b>
q211	When did you receive this special object? <i>Do not read responses.</i>  <i>Mark only one response.</i>	5 - 14 May 2023 1 Other time 2 No response 98	
q212	What color was the object that you received?  <i>Do not read responses. Mark all that apply as individual could have received more than one object.</i>	Green 1 Orange 2 Don't remember 97	

### Section 3: Alcohol and Drug Use

<b>Now I would like to ask you some questions about alcohol use and drug use, with and without a needle. These are very personal matters, but they are very important for providing health services. Please remember that the answers to your questions are confidential and completely private. First, we are going to ask you some questions about drinking alcohol.</b>			
No.	Questions	Coding categories	Skip to
q301	How often do you have a drink containing alcohol?	Never 0 Monthly or less 1 2-4 times a month 2 2-3 times a week 3 4 or more times a week 4 No response 98	<b>to q305</b>     <b>to q305</b>
q302	In the past one month, how often did you have a drink containing alcohol?  <i>Do not read responses - mark one response only.</i>	Never 1 Once a month or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 Don't remember 97 No response 98	
q303	How many drinks containing alcohol do you have on a typical day when you are drinking? (Chukulia bia moja, gilasi ya mvinyo, toti ya pombe kali, au kikombe cha gongo kuwa ni kinywaji kimoja.)  <i>Do not read responses. Mark one response only.</i>	1 or 2 1 3 or 4 2 5 or 6 3 7, 8 or 9 4 10 or more 5 Don't remember 97 No response 98	

q304	On one occasion, how often do you have six or more drinks?	Never 0 Less than monthly 1 Monthly 2 Weekly 3 Daily or almost daily 4 No response 98	
<b>Now I am going to ask you some questions about drugs that you might have smoked, inhaled, swallowed, or snorted during the last 3 months.</b>			
q305	Do you currently smoke any form of tobacco on a daily basis, less than daily, or not at all?	Daily 1 Less than daily 2 Not at all 3 Don't know 97 No response 98	
q306	In the last 3 months, did you smoke, inhale, swallow, or snort any drugs for non-medical reasons?  <i>Here I'm talking about drugs like marijuana, hashish, khat, prescription drugs, petrol sniffing, kubar, or methamphetamine, etc.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q308</b> <b>to q308</b> <b>to q308</b>
q307	In the last 3 months, which drugs have you smoked, inhaled, swallowed, or snorted for non-medical reasons?  <i>Tick all that apply</i>	Smoked hashish/marijuana 1 Smoked crack cocaine 2 Inhaled cocaine 3 Smoked heroin 4 Inhaled heroin 5 Khat 6 Mixed cocktail 7 Chase the dragon 8 Sniffed petrol, glue 9 Valium 10 Pain killers (prescription drugs) 11 Kichupa 13 Methadone 14 Don't remember 97 No response 98	
<b>The next set of questions is about injection drug use. This means injecting yourself with drugs for non-medical reasons or having someone who is not a health care provider inject you with drugs for non-medical reasons.</b>			
q308	Think back to the very first time you injected drugs for non-medical reasons. How old were you?  <i>If exact age is not known, ask for an estimate. Record the age in completed years.</i>	_____ Years	

q309	The first time you injected drugs, which drug did you inject?  <i>Select one</i>	Brown heroin 1 White heroin 2 Opium 3 Amphetamines 4 Prescription drugs 5 Other (specify) 88 Don't know/remember 97 No response 98	
q310	Who is the person who introduced you to injecting drugs?	Husband/Wife 1 Boyfriend/Girlfriend 2 Friend 3 Neighbor 4 Family member 5 Drug seller 6 Other drug user 7 Other specify 88 Don't remember 97 No response 98	
q311	Does anyone in your family know that you inject drugs?	Yes 1 No 2 Don't know 97 No response 98	
q312	Which types of drugs have you injected in the past <u>three months</u> ?  <i>Do not read responses. Probe and select all that apply.</i>	Brown heroin 1 White heroin 2 Opium 3 Amphetamines 4 Prescription drugs 5 Others (specify) 88 Don't know / remember 97	
q313	Can you get a clean needle and syringe any time you need one?  <i>Read options, mark one response only.</i>	Yes 1 No 2 Do not try 3 No response 98	<b>to q315</b>  <b>to q315</b> <b>to q315</b>
q314	What things make it difficult for you to access clean needles/syringes?  <i>Read responses and mark all mentioned.</i>	Needles/syringes too expensive 1 Vendor/needle seller closed or not around 2 Preferred type not available 3 Vendor ran out/stock out 4 Vendor too far away 5 Do not know where to get 6 No need 7 Retailers refuse to sell to me 8 Other (specify) 88 No response 98	

q315	Last time you were able to get a clean needle, where did you get it?	Pharmacy 1 Health facility 2 Drug dealer 3 Fellow drug user 4 Outreach health workers 5 Peer educators 6 Drop in center 7 Private home known to have clean needles available 8 NGO office (e.g., ZAYEDES, ZANGOC, ZYF) 9 Do not try to get clean needles 10 Other 88 No response 98	
<b>Now we want you to think about your injection drug use in the last month.</b>			
q316	During the past one month, on average, how often did you inject drugs?  <i>Do not read responses. Mark one response only.</i>	Several times a day 1 Once a day 2 Several times a week 3 Once a week 4 Several times a month 5 Once a month or less 6 Not in the last one month 7 Don't remember 97	<b>to q323</b>
q317	In the last month, where did you get new (sterile) needles/syringes from?  <i>Mark all that apply.</i>	Pharmacy 1 Health facility 2 Drug dealer 3 Fellow drug user 4 Outreach health workers 5 Peer educators 6 Drop in center 7 Private home known to have clean needles available 8 NGO office (e.g., ZAYEDES, ZANGOC, ZYF) 9 I did not get new (sterile) needles/syringes 10 Other 88 No response 98	
q318	In the last month, how often were sterile needles and syringes available when you needed them?	Always 1 Most of the time 2 Half of the time 3 Some (less than half) of the time 4 Never 5 Don't know 97 No response 98	



q319	During the past one month, how often did you ask or pay a “dokta” to inject you?	Always 1 Most of the time 2 Occasionally 3 Never 4 No response 98	<b>to q321</b> <b>to q321</b>
q320	What was the nature of your transaction/ payment the last time you had a “dokta” inject you?	Money 1 Sex 2 Sharing drugs (kipoint) 3 Sharing material 4 Did not pay / give / exchange anything 5 Don’t remember 97 No response 98	
q321	<u>During the past one month</u> , when you injected, how often have you prepared drugs with someone else? <i>Prepared means made the drugs ready for injection using the same equipment and drew the drugs from the same container.</i>	Always 1 Most of the time 2 Occasionally 3 Never 4 No response 98	
q322	<u>During the past one month</u> , did you inject blood from someone who had taken drugs? (Flashblood)	Yes 1 No 2 Don’t remember 97 No response 98	

**Now I would like to ask you some questions about sharing needles. Sharing means using the same needle and/or syringe as someone else to inject drugs.**

No.	Questions	Coding categories	Skip to
q323	Have you <u>ever</u> shared a needles/syringe with someone else when you injected?	Yes 1 No 2 Don’t know/remember 97 No response 98	<b>to q401</b> <b>to q401</b> <b>to q401</b>
q324	<u>In the past one month</u> , when you injected, did you use a needle previously used by someone else?	Yes 1 No 2 Don’t know/Don’t remember 97 No response 98	<b>to q401</b> <b>to q401</b> <b>to q401</b>
q325	<u>During the past one month</u> , when you injected, how often did you use needles/syringes that had previously been used by someone else?	Always 1 Most of the time 2 Occasionally 3 No response 98	
q326	<u>During the past one month</u> , how often did you clean the syringe and needle that had previously been used by someone else before you used it again?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don’t know/Don’t remember 97 No response 98	<b>to q328</b> <b>to q328</b> <b>to q328</b>

q327	[If cleaned] How did you usually clean the syringe and needle?  <i>Read list and mark all that apply.</i>	Cold water 1 Hot water 2 Bleach 3 Alcohol 4 Other (specify) 88 No response 98	
q328	During the <u>past one month</u> , have you shared needle/syringes with:  <i>Read list and select all mentioned.</i>	Wife/girlfriend 1 Husband/boyfriend 2 Person engaged in commercial sex 3 Someone who paid you for sex 4 Other sexual partner 5 Other PWID 6 Friend 7 Other (specify) 88 No response 98	

#### Section 4: Behaviors at Last Injection

Now I would like to ask you some questions about the last time you injected drugs.			
No.	Questions	Coding categories	Skip to
q401	The <u>last time</u> you injected, what drug did you use?  <i>Do not read responses. Mark all responses mentioned.</i>	Brown heroin 1 White heroin 2 Opium 3 Amphetamines 4 Prescription drugs 5 Other (specify) 88 Don't know/can't remember 97 No response 98	
q402	The <u>last time</u> you injected, how did you get drugs?	I paid for them 1 Exchanged sex 2 Alternative payment (not cash or sex) 3 I got them for free 4 Don't remember 97	<b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b>
q403	How much did you spend on those drugs?  <i>If exact amount is unknown, ask for an estimate.</i>	_____ TSh	
q404	Last time you injected drugs, did you use a needle or syringe after someone else had used it?	Yes 1 No 2 Don't know/can't remember 97	
q405	Last time you injected drugs, did you pass your syringe or needle on to someone else after you used it?	Yes 1 No 2 Don't know/can't remember 97	
q406	<i>[Skip if q404 AND q405 =NO]</i>  The <u>last time</u> you injected, how many other injectors shared the same needle/syringe?	Number _____ Don't know/can't remember 97	

**Now I would like to ask you a few questions about the last time you shared a needle/syringe. This is not necessarily the last time you injected.**

q407	<p><i>[Skip if q323!=1]</i></p> <p>The <u>last time</u> you shared needles/syringes with other users, what was the reason?</p> <p><i>Do not read responses. Mark one response only.</i></p>	<p>Needles/syringes too expensive 1</p> <p>Prefer to share with friend 2</p> <p>Other injector wanted me to 3</p> <p>Did not have enough money to inject alone 4</p> <p>Cannot inject myself 5</p> <p>Syringes/needles not available 6</p> <p>Needle/syringe was broken, stolen or lost 7</p> <p>Other 88</p> <p>No response 98</p>	
q408	<p>The <u>last time</u> you shared needles/syringes with other users, was the needle/syringe cleaned between users?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/can't remember 97</p> <p>No response 98</p>	<p><b>to q409a</b></p> <p><b>to q409a</b></p> <p><b>to q409a</b></p>
q409	<p>The <u>last time</u> you shared needles/syringes with other users, what did you use to clean the needle/syringe?</p> <p><i>Do not read responses. Mark all that are mentioned.</i></p>	<p>Cold water 1</p> <p>Hot water 2</p> <p>Bleach 3</p> <p>Alcohol 4</p> <p>Other (specify) _____ 88</p> <p>Don't remember 97</p>	

**Now I want to ask questions about...  
....kutumia sindano na kuitunza mahali.**

q409a	<p>Have you ever used someone else's needle or a needle that you found somewhere?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/can't remember 97</p> <p>No response 98</p>	<p><b>to q409c</b></p> <p><b>to q409c</b></p> <p><b>to q409c</b></p>
q409b	<p>The last time you did this, did you clean the needle before using it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/can't remember 97</p> <p>No response 98</p>	
q409c	<p>Have you ever left your needle somewhere and returned to use it again later?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/can't remember 97</p> <p>No response 98</p>	<p><b>to q410</b></p> <p><b>to q410</b></p> <p><b>to q410</b></p>
q409d	<p>Do you think someone might have used it after you left it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/can't remember 97</p> <p>No response 98</p>	

**Now I will ask some questions about drug overdose.**

q410	Have you ever overdosed on narcotics to the point where you lost consciousness?	Yes 1 No 2 Don't know 97 No response 98	<b>to q413 to q413 to q413</b>
q411	How many times has this happened?	1 to 5 times 1 5 to 10 times 2 More than 10 times 3 Don't know 97 No response 98	
q412	Please think about the last time you overdosed on narcotics. How long ago did that occur?	Within the past 7 days 1 Between 7 and 30 days ago 2 Between 1- and 6-months ago 3 Between 6 and 12 months ago 4 Over 12 months ago 5 Don't know 97 No response 98	
q413	Have you ever seen another person overdose on narcotic drugs to the point where they lost consciousness or stopped breathing?	Yes 1 No 2 Don't know 97 No response 98	<b>to q501 to q501 to q501</b>
q414	How many times has that happened?	1 to 5 times 1 5 to 10 times 2 More than 10 times 3 Don't know 97 No response 98	
q415	Please think about the last time that happened. How long ago did that occur?	Within the past 7 days 1 Between 7 and 30 days ago 2 Between 1 and 6 months ago 3 Between 6 and 12 months ago 4 Over 12 months ago 5 Don't know 97 No response 98	

#### Section 5: Sexual Behavior

**Now I would like to ask you some questions about your sexual history, your sex partners, and your use of condoms. These are very personal matters, but they are very important for providing health services. Please remember that your answers will remain completely confidential. The next few questions are about your lifetime sexual history. This includes vaginal and anal sex. With vaginal sex we mean a penis enters a vagina. With anal sex we mean a penis enters a person's anus (butt).**

No.	Questions	Coding categories	Skip to
q501	Have you ever had sex?	Yes 1 No 2 No response 98	<b>to q701 to q701</b>
q502	How old were when you had sex for the first time? <i>If participant doesn't know exact age, ask them to estimate. Write 98 if no response.</i>	_____ age in years	

q503	Have you ever had sex with a person where either of you used alcohol beforehand?	Yes 1 No 2 Don't know/Don't remember 97 No response 98	<b>to q505 to q505 to q505</b>
q504	The last time you had sex with a person where either of you used alcohol beforehand, did you use a condom?	Yes 1 No 2 Don't know/Don't remember 97 No response 98	
q505	Have you ever had sex with a person where either of you used drugs beforehand?	Yes 1 No 2 Don't know/Don't remember 97 No response 98	<b>to q507 to q507 to q507</b>
q506	The last time you had sex with a person where either of you used drugs beforehand, did you use a condom?	Yes 1 No 2 Don't know/Don't remember 97 No response 98	
<b>Now I would like to ask you some questions about people you sex with, without involving any payment. These could be male or female partners.</b>			
q507	Have you ever had sex with a man or woman where no payment was involved?	Yes 1 No 2 No response 98	<b>to q513 to q513</b>
q508	In the past one month, have you had sex with a man or woman where no payment was involved?	Yes 1 No 2 No response 98	<b>to q511 to q511</b>
q509	In the past <u>one month</u> , how many partners have you had sex with where no payment was involved? <i>If exact number of partners is unknown, ask for an estimate.</i>	Number_____	
q510	Of all times you had sex with a non-paying male or female partner <u>in the last month</u> , how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q511	The <u>last time</u> you had sex with a non-paying male or female partner, did you use a condom? <i>This could be before the past one month.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q513 to q513 to q513</b>

q512	Why didn't you use a condom that time?	Didn't think about it 1 I was with my wife/husband 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Don't remember 97 No response 98	
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**Now I would like to ask you some questions about people you pay for sex. These could be male or female partners you give money or gifts to in exchange for sex.**

No.	Questions	Coding categories	Skip to
q513	Have you <u>ever</u> paid any woman or man to have vaginal or anal sex with you?	Yes 1 No 2 No response 98	to q522 to q522
q514	In the past <u>one month</u> , have you paid any woman or man to have vaginal or anal sex with you?	Yes 1 No 2 No response 98	to q520 to q520
q515	<i>FOR MEN ONLY</i> In the past <u>one month</u> , how many different women have you paid to have sex with you? <i>If the exact number is unknown, ask for an estimate.</i>	Number_____	
q516	In the past <u>one month</u> , how many different men have you paid to have sex with you? <i>If the exact number is unknown, ask for an estimate</i>	Number_____	
q517	<i>FOR MEN ONLY; ask if q516&gt;0</i> In the past one month, how many different men have you paid to have insertive sex with you (meaning you were receptive / bottom)? <i>If the exact number is unknown, ask for an estimate</i>	Number_____	
q518	<i>FOR MEN ONLY; ask if q516&gt;0</i> In the past one month, how many different men have you paid to have receptive sex with you (meaning you were insertive / top)? <i>If the exact number is unknown, ask for an estimate</i>	Number_____	
q519	Of all times you paid someone to have sexual intercourse with you in the <u>last month</u> , how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	

q520	The <u>last time</u> you paid someone for sex, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q522</b> <b>to q522</b> <b>to q522</b>
q521	Why didn't you use a condom that time?	Didn't think about it 1 I was with my wife/husband 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Don't remember 97 No response 98	

**Now I will ask you some questions about people who pay you to have sex with them. These could be friends or people you just met who give you money, drugs or gifts to have sex with them.**

No.	Questions	Coding categories	Skip to
q522	Has any woman or man <u>ever</u> paid you to have vaginal or anal sex with them?	Yes 1 No 2 No response 98	<b>to q601</b> <b>to q601</b>
q523	In the past one month, has any woman or man paid you to have vaginal or anal sex with them?	Yes 1 No 2 No response 98	<b>to q529</b> <b>to q529</b>
q524	<i>FOR MEN ONLY</i> In the past one month, how many different women have paid to have vaginal or anal sex with you?	Number_____	
q525	In the past one month, how many different men have paid to have sex with you?	Number_____	
q526	<i>FOR MEN ONLY; ask if q525&gt;0</i> In the past one month, how many different men have paid to have insertive sex with you (meaning you were receptive / bottom)?	Number_____	
q527	<i>FOR MEN ONLY; ask if q525&gt;0</i> In the past one month, how many different men have paid to have receptive sex with you (meaning you were insertive / top)?	Number_____	
q528	Of all times someone paid you for vaginal or anal sex in the past one month, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q529	The <u>last time</u> a man or woman paid you for vaginal or anal sex, did you use a condom?  <i>This could be before the past one month.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q601</b> <b>to q601</b> <b>to q601</b>

q530	Why didn't you use a condom that time?	Didn't think about it 1 I was with my wife/husband 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Don't remember 97 No response 98	
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#### Section 6: Condom accessibility and STIs

Now I will ask you some questions about where and how you access condoms.			
No.	Questions	Coding categories	Skip to
q601	Have you <u>ever</u> used a male condom? <i>If respondent is a woman, emphasize that it is her partner wearing the condom.</i>	Yes 1 No 2 Don't remember 97 No response 98	to q607 to q607 to q607
q602	Which places or persons have you obtained male condoms from in the last one month?  <i>Select all mentioned.</i>	Shop 1 Pharmacy 2 Health facility 3 Bar/guesthouse/ hotel 4 Friends 5 Taxi drivers 6 Saloon 7 NGO 8 Public/ Government office 9 Peer educator 10 I did not get/use condoms in past month 11 Don't remember 97 No response 98	
q603	Last time you got condoms did you pay for them?	Yes 1 No 2 No response 98	to q605 to q605
q604	How much did you pay for one pack of three condoms?	TZS _____ Don't remember 97 No response 98	
q605	Can you always get a male condom if you need one?	Yes 1 No 2 No response 98	to q607 to q607



q606	Why can't you get a male condom every time you need one?  <i>Do not read responses out loud. Multiple responses possible—select all mentioned.</i>	Costs too much 1 Shop too far away 2 Shops closed 3 Pharmacy too far away 4 Pharmacy closed 5 Embarrassed to buy condom 6 Don't know where to obtain 7 Don't need condom 8 Things happen too fast 9 Other 88 No response 98	
q607	Have you <u>ever</u> used a female condom?	Yes 1 No 2 No response 98	to q610 to q610
q608	Have you used a female condom in the past 3 months?	Yes 1 No 2 No response 98	to q610 to q610
q609	Where did you obtain your <u>last</u> female condom?  <i>Do not read answer choices. Select one only.</i>	Shop 1 Pharmacy 2 Health facility 3 Bar/Guest House/Hotel 4 Friends 5 Taxi drivers 6 Saloon 7 NGO 8 Government office 9 Peer educator 10 Other 88 Don't remember 97 No response 98	
<b>Now I would like to ask you some questions about sexually transmitted infections.</b>			
q610	Have you ever heard of diseases that can be transmitted through sexual intercourse? (STI/STDs)?	Yes 1 No 2 Don't know/remember 97 No response 98	
q611	During the past six months, have you had unusual genital discharge? <i>Specify urethral discharge for men</i>	Yes 1 No 2 Don't know/remember 97 No response 98	
q612	In the last 6 months, have you had pain while urinating?	Yes 1 No 2 Don't know/remember 97 No response 98	
q613	During the past six months, have you had genital/anal sores or ulcers?	Yes 1 No 2 Don't know/remember 97 No response 98	

q614	<i>[Ask if yes to 611, 612, or 613]</i> Did you seek treatment because of any of these problems?	Yes 1 No 2 Don't know/remember 97 No response 98	to q617 to q617 to q617
q615	How long did you have the symptom(s) before seeking the treatment?	Less than one week 1 More than one week/less than one month 2 More than one month 3 Don't know/remember 97 No response 98	
q616	Where did you seek treatment or medical attention when you had these symptoms?  <i>Mark all that apply.</i>	Went to govt health facility 1 Went to private health facility 2 Went to pharmacy 3 Went to traditional healer/used alternative treatment 4 Treated myself at home 5 Others (specify) 88 Don't know/remember 97 No response 98	
q617	In the last 12 months, did a healthcare provider tell you that you had a sexually transmitted disease or sexually transmitted infection, other than HIV?	Yes 1 No 2 Don't know/remember 97 No response 98	
q618	<i>[Ask if yes to 611, 612, or 613 OR yes to q617]</i> The last time you had STI symptoms or a diagnosed STI, did you tell your sexual partner about the STI?	Yes 1 No 2 Don't know/remember 97 No response 98	
q619	<i>[Ask if yes to 611, 612, or 613 OR yes to q617]</i> The last time you had STI symptoms or a diagnosed STI, did you stop having sexual intercourse during the time?	Yes 1 No 2 Don't know/remember 97 No response 98	to q701 to q701 to q701
q620	The last time you had STI symptoms or a diagnosed STI, did you always use condoms during sexual intercourse?	Yes 1 No 2 Don't know/remember 97 No response 98	

#### Section 7: HIV knowledge, HIV risk, and HIV testing history

**In this next section I will ask you questions about your knowledge of HIV, your HIV testing history, and how you see your risk of HIV infection. I will start by reading some statements about HIV. Some of them are true and some are not true. These are general statements and do not refer to your own experience or behavior.**

No.	Questions	Coding categories	Skip to
q701	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?	Yes 1 No 2 Don't know 97 No response 98	
q702	Can a person get HIV from mosquito bites?	Yes 1 No 2 Don't know 97 No response 98	

q703	Can a person reduce their risk of getting HIV by using a condom every time they have sex?	Yes 1 No 2 Don't know 97 No response 98	
q704	Can a healthy-looking person have HIV?	Yes 1 No 2 Don't know 97 No response 98	
q705	Can a person get HIV by sharing food with someone who has HIV?	Yes 1 No 2 Don't know 97 No response 98	
q706	Sharing needles when injecting drugs will increase the risk of HIV infection.	Yes 1 No 2 Don't know 97 No response 98	
q707	Cleaning needles and syringes between injections reduces the risk of HIV.	Yes 1 No 2 Don't know 97 No response 98	
q708	Do you agree or disagree with the following statement?  "When taken as prescribed by a health worker, HIV medications decrease the amount of HIV in the blood of people living with HIV. Therefore, the amount of virus in their blood becomes too low to detect in a laboratory test."	Agree 1 Disagree 2 Don't know 97 No response 98	
q709	Do you agree or disagree with the following statement?  "A person living with HIV who is taking HIV medication cannot pass HIV to a sexual partner once a laboratory test can no longer detect the HIV virus in their blood."	Agree 1 Disagree 2 Don't know 97 No response 98	

**This next set of questions asks about how you see your risk for HIV and your experiences with HIV testing.**

q713	Do you know of a place where people can go to have a confidential test to find out if they are infected with HIV? <i>Confidential means that nobody will know the test result unless you want them to know.</i>	Yes 1 No 2 No response 98	
q714	Have you <u>ever</u> had an HIV test?	Yes 1 No 2 No response 98	<b>to q717 to q901</b>
q718	Have you ever been for HIV counseling with your steady partner/boyfriend/girlfriend/husband/wife?	Yes 1 No 2 No response 98	

q715	How often do you normally test for HIV?	No pattern / routine testing 1 Every month 2 Every 3 months 3 Every 6 months 4 Once per year 5 No response 98	
q716	When did you <u>last</u> get an HIV test for which you got the results?	In the past 3 months 1 In the past 6 months 2 More than 6 months ago but within the past year 3 Over one year ago 4 Don't remember 97 No response 98	<b>All skip to q718</b>
q717	Why have you never chosen to get an HIV test?  <i>Probe and select all mentioned.</i>	Didn't know where to go 1 Don't feel at risk 2 Concerned about confidentiality 3 Negative attitude of HCWs 4 Cost 5 Distance 6 Fear of knowing status 7 Not important for me 8 Others _____ 88 Don't know 97 No response 98	<b>ALL SKIP to q710</b>
q719	What was the result of your last HIV test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 97 No response 98	<b>to q710 to q710 to q710 to q710</b>
q720	Who have you talked to about your HIV positive test result?  <i>Select all mentioned.</i>	Wife/husband/girlfriend/boyfriend 1 Family member 2 Friends 3 Co-workers 4 Employer 5 Peer educator 6 Never disclosed to anyone 7 No response 98	<b>All to q801</b>
q710	With your current behaviors, how do you think about your risk of HIV infection?	High risk 1 Medium risk 2 Low risk 3 No risk 4 Don't know 97 No response 98	<b>to q712 to q901 to q901</b>

q711	Why do you feel that you are at risk for HIV infection?  Do not read responses; mark all mentioned.	I often change sex partners 1 I have multiple concurrent sex partners 2 I don't always use a condom 3 I use drugs 4 I inject drugs 5 I drink alcohol 6 I share needles 7 I have sex with PWID 8 Other(s), specify _____ 88 Don't know 97 No response 98	<b>ALL SKIP to q901</b>
q712	Why do you feel that you are not at risk for HIV infection?  Do not read responses; probe for more and mark all mentioned.	I am faithful 1 I always use condoms 2 I never have sex with individuals engaged in commercial sex 3 I always inject with new needles 4 I always clean needles before injecting 5 I don't share injection needles 6 I don't have anal sex 7 I'm convinced my sexual partner is clean 8 Don't know 97 No response 98	<b>ALL SKIP to q901</b>

#### Section 8: Services and experiences of PLHIV

This next set of questions asks about services that are important for people living with HIV.			
No.	Questions	Coding categories	Skip to
q801	Are you currently on ART?	Yes 1 No 2 No response 98	<b>to q803</b>  <b>to q805</b>
q802	Why are you not on ART?	Don't know where to get them 1 Scared/embarrassed to go to a facility 2 Don't think I need them 3 Doctor said I wasn't ready to start 4 Don't want them 5 Don't like side effects 6 Using traditional/local medicine instead 7 Other 88 No response 98	<b>ALL SKIP q805</b>
q803	For how long have you been on ART?	Less than 6 months 1 More than 6 months 2 Don't know 97 No response 98	
q804	Have you had a viral load test?	Yes 1 No 2 Don't know/remember 97 No response 98	

q805	In the last 12 months, during any of your visits to the HIV clinic, were you asked if you had the following TB symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Has not visited clinic in last 12 months 3 Don't know 97 No response 98	
q806	In the last 12 months, have you experienced any of these symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Don't know 97 No response 98	
q807	In the last 12 months, did you receive a chest x-ray or sputum test to look for TB? A sputum test is when the patient has to cough and collect the sample in a cup.  <i>Check all that apply.</i>	None of these 1 Chest x-ray 2 Sputum test 3 Don't know 97 No response 98	<b>to q809 to q809 to q809 to q809</b>
q808	What was the result of your last sputum test?	TB-negative 1 TB-positive 2 Indeterminate 3 Don't know 97 No response 98	
q809	Have you ever been treated for TB?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I want to ask you a few questions about experiences of stigma and how often you may or may not have experienced them because you are HIV positive.</b>			
q810	Do you agree or disagree with the following statement? "In the last 6 months, I have felt ashamed because of my HIV status."	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Don't know 97 Refused 98	
q811	<b><i>For each of the following questions, please tell me whether you have never had the experience, had the experience once, a few times, or often, or whether it does not apply to you because no one knows your HIV status.</i></b>  In the last 6 months, have people talked badly about you because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one knows my HIV status 5 Don't know 97 Refuse to answer 98	
q812	In the last 6 months, did someone else disclose your HIV status without your permission?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one knows my HIV status 5 Don't know 97 Refuse to answer 98	

q813	In the last 6 months, have you been verbally insulted, harassed, or threatened because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q814	In the last 6 months, have you lost your job or another source of income because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q815	In the last 6 months, have you been forced to change your place of residence or been unable to rent accommodation because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98r	
q816	In the last 6 months, have you been denied health services because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	

#### Section 9: Stigma and mental health

<b>This next set of questions will be about stigma and mental health. I will start with questions about stigma related to HIV/AIDS. Please tell me whether you agree or disagree with each of the statements.</b>			
<b>No.</b>	<b>Questions</b>	<b>Coding categories</b>	<b>Skip to</b>
q901	People with HIV/AIDS should be ashamed of themselves.	Agree 1 Disagree 2 Don't know 97 No response 98	
q902	I would feel ashamed if someone in my family had HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	
q903	I would feel ashamed if I were infected with HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	

q904	People with HIV/AIDS are promiscuous.	Agree 1 Disagree 2 Don't know 97 No response 98	
q905	It is PWID who spread HIV in the community.	Agree 1 Disagree 2 Don't know 97 No response 98	
q906	HIV/AIDS is brought as a punishment for bad behavior.	Agree 1 Disagree 2 Don't know 97 No response 98	
<b>Now I would like to ask you some questions about stigma that may affect you because you inject drugs. Please answer yes or no to the following statements that refer to your experiences as a PWID in the last six months.</b>			
q907	Have you experienced name calling, teasing and insults?	Yes 1 No 2 Don't know 97 No response 98	
q908	Have you been excluded from a social gathering?	Yes 1 No 2 Don't know 97 No response 98	
q909	Have other people lost respect for you?	Yes 1 No 2 Don't know 97 No response 98	
q910	Have you been abandoned by your loved ones?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I will ask read you some statements about experiences or fears of stigma in the context of seeking health or social services. These questions try to understand if you worry about or have experienced stigma because you are injecting drugs. For each statement, tell me whether it has never happened, has happened once, has happened a few times, or often. Or tell me whether the statement does not apply to you because you are able to hide that you are a PWID.</b>			
q911	In the last 12 months, I have felt afraid to seek health or social services because I am worried someone may learn that I am a PWID.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I am able to hide that I am a PWID 5 I don't know 97 No response 98	<b>to q913</b>     <b>to q913</b> <b>to q913</b> <b>to q913</b>



q912	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q913	In the last 12 months, I have avoided seeking health or social services because I worried I may be discriminated against because I am a PWID.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I am able to hide that I am a PWID 5 I don't know 97 No response 98	<b>to q915</b>     <b>to q915</b> <b>to q915</b> <b>to q915</b>
q914	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q915	In the last 12 months, I have avoided telling a provider that I am a PWID when accessing health or social services.	Never 1 Once 2 A few times 3 Often 4 <del>Does not apply because no one knows I am PWID 5</del> I don't know 97 No response 98	<b>to q917</b>     <b>to q917</b> <b>to q917</b>
q916	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q917	In the last 12 months I have been denied health services because I am a PWID.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I am able to hide that I am a PWID/service providers don't know 5 I don't know 97 No response 98	<b>to q919</b>     <b>to q919</b> <b>to q919</b> <b>to q919</b>

q918	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q919	In the last 12 months, I have been discriminated against by a healthcare provider because I am a PWID.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I am able to hide that I am a PWID/service providers don't know 5 I don't know 97 No response 98	to q921     to q921 to q921 to q921
q920	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q921	Do you know where to report discrimination experienced during health services?	Yes 1 No 2 Don't know 97 No response 98	to q923 to q923 to q923
q922	Where do you think discrimination should be reported? <i>Multiple responses allowed</i>	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Facility administration/staff, including calling posted phone number 7 Other, specify 88 No response 98	
<b>Next, I will ask you some questions related to how you have been feeling and your mental health.</b>			
q923	Over the last 2 weeks, how often have you had little interest or pleasure in doing things you've previously enjoyed?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't remember 97 Refuse to answer 98	
q924	Over the last 2 weeks, how often have you been feeling down, depressed or hopeless?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	

q925	Over the past two weeks, how often have you felt nervous, anxious or on edge?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	
q926	Over the past two weeks, how often have you not been able to stop or control worrying?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	

#### Section 10: Experiences with arrest and violence

Now I will ask you some questions on history of arrest and experiences of violence. These questions are personal and may make you uncomfortable. If they do, you may choose to not answer the question.			
No.	Questions	Coding Categories	Skip to
q1001	During the past <u>12 months</u> , have you been arrested?	Yes 1 No 2 No response 98	to q1003 to q1003
q1002	What were you arrested for?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Drug use 1 Aggravated assault 2 Theft 3 Engaging in commercial sex 4 Loitering 5 Selling drugs 6 Other 88 Don't know/remember 97 No response 98	
q1003	In the past <u>12 months</u> , were you beaten?	Yes 1 No 2 No response 98	to q1009 to q1009
q1004	Who was the person (or people) who physically beat you?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Police 1 Drug dealer 2 Husband/Boyfriend 3 Wife/Girlfriend 4 Friends 5 Family 6 Unknown person/ person on the street 7 One-time sex partner 8 Another PWID 9 Other 88 Don't remember 97 No response 98	
q1005	Did you report the violence to any authority?	Yes 1 No 2 No response 98	to q1008 to q1009

q1006	To whom did you report the violence?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1007	What kind of services or support did you receive?	Medical services 1 Legal services 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All skip to q1009</b>
q1008	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of discrimination from family or community 2 Fear of retaliation 3 Felt ashamed / embarrassed 4 Did not know where to go / that I should report 5 Negative experience with authorities in the past 6 Other 88 No response 98	
q1009	In the past 12 months, were you ever forced to have sex?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1101 to q1101 to q1101</b>
q1010	Who was the person (or people) who forced you to have sex?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Police 1 Drug dealer 2 Husband/Boyfriend 3 Wife/Girlfriend 4 Friends 5 Family 6 Unknown person/ person on the street 7 One-time sex partner 8 Another PWID 9 Other 88 Don't remember 97 No response 98	
q1011	Did you seek medical treatment after this happened?	Yes 1 No 2 Don't know/remember 97 No response 98	

q1012	Did you report the forced sex to any authority?	Yes No No response	<b>to q1015 to q1101</b>
q1013	To whom did you report the forced sex?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1014	What kind of services or support did you receive?	Medical 1 Legal 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All to q1101</b>
q1015	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of discrimination from family or community 2 Fear of retaliation 3 Felt ashamed / embarrassed 4 Did not know where to go / that I should report 5 Negative experience with authorities in the past 6 Other 88 No response 98	

#### Section 11: Interactions with PRH service providers

No.	Questions	Coding categories	Skip to
<b>In this section I will ask you some questions about health services you may have accessed from providers and organizations who work directly with PRH groups. First, I am going to ask you about drug treatment programs. These include out-patient, in-patient, residential, detox, and medication assisted treatment (for example, methadone maintenance treatment programs).</b>			
q1101	Are you aware of any drug treatment program in Unguja?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1105 to q1105 to q1105</b>
q1102	In the last 6 months, did you want to or try to enter a drug treatment program in Unguja?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1105 to q1105 to q1105</b>
q1103	Were you able to receive services?	Yes 1 No 2 No response 98	<b>to q1104 to q1105</b>

q1103a	<i>[Ask if q1103=1]</i> What kind of treatment did you receive? Do not include attempts on your own without professional help. SELECT ALL BUT DO NOT READ LIST, PROBE BY ASKING “Are there any other kinds of treatment that you’ve received?”	Inpatient counselling 1 Outpatient counselling 2 Peer/community counselling 3 Maintenance with methadone 4 Detoxification with other drugs 5 Other (Specify) 99 Don’t know 97 No response 98	<b>to q1106</b>
q1104	What was the main reason that you were not able to access treatment?	No family support 1 It is too expensive 2 Services are too far away 3 All of the programs in Unguja are full 4 Other, specify 88 No response 98	
q1105	Have you ever received Opioid Substitution therapy/methadone treatment?	Yes 1 No 2 No response 98	<b>to q1107 to q1107</b>
q1106	For how long were you in Opioid Substitution therapy?	Less than 6 months 1 More than 6 months 2 No response 98	
q1107	Have you ever been prescribed a medication other than methadone to help you stop using drugs?	Yes 1 No 2 No response 98	<b>to q1109 to q1109</b>
q1108	Was it any of these?  <i>Read responses to participant; select all that apply</i>	Buprenorphine alone (e.g., Subutex) 1 Buprenorphine and naloxone (e.g., Suboxone) 2 Don’t know the name of the medication 3 Tramadol 4 Valium 5 Other medication, specify 88 No response 98	
q1109	Have you ever had any other treatment or therapy for drug use (e.g., detox, rehab, counselling)?	Yes, I am currently in treatment 1 Yes, in the past 2 No, never 3 Don’t know 97 No response 98	
q1110	In the last 6 months, did you try to reduce or give up drug use?	Yes 1 No 2 Don’t know 97 No response 98	
<b>Now I would like to ask you some questions about services you might have received from a peer educator.</b>			
q1111	Have you been in contact with any health peer educator in the community in the <u>last 12 months</u> ?	Yes 1 No 2 Don’t remember 97 No response 98	<b>to q1115 to q1115 to q1115</b>

q1112	How many times have you been in contact with a peer educator in the <u>last 12 months</u> ?  <i>If exact number is not known, ask for estimate.</i>	One time only 1 Two times 2 Three times 3 Four times 4 Five or more times 5 No response 98	
q1113	What services or information did you receive from the peer educator?  <i>Read the answer choices aloud. Mark the service that applies; if they have received more than 1 service mark all that apply.</i>	General STI or HIV transmission or prevention information 1 Condoms 2 Referral for STI treatment 3 Referral for VCT 4 Referral for care and tx services 5 Referral for PMTCT or family planning 6 Referral for MAT 8 Referral to a sober house 9 Referral for TB screening 9 Bleach kit 10 Clean needles 11 Don't remember 97 No response 98 Other _____	
q1114	Did you feel that the peer educator was non-judgmental?	Yes 1 No 2 Don't know/remember 97 No response 98	
q1115	Have you visited a clinic or drop-in center in or around Unguja that provides health information or services to PWID in the past 12 months?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1201 to q1201 to q1201</b>
q1116	Was it any of these clinics?  <i>Read responses and mark all that apply.</i>	ZAYEDES 1 ZYF 2 ZANPUD 3 ZANGOC 4 JUKAMKUM 5 Sober house 6 MAT 7 ZAPHA+ 8 YOSOA 9 AYAHIZA 10 BIO 11 YFS (youth-friendly services) 12 Other 88 Don't remember 97 No response 98	

q1117	<p>Did you receive any of the following services/commodities at this clinic or drop-in center?</p> <p><i>Read responses and mark all that apply.</i></p> <p>[Note this question is asked individually for each clinic/NGO mentioned by participant in q1116 (q1116A–q1116L)].</p>	<p>Information on STI or HIV transmission or prevention 1</p> <p>Received condoms 2</p> <p>Lubricant 3</p> <p>General counseling from a peer counselor 4</p> <p>Counseling from a professional/VCT counselor 5</p> <p>Sexual and reproductive health services 6</p> <p>An HIV test 7</p> <p>Bleach kit 8</p> <p>Clean needles 9</p> <p>Information of TB 10</p> <p>Testing for hepatitis 11</p> <p>PreP 12</p> <p>ARV Services 13</p> <p>Other 88</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1118	<p>Based on the way you were treated by the staff in those facilities; would you return to those facilities for services?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know 97</p> <p>No response 98</p>	<p><b>to q1120</b></p> <p><b>to q1120</b></p> <p><b>to q1120</b></p>
q1119	<p>Which of these did you experience that makes you not want to return to those facilities?</p> <p><i>Read responses and mark all that apply.</i></p>	<p>HCWs spoke unkindly to you 1</p> <p>HCWs gossiped about you to other HCWs/clients 2</p> <p>HCWs shared information about you and your behaviors to other HCWs/clients 3</p> <p>HCWs did not take time to explain medications or procedures to you 4</p> <p>HCWs were physically abusive to you 5</p> <p>HCWs avoided physical contact with you 6</p> <p>No response 98</p>	
q1120 (a-?)	<p>ADD SERVICE MULTIPLIER QUESTIONS (example below)</p> <p>You mentioned that you received HIV testing at ZAYEDES in the past 12 months. Was that between Jan and April of this year or another time?</p> <p>Repeat for PrEP services and care and treatment services.</p>	<p>Jan–April 2023 1</p> <p>A different time 2</p> <p>I don't remember 3</p> <p>No response 98</p>	

## Section 12: Access to and experiences with other healthcare services



Now I want to ask you some questions about specific services you might have received related to HIV self-testing, prevention, hepatitis, and COVID-19. Let's start with HIV self-testing. HIV self-testing is when you are given an HIV test kit to give yourself the HIV test at your convenience. The self-test uses a mouth swab, not blood. The provider explains how to use it and the kit also comes with instructions and diagrams that explain how to perform the test.

No.	Questions	Coding categories	Skip to
q1201	Have you ever heard of HIV self-testing?	Yes 1 No 2 No response 98	to q1204 to q1204
q1202	Have you ever taken a self-test for HIV?	Yes 1 No 2 No response 98	to q1204 to q1204
q1203	Where did you receive your HIV self-test kit(s)?	ZAYEDES 1 From a peer educator (community outreach services) 2 A friend (not a peer or health care provider) 3 Other 88 No response 98	all skip to q1206
q1204	Would you use an HIV self-test if it was recommended to you?	Yes 1 No 2 No response 98	to q1206 to q1206
q1205	Why would you not use an HIV self-test?	I don't have a private space to do the test / worried others would see 1 Afraid of HIV results 2 I don't trust this test 3 I would rather / I think it is better to test at a health facility 4 I don't trust this test 5 Inconvenience of returning to the clinic after testing 6 Other (specify) 88 No response 98	
Now we will ask some questions about pre-exposure prophylaxis (PrEP). PrEP is a medicine that can prevent HIV. It is taken by HIV-negative people.			
q1206	Have you heard of PrEP?	Yes 1 No 2 Don't know 97 No response 98	to q1209 to q1209 to q1209
q1207	Have you ever taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	to q1210 to q1209 to q1215

q1208	What is the main reason you have never taken PrEP?	Embarrassed to talk about it with doctor/nurse 1 Don't feel at risk for HIV 2 Not available where I live 3 Don't know where to get it 4 Don't want it 5 Afraid of side effects 6 Don't want others to know 7 Other (Specify) 88 Don't know 97 No response 98	
q1209	<i>Skip if disclosed an HIV positive status</i> Would you take PrEP to help prevent HIV? You should know that PrEP has similar side effects to other drugs used to treat HIV and has to be taken daily.	Yes 1 No 2 Don't know 97 Refuse to answer 98	<b>All skip to q1215</b>
q1210	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1212 to q1215 to q1215</b>
q1211	Are you still on PrEP?	Yes 1 No 2 No response 98	<b>to q1213 to q1215</b>
q1212	What is the main reason you stopped taking PrEP?	I trust my sexual partners 1 Can't get PrEP anymore 2 Had side effects 3 Don't want others to know 4 Tested HIV-positive 5 Other (Specify) 6 Don't know 97 No response 98	<b>all skip to q1215</b>
q1213	Do you take PrEP daily as prescribed or non-daily as prescribed?	Daily as prescribed 1 Non-daily as prescribed 2 Other than as prescribed 3 Don't know 97 No response 98	
q1214	When was the last time you took PrEP?	Yesterday or today 1 2-3 days ago 2 4-7 days ago 3 1-2 weeks ago 4 More than 2 weeks ago 5 Don't know 97 No response 98	
<b>Now I will ask you some questions about post-exposure prophylaxis (PEP). PEP is when HIV-negative people take ARVs for one month after they had contact with HIV, for example after unsafe sex, forced sex, or sharing needles. They take PEP so that they do not get HIV.</b>			

q1215	Have you heard of PEP before today?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219 to q1219
q1216	Have you ever taken PEP?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219 to q1219
q1217	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PEP?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219
q1218	Why did you take PEP?	I had unprotected sex 1 I was raped/forced to have sex 2 I shared needles 3 Pricked with infected needle / sharp object 4 Don't know 97 No response 98	
<b>The next set of questions is about services related to hepatitis testing and vaccination.</b>			
q1219	Have you ever been tested for hepatitis?	Yes 1 No 2 Don't know/remember 97 No response 98	to q1226 to q1226 to q1226
q1220	Do you know which hepatitis you were tested for?  <i>Do not read responses. Mark all mentioned.</i>	Hepatitis B 1 Hepatitis C 2 Don't know 97 No response 98	to q1225 to q1226 to q1226
q1221	What was the result of your Hep B test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 4 No response 98	to q1225/q1226 to q1225/q1226 to q1225/q1226 to q1225/q1226
q1222	Were you vaccinated for Hep B?	Yes 1 No 2 Don't know/remember 97 No response 98	to q1225/q1226 to q1225/q1226 to q1225/q1226

q1223	Did you receive all three doses?	<p>Yes 1</p> <p>No 2</p> <p>Don't know/remember 97</p> <p>No response 98</p>	<p>to q1225/q1226</p> <p>to q1225/q1226</p> <p>to q1225/q1226</p>
q1224	Why didn't you receive all three doses?	<p>Didn't have time 1</p> <p>I travelled 2</p> <p>Nuisance 3</p> <p>Lost vaccination card 4</p> <p>Service provider not present 5</p> <p>Worried about stigma 6</p> <p>Was not important 7</p> <p>Don't remember/know 88</p> <p>No response 98</p>	<p>All to q1225 if tested for hep C; otherwise to q1226</p>
q1225	<i>[Ask when q1220=2]</i> What was the result of your Hep C test?	<p>Positive 1</p> <p>Negative 2</p> <p>Not comfortable saying 3</p> <p>Don't know/ don't remember 4</p> <p>No response 98</p>	
<b>In this last section I will ask you some questions about Covid 19 vaccination services provided by the government.</b>			
q1226	Have you ever received a Covid 19 vaccine?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	<p>to q1232</p> <p>to q1233</p> <p>to q1233</p>
q1227	Why did you receive Covid-19 vaccination? <i>Mark all that apply</i>	<p>Inspired by Ministry of Health advertisement 1</p> <p>I want to protect myself 2</p> <p>I wanted to travel 3</p> <p>Instruction from employer 4</p> <p>Advised by friends/colleagues 5</p> <p>Advised with Health provider 6</p> <p>Forced with Health provider 7</p> <p>Others (specify) 88</p> <p>No response 98</p>	
q1228	Do you have vaccine documentation you can show me? <i>Ask for evidence of vaccination</i>	<p>Yes, vaccination card shown 1</p> <p>No, vaccination card not shown 2</p>	
q1229	What type of vaccine did you receive?  <i>Read responses and mark all that apply.</i>	<p>Johnson and Johnson 1</p> <p>Pfizer 2</p> <p>Moderna 3</p> <p>Sinovax 4</p> <p>Sinopharm 5</p> <p>Sputnik 6</p> <p>Other, specify 88</p> <p>Don't know 97</p>	

q1230	How many doses of COVID-19 vaccine have you received?	One dose 1 Two doses 2 Three or more doses 3 Don't remember 97 No response 98	
q1231	When did you last receive COVID-19 vaccination? <i>Probe to get a response that can be aligned with one answer choice</i>	In the last month 1 In the last six months 2 More than 6 months 3 Don't remember 97 No response 98	<b>All skip to q1233</b>
q1232	Could you tell me why you have not been vaccinated to date?  <i>Select one.</i>	Too far away/I don't have transportation 1 I don't know where to get vaccinated 2 I am not eligible to get vaccinated 3 Operational issues (hours of operation are inconvenient, difficult to make appointment) 4 Time constraints (I don't have time off work, waiting time is too long) 5 The Covid-19 vaccine is not safe 6  I am afraid of Covid-19 side effects (i.e. infertility and become zombie) 7 I don't want to get vaccinated 9 Others (Specify) 10 Don't remember 97 No response 98	
q1233	<b>[For Female PWID]</b> Finally, I want to ask you one question about another kind of vaccine.  There is a vaccine to protect people against human papilloma virus (HPV). This virus can cause cancer in the cervix or anus.  Did you get this vaccination?	Yes 1 No 2 Don't know/remember 97 No response 98	
<b>END</b>	<b>We have reached the end of our survey. Thank you for your time and for answering our questions.</b>		

## Appendix I: Respondent driven sampling questionnaire for men who have sex with men

### Section 1: Background characteristics

First, I would like to ask you a few questions on your background, including information on your age, education, jobs and income.

No.	Questions and filters	Coding categories	Skip to
q101	How old are you ( <i>in completed years</i> )	Years _____	
q102	What is your nationality?	Tanzanian 1 Ugandan 2 Kenyan 3 Burundian 4 Rwandan 5 Other African country (specify) 6 Other Non-African country (specify) 7 No response 98	
q103	How many years of education have you completed up to now?	Never went to school 1 Madrasa only 2 Did not complete primary 3 Completed primary 4 Did not complete secondary 5 Completed secondary 6 Higher than secondary education 7 No response 98	
q104	Can you read and write in Kiswahili?	Cannot read or write 1 Can read only 2 Can read and write 3 No response 98	
q105	How long have you lived here (Unguja)?  <i>If number of years is unknown, ask for an estimate. Round up for half years (e.g., for 1 ½ years—round up to 2).</i>	Whole life 1 Less than one year 2 1-5 years 3 More than 5 years 4	<b>If 1, do not ask qn 107</b>
q106	What is your current district of residence?	Magharibi A 1 Magharibi B 2 Kusini 3 Mjini 4 Kati 5 Kaskazini A 6 Kaskazini B 7 No specific place 8 No response 98	
q107	<i>[If 1, in qn 104 do not ask qn 106]</i> Where did you live just before moving here?	Pemba 1 Mainland Tanzania 2 Outside of Tanzania 3 No response 98	

q108	What is your current marital status?  <i>Select multiple; More than one response allowed.</i>	Currently married to a woman 1 Currently married to a man 2 Living with a female partner/cohabitating 3 Living with a male partner/cohabitating 4  Separated, divorced, or widowed 5 Never married 6 No response 98	
q109	<b><u>Currently</u></b> , with whom are you living?  <i>Read out the possible answers. Circle one only.</i>	Alone 1 Spouse 2 Girlfriend 3 Boyfriend 4 With family (including extended family) 5 With friends 6 No response 98	
q110	In which ways do you earn your income?  <i>Do not read the possible answers out loud. Probe and mark all that are mentioned.</i>	Engaged in commercial sex 1 Farmer 2 Fisherman 3 Military 4 Police 5 Tourism 6 Fundi 7 Student 8 Housekeeper or maid 9 Trader 10 Driver/conductor of dala dala 11 Taxi driver 12 Boda boda driver 13 Bar/guest house worker or owner 14 Saloon 15 Teacher 16 Employed by government 17 Employed in private sector 18 Currently unemployed 19 No response 98	
q111	What was your total income earned in the <u>past month</u> ? <i>If exact amount is not known, ask for an estimate.</i>	TSh _____	
q112	In the past few months, did you participate in a study like this one where you received a green coupon (PWID study)?	Yes 1 No 2 Don't remember 97 No response 98	
q113	Did you participate in a study like this where you received a coupon 5 years ago in 2018?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q115 to q115 to q115</b>

q114	Which population was that study for?  <i>Select all mentioned</i>	PWID 1 MSM 2 Don't remember 97 No response 98	
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## Section 2: MSM Network

Now I would like to ask you some questions about other men who have sex with men that you may know, including the person who recruited you into this study.

No.	Questions	Coding categories	Skip to
q200	INTERVIEWER (DO NOT READ OUT LOUD): Is participant a seed?	Yes 1 No 2	
q201	How many MSM do you know personally? <i>If exact number is not known ask for an estimate.</i>	_ _ _	
q202	How many of these (repeat the number in q201) MSM are 15 years and above?	_ _ _	
q203	How many of these (repeat the number in question 202) MSM have you seen during the <u>past one month</u> ?	_ _ _	
q204	How many of these (repeat the number in question 203) MSM have you spoken to or seen during the <u>past two weeks</u> ?	_ _ _	
q205	What is the primary reason you decided to accept a coupon and enroll in the study?  <i>Do not read responses. Mark one response only</i>	For incentive 1 For STI/HIV test results 2 For Hepatitis B vaccine 3 Peer influence 4 Study seems interesting/useful 5 Had time to spend/I wasn't busy 6 Other 88 Don't know 97 No response 98	
q206	<i>[Do not ask if q200=1]</i>  Would you have given a coupon to the same person who gave this coupon to you?	Yes 1 No 2 No response 98	
q207	<i>[Do not ask if q200=1]</i>  Which of the following best describes your relationship to the person who referred you to this study, that is, the person who gave you this coupon?  <i>Do not read responses. Mark one response only.</i>	Stranger, someone you met for the first time 1 Someone you know, but not closely 2 Close friend, someone you know very well 3 A sexual partner 4 A family member or relation 5 Someone I injected drugs with 6 No response 98	to q210



q208	<i>[Do not ask if q200=1]</i>  About how long have you known your recruiter? <i>Do not read responses. Mark only one response.</i>	Met for the first time 1 Less than a year 2 1-3 years 3 4-6 years 4 7-10 years 5 More than 10 years 6	
q209	<i>[Do not ask if q200=1]</i>  How often do you see your recruiter? <i>Do not read responses. Mark only one response.</i>	Every day 1 More than once per week, but not every day 2 Once per week 3 Once per month 4 Less than once per month 5 No response 98	
q210	Did you ever receive this object? <i>Show object to participant</i>	Yes 1 No 2 No response 98	<b>to q300 to q300</b>
q211	When did you receive this special object? <i>Do not read responses. Mark only one response.</i>	03-10 July 2023 1 Other time 2 Don't remember 97 No response 98	<b>to q300 to q300 to q300</b>
q212	What color was the object that you received?  <i>Do not read responses. Mark all that apply as individual could have received more than one object.</i>	Green 1 Pink 2 Orange 3 Don't remember 97	

### Section 3: Sexual History

Now I would like to ask you some general questions about your sexual experience and sexual partners.

These questions are personal, but they are very important for providing health services. Please remember that your answers are confidential and completely private.

No.	Questions and filters	Coding categories	Skip to
q301	At what age did you first have sexual intercourse (anal sex) with a man?	Age [ ]   [ ] No response 98	
q303	Did your first male sex partner pay you or give you something in exchange for sex?	Yes 1 No 2 Don't know 97 No response 98	
q304	How would you describe your relationship with the first man you had sex with?	Boyfriend/partner 1 Friend/acquaintance/coworker 2 Relative 3 Stranger 4 Authority figure 5 Client 6 Other (Specify) 88 Don't know 97 No Response 98	<b>to q306 to q306 to q306 to q306 to q306 to q306 to q306 to q306</b>

No.	Questions and filters	Coding categories	Skip to
q305	What kind of “authority” was he?	Professor/teacher 1 Religious leader 2 Employer/Supervisor 3 Military man/police officer/prison guard/security guard 4 Other (Specify) 88 No response 98	
q306	Did you give consent the first time you had sex with a man?	Yes 1 No 2 Don’t know 97 No response 98	
q307	Where were you the first time you had sex with a man?	Home 1 Friend’s home 2 Stranger’s home 3 Relative’s home 4 School/Hostel 5 Madrasa 6 Hotel/Lodge 7 Others 88 Don’t know 97 No response 98	
q302	Typically, are you insertive, receptive or versatile?	Versatile 1 Insertive (Top) 2 Receptive (Bottom) 97 No response 98	
q308	The last time you had sex with a male partner, did you use a condom?	Yes 1 No 2 Don’t remember 97 No response 98	
q309	Have you ever had vaginal, or anal sex with a woman?	Yes 1 No 2 No response 98	<b>to q313 to q313</b>
q310	At what age did you <u>first</u> have sexual intercourse with a woman? (Anal and/or vaginal sex)	Age in years ____	
q311	Have you had vaginal or anal sex with a woman in the last <u>one year</u> ?	Yes 1 No 2 No response 98	
q312	The last time you had sex with a female partner, did you use a condom?	Yes 1 No 2 Don’t remember 97 No response 98	
q313	Have you bought sex in the last year? <i>This can be with a man or a woman.</i>	Yes 1 No 2 No response 98	
q314	Have you been paid for sex in the last <u>one year</u> ?  <i>This can be with a man or a woman.</i>	Yes 1 No 2 No response 98	

No.	Questions and filters	Coding categories	Skip to
q315	Does anyone in your family know that you have sex with men?	Yes 1 No 2 Don't know 97 No response 98	
q316	Have you ever had sex with a person where either of you used alcohol beforehand?	Yes 1 No 2 Don't know 97 No response 98	<b>to q318</b> <b>to q318</b> <b>to q318</b>
q317	The last time you had sex with a person where either of you used alcohol beforehand, did you use a condom?	Yes 1 No 2 Don't know 97 No response 98	
q318	Have you ever had sex with a person where either of you used drugs beforehand?	Yes 1 No 2 Don't know 97 No response 98	<b>to q401</b> <b>to q401</b> <b>to q401</b>
q319	The last time you had sex with a person where either of you used drugs beforehand, did you use a condom?	Yes 1 No 2 Don't know 97 No response 98	

#### Section 4: Sexual Behavior

Now I would like to ask you some questions about your sexual history, specific types of sex partners, and your use of condoms. When I ask about sex, I am referring to anal sex for men and anal or vaginal sex for women. These are very personal matters, but they are very important for the provision of health services. Please remember that your answers will remain completely confidential. Let's first talk about your male non-paying sexual partners.

No.	Questions	Coding categories	Skip to
q401	Have you <u>ever</u> had anal sex with a non-paying male partner?	Yes 1 No 2 No response 98	<b>to q412</b> <b>to q412</b>
q402	In the past <u>one month</u> , have you had anal sex with men where no payment was involved?	Yes 1 No 2 No response 98	<b>to q412</b> <b>to q412</b>
q403	Which types of anal sex have you had with a non-paying male partner in the past one month? Read the responses	Versatile 1 Insertive 2 Receptive 3 No response 98	<b>to q408</b> <b>to q412</b>
q404	In the past one month, how many men have you had insertive anal sex with where no payment was involved?	Number_____	

No.	Questions	Coding categories	Skip to
q405	Of all times you had insertive anal sex with non-paying men in the past one month, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never used condom 4 Don't remember 97 No response 98	
q406	The last time you had insertive anal sex with a non-paying man, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q408</b>  <b>to q408</b> <b>to q408</b>
q407	Why did you not use a condom that time?  <i>Do not read the responses; select one response</i>	Didn't think about it 1 I was with my steady partner 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Other (specify) 88 Don't remember 97 No response 98	
q408	<i>[Ask if q404 = 1 or 3]</i> <i>[If q404=2 skip to q413]</i> In the past one month, how many men have you had receptive anal sex with, where no payment was involved?	Number_____	
q409	Of all times you had receptive anal sex with non-paying men in the past one month, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never used condom 4 Don't remember 97 No response 98	
q410	The last time you had receptive anal sex with a non-paying man, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q412</b>  <b>to q412</b> <b>to q412</b>

No.	Questions	Coding categories	Skip to
q411	Why did you not use a condom that time?  <i>Do not read the responses; select one response</i>	Didn't think about it 1 I was with my steady partner 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Other (specify) 88 Don't remember 97 No response 98	
<b>These next few questions are still about non-paying sexual partners, but now I want to ask you specifically about female non-paying partners.</b>			
q412	Have you <u>ever</u> had sex with a woman where no payment was involved?	Yes 1 No 2 No response 98	<b>to q418</b> <b>to q418</b>
q413	In the <u>past one month</u> , have you had sex with a woman where no payment was involved?	Yes 1 No 2 No response 98	<b>to q418</b> <b>to q418</b>
q414	In the <u>past one month</u> , how many different women have you had sex with where no payment was involved? <i>If exact number is not known, ask for an estimate.</i>	Number _____	
q415	In the <u>past one month</u> of all times you had sex with a non-paying woman, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q416	<u>The last time</u> you had sex with a non-paying female partner, did you use a condom? <i>This could be before the past one month.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q418</b> <b>to q418</b> <b>to q418</b>

No.	Questions	Coding categories	Skip to
q417	Why did you not use a condom that time?  <i>Do not read the responses; select one response</i>	Didn't think about it 1 I was with my steady partner 2 Didn't like the feel of it 3 Didn't have any condoms 4 Too drunk/high to use 5 Things happened too fast 6 Partner objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Other (specify) 88 Don't remember 97 No response 98	
<b>Now I would like to ask you some questions about people you pay for sex. I would like to talk about both male and female partners you give money or gifts to in exchange for sex. Again, these matters are personal. Please be truthful. Let's start with male partners.</b>			
q418	Have you <u>ever</u> paid another man to have sex with you?	Yes 1 No 2 No response 98	to q429 to q429
q419	In the <u>past one month</u> , have you paid another man to have sex with you?	Yes 1 No 2 No response 98	to q429 to q429
q420	In the <u>past one month</u> , how many different men have you paid to have sex with you? <i>If exact number is not known, ask for an estimate.</i>	Number_____	
q421	Which types of anal sex have you had with a man you paid for sex in the past one month?	Versatile 1 Insertive 2 Receptive 3 No response 98	to q426 to q429
q422	Of all times you had <b>insertive</b> anal sex with a partner you paid in the <u>past one month</u> , how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q423	The last time you had insertive anal sex with a man you paid, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q426 to q426 to q426

No.	Questions	Coding categories	Skip to
q425	Why did you not use a condom that time?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 9 Other (specify) 88 Don't remember 97 No response 98	
q426	<i>[Ask if q422 = 1 or 3]</i> <i>[If q422=2 skip to q429]</i> Of all times you had <b>receptive</b> anal sex with a partner you paid in the <u>past one month</u> , how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q427	The <u>last time</u> you had receptive anal sex with a partner you paid did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	à q429  à q429 à q429
q428	Why did you not use a condom that time?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 10 Other (specify) 88 Don't remember 97 No response 98	
<b>Now let's continue with questions about people you pay for sex, but we will switch to questions about female partners.</b>			
Q429	Have you <u>ever</u> paid a woman to have sex with you?	Yes 1 No 2 No response 98	to q435 to q435
q430	In the <u>past one month</u> , have you paid any woman to have sex with you?	Yes 1 No 2 No response 98	to q435 to q435
q431	In the <u>past one month</u> , how many different women have you paid to have sex with you? <i>If exact number is not known, ask for an estimate.</i>	Number_____	

No.	Questions	Coding categories	Skip to
q432	Of all times you paid a woman for vaginal or anal sex in the past one month, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q433	The last time you paid a woman for vaginal or anal sex, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q435</b>  <b>to q435</b> <b>to q435</b>
q434	Why did you not use a condom that time?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 9 Other (specify) 88 Don't remember 97 No response 98	
<b>Now I will ask you some questions about people who pay you to have sex with them. These could be friends or people you just met who give you money or gifts to have sex with them. Again, these matters are personal but are very important for providing health services. I will start with questions about men who pay you to have sex with them, and then will ask some questions about women who pay you to have sex with them.</b>			
q435	Has a man <u>ever</u> paid you to have anal sex with him?	Yes 1 No 2 No response 98	<b>to q445</b> <b>to q445</b>
q436	In the <u>past one month</u> , has a man paid you to have anal sex with him?	Yes 1 No 2 No response 98	<b>to q445</b> <b>to q445</b>
q437	In the <u>past one month</u> , how many different men have paid you to have anal sex with them? <i>If exact number is not known, ask for an estimate.</i>	Number_____	
q438	Which types of anal sex have you had with a man you paid for sex in the past one month?	Versatile 1 Insertive 2 Receptive 3 No response 98	<b>to q442</b> <b>to q445</b>
q439	Of all times you had insertive anal sex with men who paid you in the past one month, how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	



No.	Questions	Coding categories	Skip to
q440	The last time a man paid you for insertive anal sex, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	
q441	Why did you not use a condom that time?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 9 Other (specify) 88 Don't remember 97 No response 98	
q442	<i>[Ask if q438 = 1 or 3] [If q438=2 skip to q445]</i> Of all times you had <b>receptive</b> anal sex with men who paid you in the <u>past one month</u> , how frequently did you use a condom?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	
q443	The <u>last time</u> a man paid you for receptive anal sex, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q445</b>  <b>to q445</b> <b>to q445</b>
q444	Why did you not use a condom?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 9 Other (specify) 88 Don't remember 97 No response 98	
<b>Now let us continue with questions about people who pay you for sex, but we will switch to questions about female partners.</b>			
q445	Have you ever been paid by a woman for vaginal or anal sex?	Yes 1 No 2 No response 98	<b>to q448</b> <b>to q448</b>
q446	The last time you were paid by a woman for vaginal or anal sex did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q448</b> <b>to q448</b> <b>to q448</b>

No.	Questions	Coding categories	Skip to
q447	Why did you not use a condom that time?	Didn't think about it 1 Didn't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Partner objected 6 Trust my partner 7 Too expensive 8 Condoms don't work 9 Other (specify) 88 Don't remember 97 No response 98	
<b>Now I will ask you some questions about group sex. Group sex means sex with 3 or more people.</b>			
q448	Have you <u>ever</u> had sex in a group?	Yes 1 No 2 No response 98	<b>to q501 to q501</b>
q449	Have you had sex in a group in the <u>past one month</u> ?	Yes 1 No 2 No response 98	
q450	<u>Last time</u> you had sex in a group, how many partners were there? <i>If exact number is not known, ask for an estimate.</i>	Number_____	
q451	<u>Last time</u> you had sex in a group, how many of the partners used a condom? <i>If exact number is not known, ask for an estimate.</i>	Number_____	

#### Section 5: Condom and lubricant accessibility and STIs

<b>Now I will ask you some questions about where and how you access condoms and lubricant.</b>			
No.	Questions	Coding categories	Skip to
q500	Which places or persons have you obtained condoms from in the <u>last one month</u> ?  <i>Do not read responses out loud. Multiple responses possible—select all that apply.</i>	Shop 1 Pharmacy 2 Health facility 3 Bar/Guest House/Hotel 4 Friends 5 Taxi drivers 6 Saloon 7 NGO 8 Public office 9 Peer educator 10 Partner had it 11 Bonanza 12 Hakupata kondomu 13 Other (specify) 88 Don't remember 97 No response 98	<b>to q505</b>

q501	Last time you got condoms did you pay for them?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	<p><b>to q503</b></p> <p><b>to q503</b></p> <p><b>to q503</b></p>
q502	How much did you pay for one pack of three condoms?	TSh_____	
q503	Can you obtain a condom every time you need one?	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q505</b></p> <p><b>to q505</b></p>
q504	<p>Why can't you get a condom every time you need one?</p> <p><i>Do not read responses out loud. Multiple responses possible—select all mentioned.</i></p>	<p>Costs too much 1</p> <p>Shop too far away 2</p> <p>Shops closed 3</p> <p>Pharmacy too far away 4</p> <p>Pharmacy closed 5</p> <p>Embarrassed to buy condom 6</p> <p>Don't know where to obtain 7</p> <p>Don't need condoms 8</p> <p>Things happen too fast 9</p> <p>Other (specify) 88</p> <p>No response 98</p>	
q505	<p>Have you <u>ever</u> used lubricant when having anal sex?</p> <p>By lubricant I mean something to make your own or your partner's penis slippery, so it is easier to insert.</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	<p><b>to q509</b></p> <p><b>to q509</b></p> <p><b>to q509</b></p>
q506	<p>What lubricant did you use <u>during last</u> anal sex?</p> <p><i>Do not read responses out loud. Multiple responses possible—select all mentioned.</i></p>	<p>Water-based lubricant (e.g. KY jelly) 1</p> <p>Oil (e.g. cooking oil) 2</p> <p>Normal lotion/Vaseline 3</p> <p>Saliva 4</p> <p>Don't remember 97</p> <p>No response 98</p>	
q507	Were you using a condom that time?	<p>Yes 1</p> <p>No 2</p> <p>I never use condoms 3</p> <p>Don't remember 97</p> <p>No response 98</p>	<b>to q511</b>
q508	For you, what are the reasons for using lubricant with condoms during anal sex?	<p><i>Do not read responses out loud.</i></p> <p><i>Multiple responses possible—circle all mentioned.</i></p> <p>Decrease pain/inflammation 1</p> <p>Increase feeling 2</p> <p>Decrease risk of condom breakage 3</p> <p>Prevent HIV/STI infection 4</p> <p>Don't remember 97</p> <p>No response 98</p>	

q509	In the last month, have you used a condom that broke while you were using it during anal sex?	Yes 1 No 2 Don't remember 97 No response 98	
Q510	What brands of condoms do you prefer to use? CHECK ALL THAT APPLY	Protector Plus 1 Panther (free) 2 Condomize 3 Carex 4 Vibe 5 Durex 6 Foreplay 7 Playboy 8 ESP 9 Cassanova 10 Contempo 11 Moods 12 Trust 13 Salama 14 Dume 15 Roughrider 16 Bull 17 Fiesta 18 Don't have preference 19 Others (Specify) 88 Don't know 97 No response 98	
<b>Now will ask you some questions about sexually transmitted infections.</b>			
q511	Have you ever heard of diseases that can be transmitted through sexual intercourse? (STI/STDs)?	Yes 1 No 2 Don't know/remember 97 No response 98	
q512	During the past six months, have you had unusual genital discharge?	Yes 1 No 2 Don't know/remember 97 No response 98	
q513	In the past six months, have you had pain while urinating?	Yes 1 No 2 Don't know/remember 97 No response 98	
q514	During the past six months, have you had genital/anal sores or ulcers?	Yes 1 No 2 Don't know/remember 97 No response 98	
q515	<a href="#">[Ask if yes to 512, 513, or 514]</a>  Did you seek treatment because of any of these problems?	Yes 1 No 2 Don't know/remember 97 No response 98	<b>to q518</b> <b>to q518</b> <b>to q518</b>

q516	How long did you have the symptom(s) before seeking the treatment?	Less than one week 1 More than one week/less than one month 2 More than one month 3 Don't know/remember 97 No response 98	
q517	Where did you seek treatment or medical attention when you had these symptoms?  <i>Mark all that apply.</i>	Went to govt health facility 1 Went to private health facility 2 Went to pharmacy 3 Went to traditional healer/used alternative treatment 4 Treated myself at home 5  Others (specify) 88 Don't know/remember 97 No response 98	
q518	In the last 12 months, did a healthcare provider tell you that you had a sexually transmitted disease or sexually transmitted infection, other than HIV?	Yes 1 No 2 Don't know/remember 97 No response 98	
q519	<i>[Ask if yes to 512, 513, or 514 OR yes to q518]</i> The last time you had STI symptoms or a diagnosed STI, did you tell your sexual partner about the STI?	<del>Never had an STI</del> 0 Yes 1 No 2 Don't know/remember 97 No response 98	
q520	<i>[Ask if yes to 512, 513, or 514 OR yes to q518]</i> The last time you had STI symptoms or a diagnosed STI, did you stop having sexual intercourse during that time?	Yes 1 No 2 Don't know/remember 97 No response 98	<b>to q601</b>  <b>to q601</b> <b>to q601</b>
q521	The last time you had STI symptoms or a diagnosed STI, did you always use condoms during sexual intercourse?	Yes 1 No 2 Don't know/remember 97 No response 98	

## Section 6: Drug and alcohol use

**Now I would like to ask you some questions about alcohol and drug use in the past three months, with and without a needle. Please remember that the answers to your questions are anonymous and completely private. These are personal questions but they are important for providing health services. First, we are going to ask you some questions about drinking alcohol.**

No.	Questions	Coding categories	Skip to
q601	How often do you have a drink containing alcohol? We define one standard drink containing alcohol to be [insert local context definition].	Never 1 Monthly or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 No response 98	<b>to q606</b>      <b>to q606</b>

q602	In the past one month, how often did you have a drink containing alcohol?  <i>Do not read responses - mark one response only.</i>	Never 1 Once a month or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 Don't remember 97 No response 98	
q603	How many drinks containing alcohol do you have on a typical day when you are drinking?  <i>Do not read responses. Mark one response only.</i>	1 or 2 1 3 or 4 2 5 or 6 3 7, 8 or 9 4 10 or more 5 Don't remember 97 No response 98	
q604	On one occasion, how often do you have six or more drinks?	Never 1 Less than monthly 2 Monthly 3 Weekly 4 Daily or almost daily 5 No response 98	
q605	In the last one week, have you consumed any alcohol while engaging in commercial sex?	Yes 1 No 2 No response 98	
<b>Now I am going to ask you some questions about any drugs that you might have smoked, inhaled, swallowed, or snorted during the last 3 months.</b>			
q606	Do you currently smoke any form of tobacco on a daily basis, less than daily, or not at all?	Daily 1 Less than daily 2 Not at all 3 Don't know 97 No response 98	
q607	Some people take drugs for fun or to get high. In the last 3 months, did you smoke, inhale, swallow, or snort any drugs for non-medical reasons?  <i>Here I'm talking about drugs like marijuana, hashish, khat, prescription drugs, petrol sniffing, kubar, or methamphetamine, etc.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q609 to q609 to q609</b>

q608	<p>In the last 3 months, which drugs have you smoked, inhaled, swallowed, or snorted for non-medical reasons?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Smoked hashish/marijuana 1</p> <p>Smoked crack cocaine 2</p> <p>Inhaled cocaine 3</p> <p>Smoked heroin 4</p> <p>Inhaled heroin 5</p> <p>Khat 6</p> <p>Mixed cocktail 7</p> <p>Chase the dragon 8</p> <p>Sniffed petrol, glue 9</p> <p>Valium 10</p> <p>Pain killers (prescription drugs) 11</p> <p>Kichupa 13</p> <p>Methadone 14</p> <p>Don't remember 97</p> <p>No response 98</p>	
<p><b>The next set of questions is about injection drug use. This means injecting yourself with drugs for non-medical reasons or having someone who is not a health care provider, including yourself, inject you with drugs for non-medical reasons.</b></p>			
q609	<p>Some people have tried injecting drugs for fun or to get high. Have you <u>ever</u> injected drugs?</p> <p><i>By drugs I mean heroin, prescription drugs, meth, etc.</i></p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q610	<p>Have you injected drugs in the <u>last three months</u>?</p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q611	<p><u>Last time</u> you injected drugs, what drug did you use?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Brown heroin 1</p> <p>White heroin 2</p> <p>Opium 3</p> <p>Amphetamines 4</p> <p>Prescription drugs 5</p> <p>Other (specify) 88</p> <p>Don't know/remember 97</p> <p>No response 98</p>	
q612	<p><u>Last time</u> you injected drugs, did you use a needle or syringe after someone else had used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q613	<p><u>Last time</u> you injected drugs, did you pass your syringe or needle on to someone else after you used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q614	<p><u>During the past one month</u>, on average, how often did you inject drugs?</p> <p><i>Do not read responses - mark one response only.</i></p>	<p>Once a month or less 1</p> <p>Several times a month 2</p> <p>Once a week 3</p> <p>Several times a week 4</p> <p>Once a day 5</p> <p>Several times a day 6</p> <p>Did not inject in the last one month 7</p> <p>Don't remember 97</p> <p>No response 98</p>	

**Now I would like to ask you some questions about alcohol and drug use in the past three months, with and without a needle. Please remember that the answers to your questions are anonymous and completely private. These are personal questions but they are important for providing health services. First, we are going to ask you some questions about drinking alcohol.**

No.	Questions	Coding categories	Skip to
q601	How often do you have a drink containing alcohol? We define one standard drink containing alcohol to be [insert local context definition].	Never 1 Monthly or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 No response 98	to q606      to q606
q602	In the past one month, how often did you have a drink containing alcohol?  <i>Do not read responses - mark one response only.</i>	Never 1 Once a month or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 Don't remember 97 No response 98	
q603	How many drinks containing alcohol do you have on a typical day when you are drinking?  <i>Do not read responses. Mark one response only.</i>	1 or 2 1 3 or 4 2 5 or 6 3 7, 8 or 9 4 10 or more 5 Don't remember 97 No response 98	
q604	On one occasion, how often do you have six or more drinks?	Never 1 Less than monthly 2 Monthly 3 Weekly 4 Daily or almost daily 5 No response 98	
q605	In the last one week, have you consumed any alcohol while engaging in commercial sex?	Yes 1 No 2 No response 98	

**Now I am going to ask you some questions about any drugs that you might have smoked, inhaled, swallowed, or snorted during the last 3 months.**

q606	Do you currently smoke any form of tobacco on a daily basis, less than daily, or not at all?	Daily 1 Less than daily 2 Not at all 3 Don't know 97 No response 98	
q607	Some people take drugs for fun or to get high. In the last 3 months, did you smoke, inhale, swallow, or snort any drugs for non-medical reasons?  <i>Here I'm talking about drugs like marijuana, hashish, khat, prescription drugs, petrol sniffing, kubar, or methamphetamine, etc.</i>	Yes 1 No 2 Don't remember 97 No response 98	to q609 to q609 to q609



q608	<p>In the last 3 months, which drugs have you smoked, inhaled, swallowed, or snorted for non-medical reasons?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Smoked hashish/marijuana 1</p> <p>Smoked crack cocaine 2</p> <p>Inhaled cocaine 3</p> <p>Smoked heroin 4</p> <p>Inhaled heroin 5</p> <p>Khat 6</p> <p>Mixed cocktail 7</p> <p>Chase the dragon 8</p> <p>Sniffed petrol, glue 9</p> <p>Valium 10</p> <p>Pain killers (prescription drugs) 11</p> <p>Kichupa 13</p> <p>Methadone 14</p> <p>Don't remember 97</p> <p>No response 98</p>	
<p><b>The next set of questions is about injection drug use. This means injecting yourself with drugs for non-medical reasons or having someone who is not a health care provider, including yourself, inject you with drugs for non-medical reasons.</b></p>			
q609	<p>Some people have tried injecting drugs for fun or to get high. Have you <u>ever</u> injected drugs?</p> <p><i>By drugs I mean heroin, prescription drugs, meth, etc.</i></p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q610	<p>Have you injected drugs in the <u>last three months</u>?</p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q611	<p><u>Last time</u> you injected drugs, what drug did you use?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Brown heroin 1</p> <p>White heroin 2</p> <p>Opium 3</p> <p>Amphetamines 4</p> <p>Prescription drugs 5</p> <p>Other (specify) 88</p> <p>Don't know/remember 97</p> <p>No response 98</p>	
q612	<p><u>Last time</u> you injected drugs, did you use a needle or syringe after someone else had used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q613	<p><u>Last time</u> you injected drugs, did you pass your syringe or needle on to someone else after you used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q614	<p><u>During the past one month</u>, on average, how often did you inject drugs?</p> <p><i>Do not read responses - mark one response only.</i></p>	<p>Once a month or less 1</p> <p>Several times a month 2</p> <p>Once a week 3</p> <p>Several times a week 4</p> <p>Once a day 5</p> <p>Several times a day 6</p> <p>Did not inject in the last one month 7</p> <p>Don't remember 97</p> <p>No response 98</p>	

Section 7: HIV knowledge, HIV risk, and HIV testing history

**In this next section I will ask you questions about your knowledge of HIV, your HIV testing history, and how you see your risk of HIV infection. I will start by reading some statements about HIV. Some of them are true and some are not true. These are general statements and do not refer to your own experience or behavior.**

No.	Questions	Coding categories	Skip to
q701	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?	Yes 1 No 2 Don't know 97 No response 98	
q702	Can a person get HIV from mosquito bites?	Yes 1 No 2 Don't know 97 No response 98	
q703	Can a person reduce their risk of getting HIV by using a condom every time they have sex?	Yes 1 No 2 Don't know 97 No response 98	
q704	Can a healthy-looking person have HIV?	Yes 1 No 2 Don't know 97 No response 98	
q705	Can a person get HIV by sharing food with someone who has HIV?	Yes 1 No 2 Don't know 97 No response 98	
q706	Do you agree or disagree with the following statement?"  When taken as prescribed by a health worker, HIV medications decrease the amount of HIV in the blood of people living with HIV. Therefore, the amount of virus in their blood becomes too low to detect in a laboratory test."	Agree 1 Disagree 2 Don't know 97 No response 98	
q707	Do you agree or disagree with the following statement?"  "A person living with HIV who is taking HIV medications cannot pass HIV to a sexual partner once a laboratory test can no longer detect the HIV virus in their blood."	Agree 1 Disagree 2 Don't know 97 No response 98	

**This next set of questions asks about how you see your risk for HIV and your experiences with HIV testing.**

q708	Do you know of a place where people can go to have a confidential test to find out if they are infected with HIV? <i>Confidential means that nobody will know the test result unless you want them to know.</i>	Yes 1 No 2 No response 98	
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q709	Have you <u>ever</u> had an HIV test for which you received the results?	Yes 1 No 2 No response 98	<b>to q713 to q901</b>
q710	Have you ever been for HIV counseling with your steady partner or spouse?	Yes 1 No 2 No response 98	
q711	How often do you normally test for HIV?	No pattern / routine testing 1 Every month 2 Every 3 months 3 Every 6 months 4 Once per year 5 No response 98	
q712	When did you <u>last</u> request an HIV test for which you got the results?	In the past 3 months 1 In the past 6 months 2 More than 6 months ago but within the past year 3 Over one year ago 4 Don't remember 97 No response 98	<b>All skip to q714</b>
q713	Why have you never chosen to get an HIV test?  <i>Probe and select all mentioned.</i>	Didn't know where to go 1 Don't feel at risk 2 Concerned about confidentiality 3 Negative attitude of HCWs 4 Cost 5 Distance 6 Fear of knowing status 7 Not important for me 8 Others _____ 88 Don't know 97 No response 98	<b>All skip to q716</b>
q714	What was the result of your last HIV test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/remember 97 No response 98	<b>to q716 to q716 to q716 to q716</b>
q715	Who have you talked to about your HIV positive test result?  <i>Select all mentioned.</i>	Partner/boyfriend/husband 1 Family member 2 Friends 3 Co-workers 4 Employer 5 Peer educator 6 Never disclosed to anyone 7 No response 98	<b>All to q801</b>
q716	With your current behaviors, how do you think about your risk of HIV infection?	High risk 1 Medium risk 2 Low risk 3 No risk 4 Don't know 97 No response 98	<b>to q718 to q901 to q901</b>

q717	Why do you feel that you are at risk for HIV infection?  Do not read responses; mark all mentioned.	I often change sex partners 1 I have multiple concurrent sex partners 2 I don't always use a condom 3 I have anal sex 4 I drink alcohol 5 I use drugs 6 I inject drugs 7 I have sex with WCS 8 Other (specify) 88 Don't know 97 No response 98	<b>ALL SKIP to q901</b>
q718	Why do you feel that you are not at risk for HIV infection?  Do not read responses; probe for more and mark all mentioned.	I am faithful 1 I always use condoms 2 I do not solicit or engage in commercial sex 3 I believe my sexual partner(s) is/are HIV-negative 4 Others 88 Don't know 97 No response 98	<b>ALL SKIP to q901</b>

#### Section 8: Services and experiences of PLHIV

This next set of questions asks about services that are important for people living with HIV.			
No.	Questions	Coding categories	Skip to
q801	Are you currently on ART?	Yes 1 No 2 No response 98	<b>to q803</b>  <b>to q805</b>
q802	Why are you not on ART?	Don't know where to get them 1 Scared/embarrassed to go to a facility 2 Don't think I need them 3 Doctor said I wasn't ready to start 4 Don't want them 5 Don't like side effects 6 Using traditional/local medicine instead 7 Other 88 No response 98	<b>ALL SKIP q805</b>
q803	For how long have you been on ART?	Less than 6 months 1 More than 6 months 2 Don't know 97 No response 98	<del>@ q1105</del> <b>to q805</b> <b>to q805</b>
q804	Have you had a viral load test?	Yes 1 No 2 Don't know/remember 97 No response 98	

q805	In the last 12 months, during any of your visits to the HIV clinic, were you asked if you had the following TB symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Has not visited clinic in last 12 months 3 Don't know 97 No response 98	
q806	In the last 12 months, have you experienced any of these symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Don't know 97 No response 98	
q807	In the last 12 months, did you receive a chest x-ray or sputum test to look for TB? A sputum test is when the patient has to cough and collect the sample in a cup.  <i>Check all that apply.</i>	None of these 1 Chest x-ray 2 Sputum test 3 Don't know 97 No response 98	<b>to q809 to q809 to q809 to q809</b>
q808	What was the result of your last sputum test?	TB-negative 1 TB-positive 2 Indeterminate 3 Don't know 97 No response 98	
q809	Have you ever been treated for TB?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I want to ask you a few questions about experiences of stigma and how often you may or may not have experienced them because you are HIV positive.</b>			
q810	Do you agree or disagree with the following statement? "In the last 6 months, I have felt ashamed because of my HIV status."	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Don't know 97 Refused 98	
q811	<b><i>For each of the following questions, please tell me whether you have never had the experience, had the experience once, a few times, or often, or whether it does not apply to you because no one knows your HIV status.</i></b>  In the last 6 months, have people talked badly about you because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one knows my HIV status 5 Don't know 97 Refuse to answer 98	
q812	In the last 6 months, did someone else disclose your HIV status without your permission?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one knows my HIV status 5 Don't know 97 Refuse to answer 98	

q813	In the last 6 months, have you been verbally insulted, harassed, or threatened because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q814	In the last 6 months, have you lost your job or another source of income because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q815	In the last 6 months, have you been forced to change your place of residence or been unable to rent accommodation because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98r	
q816	In the last 6 months, have you been denied health services because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	

### Section 9: Stigma and mental health

This next set of questions will be about stigma and mental health. I will start with questions about stigma related to HIV/AIDS. Please tell me whether you agree or disagree with each of the statements.			
No.	Questions	Coding categories	Skip to
q901	People with HIV/AIDS should be ashamed of themselves.	Agree 1 Disagree 2 Don't know 97 No response 98	
q902	I would feel ashamed if someone in my family had HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	
q903	I would feel ashamed if I were infected with HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	

q904	People with HIV/AIDS are promiscuous.	Agree 1 Disagree 2 Don't know 97 No response 98	
q905	It is MSM who spread HIV in the community.	Agree 1 Disagree 2 Don't know 97 No response 98	
q906	HIV/AIDS is brought as a punishment for bad behavior.	Agree 1 Disagree 2 Don't know 97 No response 98	
<b>Now I would like to ask you some questions about stigma that may affect you because you have sex with other men. Please answer yes or no to the following statements that refer to your experiences as an MSM in the last six months.</b>			
q907	Have you experienced name calling, teasing and insults?	Yes 1 No 2 Don't know 97 No response 98	
q908	Have you been excluded from a social gathering?	Yes 1 No 2 Don't know 97 No response 98	
q909	Have other people lost respect for you?	Yes 1 No 2 Don't know 97 No response 98	
q910	Have you been abandoned by your loved ones?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I will ask read you some statements about experiences or fears of stigma in the context of seeking health or social services. These questions try to understand if you worry about or have experienced stigma because you have sex with other men. For each statement, tell me whether it has never happened, has happened once, has happened a few times, or often. Or tell me whether the statement does not apply to you because you hide that you have sex with other men.</b>			
q911	In the last 12 months, I have felt afraid to seek health or social services because I am worried someone may learn that I am an MSM.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I hide that I am an MSM 5 I don't know 97 No response 98	<b>to q913</b>      <b>to q913</b> <b>to q913</b> <b>to q913</b>
q912	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	

q913	In the last 12 months, I have avoided seeking health or social services because I worried I may be discriminated against because I am an MSM.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I hide that I am an MSM 5 I don't know 97 No response 98	<b>to q915</b>     <b>to q915</b> <b>to q915</b> <b>to q915</b>
q914	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q915	In the last 12 months, I have avoided telling a provider that I am an MSM when accessing health or social services.	Never 1 Once 2 A few times 3 Often 4 I don't know 97 No response 98	<b>to q917</b>    <b>to q917</b> <b>to q917</b>
q916	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q917	In the last 12 months I have been denied health services because I am an MSM.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I hide that I am an MSM/service providers don't know 5 I don't know 97 No response 98	<b>to q919</b>    <b>to q919</b> <b>to q919</b> <b>to q919</b>
q918	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	



q919	In the last 12 months, I have been discriminated against by a healthcare provider because I am an MSM.	Never 1 Once 2 A few times 3 Often 4 Does not apply because I hide that I am an MSM/service providers don't know 5 I don't know 97 No response 98	to q921     to q921 to q921 to q921
q920	Which services were these?	General health 1 Sexual and reproductive health 2 HIV Testing 3 HIV Treatment 4 Social protection 5 I don't know 97 Other, specify 88 No response 98	
q921	Do you know where to report discrimination experienced during health services?	Yes 1 No 2 Don't know 97 No response 98	to q923 to q923 to q923
q922	Where do you think discrimination should be reported? <i>Multiple responses allowed</i>	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Facility administration/staff, including calling posted phone number 7 Other, specify 88 No response 98	
<b>Next, I will ask you some questions related to how you have been feeling and your mental health.</b>			
q923	Over the last 2 weeks, how often have you had little interest or pleasure in doing things you've previously enjoyed?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't remember 97 Refuse to answer 98	
q924	Over the last 2 weeks, how often have you been feeling down, depressed or hopeless?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	
q925	Over the past two weeks, how often have you felt nervous, anxious or on edge?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	

q926	Over the past two weeks, how often have you not been able to stop or control worrying?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	
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#### Section 10: Experiences with arrest and violence

Now I will ask you some questions on violence and history of arrest. These questions are personal and may make you uncomfortable. If they do, you may choose to not answer the question.			
No.	Questions	Coding Categories	Skip to
q1001	During the past <u>12 months</u> , have you been arrested?	Yes 1 No 2 No response 98	to q1003 to q1003
q1002	What were you arrested for?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Drug use 1 Aggravated assault 2 Theft 3 Engaging in commercial sex 4 Loitering 5 Selling drugs 6 They suspected I am an MSM 7 Road traffic offenses 8 Other 88 Don't know/remember 97 No response 98	
q1003	In the past <u>12 months</u> , were you beaten?	Yes 1 No 2 No response 98	to q1009 to q1009
q1004	Who was the person (or people) who physically beat you?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Police 1 Family member 2 One-time sex partner 3 Boyfriend 4 Wife/girlfriend 5 Co-worker 6 School mate 7 Friend 8 Unknown person 9 Don't remember 97 No response 98	
q1005	Did you report the violence to any authority?	Yes 1 No 2 No response 98	to q1008 to q1009

q1006	To whom did you report the violence?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1007	What kind of services or support did you receive?	Medical services 1 Legal services 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All skip to q1009</b>
q1008	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of retaliation 2 Felt ashamed / embarrassed 3 Did not know where to go / that I should report 4 Negative experience with authorities in the past 5 Other 88 No response 98	
q1009	In the past 12 months, were you ever forced to have sex?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1101 to q1101 to q1101</b>
q1010	Who was the person (or people) who forced you to have sex?	Police 1 Family member 2 One-time sex partner 3 Boyfriend 4 Wife/girlfriend 5 Co-worker 6 School mate 7 Friend 8 Unknown person 9 Don't remember 97 No response 98	
q1011	Did you seek medical treatment after this happened?	Yes 1 No 2 Don't know/remember 97 No response 98	
q1012	Did you report the forced sex to any authority?	Yes No No response	<b>to q1015 to q1101</b>

q1013	To whom did you report the forced sex?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1014	What kind of services or support did you receive?	Medical 1 Legal 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All to q1101</b>
q1015	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of retaliation 2 Felt ashamed / embarrassed 3 Did not know where to go / that I should report 4 Negative experience with authorities in the past 5 Other 88 No response 97	

#### Section 11: Interactions with PRH service providers

In this section I will ask you some questions about health services you may have accessed from providers and organizations who work directly with PRH groups. First I will ask you about services you might have received from a peer educator.			
No.	Questions	Coding categories	Skip to
q1101	Have you been in contact with any health peer educator in the community in the <u>last 12 months</u> ?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1105</b> <b>to q1105</b> <b>to q1105</b>
q1102	How many times have you been in contact with a peer educator in the <u>last 12 months</u> ?  <i>If exact number is not known, ask for estimate.</i>	One time only 1 Two times 2 Three times 3 Four times 4 Five or more times 5 No response 98	

q1103	<p>What services or information did you receive from the peer educator?</p> <p><i>Read the answer choices aloud. Mark the service that applies; if they have received more than 1 service mark all that apply.</i></p>	<p>Information on STI or HIV transmission or prevention 1</p> <p>Received Condoms 2</p> <p>Lubricant 3</p> <p>General counseling from a peer counsellor 4</p> <p>Counseling from a professional/VCT counselor 5</p> <p>Referral for STI treatment 6</p> <p>Information about TB 7</p> <p>Referral for TB screening 8</p> <p>Referral for care and treatment services 9</p> <p>Sexual and reproductive health services 10</p> <p>An HIV test 11</p> <p>PreP 12</p> <p>Other, (specify) 88</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1104	<p>Did you feel that the peer educator was non-judgmental?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/remember 97</p> <p>No response 98</p>	
q1105	<p>Have you visited a clinic or drop-in center in or around Unguja that provides health information or services to MSM in the past 12 months?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	<p><b>to q1201</b></p> <p><b>to q1201</b></p> <p><b>to q1201</b></p>
q1106	<p>Was it any of these clinics?</p> <p><i>Read responses and mark all that apply.</i></p>	<p>ZAYEDES 1</p> <p>ZYF 2</p> <p>ZANGOC 3</p> <p>YOSOA 4</p> <p>AYAHIZA 5</p> <p>BIO 6</p> <p>Youth Friendly Services (YFS) 7</p> <p>Other, (specify) 88</p> <p>Don't remember 97</p> <p>No response 98</p>	

q1107	<p>Did you receive any of the following services at this clinic or drop-in center?</p> <p><i>Read responses and mark all that apply.</i></p> <p>[Note this question is asked individually for each clinic/NGO mentioned by participant in q1106 (q1106A–q1106L)].</p>	<p>Information on STI or HIV transmission or prevention 1</p> <p>Received Condoms 2</p> <p>Lubricant 3</p> <p>General counseling from a peer counsellor 4</p> <p>Counseling from a professional/VCT counselor 5</p> <p>Referral for STI treatment 6</p> <p>Information about TB 7</p> <p>Referral for TB screening 8</p> <p>Referral for care and treatment services 9</p> <p>Sexual and reproductive health services 10</p> <p>An HIV test 11</p> <p>PreP 12</p> <p>ART services 13</p> <p>Other, (specify) 88</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1108	Based on the way you were treated by the staff in those facilities; would you return to those facilities for services?	<p>Yes 1</p> <p>No 2</p> <p>Don't know 97</p> <p>No response 98</p>	<p><b>to q1110</b></p> <p><b>to q1110</b></p> <p><b>to q1110</b></p>
q1109	<p>Which of these did you experience that makes you not want to return to that facility?</p> <p><i>Read responses and mark all that apply.</i></p>	<p>HCWs spoke unkindly to you 1</p> <p>HCWs gossiped about you to other HCWs/clients 2</p> <p>HCWs shared information about you and your behaviors to other HCWs/clients 3</p> <p>HCWs did not take time to explain medications or procedures to you 4</p> <p>HCWs were physically abusive to you 5</p> <p>HCWs avoided physical contact with you 6</p> <p>No response 98</p>	
q1110	You mentioned that you received PrEP services at ZAYEDES in the past 12 months. Was that between April and June of this year or another time?		
Q1111	You mentioned that you received care and treatment services at ZAYEDES in the past 12 months. Was that between April and June of this year or another time?		

## Section 12: Access to and experiences with other healthcare services

**Now I want to ask you some questions about specific services you might have received related to HIV self-testing, prevention, hepatitis, and COVID-19. Let's start with HIV self-testing. HIV self-testing is when you are given an HIV test kit to give yourself the HIV test at your convenience. The self-test uses a mouth swab, not blood. The provider explains how to use it and the kit also comes with instructions and diagrams that explain how to perform the test.**

No.	Questions	Coding categories	Skip to
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q1201	Have you ever heard of HIV self-testing?	Yes 1 No 2 No response 98	<b>to q1204 to q1204</b>
q1202	Have you ever taken a self-test for HIV?	Yes 1 No 2 No response 98	<b>to q1204 to q1204</b>
q1203	Where did you receive your HIV self-test kit(s)?	ZAYADESA clinic 1 From a peer educator (community outreach services) 2 A friend (not a peer or health care provider) 3 Other 88 Don't remember 97 No response 98	<b>All skip to q1206</b>
q1204	Would you use an HIV self-test if it was recommended to you?	Yes 1 No 2 No response 98	<b>to q1206 to q1206</b>
q1205	Why would you not use an HIV self-test?	I don't have a private space to do the test / worried others would see 1 Afraid of HIV results 2 I don't trust this test 3 I would rather test at a health facility 4 Other (specify) 88 No response 98	
<b>Now we will ask some questions about pre-exposure prophylaxis (PrEP). PrEP is a medicine that can prevent HIV. It is taken by HIV-negative people.</b>			
q1206	Have you heard of PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1209 to q1209 to q1209</b>
q1207	Have you ever taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1210 to q1209 to q1215</b>
q1208	What is the main reason you have never taken PrEP?	Embarrassed to talk about it with doctor/nurse 1 Don't feel at risk for HIV 2 Not available where I live 3 Don't know where to get it 4 Don't want it 5 Afraid of side effects 6 Don't want others to know 7 Other (Specify) 88 Don't know 97 No response 98	
q1209	<i>Skip if disclosed an HIV positive status</i> Would you take PrEP to help prevent HIV? You should know that PrEP has similar side effects to other drugs used to treat HIV and has to be taken daily.	Yes 1 No 2 Don't know 97 Refuse to answer 98	<b>All skip to q1215</b>

q1210	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1212 to q1215 to q1215</b>
q1211	Are you still on PrEP?	Yes 1 No 2 No response 98	<b>to q1213 to q1215</b>
q1212	What is the main reason you stopped taking PrEP?	I trust my sexual partners 1 Can't get PrEP anymore 2 Had side effects 3 Don't want others to know 4 Tested HIV-positive 5 Other (Specify) 6 Don't know 97 No response 98	<b>All skip to q1215</b>
q1213	Do you take PrEP daily as prescribed or non-daily as prescribed?	Daily as prescribed 1 Non-daily as prescribed 2 Other than as prescribed 3 Don't know 97 No response 98	
q1214	When was the last time you took PrEP?	Yesterday or today 1 2-3 days ago 2 4-7 days ago 3 1-2 weeks ago 4 More than 2 weeks ago 5 Don't know 97 No response 98	
<b>Now I will ask you some questions about post-exposure prophylaxis (PEP). PEP is when HIV-negative people take ARVs for one month after they had contact with HIV, for example after unsafe sex, forced sex, or sharing needles. They take PEP so that they do not get HIV.</b>			
q1215	Have you heard of PEP before today?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1219 to q1219 to q1219</b>
q1216	Have you ever taken PEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1219 to q1219 to q1219</b>
q1217	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1219 to q1219</b>
q1218	Why did you take PEP?	I had unprotected sex 1 I was raped/forced to have sex 2 I shared needles 3 Don't know 97 No response 98	
<b>The next set of questions is about services related to hepatitis testing and vaccination.</b>			



q1219	Have you ever been tested for hepatitis?	Yes 1 No 2 Don't know/remember 97 No response 98	<b>to q1226</b> <b>to q1226</b> <b>to q1226</b>
q1220	Do you know which hepatitis you were tested for?  <i>Do not read responses. Mark all mentioned.</i>	Hepatitis B 1 Hepatitis C 2 Don't know 97 No response 98	<b>to q1225</b> <b>to q1226</b> <b>to q1226</b>
q1221	What was the result of your Hep B test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 4 No response 98	<b>to q1225/q1226</b> <b>to q1225/q1226</b> <b>to q1225/q1226 to q1225/q1226</b>
q1222	Were you vaccinated for Hep B?	Yes 1 No 2 Don't know/remember 97 No response 98	<b>to q1225/q1226</b> <b>to q1225/q1226</b> <b>to q1225/q1226</b>
q1223	Did you receive all three doses?	Yes 1 No 2 Don't know/remember 97 No response 98	<b>to q1225/q1226</b> <b>to q1225/q1226</b> <b>to q1225/q1226</b>
q1224	Why didn't you receive all three doses?	Didn't have time 1 I travelled 2 Nuisance 3 Lost vaccination card 4 Service provider not present 5 Worried about stigma 6 Was not important 7 Don't remember/know 88 No response 98	<b>All to q1225 if tested for hep C; otherwise to q1226</b>
q1225	<i>[Ask when q1220=2]</i> What was the result of your Hep C test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 4 No response 98	
<b>In this last section I will ask you some questions about Covid 19 vaccination services provided by the government.</b>			
q1226	Have you ever received a Covid 19 vaccine?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1232</b> <b>to q1233</b> <b>to q1233</b>
q1227	Why did you receive Covid-19 vaccination? <i>Mark all that apply</i>	Inspired by Ministry of Health advertisement 1 I want to protect myself 2 I wanted to travel 3 Instruction from employer 4 Advised by friends/colleagues 5 Advised with Health provider 6 Forced with Health provider 7 Others (specify) 8 No response 98	

q1228	Do you have vaccine documentation you can show me? <i>Ask for evidence of vaccination</i>	Yes, vaccination card shown 1 No, vaccination card not shown 2	
q1229	What type of vaccine did you receive?  <i>Read responses and mark all that apply.</i>	Johnson and Johnson 1 Pfizer 2 Moderna 3 Sinovax 4 Sinopharm 5 Sputnik 6 Other, specify 88 Don't know 97	
q1230	How many doses of COVID-19 vaccine have you received?	One dose 1 Two doses 2 Three or more doses 3 Don't remember 97 No response 98	
q1231	When did you last receive COVID-19 vaccination? <i>Probe to get a response that can be aligned with one answer choice</i>	In the last month 1 In the last six months 2 More than 6 months 3 Don't remember 97 No response 98	<b>All skip to q1233</b>
q1232	Could you tell me why you have not been vaccinated to date?  <i>Select one.</i>	Too far away/I don't have transportation 1 I don't know where to get vaccinated 2 I am not eligible to get vaccinated 3 The hours of operation are inconvenient 4 Time constraints: it is difficult to find or make an appointment/ I am too busy to get vaccinated/ I don't have time off work 5 The waiting time is too long 6 I feel Covid-19 vaccination is not safe 7 I am afraid of Covid-19 side effects (i.e. infertility and become zombie) 8 I don't want to get vaccinated 9 Others (Specify) 10 Don't remember 97 No response 98	
q1233	Finally, I want to ask you one question about another kind of vaccine.  There is a vaccine to protect people against human papilloma virus (HPV). This virus can cause cancer in the cervix or anus.  Did you get this vaccination?	Yes 1 No 2 Don't know/remember 97 No response 98	

END	We have reached the end of our survey. Thank you for your time and for answering our questions.
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## Appendix J: Respondent driven sampling questionnaire for women engaged in commercial sex and sexually exploited girls

### Section 1: Background characteristics

First, I would like to ask you a few questions on your background, including information on your age, education, jobs, and income.			
No.	Questions and filters	Coding categories	Skip to
q101	How old are you? <i>In completed years</i>	Years _____	
q102	How many years of education have you completed up to now?	Never went to school 1 Madrasa only 2 Did not complete primary 3 Completed primary 4 Did not complete secondary 5 Completed secondary 6 Higher than secondary education 7 No response 98	
q103	Can you read and write in Kiswahili?	Cannot read or write 1 Can read only 2 Can read and write 3 No response 98	
q104	How long have you lived here (Unguja)?  <i>If number of years is unknown, ask for an estimate. Round up for half years (e.g., for 1 ½ years—round up to 2).</i>	Whole life 1 Less than one year 2 1-5 years 3 More than 5 years 4	<b>If 1, do not ask qn 106</b>
q105	What is your current district of residence?	Magharibi A 1 Magharibi B 2 Kusini 3 Mjini 4 Kati 5 Kaskazini A 6 Kaskazini B 7 No specific place 8 No response 98	
q106	<i>[If 1, in qn 104 do not ask qn 106]</i> Where did you live just before moving here?	Pemba 1 Mainland Tanzania 2 Outside of Tanzania 3 No response 98	
q107	What is your current marital status?  <i>Do not read out the possible answers. Mark only one response.</i>	Currently married 1 Living with partner/cohabitating 2 Separated, divorced or widow 3 Never married 4 No response 98	
q108	What kind of place do you live in?  <i>Read answers aloud Select only one</i>	Private residence 1 Danguro (Brothel) 2 Guesthouse/Bar/Hotel 3 Other (please specify) 88 <del>Don't know</del> 97 Refuse to answer 98	

q109	<p><b><u>Currently</u></b>, who do you live with?</p> <p><i>Read out the possible answers. Circle one only.</i></p>	<p>Alone 1</p> <p>Boyfriend/ husband 2</p> <p>With family (including extended family) 3</p> <p>With friends 4</p> <p>Other WCS 5</p> <p><del>No fixed address (unsettled) 6</del></p> <p>Other (specify) 88</p> <p>No response 98</p>	
q110	<p>How much income did you earn in the <u>past month</u>?</p> <p><i>If exact amount is not known, ask for an estimate.</i></p>	TSh _____	
q110a	Is commercial sex your primary source of income?	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	
q111	<p>Other than commercial sex, what kinds of things do you do to earn money?</p> <p><i>Do not read the possible answers out loud. Probe and mark all that are mentioned.</i></p>	<p>No other income 1</p> <p>Private business 2</p> <p>Employed in government/parastatal 3</p> <p>Employed in private sector 4</p> <p>Tourism 5</p> <p>Teacher 6</p> <p>Selling drugs 7</p> <p>Petty trading 8</p> <p>Illegal activities 9</p> <p>Self-employed 10</p> <p>Musician 11</p> <p>Other (specify) 88</p> <p>No response 98</p>	
q112	Did you recently [during the current survey] participate in a study like this one where you received a green coupon (PWID)?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q113	Did you participate in a study like this one where you received a coupon 4-5 years ago in 2019?	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	<p><b>to q115</b></p> <p><b>to q115</b></p> <p><b>to q115</b></p>
q114	<p>Which population was that study for?</p> <p><i>Select all mentioned</i></p>	<p>PWID 1</p> <p>WCS 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q115	Do you have biological children?	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q200</b></p> <p><b>to q200</b></p>
q116	How many biological children do you have?	_____	

## Section 2: WCS Network

Now I would like to ask you some questions about other WCS that you may know, including the person who recruited you into this study.			
No.	Questions	Coding categories	Skip to
q200	INTERVIEWER: Is participant a seed?	Yes 1 No 2	
q201	How many WCS do you know personally living in Unguja? <i>If the exact number is unknown, as for an estimate.</i>	_ _ _	
q202	How many of these (repeat the number in q201) WCS are 15 years and above?	_ _ _	
q203	How many of these (repeat the number in q202) WCS have you seen during the <u>past one month</u> ?  _ _ _		
q204	Of these (repeat number in q203) WCS, how many have you spoken to or seen in the last two weeks?	_ _ _	
q205	What is the primary reason you decided to accept a coupon and enroll in the study?  <i>Do not read responses. Circle one response only.</i>	For incentive 1 For STI/HIV test results 2 For Hepatitis B vaccine 3 Peer influence 4 Study seems interesting/useful 5 Had time to spend/I wasn't busy 6 Other 88 Don't know 97 No response 98	
q206	<i>[Do not ask if q200=1]</i> Would you have given a coupon to the same person who gave this coupon to you?	Yes 1 No 2 No response 98	
q207	<i>[Do not ask if q200=1]</i>  Which of the following best describes your relationship to the person who referred you to this study, that is, the person who gave you this coupon?  <i>Read the responses to the participant. Mark only one response.</i>	A stranger, someone you met for the first time 1 Someone you know, but not closely 2 A close friend, someone you know very well 3 A family member or relation 4 A pimp 5 A brothel owner 6 No response 98	<b>to q210</b>
q208	<i>[Do not ask if q200=1]</i>  About how long have you known your recruiter? <i>Do not read responses. Mark only one response.</i>	Met for the first time 1 Less than a year 2 1-3 years 3 4-6 years 4 7-10 years 5 More than 10 years 6	

q209	<i>[Do not ask if q200=1]</i> How often do you see your recruiter? <i>Do not read responses. Mark only one response.</i>	Every day 1 More than once per week, but not every day 2 Once per week 3 Once per month 4 Less than once per month 5 No response 98	
q210	Did you ever receive this object? <i>Show orange object to participant</i>	Yes 1 No 2 No response 98	to q301 to q301
q211	When did you receive this special object?	4 <sup>th</sup> –14 <sup>th</sup> May, 2023 1 Other time 2 No response 98	to q301 to q301
q212	What color was the object that you received?  <i>Do not read responses. Mark all that apply as individual could have received more than one object.</i>	Green 1 Orange 2 Don't remember 97	

### Section 3: General Commercial Sex Questions

Now I will ask you some general questions about commercial sex. Please remember that your responses are anonymous and completely private.			
No.	Questions	Coding categories	Skip to
q302	Where is your <u>primary</u> place to meet clients?  <i>Select one.</i>	Pub/bar 1 Full moon party 2 Disco/night club 3 Private houses (rented room) 5 Guesthouse 6 Hotel 7 Brothel 8 On the streets 9 By telephone 10 Through an agent 11 Internet or social media, incl. WhatsApp 12 Social gatherings/congregations/festivals 13 Other (specify) 88	
q303	The <u>last time</u> you had sexual intercourse with a client, how much were you paid? <i>If exact amount is not known, ask for an estimate.</i>	_____ TSh	
q304	What is the smallest amount you have ever been paid for sexual intercourse? <i>If exact amount is not known, ask for an estimate.</i>	_____ TSh	
q305	What is the largest amount you have ever been paid for sexual intercourse? <i>If exact amount is not known, ask for an estimate.</i>	_____ TSh	

q306	On the <u>last day</u> you worked, how many clients did you have? <i>If exact number of clients is not known, ask for an estimate.</i>	_____ (write in number)	
q307	On the <u>last day</u> you worked, did you use a condom with the last client you had?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q309</b>  <b>to q309</b> <b>to q309</b>
q308	Why didn't you and your client use a condom that time?  <i><u>Do not read responses; mark one response only.</u></i>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my client 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other 88 Don't remember 97 No response 98	
q309	Do you have someone who helps you meet clients or acts as an 'agent'?	Yes 1 No 2 No response 98	
q310	Does anyone in your family know that you engage in commercial sex?	Yes 1 No 2 No response 98	<b>to q401</b> <b>to q401</b>

#### Section 4: Sexual History and Commercial Sex Practices

Now I will ask you some questions about your sexual history, sex partners, and use of condoms.			
No.	Questions	Coding categories	Skip to
q401	How old were you when you had sexual intercourse (vaginal or anal sex) for the <u>first</u> time? <i>If exact age is not known, ask for an estimate.</i>	_____ years	
q402	How would you describe the first person you had sex with?	Boyfriend/girlfriend/partner 1 Friend/acquaintance/coworker 2 Relative 3 Stranger 4 Authority figure 5 Client 6 Other (Specify) 88 Don't know 97 No response 98	<b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b> <b>to q404</b>



q403	What kind of “authority” was he?	Professor/teacher 1 Religious leader 2 Employer/Supervisor 3 Military man/police officer/prison guard/security guard 4 Other (Specify) 88 No response 98	
q404	The last time you had sex with this person, did you have vaginal, anal sex or both???????????	Vaginal 1 Anal 2 Both 3 Oral 4 No response 98	
q405	How old were you when you engaged in commercial sex for the <u>first</u> time? <i>If exact age is not known, ask for an estimate.</i>	_____ years	
q406	When you started engaging in commercial sex, what was the most important reason?  <i>Choose only one response.</i>	Needed money to help family 1 Needed money to pay a debt 2 Was forced 3 Like to do it/pleasure 4 Friends/family were doing it 5 Good/ added income 6 Abandoned by husband/family 7 Other, (specify) 88 No response 98	
q407	Have you ever had sex with a person where either of you used alcohol beforehand?	Yes 1 No 2 Don’t remember 97 No response 98	<b>to q409 to q409 to q409</b>
q408	The last time you had sex with a person where either of you used alcohol beforehand, did you use a condom?	Yes 1 No 2 Don’t remember 97 No response 98	
q409	Have you ever had sex with a person where either of you used drugs beforehand?	Yes 1 No 2 Don’t remember 97 No response 98	<b>to q411 to q411 to q411</b>
q410	The last time you had sex with a person where either of you used drugs beforehand, did you use a condom?	Yes 1 No 2 Don’t remember 97 No response 98	
q411	The last time you had sex with any type of partner, did you use a condom?	Yes 1 No 2 Don’t remember 97 No response 98	
<b>Now I want to ask you some questions about sex with different kinds of sexual partners. Let’s start with your steady partner. A steady partner is someone you are committed to and have sex with regularly, for example, a spouse, live-in partner, or boyfriend.</b>			
q412	<i>[Only ask if q107 marital status = 3 = never married]</i> Have you ever had a steady partner?	Yes 1 No 2 No response 98	<b>to q421 to q421</b>

q413	In the past <u>one month</u> , have you had sex with a steady partner?	Yes 1 No 2 <del>Does not have steady partner 96</del> Don't remember 97 No response 98	to q419 <del>to q421</del> to q419 to q419
q414	In the past <u>one month</u> , how often have you used condoms with your steady partner?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	to q417 to q419
q415	In the past <u>one month</u> , did you refuse to have sex with a steady partner if a condom was not used?	Yes 1 No 2 No response 98	
q416	The <u>last time</u> you had sex with a steady partner, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q418 to q419 to q419
q417	Why didn't you and your partner use a condom the last time you had sex?  <i>Do not read responses; mark one response only.</i>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my client 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other, (specify) 88 Don't remember 97 No response 98	All skip to q419
q418	Who suggested condom use?	Myself 1 My partner 2 Mutual decision 3 Don't remember 97 No response 98	
q419	Do you think your steady partner has ever used drugs?	Yes 1 No 2 Don't know 97 No response 98	to q421 to q421 to q421
q420	Do you think your steady partner has ever injected drugs?	Yes 1 No 2 Don't know 97 No response 98	
<b>Casual, non-paying partners—Now I will ask some questions about casual, non-paying partners. These are partners who you have sex with now and then without any expectation of payment or exchange of goods for sex.</b>			

q421	Have you ever had sex with a casual, non-paying partner?	Yes 1 No 2 No response 98	to q430 to q430
q422	In the past <u>one month</u> , have you had sex with a casual, non-paying partner?	Yes 1 No 2 <del>Does not have casual, non-paying 3</del> Don't remember 97 No response 98	to q428 to q428 to q428
q423	In the past <u>one month</u> , how often have you used condoms with your casual, non-paying partners?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	to q426 to q428
q424	In the past <u>one month</u> , did you refuse to have sex with a casual, non-paying partner if a condom was not used?	Yes 1 No 2 Don't remember 97 No response 98	
q425	The <u>last time</u> you had sex with a casual, non-paying partner, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q427 to q428 to q428
q426	Why didn't you and your partner use a condom the last time you had sex?  <i><u>Do not read responses; mark one response only.</u></i>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other 88 Don't remember 97 No response 98	All skip to q428
q427	Who suggested condom use?	Myself 1 My partner 2 Mutual decision 3 Don't remember 97 No response 98	
q428	Do you think your casual partner has ever used drugs?	Yes 1 No 2 Don't know 97 No response 98	to q430 to q430 to q430
q429	Do you think your casual partner has ever injected drugs?	Yes 1 No 2 Don't know 97 No response 98	

One-time clients - Now I will ask you about one-time time clients. These are paying clients you have sex with only once.			
q430	Have you ever had a one-time client?	Yes 1 No 2 Don't remember 97 No response 98	to q439 to q439 to q439
q431	In the past <u>one month</u> , have you had sex with a one-time client?	Yes 1 No 2 Don't remember 97 No response 98	q437 q437 q437
	<del>In the last one month, how many different men paid you money, goods or services for sex that were one-time clients?</del>	<del>Does not have one-time clients 96</del> <del>No response 98</del>	<del>to q436</del> <del>to q436</del> <del>to q436</del>
q432	In the past <u>one month</u> , how often have you used condoms with your one-time clients?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	to q435 to q437
q433	In the past <u>one month</u> , did you refuse to have sex with a one-time client if a condom was not used?	Yes 1 No 2 No response 98	
q434	The <u>last time</u> you had sex with a one-time client, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q436 to q437 to q437
q435	Why didn't you and your partner use a condom the last time you had sex?  <u>Do not read responses; mark one response only.</u>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my partner 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other 88 Don't remember 97 No response 98	All skip to q437
q436	Who suggested condom use?	Myself 1 My partner 2 Mutual decision 3 Don't remember 97 No response 98	

q437	Do you think any of your one-time clients have ever used drugs?	Yes 1 No 2 Don't know 97 No response 98	to q439 to q439 to q439
q438	Do you think any of your one-time clients have ever injected drugs?	Yes 1 No 2 Don't know 97 No response 98	
<b>Regular clients - Now I want to ask you about regular clients. These are paying clients that you have sex with regularly in exchange for money and/or gifts.</b>			
q439	Have you ever had a regular client?	Yes 1 No 2 Don't remember 97 No response 98	to q448 to q448 to q448
q440	In the past <u>one month</u> , have you had sexual intercourse with regular clients?	Yes 1 No 2 <del>Does not have regular clients</del> 96 Don't remember 97 No response 98	to q446 to q446 to q446
q441	In the past <u>one month</u> , how often have you used condoms with your regular clients?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	to q444 to q444
q442	In the past <u>one month</u> , did you refuse to have sex with a regular client if a condom was not used?	Yes 1 No 2 No response 98	
q443	The <u>last time</u> you had sex with a regular client, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q445 to q446 to q446
q444	Why didn't you and your partner use a condom that time?  <i><u>Do not read responses; mark one response only.</u></i>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my client 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other 88 Don't remember 97 No response 98	All skip to q446

q445	Who suggested condom use?	Myself 1 My partner 2 Mutual decision 3 Don't remember 97 No response 98	
q446	Do you think any of your regular clients have ever used drugs?	Yes 1 No 2 Don't know 97 No response 98	to q448 to q448 to q448
q447	Do you think any of your regular clients have ever injected drugs?	Yes 1 No 2 Don't know 97 No response 98	
<b>Tourist/Foreign clients - Now I want to ask you about tourist/foreigners you have sex with in exchange for money and/or gifts.</b>			
q448	Have you ever had a tourist or foreign client?	Yes 1 No 2 Don't remember 97 No response 98	to q501 to q501 to q501
q449	In the past <u>one month</u> , have you had sexual intercourse with any tourists/foreigners?	Yes 1 No 2 Does not have tourists/foreigners clients 96 Don't remember 97 No response 98	to q455 to q455 to q455
q450	In the past <u>one month</u> , how often have you used condoms with your tourist/foreigner clients?	Always 1 Most of the time 2 Occasionally 3 Never 4 Don't remember 97 No response 98	to q453 to q453
q451	In the past <u>one month</u> , did you refuse to have sex with a tourist/foreigner if a condom was not used?	Yes 1 No 2 No response 98	
q452	The <u>last time</u> you had sex with a tourist/foreigner, did you use a condom?	Yes 1 No 2 Don't remember 97 No response 98	to q454 to q455 to q455

q453	Why didn't you and your partner use a condom the last time you had sex with a tourist/foreigner?  <i>Do not read responses; mark one response only.</i>	Didn't think about it 1 Don't like the feel of it 2 Didn't have any condoms 3 Too drunk/high to use 4 Things happened too fast 5 Wanted to get pregnant 6 Client objected 7 Trust my client 8 Too expensive 9 Condoms don't work 10 Client paid more for sex without a condom 11 Other 88 Don't remember 97 No response 98	<b>All skip to q455</b>
q454	Who suggested condom use?	Myself 1 My partner 2 Mutual decision 3 Don't remember 97 No response 98	
q455	Do you think any of your tourist/foreigner clients you had sex with have ever used drugs?	Yes 1 No 2 Don't know 97 No response 98	<b>to q501 to q501 to q501</b>
q456	Do you think any of your tourist/foreigner clients you had sex with have ever injected drugs?	Yes 1 No 2 Don't know 97 No response 98	

#### Section 5: Condom accessibility and STIs

Now I will ask you some questions about where and how you access condoms.			
No.	Questions	Coding categories	Skip to
q501	Which places or persons have you obtained male condoms from in the last <u>one month</u> ?  <i>Do not read responses out loud. Multiple responses possible—select all that apply.</i>	Shop 1 Pharmacy 2 Health facility 3 Bar/Guest House/Hotel 4 Friends 5 Taxi drivers 6 Saloon 7 NGO 8 Public office 9 Peer educator 10 Client came with it 11 Social congregation/festivals 12 Other, (specify) 88 Don't remember 97 No response 98	

q50 2	Last time you got condoms did you pay for them?	Yes 1 No 2 No response 98	to q504 to q504
q50 3	How much did you pay for a pack of three condoms? <i>If exact amount not know, ask for an estimate.</i>	TSh_____	
q50 4	Can you obtain a male condom every time you need one?	Yes 1 No 2 No response 98	to q506 to q506
q50 5	Why can't you get a male condom every time you need one?  <i>Do not read responses out loud. Multiple responses possible—select all mentioned.</i>	Costs too much 1 Shop too far away 2 Shops closed 3 Pharmacy too far away 4 Pharmacy closed 5 Embarrassed to buy condom 6 Don't know where to obtain 7 Don't need condom 8 Things happen too fast 9 Other 88 No response 98	
q50 6	Have you <u>ever</u> used a female condom?	Yes 1 No 2 No response 98	to q510 to q510
q50 7	Have you used a female condom in the past one month?	Yes 1 No 2 No response 98	
q50 8	Where did you obtain your <u>last</u> female condom?  <i>Do not read answer choices. Select one only.</i>	Shop 1 Pharmacy 2 Health facility 3 Bar/Guest House/Hotel 4 Friends 5 Taxi/boda boda drivers 6 Saloon 7 NGO 8 Government office 9 Peer educator 10 Client with it 11 Other 88 Don't remember 97 No response 98	



q509	What are your reasons for using a female condom?  <i>Multiple answers possible. Do not read out loud but probe and select all mentioned.</i>	Protection from pregnancy 1 Protection from HIV/STIs 2 Partner requests me to use it 3 Gives me more control than a male condom for protection 4 It was free 5 Other 88 No response 98	All skip to q511
q510	What are your reasons for <u>not</u> using female condoms?  <i>Multiple answers possible. Do not read out loud but probe and select all mentioned.</i>	Not available 1 Too big 2 Clients don't like them 3 Don't want to insert into vagina 4 Too expensive 5 Never heard of it 6 Prefer male condoms 7 Use other birth control method 8 Not used to it 9 Don't know how to insert 10 Other 88 Don't know 97 No response 98	
<b>Now will ask you some questions about sexually transmitted infections.</b>			
q511	Have you ever heard of diseases that can be transmitted through sexual intercourse? (STI/STDs)?	Yes 1 No 2 Don't know/remember 97 No response 98	
q512	During the past six months, have you had unusual genital discharge?	Yes 1 No 2 Don't know/remember 97 No response 98	
q513	In the last six months, have you had pain while urinating?	Yes 1 No 2 Don't know/remember 97 No response 98	
q514	During the past six months, have you had genital/anal sores or ulcers?	Yes 1 No 2 Don't know/remember 97 No response 98	
q515	<i>[Ask if yes to 512, 513, or 514]</i>  Did you seek treatment because of any of these problems?	Yes 1 No 2 Don't know/remember 97 No response 98	to q518 to q518 to q518
q516	How long did you have the symptom(s) before seeking the treatment?	Less than one week 1 More than one week/less than one month 2 More than one month 3 Don't know/remember 97 No response 98	

q5 17	Where did you seek treatment or medical attention when you had these symptoms?  <i>Mark all that apply.</i>	Went to govt health facility 1 Went to private health facility 2 Went to pharmacy 3 Went to traditional healer/used alternative treatment 4 Treated myself at home 5  Others (specify) 88 Don't know/remember 97 No response 98	
q5 18	In the last 12 months, did a healthcare provider tell you that you had a sexually transmitted disease or sexually transmitted infection, other than HIV?	Yes 1 No 2 Don't know/remember 97 No response 98	
q5 19	<i>[Ask if yes to 512, 513, or 514 OR yes to q518]</i> The last time you had STI symptoms or a diagnosed STI, did you tell your sexual partner about the STI?	<del>Never had an STI</del> 0 Yes 1 No 2 Don't know/remember 97 No response 98	
q5 20	<i>[Ask if yes to 512, 513, or 514 OR yes to q518]</i> The last time you had STI symptoms or a diagnosed STI, did you stop having sexual intercourse during that time?	Yes 1 No 2 Don't know/remember 97 No response 98	to q601  to q601 to q601
q5 21	The last time you had STI symptoms or a diagnosed STI, did you always use condoms during sexual intercourse?	Yes 1 No 2 Don't know/remember 97 No response 98	

#### Section 6: Alcohol and Drug Use

Now I would like to ask you some questions about alcohol and drug use in the past three months, with and without a needle. Please remember that the answers to your questions are anonymous and completely private. These are personal questions but they are important for providing health services. First, we are going to ask you some questions about drinking alcohol.			
No.	Questions	Coding categories	Skip to
q601	How often do you have a drink containing alcohol? We define one standard drink containing alcohol to be [insert local context definition].	Never 1 Monthly or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 No response 98	to q606     to q606

q602	In the past one month, how often did you have a drink containing alcohol?  <i>Do not read responses - mark one response only.</i>	Never 1 Once a month or less 2 2-4 times a month 3 2-3 times a week 4 4 or more times a week 5 Don't remember 97 No response 98	
q603	How many drinks containing alcohol do you have on a typical day when you are drinking?  <i>Do not read responses. Mark one response only.</i>	1 or 2 1 3 or 4 2 5 or 6 3 7, 8 or 9 4 10 or more 5 Don't remember 97 No response 98	
q604	On one occasion, how often do you have six or more drinks?	Never 1 Less than monthly 2 Monthly 3 Weekly 4 Daily or almost daily 5 No response 98	
q605	In the last one week, have you consumed any alcohol while engaging in commercial sex?	Yes 1 No 2 No response 98	
<b>Now I am going to ask you some questions about any drugs that you might have smoked, inhaled, swallowed, or snorted during the last 3 months.</b>			
q606	Do you currently smoke any form of tobacco on a daily basis, less than daily, or not at all?	Daily 1 Less than daily 2 Not at all 3 Don't know 97 No response 98	
q607	Some people take drugs for fun or to get high. In the last 3 months, did you smoke, inhale, swallow, or snort any drugs for non-medical reasons?  <i>Here I'm talking about drugs like marijuana, hashish, khat, prescription drugs, petrol sniffing, kubar, or methamphetamine, etc.</i>	Yes 1 No 2 Don't remember 97 No response 98	<b>to q609 to q609 to q609</b>

q608	<p>In the last 3 months, which drugs have you smoked, inhaled, swallowed, or snorted for non-medical reasons?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Smoked hashish/marijuana 1</p> <p>Smoked crack cocaine 2</p> <p>Inhaled cocaine 3</p> <p>Smoked heroin 4</p> <p>Inhaled heroin 5</p> <p>Khat 6</p> <p>Mixed cocktail 7</p> <p>Chase the dragon 8</p> <p>Sniffed petrol, glue 9</p> <p>Valium 10</p> <p>Pain killers (prescription drugs) 11</p> <p>Kichupa 13</p> <p>Methadone 14</p> <p>Don't remember 97</p> <p>No response 98</p>	
<p><b>The next set of questions is about injection drug use. This means injecting yourself with drugs for non-medical reasons or having someone who is not a health care provider, including yourself, inject you with drugs for non-medical reasons.</b></p>			
q609	<p>Some people have tried injecting drugs for fun or to get high. Have you <u>ever</u> injected drugs?</p> <p><i>By drugs I mean heroin, prescription drugs, meth, etc.</i></p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q610	<p>Have you injected drugs in the <u>last three months</u>?</p>	<p>Yes 1</p> <p>No 2</p> <p>No response 98</p>	<p><b>to q701</b></p> <p><b>to q701</b></p>
q611	<p><u>Last time</u> you injected drugs, what drug did you use?</p> <p><i>Do not read responses but probe for others and mark all mentioned.</i></p>	<p>Brown heroin 1</p> <p>White heroin 2</p> <p>Opium 3</p> <p>Amphetamines 4</p> <p>Prescription drugs 5</p> <p>Other (specify) 88</p> <p>Don't know/remember 97</p> <p>No response 98</p>	
q612	<p><u>Last time</u> you injected drugs, did you use a needle or syringe after someone else had used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q613	<p><u>Last time</u> you injected drugs, did you pass your syringe or needle on to someone else after you used it?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't remember 97</p> <p>No response 98</p>	
q614	<p><u>During the past one month</u>, on average, how often did you inject drugs?</p> <p><i>Do not read responses - mark one response only.</i></p>	<p>Once a month or less 1</p> <p>Several times a month 2</p> <p>Once a week 3</p> <p>Several times a week 4</p> <p>Once a day 5</p> <p>Several times a day 6</p> <p>Did not inject in the last one month 7</p> <p>Don't remember 97</p> <p>No response 98</p>	

## Section 7: HIV knowledge, HIV risk, and HIV testing history

In this next section I will ask you questions about your knowledge of HIV, your HIV testing history, and how you see your risk of HIV infection. I will start by reading some statements about HIV. Some of them are true and some are not true. These are general statements and do not refer to your own experience or behavior.			
No.	Questions	Coding categories	Skip to
q701	Can the risk of HIV transmission be reduced by having sex with only one uninfected partner who has no other partners?	Yes 1 No 2 Don't know 97 No response 98	
q702	Can a person get HIV from mosquito bites?	Yes 1 No 2 Don't know 97 No response 98	
q703	Can a person reduce their risk of getting HIV by using a condom every time they have sex?	Yes 1 No 2 Don't know 97 No response 98	
q704	Can a healthy-looking person have HIV?	Yes 1 No 2 Don't know 97 No response 98	
q705	Can a person get HIV by sharing food with someone who has HIV?	Yes 1 No 2 Don't know 97 No response 98	
	<del>Sharing needles when injecting drugs will increase the risk of HIV infection.</del>	Yes 1 No 2 Don't know 97 No response 98	
	<del>Cleaning needles and syringes between injections reduces the risk of HIV.</del>	Yes 1 No 2 Don't know 97 No response 98	
q706	Do you agree or disagree with the following statement?"  When taken as prescribed by a health worker, HIV medications decrease the amount of HIV in the blood of people living with HIV. Therefore, the amount of virus in their blood becomes too low to detect in a laboratory test."	Agree 1 Disagree 2 Don't know 97 No response 98	
q707	Do you agree or disagree with the following statement?"  "A person living with HIV who is taking HIV medications cannot pass HIV to a sexual partner once a laboratory test can no longer detect the HIV virus in their blood."	Agree 1 Disagree 2 Don't know 97 No response 98	

This next set of questions asks about how you see your risk for HIV and your experiences with HIV testing.			
q711	Do you know of a place where people can go to have a confidential test to find out if they are infected with HIV? <i>Confidential means that nobody will know the test result unless you want them to know.</i>	Yes 1 No 2 No response 98	
q712	Have you <u>ever</u> had an HIV test?	Yes 1 No 2 No response 98	<b>to q715 to q901</b>
q716	Have you ever been for HIV counseling with your steady partner/boyfriend/girlfriend/husband/wife?	Yes 1 No 2 No response 98	
q713	How often do you normally test for HIV?	No pattern / routine testing 1 Every month 2 Every 3 months 3 Every 6 months 4 Once per year 5 No response 98	
q714	When did you <u>last</u> request an HIV test for which you got the results?	In the past 3 months 1 In the past 6 months 2 More than 6 months ago but within the past year 3 Over one year ago 4 Don't remember 97 No response 98	<b>All skip to q717</b>
q715	Why have you never chosen to get an HIV test? <i>Probe and select all mentioned.</i>	Didn't know where to go 1 Don't feel at risk 2 Concerned about confidentiality 3 Negative attitude of HCWs 4 Cost 5 Distance 6 Fear of knowing status 7 Not important for me 8 Others _____ 88 Don't know 97 No response 98	<b>All skip to q708</b>
q717	What was the result of your last HIV test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/remember 97 No response 98	<b>to q708 to q708 to q708 to q708</b>
q718	Who have you talked to about your HIV positive test result? <i>Select all mentioned.</i>	Partner/boyfriend/husband 1 Family member 2 Friends 3 Co-workers 4 Employer 5 Peer educator 6 Never disclosed to anyone 7 No response 98	<b>All to q801</b>

q708	With your current behaviors, how do you think about your risk of HIV infection?	High risk 1 Medium risk 2 Low risk 3 No risk 4 Don't know 97 No response 98	<b>to q710</b> <b>to q711</b> <b>to q711</b>
q709	Why do you feel that you are at risk for HIV infection?  Do not read responses; mark all mentioned.	I often change sex partners 1 I have multiple concurrent sex partners 2 I don't always use a condom 3 I use drugs 4 I inject drugs 5 I drink alcohol 6 I share needles 7 I have sex with PWID 8 Other(s) 88 Don't know 97 No response 98	<b>ALL SKIP to q901</b>
q710	Why do you feel that you are not at risk for HIV infection?  Do not read responses; probe for more and mark all mentioned.	I am faithful 1 I always use condoms 2 I'm convinced my sex partner is clean 3 I don't have anal sex 4 Others 88 Don't know 97 No response 98	<b>ALL SKIP to q901</b>

#### Section 8: Services and experiences of PLHIV

This next set of questions asks about services that are important for people living with HIV.			
No.	Questions	Coding categories	Skip to
q801	Are you currently on ART?	Yes 1 No 2 No response 98	<b>to q803</b>  <b>to q805</b>
q802	Why are you not on ART?	Don't know where to get them 1 Scared/embarrassed to go to a facility 2 Don't think I need them 3 Doctor said I wasn't ready to start 4 Don't want them 5 Don't like side effects 6 Using traditional/local medicine instead 7 Other 88 No response 98	<b>ALL SKIP q805</b>
q803	For how long have you been on ART?	Less than 6 months 1 More than 6 months 2 Don't know 97 No response 98	<del>to q1105</del> <b>to q805</b> <b>to q805</b>

q804	Have you had a viral load test?	Yes 1 No 2 Don't know/remember 97 No response 98	
q805	In the last 12 months, during any of your visits to the HIV clinic, were you asked if you had the following TB symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Has not visited clinic in last 12 months 3 Don't know 97 No response 98	
q806	In the last 12 months, have you experienced any of these symptoms: night sweats, cough, fever, and weight loss?	Yes 1 No 2 Don't know 97 No response 98	
q807	In the last 12 months, did you receive a chest x-ray or sputum test to look for TB? A sputum test is when the patient has to cough and collect the sample in a cup.  <i>Check all that apply.</i>	None of these 1 Chest x-ray 2 Sputum test 3 Don't know 97 No response 98	to q809 to q809  to q809 to q809
q808	What was the result of your last sputum test?	TB-negative 1 TB-positive 2 Indeterminate 3 Don't know 97 No response 98	
q809	Have you ever been treated for TB?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I want to ask you a few questions about experiences of stigma and how often you may or may not have experienced them because you are HIV positive.</b>			
q810	Do you agree or disagree with the following statement? "In the last 12 months, I have felt ashamed because of my HIV status."	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Don't know 97 Refused 98	
q811	<b><i>For each of the following questions, please tell me whether you have never had the experience, had the experience once, a few times, or often, or whether it does not apply to you because no one knows your HIV status.</i></b>  In the last 12 months, have people talked badly about you because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one knows my HIV status 5 Don't know 97 Refuse to answer 98	



q812	In the last 12 months, did someone else disclose your HIV status without your permission?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q813	In the last 12 months, have you been verbally insulted, harassed, or threatened because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q814	In the last 12 months, have you lost your job or another source of income because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	
q815	In the last 12 months, have you been forced to change your place of residence or been unable to rent accommodation because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98r	
q816	In the last 12 months, have you been denied health services because of your HIV status?	Never 1 Once 2 A few times 3 Often 4 Not applicable because no-one 5 knows my HIV status Don't know 97 Refuse to answer 98	

#### Section 9: Stigma and mental health

**This next set of questions will be about stigma and mental health. I will start with questions about stigma related to HIV/AIDS. Please tell me whether you agree or disagree with each of the statements.**

No.	Questions	Coding categories	Skip to
q901	People with HIV/AIDS should be ashamed of themselves.	Agree 1 Disagree 2 Don't know 97 No response 98	

q902	I would feel ashamed if someone in my family had HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	
q903	I would feel ashamed if I were infected with HIV/AIDS.	Agree 1 Disagree 2 Don't know 97 No response 98	
q904	People with HIV/AIDS are promiscuous.	Agree 1 Disagree 2 Don't know 97 No response 98	
q905	It is WCS who spread HIV in the community.	Agree 1 Disagree 2 Don't know 97 No response 98	
q906	HIV/AIDS is brought as a punishment for bad behavior.	Agree 1 Disagree 2 Don't know 97 No response 98	
<b>Now I would like to ask you some questions about stigma that may affect you because you engage in commercial sex. Please answer yes or no to the following statements that refer to your experiences as an WCS in your adult life (&gt;15 years old).</b>			
q907	Have you experienced name calling, teasing and insults?	Yes 1 No 2 Don't know 97 No response 98	
q908	Have you been excluded from a social gathering?	Yes 1 No 2 Don't know 97 No response 98	
q909	Have other people lost respect for you?	Yes 1 No 2 Don't know 97 No response 98	
q910	Have you been abandoned by your loved ones?	Yes 1 No 2 Don't know 97 No response 98	
<b>Now I will ask read you some statements about experiences or fears of stigma in the context of seeking health or social services. These questions try to understand if you worry about or have experienced stigma because you engage in commercial sex. For each statement, tell me whether it has never happened, has happened once, has happened a few times, or often. Or tell me whether the statement does not apply to you because you are able to hide that you engage in commercial sex.</b>			



q917	In the last 12 months I have been denied health services because I am an WCS.	<p>Never 1</p> <p>Once 2</p> <p>A few times 3</p> <p>Often 4</p> <p>Does not apply because I am able to hide that I am an WCS/service providers don't know 5</p> <p>I don't know 97</p> <p>No response 98</p>	<p><b>to q919</b></p> <p><b>to q919</b></p> <p><b>to q919</b></p> <p><b>to q919</b></p>
q918	Which services were these?	<p>General health 1</p> <p>Sexual and reproductive health 2</p> <p>HIV Testing 3</p> <p>HIV Treatment 4</p> <p>Social protection 5</p> <p>I don't know 97</p> <p>Other, specify 88</p> <p>No response 98</p>	
q919	In the last 12 months, I have been discriminated against by a healthcare provider because I am an WCS.	<p>Never 1</p> <p>Once 2</p> <p>A few times 3</p> <p>Often 4</p> <p>Does not apply because I am able to hide that I am an WCS/service providers don't know 5</p> <p>I don't know 97</p> <p>No response 98</p>	<p><b>to q921</b></p> <p><b>to q921</b></p> <p><b>to q921</b></p> <p><b>to q921</b></p>
q920	Which services were these?	<p>General health 1</p> <p>Sexual and reproductive health 2</p> <p>HIV Testing 3</p> <p>HIV Treatment 4</p> <p>Social protection 5</p> <p>I don't know 97</p> <p>Other, specify 88</p> <p>No response 98</p>	
q921	Do you know where to report discrimination experienced during health services?	<p>Yes 1</p> <p>No 2</p> <p>Don't know 97</p> <p>No response 98</p>	<p><b>to q923</b></p> <p><b>to q923</b></p> <p><b>to q923</b></p>
q922	Where do you think discrimination should be reported? <i>Multiple responses allowed</i>	<p>One stop center (mkono kwa mkono) 1</p> <p>Police 2</p> <p>NGO staff 3</p> <p>Local authorities 4</p> <p>Community police 5</p> <p>Social welfare office 6</p> <p>Facility administration/staff, including calling posted phone number 7</p> <p>Other, specify 88</p> <p>No response 98</p>	
<b>Next, I will ask you some questions related to how you have been feeling and your mental health.</b>			

**Next, I will ask you some questions related to how you have been feeling and your mental health.**

Q920	<del>Over the past 12 months, have you felt nervous, anxious, worried, depressed, or losing interest to things.</del>	<del>Not at all 1</del> <del>Several days 2</del> <del>More than half the days 3</del> <del>Nearly every day 4</del> <del>Don't remember 97</del> <del>Refuse to answer 98</del>	
q923	Over the last 2 weeks, how often have you had little interest or pleasure in doing things you've previously enjoyed?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't remember 97 Refuse to answer 98	
q924	Over the last 2 weeks, how often have you been feeling down, depressed or hopeless?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	
q925	Over the past two weeks, how often have you felt nervous, anxious or on edge?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	
q926	Over the past two weeks, how often have you not been able to stop or control worrying?	Not at all 1 Several days 2 More than half the days 3 Nearly every day 4 Don't know 97 Refuse to answer 98	

#### Section 10: Experiences with arrest and violence

**Now I will ask you some questions on violence and history of arrest. These questions are personal and may make you uncomfortable. If they do, you may choose to not answer the question.**

No.	Questions	Coding Categories	Skip to
q1001	During the past <u>12 months</u> , have you been arrested?	Yes 1 No 2 No response 98	<b>to q1003</b> <b>to q1003</b>
q1002	What were you arrested for?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Drug use 1 Aggravated assault 2 Theft 3 Engaging in commercial sex 4 Loitering 5 Selling drugs 6 Other 88 Don't know/remember 97 No response 98	

q1003	In the past <u>12 months</u> , were you beaten?	Yes 1 No 2 No response 98	<b>to q1009 to q1009</b>
q1004	Who was the person (or people) who physically beat you?  <i>Multiple answers possible. Do not read out loud. Select all that apply.</i>	Police 1 Drug dealer 2 Husband/Boyfriend 3 Friends 4 Family 5 Unknown person/ person on the street 6 One-time sex partner 7 Regular client 8 Agent/pimp 9 Another WCS 10 Other 88 Don't remember 97 No response 98	
q1005	Did you report the violence to any authority?	Yes 1 No 2 No response 98	<b>to q1008 to q1009</b>
q1006	To whom did you report the violence?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1007	What kind of services or support did you receive?	Medical services 1 Legal services 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All skip to q1009</b>
q1008	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of retaliation 2 Felt ashamed / embarrassed 3 Did not know where to go / that I should report 4 Negative experience with authorities in the past 5 Other 88 No response 98	
q1009	In the past 12 months, were you ever forced to have sex?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1101 to q1101 to q1101</b>

q1010	Who was the person (or people) who forced you to have sex?	Police 1 Drug dealer 2 Husband/Boyfriend 3 Friends 4 Family 5 Unknown person/ person on the street 6 One-time sex partner 7 Regular client 8 Agent/pimp 9 Another WCS 10 Other 88 Don't remember 97 No response 98	
q1011	Did you seek medical treatment after this happened?	Yes 1 No 2 Don't know/remember 97 No response 98	
q1012	Did you report the forced sex to any authority?	Yes No No response	<b>to q1015</b> <b>to q1101</b>
q1013	To whom did you report the forced sex?	One stop center (mkono kwa mkono) 1 Police 2 NGO staff 3 Local authorities 4 Community police 5 Social welfare office 6 Medical professional e.g., doctor, nurse 7 Other, specify 88 No response 98	
q1014	What kind of services or support did you receive?	Medical 1 Legal 2 Counseling / psychological 3 Received no services 4 Other 88 No response 98	<b>All to</b> <b>q1101</b>
q1015	Why did you not report to the authority?	Fear of being stigmatized 1 Fear of retaliation 2 Felt ashamed / embarrassed 3 Did not know where to go / that I should report 4 Negative experience with authorities in the past 5 Other 88 No response 97	

#### Section 11: Interactions with PRH service providers

**In this section I will ask you some questions about health services you may have accessed from providers and organizations who work directly with PRH groups. First I will ask you about services you might have received from a peer educator.**

No.	Questions	Coding categories	Skip to
q1101	Have you been in contact with any health peer educator in the community in the <u>last 12 months</u> ?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1105</b> <b>to q1105</b> <b>to q1105</b>
q1102	How many times have you been in contact with a peer educator in the <u>last 12 months</u> ?  <i>If exact number is not known, ask for estimate.</i>	One time only 1 Two times 2 Three times 3 Four times 4 Five or more times 5 No response 98	
q1103	What services or information did you receive from the peer educator?  <i>Read the answer choices aloud. Mark the service that applies; if they have received more than 1 service mark all that apply.</i>	<b>Information on STI or HIV transmission or prevention 1</b> <b>Received Condoms 2</b> <b>Lubricant 3</b> <b>Referral for STI treatment 4</b> Counseling from a professional/VCT counselor 5 Referral for PMTCT of family planning 6 Referral for TB screening 7 <b>Refferal for Care and Treament services 8</b> General counseling from a peer counsellor 9 Sexual and reproductive health services 10 An HIV Test 11 Information of TB 12 Testing Hepatitis 13 PreP 14 Other, (specify) 88 Don't remember 97 No response 98 No response	
q1104	Did you feel that the peer educator was non-judgmental?	Yes 1 No 2 Don't know/remember 97 No response 98	
q1105	Have you visited a clinic or drop-in center in or around Unguja that provides health information or services to WCS in the past 12 months?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1201</b> <b>to q1201</b> <b>to q1201</b>



q1106	<p>Was it any of these clinics?</p> <p><i>Read responses and mark all that apply.</i></p>	<p>ZAYEDES 1</p> <p>ZYF 2</p> <p>ZANPUD 3</p> <p>ZANGOC 4</p> <p>JUKAMKUM 5</p> <p>ZAPHTA+ 6</p> <p>YOSOA 7</p> <p>AYAHIZA 8</p> <p>BIO 9</p> <p>Sober house 10</p> <p>MAT 11</p> <p>Youth Friendly Services (YFS) 12</p> <p>Other, (specify) 88</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1107	<p>Did you receive any of the following services at this clinic or drop-in center?</p> <p><i>Read responses and mark all that apply.</i></p> <p>[Note this question is asked individually for each clinic/NGO mentioned by participant in q1106 (q1106A–q1106L)].</p>	<p>Information on STI or HIV transmission or prevention 1</p> <p>Received Condoms 2</p> <p>Lubricant 3</p> <p>General counseling from a peer counselor 4</p> <p>Counseling from a professional/VCT counselor 5</p> <p>Sexual and reproductive health services 6</p> <p>An HIV Test 7</p> <p>Bleach kit 8</p> <p>Clean needles 9</p> <p>Information of TB 10</p> <p>Testing Hepatitis 11</p> <p>PrEP 12</p> <p>Other 88</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1108	<p>Based on the way you were treated by the staff in those facilities; would you return to those facilities for services?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know 97</p> <p>No response 98</p>	<p><b>to q1110</b></p> <p><b>to q1110</b></p> <p><b>to q1110</b></p>
q1109	<p>Which of these did you experience that makes you not want to return to that facility?</p> <p><i>Read responses and mark all that apply.</i></p>	<p>HCWs spoke unkindly to you 1</p> <p>HCWs gossiped about you to other HCWs/clients 2</p> <p>HCWs shared information about you and your behaviors to other HCWs/clients 3</p> <p>HCWs did not take time to explain medications or procedures to you 4</p> <p>HCWs were physically abusive to you 5</p> <p>HCWs avoided physical contact with you 6</p> <p>No response 98</p>	

q1110	<p>ADD SERVICE MULTIPLIER QUESTIONS (example below)</p> <p>You mentioned that you received HIV testing at ZAYEDESА in the past 12 months. Was that between Jan and April of this year or another time?</p> <p>Repeat for PrEP services and care and treatment services.</p>		
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## Section 12: Access to and experiences with other healthcare services

**Now I want to ask you some questions about specific services you might have received related to HIV self-testing, prevention, hepatitis, and COVID-19. Let's start with HIV self-testing. HIV self-testing is when you are given an HIV test kit to give yourself the HIV test at your convenience. The self-test uses a mouth swab, not blood. The provider explains how to use it and the kit also comes with instructions and diagrams that explain how to perform the test.**

No.	Questions	Coding categories	Skip to
q1201	Have you ever heard of HIV self-testing?	Yes 1 No 2 No response 98	<b>to q1204</b> <b>to q1204</b>
q1202	Have you ever taken a self-test for HIV?	Yes 1 No 2 No response 98	<b>to q1204</b> <b>to q1204</b>
q1203	Where did you receive your HIV self-test kit(s)?	ZAYADESA clinic 1 From a peer educator (community outreach services) 2 A friend (not a peer or health care provider) 3 Other 88 Don't remember 97 No response 98	<b>All skip to q1206</b>
q1204	Would you use an HIV self-test if it was recommended to you?	Yes 1 No 2 No response 98	<b>to q1206</b> <b>to q1206</b>
q1205	Why would you not use an HIV self-test?	I don't have a private space to do the test / worried others would see 1 Afraid of HIV results 2 I don't trust this test 3 I would rather test at a health facility 4 Other (specify) 88 No response 98	
<b>Now we will ask some questions about pre-exposure prophylaxis (PrEP). PrEP is a medicine that can prevent HIV. It is taken by HIV-negative people.</b>			
q1206	Have you heard of PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1209</b> <b>to q1209</b> <b>to q1209</b>

q1207	Have you ever taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1210</b>  <b>to q1209</b> <b>to q1215</b>
q1208	What is the main reason you have never taken PrEP?	Embarrassed to talk about it with doctor/nurse 1 Don't feel at risk for HIV 2 Not available where I live 3 Don't know where to get it 4 Don't want it 5 Afraid of side effects 6 Don't want others to know 7 Other (Specify) 88 Don't know 97 No response 98	
q1209	<i>Skip if disclosed an HIV positive status</i> Would you take PrEP to help prevent HIV? You should know that PrEP has similar side effects to other drugs used to treat HIV and has to be taken daily.	Yes 1 No 2 Don't know 97 Refuse to answer 98	<b>All skip to q1215</b>
q1210	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PrEP?	Yes 1 No 2 Don't know 97 No response 98	<b>to q1212</b> <b>to q1215</b> <b>to q1215</b>
q1211	Are you still on PrEP?	Yes 1 No 2 No response 98	<b>to q1213</b>  <b>to q1215</b>
q1212	What is the main reason you stopped taking PrEP?	I trust my sexual partners 1 Can't get PrEP anymore 2 Had side effects 3 Don't want others to know 4 Tested HIV-positive 5 Other (Specify) 6 Don't know 97 No response 98	<b>All skip to q1215</b>
q1213	Do you take PrEP daily as prescribed or non-daily as prescribed?	Daily as prescribed 1 Non-daily as prescribed 2 Other than as prescribed 3 Don't know 97 No response 98	
q1214	When was the last time you took PrEP?	Yesterday or today 1 2-3 days ago 2 4-7 days ago 3 1-2 weeks ago 4 More than 2 weeks ago 5 Don't know 97 No response 98	

**Now I will ask you some questions about post-exposure prophylaxis (PEP). PEP is when HIV-negative people take ARVs for one month after they had contact with HIV, for example after unsafe sex, forced sex, or sharing needles. They take PEP so that they do not get HIV.**

q1215	Have you heard of PEP before today?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219 to q1219
q1216	Have you ever taken PEP?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219 to q1219
q1217	<i>Skip if q716=3 or 4 AND q719=1</i> In the last 6 months, have you taken PEP?	Yes 1 No 2 Don't know 97 No response 98	to q1219 to q1219
q1218	Why did you take PEP?	I had unprotected sex 1 I was raped/forced to have sex 2 I shared needles 3 Don't know 97 No response 98	
<b>The next set of questions is about services related to hepatitis testing and vaccination.</b>			
q1219	Have you ever been tested for hepatitis?	Yes 1 No 2 Don't know/remember 97 No response 98	to q1226 to q1226 to q1226
q1220	Do you know which hepatitis you were tested for?  <i>Do not read responses. Mark all mentioned.</i>	Hepatitis B 1 Hepatitis C 2 Don't know 97 No response 98	to q1225 to q1226 to q1226
q1221	What was the result of your Hep B test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 4 No response 98	to q1225/q1226 to q1225/q1226 to q1225/q1226 to q1225/q1226
q1222	Were you vaccinated for Hep B?	Yes 1 No 2 Don't know/remember 97 No response 98	to q1225/q1226 to q1225/q1226 to q1225/q1226
q1223	Did you receive all three doses?	Yes 1 No 2 Don't know/remember 97 No response 98	to q1225/q1226 to q1225/q1226 to q1225/q1226
q1224	Why didn't you receive all three doses?	Didn't have time 1 I travelled 2 Nuisance 3 Lost vaccination card 4 Service provider not present 5 Worried about stigma 6 Was not important 7 Don't remember/know 88 No response 98	<b>All to q1225 if tested for hep C; otherwise to q1226</b>

q1225	<i>[Ask when q1220=2]</i> What was the result of your Hep C test?	Positive 1 Negative 2 Not comfortable saying 3 Don't know/ don't remember 4 No response 98	
<b>In this last section I will ask you some questions about Covid 19 vaccination services provided by the government.</b>			
q1226	Have you ever received a Covid 19 vaccine?	Yes 1 No 2 Don't remember 97 No response 98	<b>to q1232 to q1233 to q1233</b>
q1227	Why did you receive Covid-19 vaccination? <i>Mark all that apply</i>	Inspired by Ministry of Health advertisement 1 I want to protect myself 2 I wanted to travel 3 Instruction from employer 4 Advised by friends/colleagues 5 Advised with Health provider 6 Forced with Health provider 7 Others (specify) 8 No response 98	
q1228	Do you have vaccine documentation you can show me? <i>Ask for evidence of vaccination</i>	Yes, vaccination card shown 1 No, vaccination card not shown 2	
q1229	What type of vaccine did you receive?  <i>Read responses and mark all that apply.</i>	Johnson and Johnson 1 Pfizer 2 Moderna 3 Sinovax 4 Sinopharm 5 Sputnik 6 Other, specify 88 Don't know 97	
q1230	How many doses of COVID-19 vaccine have you received?	One dose 1 Two doses 2 Three or more doses 3 Don't remember 97 No response 98	
q1231	When did you last receive COVID-19 vaccination? <i>Probe to get a response that can be aligned with one answer choice</i>	In the last month 1 In the last six months 2 More than 6 months 3 Don't remember 97 No response 98	<b>All skip to q1233</b>

q1232	<p>Could you tell me why you have not been vaccinated to date?</p> <p><i>Select one.</i></p>	<p>Too far away/I don't have transportation 1</p> <p>I don't know where to get vaccinated 2</p> <p>I am not eligible to get vaccinated 3</p> <p>The hours of operation are inconvenient 4</p> <p>Time constraints: it is difficult to find or make an appointment/ I am too busy to get vaccinated/ I don't have time off work 5</p> <p>The waiting time is too long 6</p> <p>I feel Covid-19 vaccination is not safe 7</p> <p>I am afraid of Covid-19 side effects (i.e. infertility and become zombie) 8</p> <p>I don't want to get vaccinated 9</p> <p>Others (Specify) 10</p> <p>Don't remember 97</p> <p>No response 98</p>	
q1233	<p>Finally, I want to ask you one question about another kind of vaccine.</p> <p>There is a vaccine to protect people against human papilloma virus (HPV). This virus can cause cancer in the cervix or anus.</p> <p>Did you get this vaccination?</p>	<p>Yes 1</p> <p>No 2</p> <p>Don't know/remember 97</p> <p>No response 98</p>	
END	We have reached the end of our survey. Thank you for your time and for answering our questions.		

## Appendix K: Referral Tracking Register

Date: ____ / ____ / ____ (week beginning DD-MM-YY)					
Date (DD-MM-YYYY)	Barcode number	Service(s) to which participant was referred	Name of service provider/facility to which participant was referred	Receipt of services confirmed (Y/N)?	Method of confirmation (phone, referral slip receipt, other)

## Appendix L: Referral Form

### REVOLUTIONARY GOVERNMENT OF ZANZIBAR



#### MINISTRY OF HEALTH

#### PATIENT REFERRAL/TRANSFER FORM

DATE.....

REFERAL FROM FACILITY NAME.....FACILITY  
CODE.....

REFERAL TO: FACILITY  
NAME.....

NAME:  
FIRST.....MIDDLE.....LAST.....

DATE OF BIRTH...../...../..... CURRENT AGE..... SEX: ☐ M ☐ F

REASON FOR REFERRAL/  
TRANSFER:.....

AT START ART: ...../...../..... UNIQUE CTC ID #  
.....

#### AT START ART:

WEIGHT.....FUNCTION..... CLINICAL  
STAGE.....CD4.....

**CURRENT STATUS - DATE** ...../...../.....

WEIGHT.....FUNCTION..... CLINICAL  
STAGE.....CD4.....

ORIGINAL FIRST LINE  
REGIMEN.....

1<sup>ST</sup> SUBSTITUTION:.....DATE...../...../.....  
WHY.....

2<sup>ND</sup> SUBSTITUTION: .....DATE ...../...../.....WHY  
.....

SECOND LINE REGIMEN: .....DATE ...../...../.....  
WHY.....

CURRENT ON TB TREATMENT? ☐ YES ☐ NO.....IF YES, DATE  
STARTED.....



OTHER RELAVANT MEDS (Including INH, CTX,  
Diflucan):.....

DRUGS ALLERGIES:

.....

CURRENTLY PREGNANT? ☐ YES ☐ NO ..... IF YES, EDD

.....

OTHER RELEVANTT CLINICAL NOTES:

.....

.....

....

NAME, SIGNATURE AND STAMP

.....

### FEEDBACK SECTION

Service Provided: To be filled out by the organization providing the requested service

Date: ...../...../.....

Patient Name:

Date of Birth/age:

#### Service Provided:

- Service Provided:

.....

- Service Completed as Requested \_\_\_\_\_ Yes \_\_\_\_\_ No

- Follow -up needed: service \_\_\_\_\_ Date for follow-up: \_\_\_\_\_

Additional Comments: