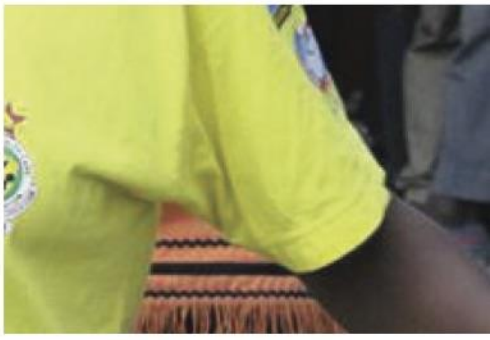
ZIMBABWE POPULATION-BASED HIV IMPACT ASSESSMENT

ZIMPHIA 2016

FIRST REPORT

DECEMBER 2017



ZIMPHIA ZIMBABWE POPULATION-BASED HIV IMPACT ASSESSMENT

PEPFAR CDC NATIONAL AIDS COUNCIL ZimStat LANCET CLINICAL LABORATORIES SCHARP Westat ICAP GLOBAL HEALTH. ACTION.

ZIMPHIA 2015-2016 Collaborating Institutions

Ministry of Health and Child Care (MoHCC), Zimbabwe
The U.S. President's Emergency Plan for AIDS Relief (PEPFAR)
The U.S. Centers for Disease Control and Prevention (CDC)
Zimbabwe National Statistics Agency (ZIMSTAT)
The Biomedical Research and Training Institute (BRTI)
Lancet Laboratories
Statistical Center for HIV/AIDS Research and Prevention (SCHARP)
Westat
ICAP at Columbia University

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GLOSSARY OF TERMS

90-90-90: An ambitious treatment target to help end the AIDS epidemic. By 2020, 90% of all people living with HIV (PLHIV) will know their HIV status; 90% of all persons with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 90% of all persons receiving ART will have viral suppression.

Acquired immunodeficiency syndrome (AIDS): AIDS is a disease caused by infection with the human immunodeficiency virus (HIV). AIDS results in severe damage to the immune system, leaving the body vulnerable to life-threatening conditions such as infections and tumors.

Antiretroviral therapy (ART): Treatment with antiretroviral drugs that inhibit the ability of HIV to multiply in the body, leading to improved health and survival among HIV-infected persons.

CD4+ T cells: CD4+ T cells are white blood cells that are an essential part of the human immune system. These cells are often referred to as T-helper cells. HIV attacks and kills CD4+ T cells, leaving the body vulnerable to a wide range of infections. The CD4+ T-cell count is used to determine the degree of weakness of the immune system from HIV infection and can be used to determine the need for and response to antiretroviral therapy (ART).

Human immunodeficiency virus (HIV): HIV is the virus that causes AIDS. The virus is passed from person to person through blood, semen, vaginal fluids, and breast milk. HIV attacks CD4+ T cells in the body, leaving the infected person vulnerable to illnesses that would have otherwise been eliminated by a healthy immune system.

HIV incidence: A measure of the frequency with which new cases of HIV occur in a population over a period of time. The denominator is the population at risk; the numerator is the number of new cases occurring during a given time period.

HIV prevalence: The proportion of living persons in a population who are infected with HIV at a specific point in time.

HIV viral load: The concentration of HIV in the blood, usually expressed as copies per milliliter.

HIV viral load suppression: An HIV viral load of less than 1,000 copies per milliliter.

LIST OF ABBREVIATIONS

AIDS	Acquired immunodeficiency syndrome
ANC	Antenatal care
ART	Antiretroviral therapy
ARV(s)	Antiretroviral, antiretrovirals
CDC	U.S. Centers for Disease Control and Prevention
CD4	CD4+ T cell
CI	Confidence interval
DNA	Deoxyribonucleic acid
EID	Early infant diagnosis
HIV	Human immunodeficiency virus
HBTC	Home-based testing and counseling
MDRI	Mean duration of recent infection
MOHCC	Ministry of Health and Child Care (Zimbabwe)
LAg	Limiting antigen
PCR	Polymerase chain reaction
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PFR	Proportion false recent
PHIA	Population-based HIV impact assessment
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission of HIV
UNAIDS	Joint United Nations Programme on HIV and AIDS
VL	Viral load
VLS	Viral load suppression

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SUMMARY OF KEY FINDINGS

- Annual incidence of HIV among persons aged 15 to 64 years in Zimbabwe is 0.47%: 0.33% among males and 0.60% among females. This corresponds to approximately 33,000 new cases of HIV annually among persons aged 15 to 64 in Zimbabwe.
- Prevalence of HIV among adults aged 15 to 64 in Zimbabwe is 14.1%: 12.0% among males and 16.0% among females. This corresponds to approximately 1.2 million persons aged 15 to 64 living with HIV in Zimbabwe.
- Prevalence of viral load suppression among HIV-positive persons aged 15 to 64 in Zimbabwe is 59.6%—53.6% for males and 63.7% for females.
- Diagnosed: 72.9% of people living with HIV aged 15 to 64 years report knowing their HIV status—76.1% among females and 68.2% among males. This is well below the 90% target for awareness of HIV status. Diagnosis remains the greatest challenge for Zimbabwe to attain the 90-90-90 targets.
- On treatment: Among people living with HIV aged 15 to 64 years who know their HIV status, 86.8% self-report current use of antiretroviral therapy (ART)—87.2% among females and 86.1% among males. Zimbabwe has almost attained this second 90% target.
- Virally suppressed: Among people living with HIV (PLHIV) aged 15 to 64 years who self-report current use of ART, 86.5% are virally suppressed—87.7% among females and 84.4% among males. Zimbabwe has also nearly attained the third 90% target.
- Young persons aged 15 to 24 comprise 18.9% of the total population. People in this age group living with HIV are about one-third less likely to be diagnosed (50.4%) than the general population of persons aged 15 to 64 (72.9%). Among 15- to 24-year-olds, the percentage on ART among those who self-report being HIV positive (83.7%), and the percentage of viral suppression among those who self-report being on ART (85.4%), were comparable to other adults.
- Prevalence of active syphilis infection was 0.6% among males and 1.0% among females. The prevalence was higher among HIV-positive (2.9%) than among HIV-negative (0.4%) individuals.
- ZIMPHIA 2015-2016 HIV-prevalence results were in line with 2015 Zimbabwe Demographic and Health Survey results and 2015 National HIV Estimates (ZIMSTAT, 2016; MOHCC, 2016). All three estimates suggest a stabilizing HIV epidemic in Zimbabwe. This could potentially be due to increased coverage of ART, greater viral load suppression, and a decrease in new HIV infections. If this progress is maintained, AIDS-related mortality may decline.

INTRODUCTION

1.1 Background

The Population-Based HIV Impact Assessment (PHIA) Project is a multicountry project funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) to conduct national HIV-focused surveys that describe the status of the HIV epidemic. Results will measure important national and regional HIV-related parameters, including progress toward 90-90-90 goals, and will guide policy and funding priorities.

1.2 Overview of ZIMPHIA 2015-2016

The Zimbabwe Population-Based HIV Impact Assessment (ZIMPHIA), a nationally representative household-based survey, was conducted from October 2015 to August 2016 to measure the status of Zimbabwe's national HIV response. ZIMPHIA offered HIV counseling and testing with same-day return of results and collected information about uptake of HIV care and treatment services. This survey was the first in Zimbabwe to measure national HIV incidence, prevalence of viral load suppression (VLS), and pediatric HIV prevalence. The results provide information on national and subnational progress toward control of the HIV epidemic and Zimbabwe's progress toward the UNAIDS 90-90-90 treatment targets. ZIMPHIA was led by the government of Zimbabwe through the Ministry of Health and Child Care, conducted with funding from PEPFAR and technical assistance through the U.S. Centers for Disease Control and Prevention (CDC). The survey was implemented by ICAP at Columbia University in collaboration with Westat and local partners, including the National AIDS Council, Zimbabwe National Statistics Agency, Biomedical Research and Training Institute, and Lancet Laboratories Zimbabwe.

1.3 Specific Objectives

The goal of the survey was to examine the current status of the HIV epidemic in Zimbabwe, to assess the coverage and impact of HIV services at the population level, and to measure HIV-related risk behaviors using a nationally representative sample of adults and children. Primary and secondary objectives included the following.

Primary Objectives

- To estimate national-level annual HIV incidence among adults aged 15 to 64 years.
- To estimate provincial-level prevalence of VLS among HIV-positive persons aged 15 to 64 years.

Secondary Objectives

- To estimate national-level prevalence of HIV among persons aged 0 to 14 years.
- To estimate provincial-level prevalence of HIV among persons aged 15 to 64 years.
- To assess CD4+ T-cell (CD4) count distribution, presence of ARVs, and transmitted drug resistance among people living with HIV aged 0 to 64 years.

- To describe the socioeconomic and behavioral risk factors associated with HIV infection in a household-based, nationally representative sample of people aged 0 to 64 years.
- To estimate syphilis prevalence in a household-based, nationally representative sample of persons aged 15 to 64 years.

DESIGN AND METHODS

2.1 Sampling Frame and Design

ZIMPHIA 2015-2016 was a nationally representative cross-sectional population-based survey of households across Zimbabwe. The survey used a two-stage stratified cluster sample design, where the first stage selected 500 enumeration areas from the Zimbabwe Population Census 2012, using a probability proportional to size method. The second stage randomly selected a sample of households in each cluster using an equal probability method, where the average number of households per cluster was 30 and the actual number of households per cluster ranged from 15 to 60 (Table 2.1.A).

The sample size of selected households was calculated to provide a representative national estimate of HIV incidence among persons aged 15 to 64 years with a relative standard error ≤24.9%, as well as representative provincial estimates of viral load suppression among HIV-positive persons aged 15 to 64 years with 95% confidence intervals (CI) ± 0.068. One-half of households were randomly selected for inclusion of children aged 0 to 14 years, which was designed to provide a representative national estimate

of pediatric HIV prevalence with a relative standard error ≤15.6%. The target sample size was 21,159 for females and males aged 15 years and older, and 7,309 for children aged 0 to 14 years.

Table 2.1.A Distribution of sampled enumeration areas and households by province, ZIMPHIA 2015-2016

	Enumeration areas			Households		
Province	Urban	Rural	Total	Urban	Rural	Total
Manicaland	8	46	54	214	1409	1623
Mashonaland Central	3	53	56	91	1592	1683
Mashonaland East	4	46	50	126	1373	1499
Mashonaland West	14	38	52	358	1203	1561
Matabeleland North	4	40	44	130	1192	1322
Matabeleland South	6	34	40	171	1030	1201
Midlands	15	36	51	474	1054	1528
Masvingo	5	48	53	156	1434	1590
Harare	54	3	57	1620	90	1710
Bulawayo	43	0	43	1292	0	1292
Total	156	344	500	4632	10377	15009

2.2 Eligibility Criteria, Recruitment, and Consent Procedures

The eligible survey population included:

- Persons aged 16 years and older living in residential households and visitors who slept in the household the night before the survey who were willing and able to provide consent in one of the three survey languages (English, Shona, and Ndebele).
- Persons aged 0 to 6 years living in residential households and visitors 0 to 6 years who slept in the household the night before the survey whose parents or guardians were willing and able to provide consent.
- Young persons aged 7 to 15 years whose parents or guardians provided written permission and who were willing and able to provide assent.

Electronic consent forms were administered using tablet computers. A designated head of household consented to completing the household interview and for household members to be invited to participate in the survey. Individual members were then listed during a household interview. Persons aged 16 years and older and emancipated minors aged 15 years provided written consent on the tablet for an interview. After completing the interview, they provided written consent for participation in the biomarker component of the survey, including home-based testing and counseling (HBTC) with return of HIV and syphilis testing results during the household visit. Participants were also asked for written consent for their blood samples to be stored in a repository for future testing.

Persons aged 7 to 15 years were asked for assent to the interview and biomarker components after permission was granted by their parents or guardians. Parents provided consent directly for minors below the age of assent. Procedures with nonliterate participants or participants with a sight disability involved the use of an impartial witness, chosen by the potential participant, who also signed the electronic and paper consent. If no witness could be identified, the potential participant or household (if the head of household was illiterate) was deemed ineligible.

2.3 Survey Implementation

Survey Staff

Field work started in October 2015 and was completed by August 2016 by 22 field teams. Each team was composed of a team leader, two interviewers, four nurses, and a driver. Survey personnel were selected based on their qualifications and areas of expertise. Interviewers had the primary responsibility for obtaining consent and administering the interview. Nurses conducted phlebotomy, provided adult and pediatric HIV testing and counseling, and additionally obtained consent and administered interviews when needed.

Fifteen laboratory staff at satellite labs processed samples and performed confirmatory and quality control tests. Staff at Lancet Laboratories and the National Microbiology Reference Lab performed additional tests for HIV-1 viral load and early infant diagnosis (EID). Field teams were supervised by five provincial supervisors who performed spot-checks of teams in the field, provided technical support, and

did troubleshooting. National and international monitors and supervisors routinely provided direct observation of field work and quality assurance.

Community Sensitization and Mobilization

The Ministry of Health and Child Care, ICAP, and CDC, in coordination with the National AIDS Council, the Zimbabwe National Statistics Agency, and the Biomedical Research and Training Institute, organized community mobilization to maximize community support and participation rates at the national and subnational levels. The mobilization began with a high-level national launch meeting that included key national and provincial leaders, mass media, and other stakeholders before the survey field work commenced. Community mobilization in each province included a provincial launch bringing together provincial and local government authorities, chiefs, and religious and community leaders. District authorities and gatekeepers were also given information and a chance to discuss the survey. Provincial and district-level sensitization occurred at least two weeks before community mobilization teams moved to the enumeration areas.

Mobilizers also held community meetings, disseminated informational materials such as brochures and posters, and held discussions with community residents. Road shows with dramatic and musical performances explaining the surveys were used to mobilize residents in urban areas.

An entertainment troupe performing the ZIMPHIA song for community mobilization in Harare

Questionnaire Data Collection

Questionnaire and field laboratory data were collected on mobile tablet devices using an application programmed in Open Data Kit (ODK). The household interview collected information on household residents, assets, economic support, recent deaths, and orphans and vulnerable children. The adult interview was administered to participants aged 15 years and older and included modules on demographics, sexual and reproductive health, marriage, male circumcision, sexual activity, HIV/AIDS knowledge and attitudes, the HIV continuum of care, TB and other health issues, alcohol use, and gender norms. Participants who self-reported being HIV positive were asked questions about their HIV care experience. Parents also answered questions about their children's (aged 0 to 14 years) health and participation in HIV testing and care services. In each household, one woman aged 15 years and above was also randomly selected to answer questions about her experiences with violence. Female participants were interviewed by female staff, and males by male staff, whenever possible. The English, Shona, and Ndebele versions of the questionnaires were reviewed and tested thoroughly for acceptability, feasibility, and flow of questions.

Persons aged 10 to 14 years also participated in an adolescent interview that included questions on demographic characteristics, HIV stigma, knowledge and risk perception, exposure to HIV prevention interventions, sexual behavior, social norms, HIV testing, alcohol and drugs, parental support, and violence. These results will be presented in the forthcoming ZIMPHIA Final Report.

Supervision

Data-collection teams were regularly supervised by field-based supervisors as well as national and international teams with representation from collaborating institutions who visited at least monthly. Field-based supervisors supported teams by organizing supplies and transport of blood samples, coordinating mobilization efforts, providing technological troubleshooting, and spot-checking household procedures and data. The national and international monitoring teams observed procedures, spot-checked protocol adherence, and identified and responded to challenges with data collection. Regular debrief sessions were held with field-based supervisors and monitoring teams, and monitoring reports were circulated to collaborating institutions for response to any issues.

2.4 Field-Based Biomarker Testing

Blood Collection

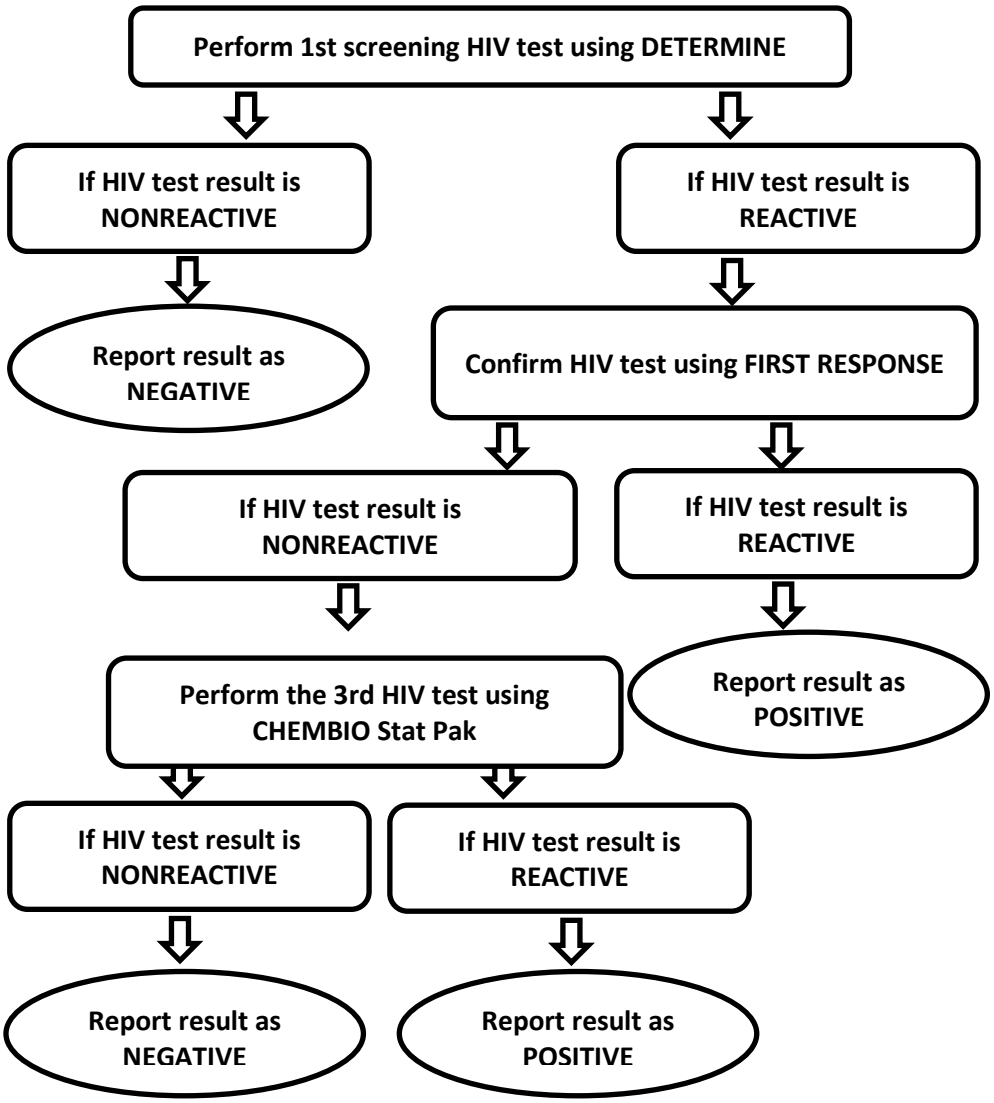
Blood was collected by qualified survey staff from consenting participants. Fourteen milliliters of venous blood was collected from persons aged 15 years and older, while 6 milliliters was collected from persons aged 2 to 14 years. One milliliter of capillary blood was collected from children aged 0 to 2 years via finger-stick for children aged 6 to 18 months and heel-stick for children under 6 months of age.

Blood samples were labeled with a unique bar-coded participant ID and stored in temperature-controlled coolers. At the end of each day, samples were transported to a satellite laboratory for processing into plasma and freezing within 24 hours of blood collection.

HIV Home-Based Testing and Counseling

HIV home-based testing and counseling was conducted in each household using the national HIV rapid-test algorithm (Figure 2.4). HIV-seropositive participants were referred to HIV care and treatment services at a health facility of their choice. For children under the age of 15 years, results were provided to a parent or guardian. Infants 18 months old and younger were screened for HIV exposure using Determine, the first test in the national HIV rapid-testing algorithm. Infants screening positive for exposure received EID testing at the central laboratory as described below. Individuals who self-reported as HIV positive but tested HIV negative at the household level received confirmatory testing via DNA PCR at the central laboratory, with confirmed results returned to the household. The potential limitations of rapid tests in detecting HIV antibodies among people in the serological window of infection, HIV antibodies in HIV-infected patients on ART, and maternal HIV antibodies among infants older than 4 months born to HIV-positive women is an inherent limitation of the study. Participants in the first two categories are not expected to be a significant source of bias; further analysis will identify how many infants born to HIV-positive women were not identified by a rapid test.

Figure 2.4: National HIV Rapid-Testing Algorithm



CD4 Testing

Participants who tested HIV-positive during HBTC received a CD4 measurement in the field by qualified survey staff using the Pima Analyzer and CD4 test (Alere). Additionally, a random sample of 5% of HIV-negative participants also received CD4 measurement.

Syphilis Testing

Syphilis testing was conducted in each household among participants aged 15 years and older using the DPP Syphilis Screen and Confirm Assay (Chembio) for the simultaneous detection of antibodies against nontreponemal and *Treponema pallidum* antigens. Participants whose test was reactive to both treponemal and nontreponemal antibodies were considered to have had an active syphilis infection. Participants whose test was reactive only to treponemal antibodies were considered to have a previous syphilis infection.

2.5 Laboratory-Based Biomarker Testing

Satellite and Central Laboratories

Satellite laboratories for the survey were established in existing Ministry of Health and Child Care laboratories. Central referral laboratories in Zimbabwe were chosen for more specialized tests. At each satellite laboratory, trained technicians performed processing of whole blood into plasma aliquots and dried blood spot samples for storage at -20°C, HIV confirmatory testing, and quality assurance testing. Confirmatory testing using the Geenius HIV 1/2 Supplemental Assay (Bio-Rad) was conducted on all samples that tested HIV positive during HBTC. Using the national HIV rapid-testing algorithm, quality assurance testing was performed on a random sample of approximately 5% of samples that tested HIV negative during HBTC and the first 50 HIV test results for each field tester. Central laboratory procedures included viral load (VL) testing, EID, HIV recency testing, testing of HBTC-indeterminate results, and long-term storage of samples at -80°C.

Viral Load Testing

HIV-1 viral load (viral copies per ml) of HIV-positive participants was measured using the Abbott m2000 RealTime System. The Abbott m2000sp Instrument was used to prepare plasma samples for reverse transcription polymerase chain reaction (PCR) using the open-mode protocol for the Abbott RealTime HIV-1 assay. The NucliSENS easyQ platform (bioMerieux) was used to measure viral load from dried blood spot samples from children and from adults with insufficient volume of plasma.

Viral load results were returned within 10 weeks to the health facility chosen by each HIV-positive participant. Additionally, participants were provided with a referral form during HBTC for subsequent retrieval of their results. Survey staff also contacted each participant informing them that their VL results were available at the chosen facility and further advising them to seek care and treatment.

Early Infant Diagnosis

For infants under 18 months of age who screened positive for exposure to HIV by rapid test during HBTC, testing was conducted via HIV DNA PCR using the COBAS® AMPLICOR HIV-1 MONITOR Test v1.5 (Roche Molecular Systems). Infants whose screening test was nonreactive during HBTC, including those with HIV-positive mothers, did not receive further EID testing in ZIMPHIA.

Results were returned to a health facility selected by the child's parent or guardian within 6 to 8 weeks, and survey staff also contacted the parent or guardian to inform them that the child's results were available at the facility. In cases where the EID test was positive, indicating imminent risk to the child, survey staff returned to the household to provide active linkage to care.

HIV Recency Testing

A laboratory-based recency testing algorithm, which employed a combination of the HIV-1 Limiting Antigen (LAg)-Avidity enzyme immunoassay (Sedia Biosciences Corporation) and viral load, was used to distinguish recent from long-term infection (Figures 2.5.A and 2.5.B). Specimens with ODn values > 1.5 were classified as long-term infections. Specimens with suppressed VL, classified as < 1,000 copies/mL (due to elite controllers who naturally suppress their viremia or persons under suppressive ART), were removed from the number of recent specimens and included in the number of long-term specimens. All remaining specimens with ODn values ≤ 1.5 and VL > 1000 copies/mL were classified as recent infections.

Figure 2.5.A Laboratory testing algorithm for LAg-Avidity

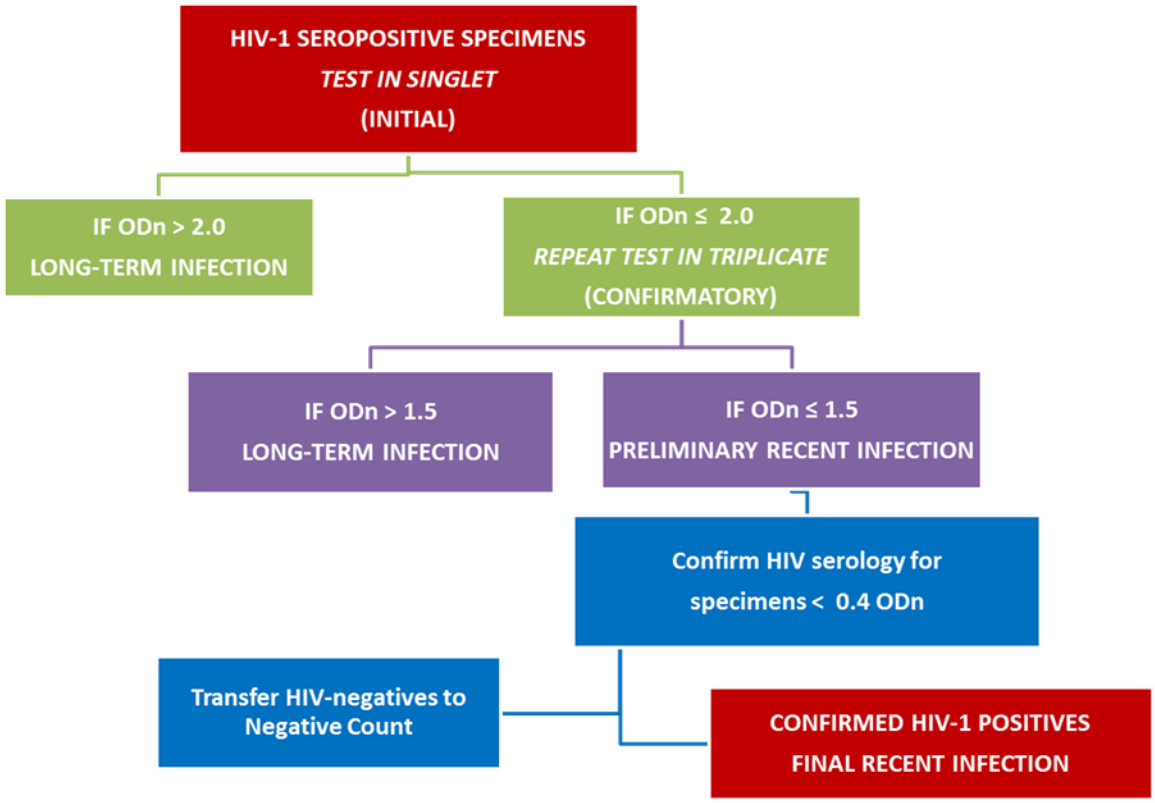
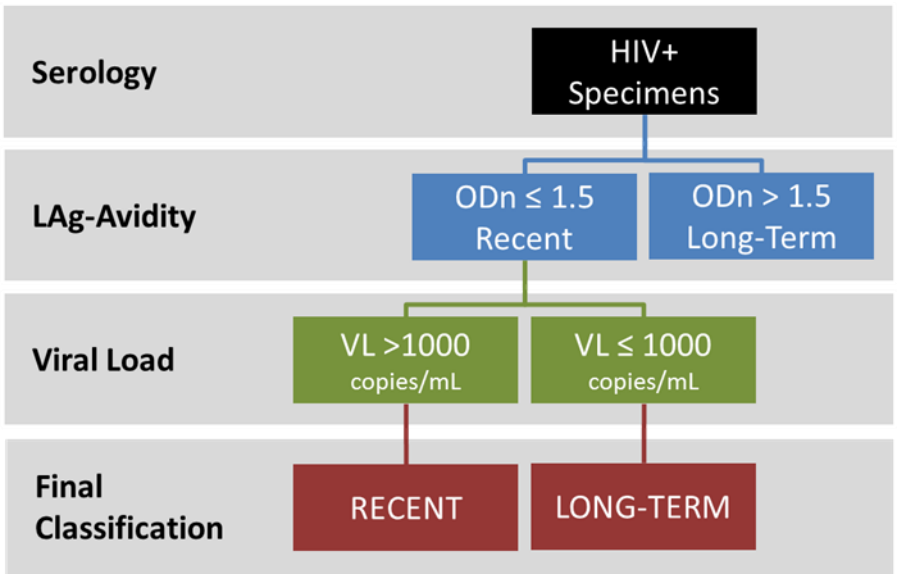


Figure 2.5.B Testing algorithm for classification of HIV-1-recent infections



2.6 Data Processing and Analysis

All field data collected were transmitted to a central server using a secure virtual private network and stored in a secure PostgreSQL database. Data cleaning was conducted using SAS version 9.4. Laboratory data were cleaned and merged with the final questionnaire database using unique specimen barcodes and study identification numbers.

All results presented in the report are based on weighted estimates unless otherwise noted. Analysis weights account for sample selection probabilities and are adjusted for nonresponse and noncoverage. Nonresponse adjustments and nonresponse adjusted weights were calculated for households, individual interviews, and individual blood draws in a hierarchical form. Adjustment for nonresponse for initial individual and blood-level weights was based on the development of weighting adjustment cells defined by a combination of variables that are potential predictors of response and HIV status. The nonresponse adjustment cells were constructed using the chi-square automatic interaction detection algorithm. The cells were defined based on data from the household interview for the adjustment of individual-level weights, and from both the household and individual interviews for the adjustment of blood sample-level weights. Post-stratification adjustments were implemented to compensate for noncoverage in the sampling process. This final adjustment calibrated the nonresponse-adjusted individual and blood weights to make the sum of each set of weights conform to national population totals by sex and five-year age groups.

Descriptive analyses of response rates, characteristics of respondents, HIV prevalence, CD4 count distribution, HIV testing, self-reported HIV status, self-reported ART, VL, prevention of mother-to-child transmission of HIV (PMTCT) indicators, and sexual behavior and syphilis prevalence were conducted using SAS version 9.4. A laboratory-based incidence-testing algorithm (HIV-1 LAg avidity plus viral load) was used to distinguish recent from long-term infection, and HIV incidence estimates were obtained using the CDC Incidence Calculator, which uses the formula presented in Kassanjee et al. 2012 and recommended by the World Health Organization Technical Working Group on HIV Incidence Assays and the Consortium for the Evaluation and Performance of HIV Incidence Assays, with time cutoff (T) = 1.0 year and residual proportion false recent = 0.00.

RESULTS

3.1 Response Rates

Of the 15,009 selected households, 13,828 and 11,717, respectively, were occupied and interviewed. The overall household response rate was 83.9%: 77.9% in urban areas and 86.9% in rural areas (Table 3.1.A).

A total of 11,098 males and 14,033 females aged 15 to 64 years were eligible to participate in ZIMPHIA. Interview response rates were 82.3% for males and 93.9% for females aged 15 to 64 years. For males and females aged 15 to 64 years, nine out of 10 (90.2% and 91.8%, respectively) persons who were interviewed also had their blood drawn (Table 3.1.B).

For young persons aged 10 to 14 years, the response rates were similar between males (78.0%) and females (79.6%) for interviews as well as blood draws (94.3% and 94.5%, respectively). About three-quarters of eligible persons aged 0 to 9 years (72.2% for males and 71.9% for females) had their blood drawn (Table 3.1.B).

Table 3.1.A Results of the household interviews

Number of households selected, occupied, and interviewed and household response rates (unweighted and weighted), by residence, ZIMPHIA 2015-2016

Result	Residence		Total
	Urban	Rural	
Household interviews			
Households selected	4,632	10,377	15,009
Households occupied	4,419	9,409	13,828
Households interviewed	3,481	8,236	11,717
Household response rate[1] (unweighted)	78.1	86.7	83.9
Household response rate[1] (weighted)	77.9	86.9	83.9

[1] Household response rate was calculated using the American Association for Public Opinion Research Response Rate 4 method: https://www.aapor.org/AAPOR_Main/media/publications/Standard-Definitions2015_8theditionwithchanges_April2015_logo.pdf

Table 3.1.B Results of the individual interviews and blood draws

Number of eligible individuals and response rates for individual interviews and blood draws (unweighted and weighted), by residence and sex, ZIMPHIA 2015-2016

	Residence					
	Urban		Rural		Total	
Result	Males	Females	Males	Females	Males	Females
Eligible individuals, aged 0-9 years						
Number of eligible individuals	795	841	2,455	2,508	3,250	3,349
Blood draw response rate (unweighted)[1]	69.7	65.9	73.6	74.6	72.7	72.4
Blood draw response rate (weighted)	68.2	64.4	73.8	74.8	72.2	71.9
Eligible individuals, aged 10-14 years						
Number of eligible individuals	283	308	1,211	1,198	1,494	1,506
Interview response rate (unweighted)	74.6	76.3	79.7	80.5	78.7	79.6
Interview response rate (weighted)	72.5	75.9	79.6	80.7	78.0	79.6
Blood draw response rate (unweighted) [1]	91.5	92.8	95.3	94.9	94.6	94.5
Blood draw response rate (weighted)	91.5	92.6	95.1	95.0	94.3	94.5
Eligible individuals, aged 15-24 years						
Number of eligible individuals	1,112	1,603	3,041	2,987	4,153	4,590
Interview response rate (unweighted)	81.9	93.4	84.6	92.4	83.9	92.7
Interview response rate (weighted)	81.0	92.8	85.1	92.5	83.8	92.6
Blood draw response rate (unweighted)	89.6	91.9	91.5	92.6	91.0	92.3
Blood draw response rate (weighted)	89.3	91.8	91.4	92.4	90.7	92.2
Eligible individuals, aged 15-49 years						
Number of eligible individuals	2,955	4,129	6,747	7,677	9,702	11,806
Interview response rate (unweighted)	72.9	92.7	86.9	94.6	82.7	93.9
Interview response rate (weighted)	71.1	92.1	87.0	94.6	81.5	93.6
Blood draw response rate (unweighted)	89.0	91.4	90.8	92.6	90.3	92.2
Blood draw response rate (weighted)	88.9	91.2	90.6	92.4	90.0	91.9
Eligible individuals, aged 15-64 years						
Number of eligible individuals	3,294	4,638	7,804	9,395	11,098	14,033
Interview response rate (unweighted)	73.3	92.9	87.9	94.8	83.5	94.2
Interview response rate (weighted)	71.5	92.2	87.8	94.9	82.3	93.9
Blood draw response rate (unweighted)	89.0	91.0	91.1	92.7	90.6	92.2
Blood draw response rate (weighted)	88.7	90.6	90.9	92.5	90.2	91.8

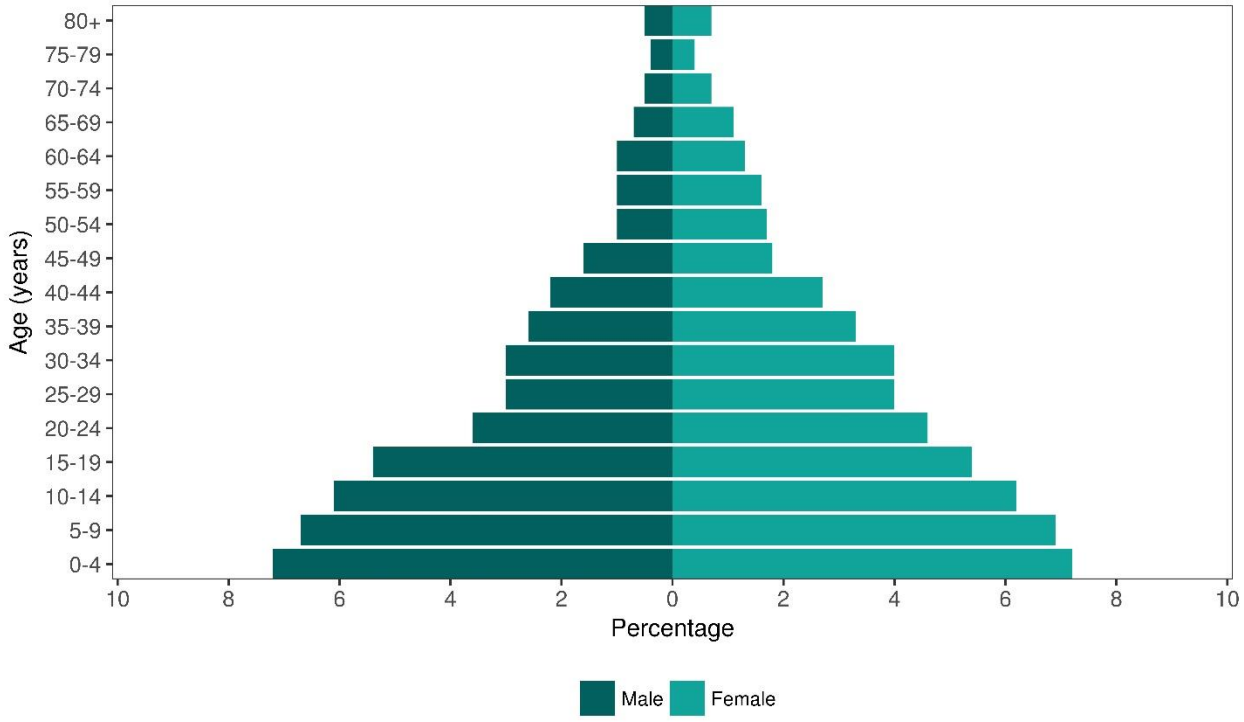
[1] For all age groups who were eligible for an interview (10 to 64 years), the blood draw response rate shown is among those who completed the interview.

3.2 Characteristics of Respondents

Overall, 52.2% of the households were headed by males. In urban areas, 56.5% of the households were headed by females, while in rural areas, 56.5% of households were headed by males. The median household size was four members, and the median number of children under 18 years of age was two (Table 3.2.A).

The age and sex distribution of the de facto household population listed in ZIMPHIA is illustrated by a population pyramid (Figure 3.2.A). Children aged 0 to 14 years made up 40.3% (20.0% males and 20.3% females) of the population. Adolescents aged 10 to 19 years made up 23.0% (11.4% males and 11.6% females) of the total population. Those aged 15 to 49 years represented 47.2% of the population (21.4% males and 25.8% females). Those aged 50 years and older were 12.5% of the population (5.1% males and 7.4% females). More than half (51.0%) of the population were aged 0 to 19 years (25.4% males and 25.7% females; Table 3.2.B).

Figure 3.2.A Population pyramid



Almost two-thirds of the population (64.2%) lived in rural areas. The largest proportion (63.4%) of participants had secondary education, while the smallest proportion (2.3%) had no education. The proportion of females with no education (3.4%) was three times greater than that of males (1.1%). The Apostolic Sect was the largest religious group, constituting nearly a third (31.7%) of the population (Table 3.2.C).

More than three-quarters (78.2%) of the 10-to-14-year-old population resided in rural areas. Among the population aged 10 to 14 years, 5.1% had no education (Table 3.2.D). The distribution of persons aged 10 to 14 years by province ranged from 3.6% in Bulawayo to 15.2% in Manicaland.

Table 3.2.A Household composition

Percent distribution of households by sex of head of household; median size of household and median (Q1, Q3) number of children 18 years of age by residence, ZIMPHIA 2015-2016

	Residence					
	Urban		Rural		Total	
Characteristic	Percent	Number	Percent	Number	Percent	Number
Household headship						
Male	43.5	1,458	56.5	4,619	52.2	6,077
Female	56.5	2,023	43.5	3,617	47.8	5,640
Total	100.0	3,481	100.0	8,236	100.0	11,717

	Residence					
	Urban		Rural		Total	
Characteristic	Median	Q1, Q3	Median	Q1, Q3	Median	Q1, Q3
Size of households	3	(2, 5)	4	(3, 6)	4	(2, 5)
Number of children under 18 years of age	1	(0, 2)	2	(1, 3)	2	(0, 3)

Table 3.2.B Age and sex distribution of the de facto household population

Percent distribution of the de facto household population, by five-year age groups and sex, ZIMPHIA 2015-2016

	Males		Females		Total	
Age	Percent	Number	Percent	Number	Percent	Number
0-4	7.2	3,360	7.2	3,383	14.4	6,743
5-9	6.7	3,179	6.9	3,285	13.6	6,464
10-14	6.1	2,927	6.2	2,979	12.3	5,906
15-19	5.4	2,554	5.4	2,499	10.7	5,053
20-24	3.6	1,630	4.6	2,111	8.2	3,741
25-29	3.0	1,365	4.0	1,835	7.1	3,200
30-34	3.0	1,348	4.0	1,794	7.0	3,142
35-39	2.6	1,160	3.3	1,526	5.9	2,686
40-44	2.2	999	2.7	1,215	4.9	2,214
45-49	1.6	713	1.8	858	3.4	1,571
50-54	1.0	465	1.7	798	2.6	1,263
55-59	1.0	473	1.6	788	2.6	1,261
60-64	1.0	468	1.3	642	2.3	1,110
65-69	0.7	363	1.1	516	1.8	879
70-74	0.5	243	0.7	334	1.2	577
75-79	0.4	192	0.4	212	0.8	404
≥80	0.5	239	0.7	333	1.2	572
Total	46.5	21,678	53.5	25,108	100.0	46,786

Table 3.2.C Demographic characteristics of the adult population

Percent distribution of the population aged 15 to 64 years by sex and selected demographic characteristics, ZIMPHIA 2015-16

	Males		Females		Total	
Characteristic	Percent	Number	Percent	Number	Percent	Number
Residence						
Urban	34.0	2,415	37.3	4,308	35.8	6,723
Rural	66.0	6,856	62.7	8,911	64.2	15,767
Province						
Manicaland	12.1	1,006	12.4	1,397	12.3	2,403
Mashonaland Central	9.9	1,089	8.4	1,285	9.1	2,374
Mashonaland East	11.6	997	9.7	1,128	10.6	2,125
Mashonaland West	14.2	1,241	11.8	1,445	12.9	2,686
Matabeleland North	4.9	858	5.3	1,274	5.1	2,132
Matabeleland South	4.7	691	5.1	1,040	4.9	1,731
Midlands	10.2	859	11.6	1,379	10.9	2,238
Masvingo	9.6	950	10.7	1,446	10.2	2,396
Harare	17.3	843	18.6	1,465	18.0	2,308
Bulawayo	5.6	737	6.5	1,360	6.1	2,097
Marital status						
Never married	41.2	3,744	23.6	2,892	31.9	6,636
Married or living together	53.4	4,989	59.5	7,901	56.6	12,890
Divorced or separated	4.3	395	8.7	1,131	6.6	1,526
Widowed	1.1	129	8.3	1,276	4.9	1,405
Education						
No education	1.1	133	3.4	551	2.3	684
Primary	23.8	2,584	28.4	4,196	26.2	6,780
Secondary	65.0	5,783	62.0	7,757	63.4	13,540
More than secondary	10.2	762	6.3	707	8.1	1,469
Religion						
Traditional	2.8	303	0.8	127	1.8	430
Roman Catholic	9.0	801	7.4	973	8.2	1,774
Protestant	14.6	1,335	17.3	2,272	16.0	3,607
Pentecostal	16.9	1,416	23.8	2,960	20.6	4,376
Apostolic Sect	27.7	2,614	35.4	4,739	31.7	7,353
Other Christian	7.6	716	8.9	1,273	8.3	1,989
Muslim	(0.5)	42	0.4	54	0.5	96
Other	0.8	76	0.6	99	0.7	175
None	20.0	1,956	5.3	719	12.3	2,675
Age						
15-19	21.2	2,112	19.2	2,275	20.1	4,387
20-24	16.8	1,373	16.0	1,982	16.4	3,355
25-29	13.4	1,077	14.9	1,728	14.2	2,805
30-34	12.9	1,076	13.6	1,697	13.3	2,773
35-39	10.8	943	10.4	1,444	10.6	2,387
40-44	8.7	831	8.0	1,145	8.3	1,976
45-49	6.1	608	5.4	819	5.7	1,427
50-54	3.7	414	4.3	759	4.0	1,173
55-59	3.3	414	4.6	756	4.0	1,170
60-64	3.2	423	3.5	614	3.4	1,037
Total 15-49	89.8	8,020	87.6	11,090	88.6	19,110
Total 15-64	100.0	9,271	100.0	13,219	100.0	22,490

Table 3.2.D Demographic characteristics of the adolescent population

Percent distribution of the population aged 10-14 years by sex and selected demographic characteristics, ZIMPHIA 2015-2016

	Males		Females		Total	
Characteristic	Percent	Number	Percent	Number	Percent	Number
Residence						
Urban	20.7	211	22.8	235	21.8	446
Rural	79.3	965	77.2	964	78.2	1,929
Province						
Manicaland	15.1	161	15.2	165	15.2	326
Mashonaland Central	10.7	127	10.8	125	10.8	252
Mashonaland East	13.0	134	12.3	133	12.6	267
Mashonaland West	14.9	159	10.4	122	12.6	281
Matabeleland North	5.6	119	6.6	138	6.1	257
Matabeleland South	6.2	106	5.5	99	5.9	205
Midlands	9.0	85	10.7	96	9.9	181
Masvingo	11.9	148	12.1	156	12.0	304
Harare	10.2	69	12.6	88	11.4	157
Bulawayo	3.4	68	3.7	77	3.6	145
Education						
No Education	5.8	67	4.4	56	5.1	123
Some Education	94.2	1,109	95.6	1,143	94.9	2,252
Total 10-14	100.0	1,176	100.0	1,199	100.0	2,375

Education categories refer to the highest level of education attended, whether or not that level was completed. Figures in parentheses are based on 25 to 49 unweighted cases.

3.3 HIV Incidence, HIV Prevalence, and Immunosuppression

Key Findings

Annual incidence of HIV among persons aged 15 to 64 years in Zimbabwe was 0.47%: 0.33% among males and 0.60% among females. This corresponds to approximately 33,000 new cases of HIV annually among persons aged 15 to 64 years in Zimbabwe.

Prevalence of HIV among persons aged 15 to 64 years in Zimbabwe was 14.1%: 12.0% among males and 16.0% among females. This corresponds to approximately 1.2 million persons aged 15 to 64 years living with HIV in Zimbabwe.

Prevalence of VLS among HIV-positive persons aged 15 to 64 years in Zimbabwe regardless of ART status was 59.6%: 53.6% for males and 63.7% for females.

HIV Incidence

Annual HIV incidence among persons aged 15 to 64 years in Zimbabwe was 0.47% (0.33% among males and 0.60% among females). This corresponds to 47 new infections per 10,000 persons per year, which represents approximately 33,000 new cases of HIV per year (Table 3.3.A). It is important to note that ZIMPHIA was designed to estimate national-level HIV incidence among persons aged 15 to 64 years. Consequently, point estimates disaggregated by age and sex should be interpreted with caution, and special attention should be given to the CIs presented in table 3.3.A.

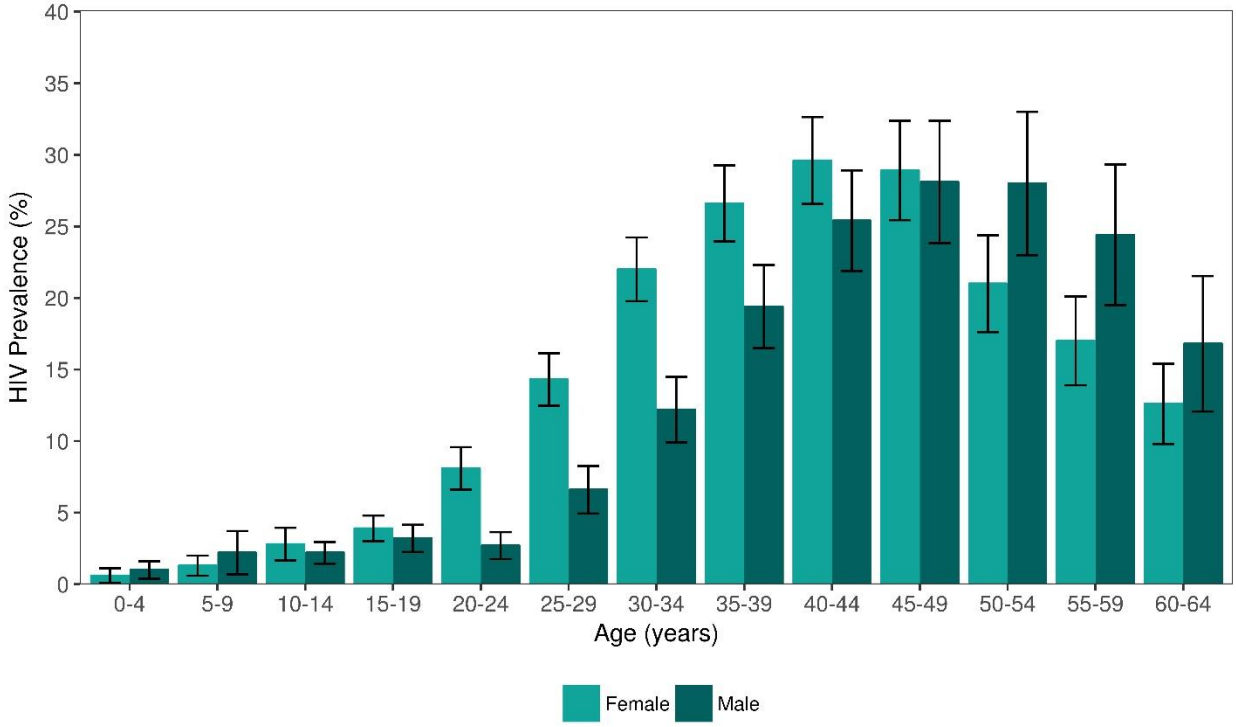
HIV Prevalence

Among persons aged 15 to 49 years, HIV prevalence in rural (13.2%) and urban (13.6%) areas was similar. HIV prevalence varied geographically, ranging from 10.2% in Manicaland to 20.4% in Matabeleland South. HIV prevalence also varied by level of education, ranging from 7.2% in those with more than secondary education to 19.7% among persons with no formal education (Table 3.3.B).

Prevalence of HIV among persons aged 15 to 64 years in Zimbabwe was 14.1%: 12.0% among males, and 16.0% among females. Rural (13.8%) and urban (14.5%) prevalence among persons aged 15 to 64 is similar, while HIV prevalence varied by province, from 11.0% in Manicaland to 21.7% in Matabeleland South. Those with less than secondary education had higher HIV prevalence (17.5% among those with no education, 18.3% among those with primary education) compared to those with secondary education (13.0%) or more (7.9%; Table 3.3.C).

The highest HIV prevalence estimated was nearly 30% for both males (28.1%) and females (29.6%), but occurred at a slightly older age (45-49 years) among males as compared to females (40-44 years). The disparity in HIV prevalence by sex was most pronounced among young persons: HIV prevalence was three times higher among females (8.1%) than males (2.7%) aged 20 to 24 years. For persons aged 10 to 49 years, point estimates of HIV prevalence were higher among females than their male counterparts. Among persons over the age of 50, point estimates of HIV prevalence were higher in males. HIV prevalence among children aged 0 to 14 was estimated to be 1.6%. (Table 3.3.D, Figure 3.3.A).

Figure 3.3.A HIV prevalence among persons 0 to 64 years by sex and age



Among persons aged 15 to 64 years, HIV prevalence was higher in the provinces of Matabeleland North (19.5%), Bulawayo (17.9%), and Matabeleland South (21.7%) than in the other seven provinces, which were all below 15% (Figures 3.3.B and 3.3.C).

Figure 3.3.B HIV prevalence among persons 15 to 64 years by province

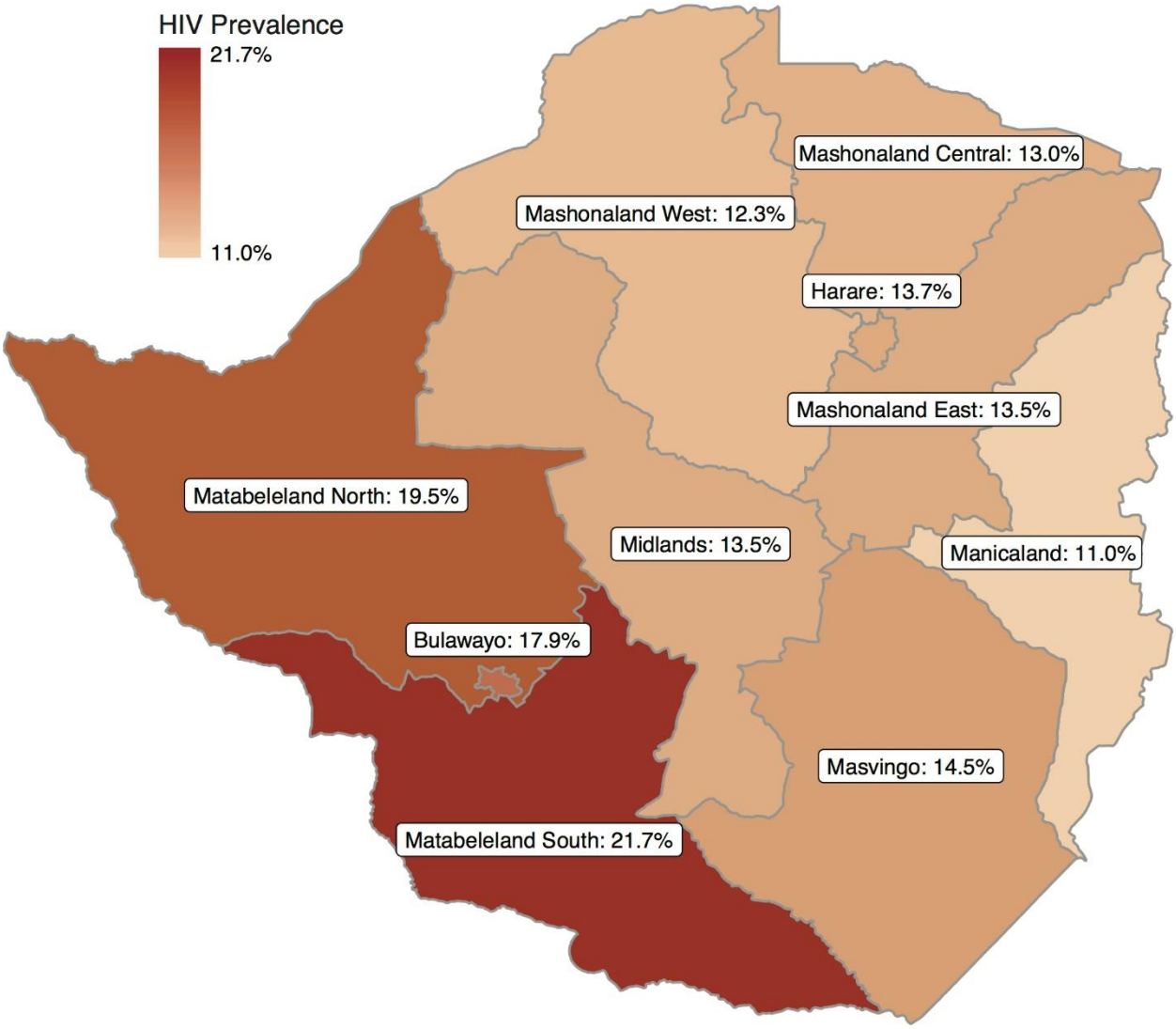
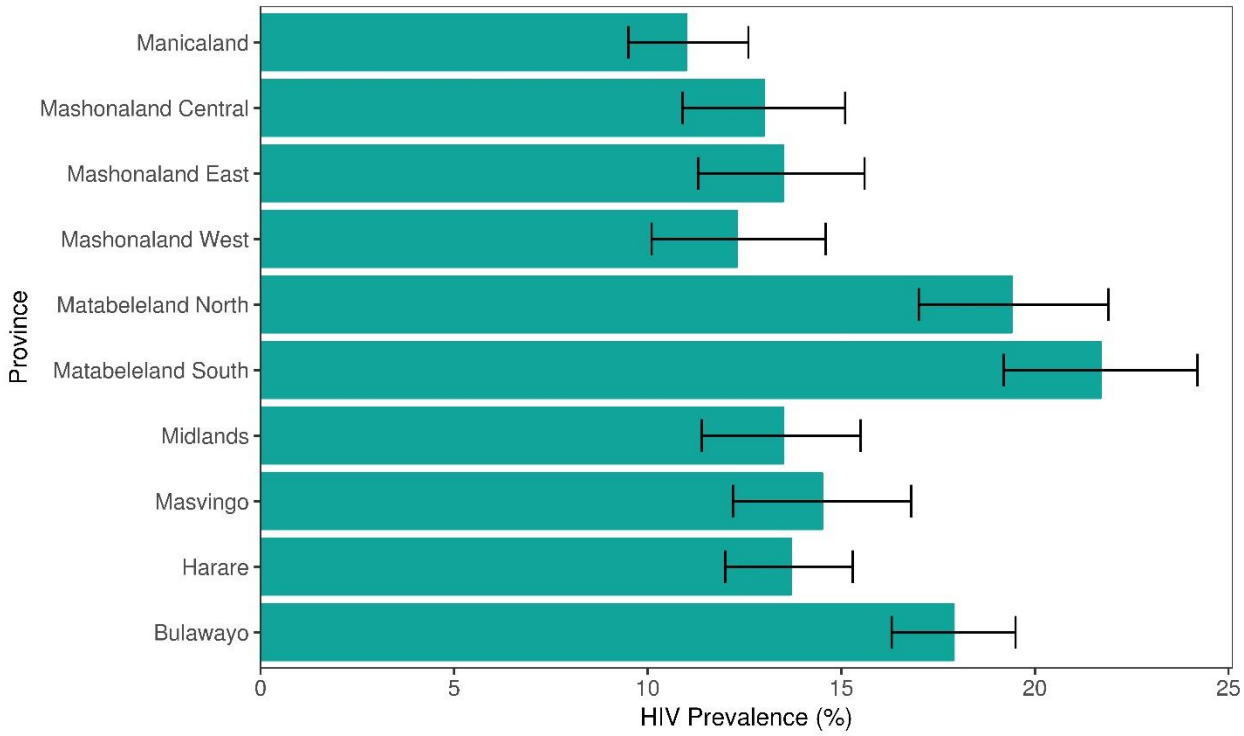


Figure 3.3.C HIV prevalence among persons 15 to 64 years by province

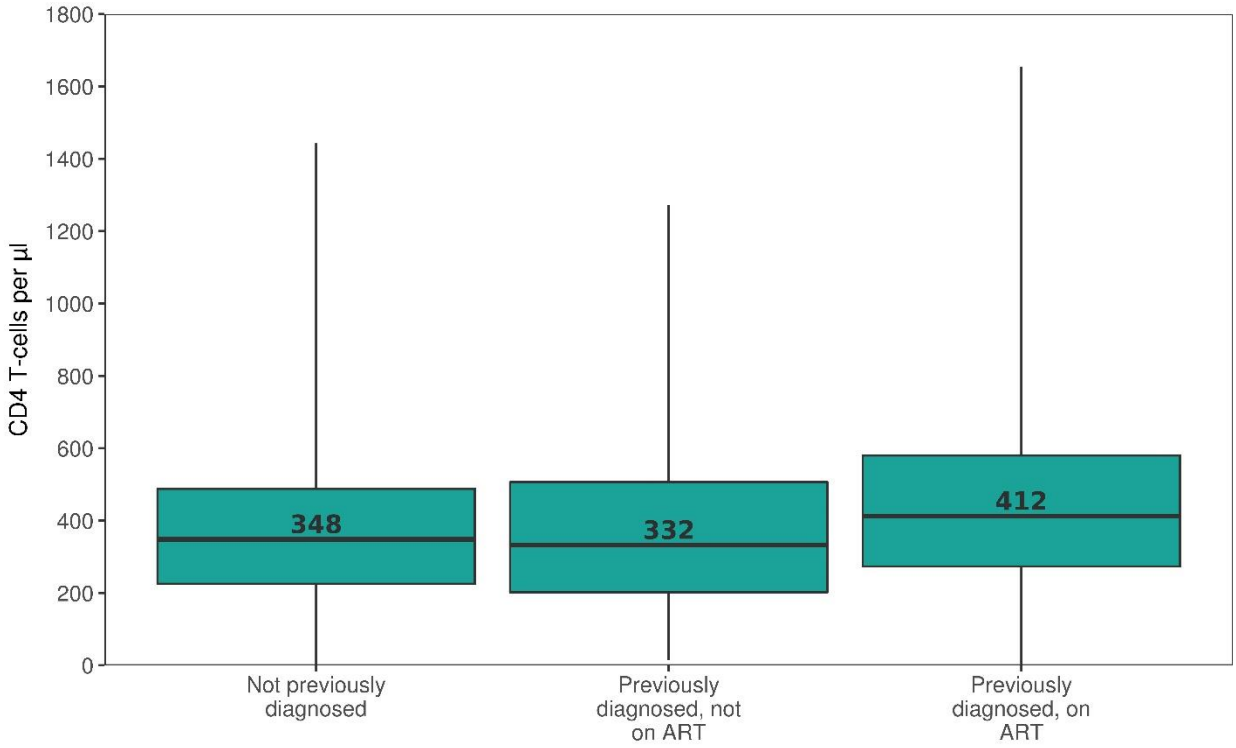


CD4 T-Cell Counts and Immunosuppression

Median CD4 count was 387 cells per microliter (µl) among all HIV-positive persons aged 15 to 64 years. The median CD4 count was 412 cells/µl among those who were previously diagnosed and on ART, compared to 332 cells/µl among those who had been previously diagnosed but were not on ART, and 348 cells/µl among those not previously diagnosed (Figure 3.3.D). Among those on ART, median CD4 count was 319 cells/µl among men and 475 cells/µl among women. Similar disparities by gender were observed across all sociodemographic characteristics. By age, median CD4 is highest among 15- to 24-year-olds at 435 cells/µl for 15- to 19-year-olds and 456 cells/µl for 20- to 24-year-olds (Table 3.3.E).

Among all HIV-positive persons aged 15 to 64 years, two-thirds (67.9%) were immunosuppressed, defined as CD4 T-cell count less than 500 cells/µl. The prevalence of immunosuppression among persons who were previously diagnosed and reported being on ART was 63.7%, compared to 73.7% among those previously diagnosed but not on ART and 76.0% among those not previously diagnosed. Approximately half (53.6%) of all HIV-positive females who were previously diagnosed and on ART were immunosuppressed, compared to 80.7% among the males. By age, the prevalence of immunosuppression ranged from 54.9% among 20- to 24-year-olds to 79.4% among 60 to 64-year-olds (Table 3.3.E).

Figure 3.3.D CD4 T-cell count distributions among HIV-positive persons 15 to 64 years by ART status



Each "box-and-whisker plot" depicts the interquartile range (box), the median (horizontal line inside the box), and the minimum and maximum values (ends of the lower and upper vertical lines, respectively) for the CD4 T-cell count distribution of people living with HIV, according to their diagnosis and treatment status.

Table 3.3.A Annual HIV incidence

Annual incidence of HIV among persons 15 to 64 years by sex and age, ZIMPHIA 2015-2016

Age	Males		Females		Total	
	Percentage annual incidence	95% CI	Percentage annual incidence	95% CI	Percentage annual incidence	95% CI
15-24	0.14	(0.00, 0.37)	0.53	(0.13, 0.93)	0.34	(0.10, 0.57)
25-34	0.48	(0.00, 1.05)	1.11	(0.41, 1.80)	0.81	(0.34, 1.26)
35-49	0.38	(0.00, 0.91)	0.42	(0.00, 0.92)	0.40	(0.03, 0.77)
15-49	0.30	(0.07, 0.53)	0.69	(0.38, 1.00)	0.50	(0.30, 0.69)
15-64	0.33	(0.10, 0.55)	0.60	(0.33, 0.88)	0.47	(0.29, 0.65)

Table 3.3.B HIV prevalence by demographic characteristics: 15 to 49 years

Prevalence of HIV among persons aged 15 to 49 years, by sex and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males		Females		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Residence						
Urban	10.9	1,917	16.0	3,500	13.6	5,417
Rural	10.6	5,324	15.8	6,721	13.2	12,045
Province						
Manicaland	8.2	813	12.0	1,074	10.2	1,887
Mashonaland Central	10.2	834	16.0	946	12.9	1,780
Mashonaland East	11.4	782	14.5	883	12.9	1,665
Mashonaland West	9.9	1,020	14.2	1,132	11.9	2,152
Matabeleland North	14.1	660	22.9	959	18.8	1,619
Matabeleland South	15.9	510	24.2	761	20.4	1,271
Midlands	10.3	654	14.6	1,047	12.7	1,701
Masvingo	10.6	712	16.1	1,136	13.7	1,848
Harare	10.0	680	15.7	1,204	13.0	1,884
Bulawayo	13.8	576	18.6	1,079	16.5	1,655
Marital status						
Never married	3.3	3,348	6.4	2,604	4.5	5,952
Married or living together	15.6	3,515	14.8	6,215	15.2	9,730
Divorced or separated	23.4	307	29.5	871	27.6	1,178
Widowed	55.4	61	57.8	517	57.5	578
Education						
No education	19.7	52	19.6	150	19.7	202
Primary	13.3	1,780	22.3	2,691	18.2	4,471
Secondary	10.5	4,826	14.2	6,806	12.4	11,632
More than secondary	6.2	580	8.7	570	7.2	1,150
Religion						
Traditional	12.8	204	9.5	85	12.0	289
Roman Catholic	11.0	581	13.2	683	12.0	1,264
Protestant	9.0	1,037	15.3	1,671	12.4	2,708
Pentecostal	8.2	1,191	15.1	2,455	12.4	3,646
Apostolic Sect	10.6	2,076	16.5	3,696	14.0	5,772
Other Christian	6.7	541	16.2	972	12.1	1,513
Muslim	(20.4)	33	(19.6)	38	20.1	71
Other	8.8	59	16.3	72	12.3	131
None	15.1	1,511	20.6	546	16.3	2,057
Pregnancy status						
Currently pregnant			10.5	608		
Not currently pregnant			16.2	9,419		
Total 15-49	10.7	7,241	15.9	10,221	13.4	17,462

Table 3.3.C HIV prevalence by demographic characteristics: 15 to 64 years

Prevalence of HIV among persons aged 15 to 64 years by sex and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males		Females		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Residence						
Urban	12.3	2,150	16.4	3,920	14.5	6,070
Rural	11.8	6,245	15.8	8,262	13.8	14,507
Province						
Manicaland	9.2	942	12.6	1,296	11.0	2,238
Mashonaland Central	10.6	958	15.7	1,143	13.0	2,101
Mashonaland East	12.1	902	14.9	1,045	13.5	1,947
Mashonaland West	11.0	1,137	13.9	1,328	12.3	2,465
Matabeleland North	15.7	784	22.5	1,190	19.5	1,974
Matabeleland South	19.4	631	23.5	968	21.7	1,599
Midlands	11.7	767	14.9	1,258	13.5	2,025
Masvingo	12.3	850	16.3	1,353	14.5	2,203
Harare	11.1	750	15.8	1,338	13.7	2,088
Bulawayo	16.1	674	19.3	1,263	17.9	1,937
Marital status						
Never married	3.5	3,386	6.6	2,681	4.7	6,067
Married or living together	16.7	4,530	14.0	7,278	15.2	11,808
Divorced or separated	24.7	348	28.4	1,040	27.3	1,388
Widowed	50.6	120	44.3	1,167	45.0	1,287
Education						
No education	17.1	122	17.6	510	17.5	632
Primary	15.2	2,381	20.7	3,888	18.3	6,269
Secondary	11.5	5,250	14.4	7,165	13.0	12,415
More than secondary	6.9	634	9.5	612	7.9	1,246
Religion						
Traditional	16.2	273	10.3	118	14.8	391
Roman Catholic	12.6	721	13.6	902	13.1	1,623
Protestant	10.8	1,234	15.6	2,115	13.5	3,349
Pentecostal	9.4	1,291	15.3	2,762	13.0	4,053
Apostolic Sect	11.7	2,342	16.5	4,294	14.5	6,636
Other Christian	8.1	637	16.7	1,183	13.0	1,820
Muslim	(20.1)	40	16.8	51	18.5	91
Other	8.9	68	17.3	96	13.0	164
None	15.9	1,778	21.0	658	17.0	2,436
Pregnancy status						
Currently pregnant			10.5	608		
Not currently pregnant			16.3	11,363		
Total 15-64	12.0	8,395	16.0	12,182	14.1	20,577

Figures in parentheses are based on 25 to 49 unweighted cases.

Table 3.3.D HIV prevalence by age

Prevalence of HIV among persons aged 0 to 64 years by sex and age, ZIMPHIA 2015-2016

Age	Males		Females		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
0-17 months	1.6	284	0.3	305	0.9	589
18-59 months	0.9	910	0.7	922	0.8	1,832
5-9	2.2	1,168	1.3	1,197	1.7	2,365
10-14	2.2	1,113	2.8	1,133	2.5	2,246
Total 0-4	1.0	1,194	0.6	1,227	0.8	2,421
Total 0-14	1.7	3,475	1.5	3,557	1.6	7,032
15-19	3.2	1,950	3.9	2,114	3.6	4,064
20-24	2.7	1,220	8.1	1,817	5.5	3,037
25-29	6.6	979	14.3	1,573	10.9	2,552
30-34	12.2	942	22.0	1,579	17.5	2,521
35-39	19.4	843	26.6	1,326	23.1	2,169
40-44	25.4	754	29.6	1,063	27.5	1,817
45-49	28.1	553	28.9	749	28.5	1,302
50-54	28.0	383	21.0	707	24.1	1,090
55-59	24.4	382	17.0	702	19.9	1,084
60-64	16.8	389	12.6	552	14.5	941
Total 15-24	3.0	3,170	5.9	3,931	4.4	7,101
Total 15-49	10.7	7,241	15.9	10,221	13.4	17,462
Total 15-64	12.0	8,395	16.0	12,182	14.1	20,577

Table 3.3.E Median CD4 count and prevalence of immunosuppression

Median (Q1, Q3) CD4 count and prevalence of immunosuppression (<500 cells/µl) among HIV-positive persons aged 15 to 64 years by sex, self-reported diagnosis, ART status, and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males			Females			Total		
	Median (Q1, Q3)	Percentage <500 cells/µL	Number	Median (Q1, Q3)	Percentage <500 cells/µL	Number	Median (Q1, Q3)	Percentage <500 cells/µL	Number
Self-reported diagnosis and treatment status									
Not previously diagnosed	317 (202, 424)	83.8	327	394 (244, 570)	68.9	474	348 (225, 488)	76.0	801
Previously diagnosed, not on ART	252 (156, 377)	88.8	104	407 (256, 589)	63.6	208	332 (202, 506)	73.7	312
Previously diagnosed, on ART	319 (209, 452)	80.7	717	475 (329, 639)	53.6	1,544	412 (273, 580)	63.7	2,261
Missing	*	*	7	*	*	1	*	*	8
Residence									
Urban	300 (191, 437)	82.9	304	438 (285, 626)	58.2	743	386 (249, 569)	67.7	1,047
Rural	320 (205, 441)	81.7	851	448 (301, 615)	58.3	1,484	388 (250, 552)	68.0	2,335
Province									
Manicaland	325 (179, 426)	81.3	96	443 (316, 659)	57.5	178	396 (254, 542)	67.0	274
Mashonaland Central	282 (147, 387)	85.8	115	450 (324, 621)	60.7	193	377 (222, 534)	71.3	308
Mashonaland East	304 (191, 408)	86.6	120	426 (258, 604)	60.4	175	343 (224, 516)	72.7	295
Mashonaland West	314 (212, 459)	80.6	128	460 (310, 636)	54.7	199	385 (258, 573)	66.8	327
Matabeleland North	313 (225, 442)	82.6	135	424 (318, 554)	65.0	289	390 (278, 522)	71.4	424
Matabeleland South	337 (226, 469)	78.4	138	467 (299, 610)	55.4	244	401 (266, 571)	64.7	382
Midlands	326 (236, 433)	82.6	99	467 (296, 637)	55.5	203	388 (258, 570)	66.0	302
Masvingo	309 (188, 439)	83.5	118	481 (332, 607)	54.7	239	421 (258, 568)	65.5	357
Harare	314 (181, 462)	77.0	92	429 (270, 620)	59.8	233	388 (238, 581)	66.3	325
Bulawayo	287 (201, 414)	86.4	114	433 (294, 607)	60.3	274	377 (238, 529)	70.5	388
Marital status									
Never married	343 (202, 499)	74.7	127	470 (345, 650)	55.7	215	419 (255, 584)	64.3	342
Married or living together	317 (208, 432)	82.9	861	449 (302, 623)	57.3	1,147	379 (247, 540)	70.0	2,008
Divorced or separated	270 (161, 388)	83.2	104	432 (273, 610)	59.3	331	387 (239, 570)	65.8	435
Widowed	265 (163, 381)	85.7	62	434 (287, 593)	61.2	528	411 (266, 580)	64.3	590
Education									
No education	*	*	24	390 (259, 611)	63.8	92	354 (226, 572)	67.6	116
Primary	289 (185, 405)	86.4	409	443 (308, 614)	58.9	877	384 (247, 542)	68.8	1,286
Secondary	319 (212, 459)	79.5	665	450 (293, 623)	57.3	1,190	393 (253, 568)	66.9	1,855
More than secondary	316 (178, 428)	88.0	56	395 (245, 638)	60.7	68	347 (219, 495)	74.9	124

Religion									
Traditional	346 (186, 421)	85.3	53	*	*	14	348 (202, 459)	78.5	67
Roman Catholic	328 (212, 424)	85.1	104	446 (305, 653)	56.8	140	388 (235, 546)	71.1	244
Protestant	302 (207, 457)	79.1	160	460 (297, 648)	56.1	374	394 (255, 585)	64.2	534
Pentecostal	348 (230, 527)	74.0	137	439 (284, 602)	58.2	495	421 (273, 577)	62.7	632
Apostolic Sect	312 (206, 422)	82.6	310	442 (303, 610)	58.7	795	396 (264, 569)	66.7	1,105
Other Christian	286 (165, 446)	81.8	62	462 (302, 623)	56.2	236	407 (253, 573)	63.1	298
Muslim	*	*	9	*	*	9	*	*	18
Other	*	*	8	*	*	19	390 (280, 545)	(68.2)	27
None	292 (176, 422)	85.0	310	409 (256, 580)	66.2	145	320 (209, 460)	79.9	455
Age									
15-19	354 (190, 531)	69.6	61	484 (384, 652)	51.5	86	435 (288, 596)	59.7	147
20-24	329 (191, 428)	(80.2)	37	510 (344, 662)	47.0	161	456 (298, 639)	54.9	198
25-29	337 (259, 456)	81.9	71	462 (327, 614)	56.6	256	414 (290, 561)	63.5	327
30-34	305 (191, 470)	78.0	136	414 (274, 613)	60.5	386	394 (246, 577)	66.1	522
35-39	311 (161, 406)	86.9	182	442 (311, 605)	60.3	389	374 (255, 536)	71.1	571
40-44	336 (222, 451)	78.7	210	426 (273, 591)	63.3	347	369 (239, 540)	70.4	557
45-49	294 (190, 403)	85.6	173	450 (287, 623)	56.8	232	356 (232, 525)	71.3	405
50-54	315 (214, 425)	85.5	118	500 (320, 647)	49.4	160	395 (246, 543)	67.9	278
55-59	270 (180, 397)	84.2	97	443 (277, 629)	62.7	133	351 (221, 528)	73.0	230
60-64	297 (191, 417)	86.5	70	386 (242, 522)	71.6	77	345 (224, 468)	79.4	147
Total 15-49	315 (201, 446)	81.3	870	442 (296, 618)	58.1	1,857	391 (255, 565)	67.1	2,727
Total 15-64	314 (199, 438)	82.1	1,155	444 (295, 619)	58.3	2,227	387 (250, 558)	67.9	3,382

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

3.4 90-90-90 Indicators

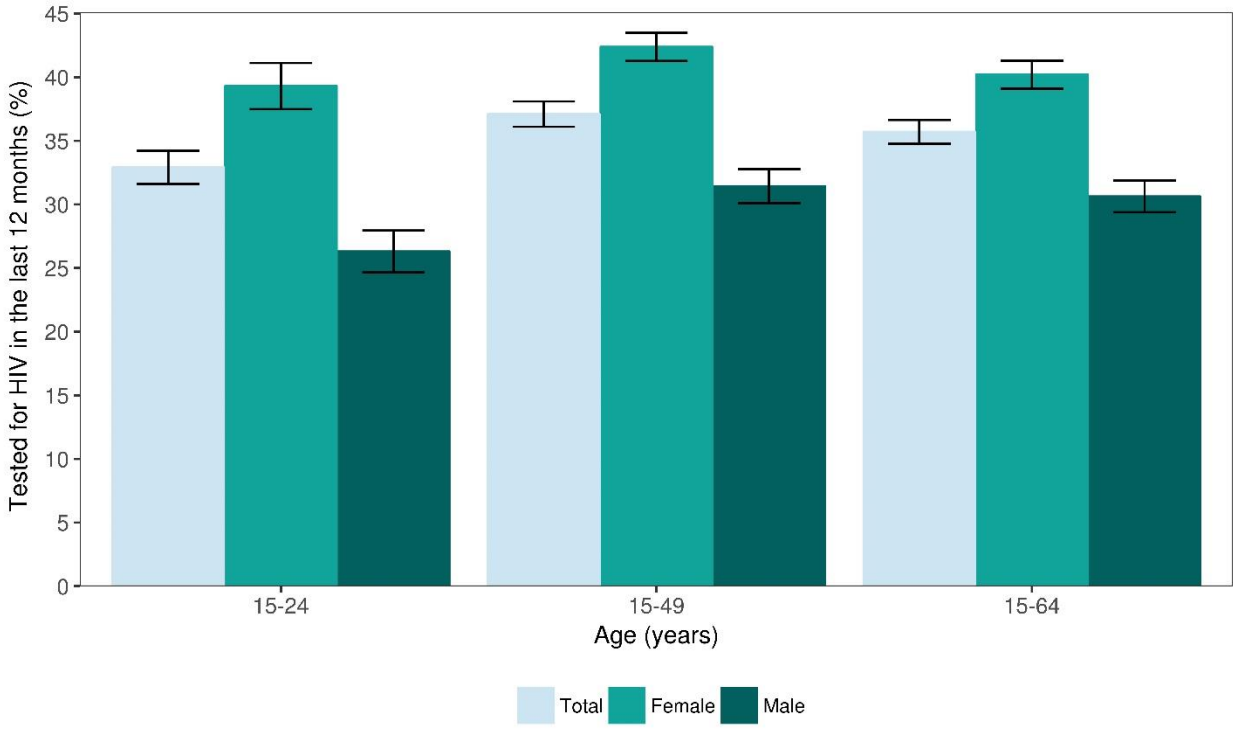
In order to bring the HIV epidemic under control, UNAIDS has set an ambitious target known as 90-90-90: that is, by 2020, 90% of all people living with HIV will know their HIV status; 90% of all persons with diagnosed HIV infection will receive sustained antiretroviral therapy (ART); and 90% of all persons receiving ART will have viral suppression.

Self-Reported HIV Testing

Two-thirds (65.7%) of males aged 15 to 64 years reported ever having been tested and receiving their results for HIV, while less than half that proportion (30.6%) reported testing in the year preceding the survey. Three-fourths (75.1%) of males aged 25 to 29 years have been tested and received their results, compared to only 43.6% among males aged 15 to 19 years. Half (51.5%) of never-married males aged 15 to 64 years have been tested and received their HIV results, while 25.2% were tested in the year preceding the survey. Coverage of testing was 78.5% among males with more than secondary education, compared to 57.2% and 54.8%, respectively, among those with primary education or no education. A similar pattern held across education levels for coverage of testing in the year preceding the survey. History of HIV testing was more common among HIV-positive males aged 15 to 64 years (85.4%) than among those who are HIV negative (63.6%; Table 3.4.A, Figure 3.4.A).

A greater proportion of females aged 15 to 64 years (80.9%) than males (65.7%) have ever been tested for HIV and received their results. A greater proportion of women (40.2%) have been tested in the previous 12 months. While the coverage of HIV testing among women aged 15 to 19 years was less than half (47.0%), for all age groups from 25 to 44 years it was over 90%, possibly reflecting the high coverage of PMTCT programs. Females aged 60 to 64 years also reported comparatively low coverage of ever having testing (61.6%). Among females aged 15 to 64 who had never been married, about half (50.2%) had been tested. Almost all (94.9%) HIV-positive females had been tested and received their results, compared to 79.0% of those who were HIV negative. Conversely, HIV testing with receipt of results in the past 12 months was higher among those who were HIV negative (43.5%), compared to 21.3% among those who were HIV positive. This may reflect the fact that women who already knew that they were HIV positive would not have retested in the last year. Women who were never married (25.3%) or widowed (26.3%) and those with no education (29.5%) had relatively low testing coverage in the 12 months preceding the survey (Table 3.4.B, Figure 3.4.A).

Figure 3.4.A Self-reported HIV testing in the last 12 months by sex and age



Self-Reported HIV Treatment Status

About one-third (31.8%) of HIV-positive males aged 15 to 64 years were unaware of their HIV status, while over half (58.7%) were aware of their status and on ART. Over half (59.9%) of HIV-positive males aged 25 to 29 years were unaware of their status. Among never-married males, 43.0% were unaware of their HIV-positive status, while about half were on ART (48.8%). By comparison, 30.5% of married men were unaware of their status, while 60.1% were on ART. Unawareness of status by region ranged from 27.3% in Masvingo to 41.8% in Mashonaland East, with most provinces close to the mean of 31.8%. Coverage of ART is highest in Matebeleland South (64.7%), with lower coverage again observed in Mashonaland East (43.9%; Table 3.4.C).

Less than one quarter (23.9%) of females aged 15 to 64 were unaware of their status. Over twice the proportion of females aged 15 to 24 years were unaware of their status (53.0% for females aged 15-19 years; 51.1% for females aged 20-24 years) compared to all age groups of women over 30 years old. ART coverage followed a similar pattern, ranging from 45.6% and 39.3%, respectively, among 15- to 19-year-olds and 20- to 24-year-olds, compared to over 75% among all age groups from 40 to 59 years (Table 3.4.D).

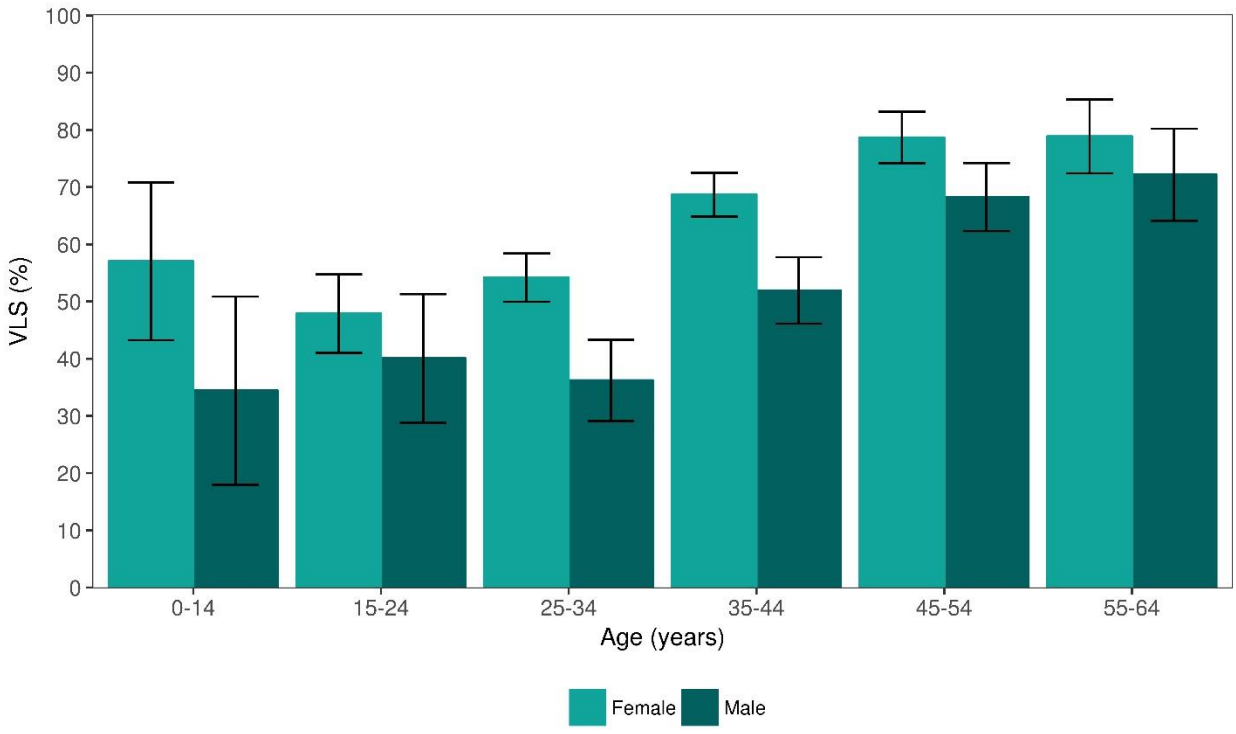
Differences in HIV treatment status were also observed by marital status and province. Among HIV-positive women who were never married, 39.4% were unaware of their status, while just over half (55.4%) were on ART. In contrast, among widowed females, only 14.3% were unaware of their status, while 79.4% were on ART. Among women in the higher-prevalence provinces of Matabeleland South and Matabeleland North, relatively few—23.0 and 16.7%, respectively—were unaware of their status, while the majority—71.5 and 72.9%, respectively—reported being on ART (Table 3.4.D).

Viral Load Suppression

Among people living with HIV (PLHIV) aged 15 to 64 years, the prevalence of viral load suppression (VLS) was 59.6% (53.6% among males and 63.7% among females). Of PLHIV aged 15 to 64 years who self-reported current use of ART, 86.5% were virally suppressed (84.4% of males; 87.7% of females; Table 3.4.E).

Prevalence of VLS among PLHIV was highest among females aged 55 to 59 years (82.6%) and among males aged 60 to 64 years (77.5%). Among HIV positive young persons aged 15 to 24 years, 40.1% of men were virally suppressed, compared to 47.9% of women (Table 3.4.F, Figure 3.4.B). Only about half of children under age 14 were virally suppressed.

Figure 3.4.B Viral load suppression among people living with HIV 0 to 64 years by sex and age



Among PLHIV aged 15 to 64 years, prevalence of VLS varied by province, ranging from 53.7% in Mashonaland East to 65.3% in Matabeleland North. Provinces with high HIV prevalence (Matabeleland South, Matabeleland North, and Bulawayo) also had a high prevalence of viral load suppression (63.9%, 65.3%, and 62.8%, respectively; Figures 3.4.C and 3.4.D).

Figure 3.4.C Viral load suppression among HIV-positive persons 15 to 64 years by province

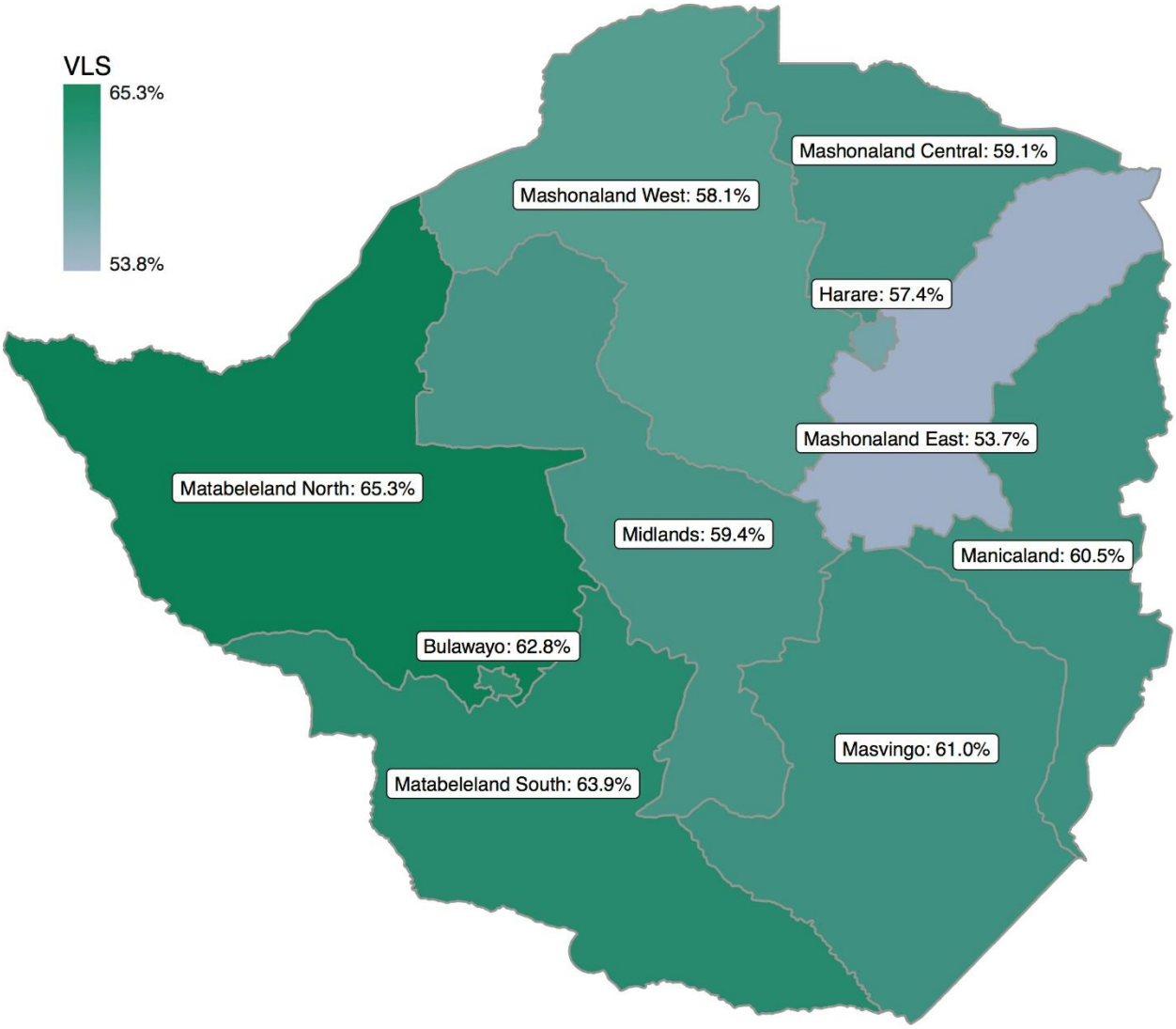
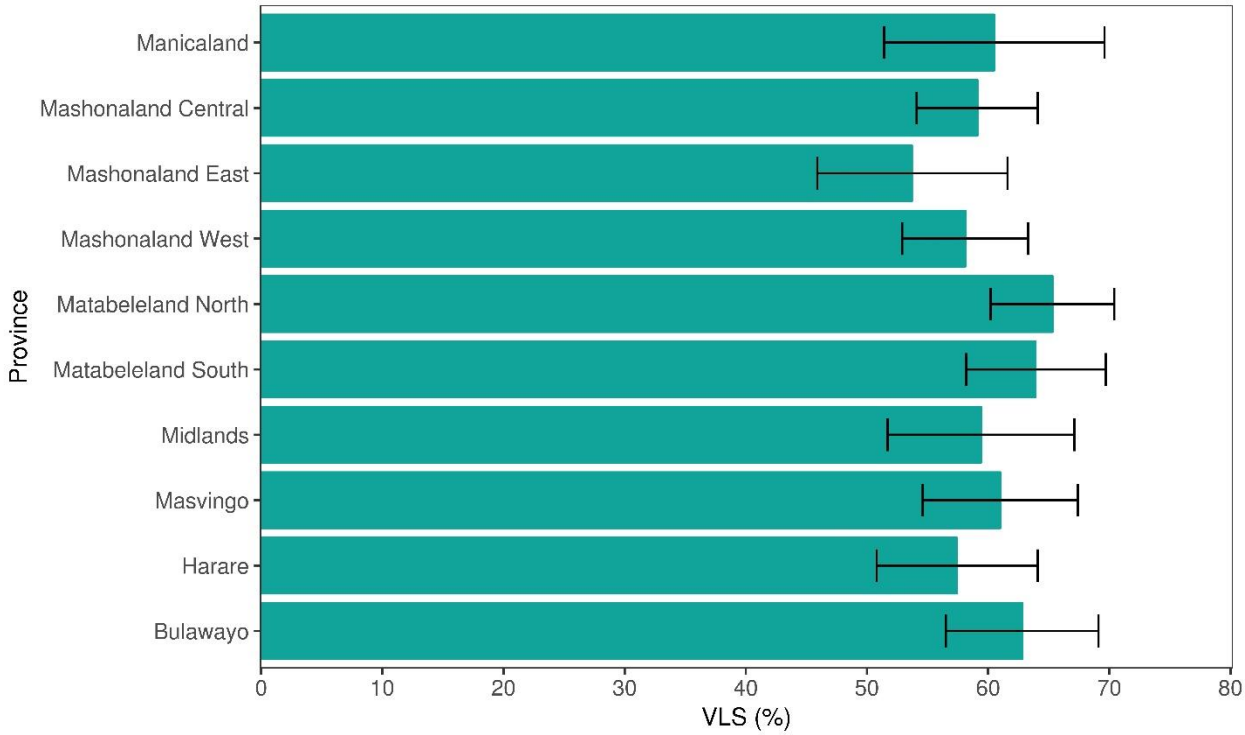


Figure 3.4.D Viral load suppression among HIV-positive persons 15 to 64 years by province



Overall 90-90-90

Key Findings

Diagnosed: In ZIMPHIA, 72.9% of PLHIV aged 15 to 64 years report knowing their HIV status. 76.1% of HIV-positive females and 68.2% of HIV-positive males know their HIV status.

On treatment: Among PLHIV aged 15 to 64 years who know their HIV status, 86.8% self-report current use of ART. 87.2**%** of HIV-positive females and 86.1% of HIV-positive males who know their HIV status self-report current use of ART.

Virally suppressed: Among PLHIV aged 15 to 64 years who self-report current use of ART, 86.5% are virally suppressed, while 87.7% of HIV-positive females and 84.4% of HIV-positive males who self-report current use of ART are virally suppressed.

Zimbabwe has committed to having 90% of all PLHIV diagnosed, 90% of all persons diagnosed receiving ART, and 90% of all persons receiving ART virally suppressed by 2020. ZIMPHIA shows that among all HIV-positive persons aged 15 to 64 years, 72.9% knew they were HIV positive, which is still somewhat below the 90% target for awareness of HIV status. Of those who knew their HIV status, 86.8% were on ART, and of those who reported being on ART, 86.5% were virally suppressed, both very close to the 90% targets. Among males aged 15 to 64 years, 68.2% of those living with HIV knew their HIV status; however, among those who knew their status, 86.1% report being on ART, and of those on ART, 84.4% are virally suppressed. Among HIV-positive males aged 35 to 49 years, 73.3% were diagnosed, 85.2%

were on ART, and 82.5% were virally suppressed compared to 54.9% diagnosed, 79.4% on ART, and 78.4% virally suppressed among those aged 15 to 24 (Table 3.4.G, Figure 3.4.E).

Among females aged 15 to 64 years, 76.1% of those living with HIV knew their HIV status, among those who knew their status 87.2% reported being on ART, and of those on ART, 87.7% were virally suppressed. The percentage of HIV-positive women diagnosed ranged from 48.2% among those aged 15 to 24 years to 85.3% among those aged 35 to 49 years. However, women had nearly attained the last two 90-90-90 goals—percentage on ART and percentage virally suppressed—across all age groups (Table 3.4.G, Figure 3.4.E).

Figure 3.4.E Progress toward the 90-90-90 goals among PLHIV 15 to 64 years by sex

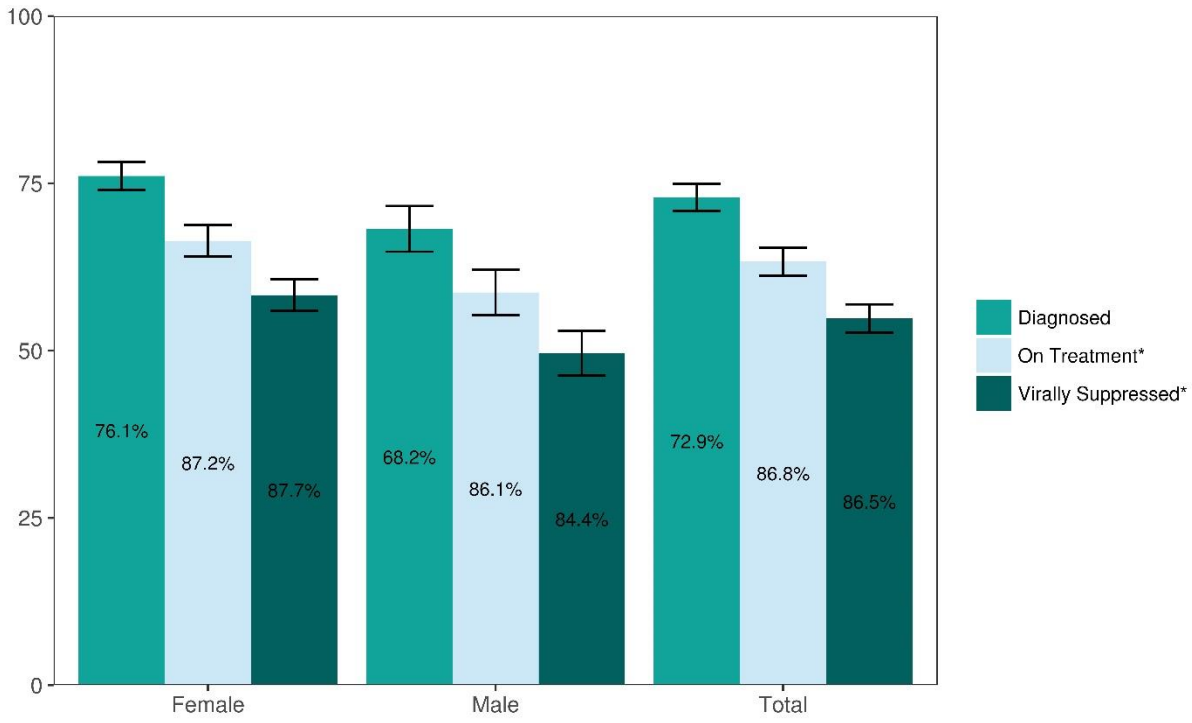


Table 3.4.A HIV testing: Males

Percentage of males aged 15 to 64 years who ever received HIV testing and received their test results, and percentage who received HIV testing and received their test results in the past 12 months by result of PHIA survey HIV test and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Percentage who ever received HIV testing and received their results	Percentage who received HIV testing in the past 12 months and received their results	Number
Result of PHIA survey HIV test			
HIV positive	85.4	24.6	1,143
HIV negative	63.6	31.2	7,174
No outcome	59.8	33.1	867
Residence			
Urban	69.8	31.7	2,395
Rural	63.6	30.1	6,789
Province			
Manicaland	61.8	34.0	995
Mashonaland Central	60.2	27.3	1,072
Mashonaland East	62.9	29.1	989
Mashonaland West	68.2	32.2	1,233
Matabeleland North	65.4	30.5	850
Matabeleland South	70.3	32.3	682
Midlands	63.8	26.8	851
Masvingo	63.8	29.9	941
Harare	70.7	31.6	837
Bulawayo	71.3	32.2	734
Marital status			
Never married	51.5	25.2	3,712
Married or living together	75.5	34.0	4,938
Divorced or separated	76.5	39.5	392
Widowed	77.0	33.3	128
Education			
No education	54.8	19.4	133
Primary	57.2	24.9	2,551
Secondary	67.0	32.0	5,736
More than secondary	78.5	36.3	755
Religion			
Traditional	63.4	28.2	302
Roman Catholic	68.9	33.1	794
Protestant	69.7	33.8	1,320
Pentecostal	66.7	29.5	1,406
Apostolic Sect	62.6	28.6	2,581
Other Christian	65.0	33.3	710
Muslim	(68.3)	(40.2)	42
Other	71.0	27.8	75
None	65.1	30.1	1,943

Age			
15-19	43.6	19.9	2,088
20-24	62.1	34.5	1,361
25-29	75.1	40.9	1,065
30-34	74.6	35.4	1,063
35-39	76.7	36.0	937
40-44	75.3	27.9	824
45-49	77.2	30.9	604
50-54	69.9	25.1	412
55-59	67.4	20.8	412
60-64	64.6	24.4	418
Total 15-24	51.8	26.3	3,449
Total 15-49	65.5	31.4	7,942
Total 15-64	65.7	30.6	9,184

Figures in parentheses are based on 25 to 49 unweighted cases.

Table 3.4.B HIV testing: Females

Percentage of females aged 15 to 64 years who ever received HIV testing and received their test results, and percentage who received HIV testing and received their test results in the past 12 months by result of PHIA survey HIV test and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Percentage who ever received HIV testing and received their results	Percentage who received HIV testing in the past 12 months and received their results	Number
Result of PHIA survey HIV test			
HIV positive	94.9	21.3	2,218
HIV negative	79.0	43.5	9,918
No outcome	72.2	44.9	1,025
Residence			
Urban	80.5	39.3	4,290
Rural	81.1	40.7	8,871
Province			
Manicaland	77.9	41.4	1,385
Mashonaland Central	81.8	42.2	1,276
Mashonaland East	79.0	41.8	1,121
Mashonaland West	83.3	41.5	1,441
Matabeleland North	83.0	40.2	1,266
Matabeleland South	84.1	40.8	1,034
Midlands	79.2	37.5	1,377
Masvingo	82.1	41.2	1,443
Harare	81.6	39.2	1,462
Bulawayo	78.3	36.4	1,356
Marital status			
Never married	50.2	25.3	2,876
Married or living together	91.3	47.5	7,868
Divorced or separated	91.1	44.4	1,127
Widowed	82.7	26.3	1,272
Education			
No education	70.3	29.5	544
Primary	80.7	35.4	4,174
Secondary	80.8	42.5	7,733
More than secondary	88.2	45.5	702
Religion			
Traditional	84.7	47.4	127
Roman Catholic	78.4	35.9	969
Protestant	80.6	39.3	2,261
Pentecostal	80.8	40.4	2,954
Apostolic Sect	81.1	40.9	4,712
Other Christian	79.1	39.4	1,266
Muslim	84.3	31.5	54
Other	81.0	41.0	99
None	85.8	43.8	716

Age			
15-19	47.0	29.1	2,267
20-24	87.4	51.5	1,974
25-29	95.7	51.8	1,722
30-34	95.2	47.9	1,692
35-39	93.8	39.2	1,441
40-44	93.1	38.6	1,138
45-49	85.4	34.6	815
50-54	76.3	27.6	747
55-59	71.7	24.4	752
60-64	61.6	22.0	613
Total 15-24	65.4	39.3	4,241
Total 15-49	82.4	42.4	11,049
Total 15-64	80.9	40.2	13,161

Table 3.4.C HIV treatment status: Males

Percent distribution of HIV-positive males aged 15 to 64 years by self-reported HIV treatment status and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Unaware of HIV status	Aware of HIV status		Total	Number
		Not on ART	On ART		
Residence					
Urban	33.0	8.7	58.4	100.0	304
Rural	31.1	9.9	58.9	100.0	844
Province					
Manicaland	35.4	7.0	57.5	100.0	95
Mashonaland Central	28.8	11.5	59.7	100.0	115
Mashonaland East	41.8	14.3	43.9	100.0	120
Mashonaland West	32.8	7.9	59.3	100.0	127
Matabeleland North	31.7	8.1	60.1	100.0	134
Matabeleland South	28.9	6.4	64.7	100.0	137
Midlands	31.7	6.2	62.2	100.0	96
Masvingo	27.3	11.6	61.2	100.0	118
Harare	28.1	11.2	60.7	100.0	92
Bulawayo	30.0	7.6	62.4	100.0	114
Marital status					
Never married	43.0	8.2	48.8	100.0	127
Married or living together	30.5	9.3	60.1	100.0	856
Divorced or separated	32.5	8.3	59.2	100.0	103
Widowed	22.4	15.4	62.1	100.0	61
Education					
No education	*	*	*	*	24
Primary	29.6	7.5	62.9	100.0	408
Secondary	32.3	10.3	57.4	100.0	660
More than secondary	41.2	11.2	47.7	100.0	55
Religion					
Traditional	37.7	6.7	55.6	100.0	52
Roman Catholic	30.3	11.0	58.7	100.0	103
Protestant	20.1	9.0	70.9	100.0	160
Pentecostal	35.8	7.6	56.6	100.0	137
Apostolic Sect	31.4	9.0	59.7	100.0	305
Other Christian	37.4	10.1	52.5	100.0	62
Muslim	*	*	*	*	9
Other	*	*	*	*	8
None	34.2	11.0	54.9	100.0	310
Age					
15-19	38.6	13.5	48.0	100.0	60
20-24	(54.9)	(8.2)	(36.9)	100.0	37
25-29	59.9	11.8	28.3	100.0	71
30-34	40.1	12.1	47.8	100.0	134
35-39	31.2	15.3	53.5	100.0	182
40-44	27.0	9.1	63.9	100.0	208
45-49	21.0	7.7	71.4	100.0	173
50-54	23.0	2.6	74.4	100.0	117
55-59	26.4	3.5	70.1	100.0	96
60-64	14.5	1.1	84.4	100.0	70
Total 15-49	34.1	11.2	54.7	100.0	865
Total 15-64	31.8	9.5	58.7	100.0	1,148

Table 3.4.D HIV treatment status: Females

Percent distribution of HIV-positive females aged 15 to 64 years by self-reported HIV treatment status and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Unaware of HIV status	Aware of HIV status		Total	Number
		Not on ART	On ART		
Residence					
Urban	26.8	11.5	61.8	100.0	745
Rural	22.1	8.6	69.2	100.0	1,484
Province					
Manicaland	20.5	11.0	68.5	100.0	179
Mashonaland Central	22.5	10.2	67.3	100.0	193
Mashonaland East	21.5	10.3	68.3	100.0	175
Mashonaland West	22.6	10.6	66.8	100.0	199
Matabeleland North	16.7	10.4	72.9	100.0	288
Matabeleland South	23.0	5.4	71.5	100.0	244
Midlands	25.6	7.2	67.2	100.0	203
Masvingo	27.1	9.4	63.5	100.0	240
Harare	27.1	10.6	62.3	100.0	234
Bulawayo	27.3	11.2	61.5	100.0	274
Marital status					
Never married	39.4	5.2	55.4	100.0	215
Married or living together	23.7	11.1	65.2	100.0	1,147
Divorced or separated	28.9	13.0	58.1	100.0	331
Widowed	14.3	6.3	79.4	100.0	530
Education					
No education	23.5	3.1	73.4	100.0	92
Primary	21.0	9.7	69.2	100.0	877
Secondary	25.5	10.3	64.2	100.0	1,192
More than secondary	28.6	7.4	64.0	100.0	68
Religion					
Traditional	*	*	*	*	14
Roman Catholic	15.8	8.2	76.0	100.0	140
Protestant	19.2	9.6	71.2	100.0	375
Pentecostal	24.4	8.7	66.9	100.0	496
Apostolic Sect	25.7	11.1	63.2	100.0	795
Other Christian	23.5	8.0	68.4	100.0	236
Muslim	*	*	*	*	9
Other	*	*	*	*	19
None	29.7	11.8	58.5	100.0	145
Age					
15-19	53.0	1.4	45.6	100.0	86
20-24	51.1	9.7	39.3	100.0	161
25-29	35.9	11.6	52.5	100.0	257
30-34	22.8	15.5	61.6	100.0	386
35-39	14.1	11.2	74.7	100.0	390
40-44	14.4	9.0	76.5	100.0	346
45-49	16.3	6.8	76.8	100.0	233
50-54	13.2	1.4	85.4	100.0	160
55-59	13.4	2.9	83.7	100.0	133
60-64	22.1	9.0	68.9	100.0	77
Total 15-49	25.2	10.7	64.1	100.0	1,859
Total 15-64	23.9	9.7	66.4	100.0	2,229

Table 3.4.E Viral load suppression prevalence by demographic characteristics

Prevalence of viral load suppression (<1,000 copies/ml) among HIV-positive persons aged 15 to 64 years by sex, self-reported diagnosis, and ART status, and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males		Females		Total	
	Percentage VLS	Number	Percentage VLS	Number	Percentage VLS	Number
Self-reported diagnosis and treatment status						
Not previously diagnosed	11.0	326	18.0	473	14.7	799
Previously diagnosed, not on ART	4.9	104	10.6	207	8.3	311
Previously diagnosed, on ART	84.4	717	87.7	1,546	86.5	2,263
Missing	*	6	*	1	*	7
Residence						
Urban	53.6	304	60.9	743	58.1	1,047
Rural	53.6	849	65.4	1,484	60.5	2,333
Province						
Manicaland	50.4	96	67.2	178	60.5	274
Mashonaland Central	53.0	115	63.6	192	59.1	307
Mashonaland East	43.5	119	62.7	175	53.7	294
Mashonaland West	50.8	128	64.4	199	58.1	327
Matabeleland North	58.0	134	69.5	289	65.3	423
Matabeleland South	61.5	138	65.6	244	63.9	382
Midlands	52.6	99	63.7	202	59.4	301
Masvingo	56.8	118	63.5	240	61.0	358
Harare	54.9	92	58.9	234	57.4	326
Bulawayo	61.4	114	63.7	274	62.8	388
Marital status						
Never married	45.7	127	56.9	215	51.9	342
Married or living together	54.6	859	62.8	1,145	58.7	2,004
Divorced or separated	56.3	104	56.1	331	56.2	435
Widowed	53.0	62	73.9	530	71.3	592
Education						
No education	*	24	76.8	92	70.5	116
Primary	56.1	408	64.5	875	61.5	1,283
Secondary	53.2	664	62.5	1,192	58.5	1,856
More than secondary	46.8	56	61.1	68	53.7	124
Religion						
Traditional	51.8	52	*	14	53.1	66
Roman Catholic	56.0	103	70.8	140	63.4	243
Protestant	61.6	160	70.7	375	67.5	535
Pentecostal	51.0	137	63.9	496	60.2	633
Apostolic Sect	53.2	310	61.4	794	58.7	1,104
Other Christian	46.7	62	63.4	235	58.9	297
Muslim	*	9	*	9	*	18
Other	*	8	*	19	(49.3)	27
None	52.5	310	52.2	145	52.4	455
Total 15-64	53.6	1,153	63.7	2,227	59.6	3,380

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed

Table 3.4.F Viral load suppression prevalence by sex and age

Prevalence of viral load suppression (<1,000 copies/ml) among HIV-positive persons aged 0-64 years by sex and age, ZIMPHIA 2015-2016

Age	Males		Females		Total	
	Percentage VLS	Number	Percentage VLS	Number	Percentage VLS	Number
0-4	*	11	*	8	*	19
5-9	*	21	*	18	(44.8)	39
10-14	(50.7)	27	(56.6)	34	54.0	61
15-19	42.2	61	58.4	85	51.0	146
20-24	(36.8)	37	41.9	161	40.7	198
25-29	26.2	71	48.4	256	42.3	327
30-34	41.9	136	58.2	386	53.0	522
35-39	45.4	181	67.6	389	58.6	570
40-44	58.1	210	69.9	347	64.5	557
45-49	65.3	173	76.7	233	70.9	406
50-54	73.3	118	82.2	160	77.6	278
55-59	68.6	96	82.6	133	75.9	229
60-64	77.5	70	72.2	77	75.0	147
Total 15-24	40.1	98	47.9	246	45.3	344
Total 15-49	48.9	869	61.2	1,857	56.4	2,726
Total 15-64	53.6	1,153	63.7	2,227	59.6	3,380

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 3.4.G 90-90-90

90-90-90 targets among people living with HIV aged 15 to 64 years by sex and age, ZIMPHIA 2015-2016

	Diagnosed					
	Males		Females		Total	
Age	Percentage who self-report HIV positive	Number	Percentage who self-report HIV positive	Number	Percentage who self-report HIV positive	Number
15-24	54.9	97	48.2	247	50.4	344
25-34	52.7	205	71.7	643	66.0	848
35-49	73.3	563	85.3	969	79.9	1,532
15-49	65.9	865	74.8	1,859	71.3	2,724
15-64	68.2	1,148	76.1	2,229	72.9	3,377

	On Treatment					
	Among males who self-report HIV positive		Among females who self-report HIV positive		Total	
Age	Percentage who self-report ART	Number	Percentage who self-report ART	Number	Percentage who self-report ART	Number
15-24	79.4	54	86.2	121	83.7	175
25-34	77.3	116	80.6	479	79.8	595
35-49	85.2	423	88.9	838	87.4	1,261
15-49	83.0	593	85.7	1,438	84.8	2,031
15-64	86.1	821	87.2	1,755	86.8	2,576

	Virally Suppressed					
	Among males who self-report ART		Among females who self-report ART		Total	
Age	Percentage virally suppressed	Number	Percentage virally suppressed	Number	Percentage virally suppressed	Number
15-24	(78.4)	45	89.0	104	85.4	149
25-34	80.6	90	83.1	392	82.5	482
35-49	82.5	363	88.0	747	85.8	1,110
15-49	81.8	498	86.5	1,243	84.9	1,741
15-64	84.4	717	87.7	1,546	86.5	2,263

Figures in parentheses are based on 25 to 49 unweighted cases.

3.5 Prevention of Mother-to-Child Transmission of HIV

Key Findings

Of women aged 15 to 49 years, 95.5% attended at least one antenatal care visit for their most-recent pregnancy during the three years prior to the survey.

Of all women aged 15 to 49 years who gave birth during the 12 months preceding the survey, 98.2% knew their HIV status.

Of all HIV-positive women aged 15 to 49 years who gave birth during the 12 months preceding the survey, 96.8% reported receiving ARVs.

Among women aged 15 to 49 years who delivered in the three years preceding the survey, 95.5% had attended at least one antenatal care (ANC) visit during their most recent pregnancy. Attending at least one ANC visit was almost universal across all provinces, ranging from 93.1% in Mashonaland East to 99.3% in Matabeleland South (Table 3.5.A).

Nearly all women (98.2%) aged 15 to 49 years who delivered within the 12 months preceding the survey knew their HIV status: 91.3% were tested during ANC (88.0% tested HIV negative; 3.3% tested HIV positive), and 6.9% already knew they were HIV positive. Across the provinces, the percentage of mothers who tested positive during ANC ranged from 0.7% in Mashonaland Central to 7.4% in Matabeleland South. The percentage of women who already knew that they were HIV positive ranged from 2.7% in Mashonaland East to 11.7% in Matabeleland North (Table 3.5.B).

Among HIV-positive women aged 15 to 49 years who delivered within the 12 months preceding the survey, 96.8% received ARVs to reduce the risk of mother-to-child transmission: 56.2% were already taking ARVs at the time of their first ANC visit, while 40.6% were newly initiated on ARVs during pregnancy or labor and delivery (Table 3.5.C).

More than half (53.8%) of last-born infants born to HIV-positive mothers in the 36 months preceding the survey were reported to have been tested for HIV within two months of birth, and 26.3% were tested between two months and 12 months of birth (Table 3.5.D).

Among women who delivered during the 36 months preceding the survey, 97.8% of women had ever breastfed; half (49.7%) had ever breastfed their last-born child but were not currently breastfeeding, and nearly half (48.1%) were currently breastfeeding their last-born child. Similar proportions of HIV-positive (93.7%) and HIV-negative (98.5%) mothers breastfed their last-born child. Over 90% of children aged nine to 11 months were currently breastfeeding, while fewer (76.5%) children aged 12 to 17 months were currently breastfeeding at the time of survey.

Table 3.5.A Antenatal care

Among women aged 15 to 49 years who delivered in the three years preceding the survey, percentage who attended at least one antenatal care (ANC) visit for her most recent birth by selected demographic characteristics, ZIMPHIA 2015-16

Characteristic	Percentage who attended at least one ANC visit	Number
Residence		
Urban	96.1	1,023
Rural	95.2	2,534
Province		
Manicaland	94.0	380
Mashonaland Central	96.8	434
Mashonaland East	93.1	323
Mashonaland West	95.0	442
Matabeleland North	95.9	344
Matabeleland South	99.3	259
Midlands	93.4	345
Masvingo	97.3	362
Harare	96.2	393
Bulawayo	97.1	275
Marital status		
Never married	97.5	254
Married or living together	95.6	2,994
Divorced or separated	95.3	245
Widowed	88.8	58
Education		
No education	(95.7)	43
Primary	92.1	1,063
Secondary	96.6	2,275
More than secondary	99.6	175
Religion		
Traditional	*	23
Roman Catholic	99.7	174
Protestant	98.4	480
Pentecostal	97.9	776
Apostolic Sect	92.3	1,558
Other Christian	99.1	273
Muslim	*	12
Other	(100.0)	27
None	94.0	234
Age		
15-19	95.0	312
20-24	95.9	986
25-29	95.2	875
30-34	95.3	726
35-39	96.3	478
40-44	94.4	157
45-49	*	23
Total 15-49	95.5	3,557

Table 3.5.B Prevention of mother-to-child transmission: Known HIV status

Among women aged 15 to 49 years who delivered within the past 12 months, percentage who were tested for HIV or already knew they were HIV positive by selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Tested for HIV and received result		Percentage who already knew they were HIV positive	Total percentage with known HIV status	Number of women who delivered within the past 12 months
	Percentage who tested HIV positive	Percentage who tested HIV negative			
Residence					
Urban	2.0	90.5	6.0	98.5	314
Rural	3.9	86.9	7.2	98.0	851
Province					
Manicaland	5.8	81.2	10.3	97.3	115
Mashonaland Central	0.7	93.5	5.1	99.2	144
Mashonaland East	3.4	92.2	2.7	98.2	101
Mashonaland West	2.9	86.4	7.4	96.7	154
Matabeleland North	7.3	78.4	11.7	97.4	115
Matabeleland South	7.4	79.1	10.4	96.9	89
Midlands	1.7	92.1	3.9	97.7	118
Masvingo	3.1	89.6	7.2	100.0	121
Harare	2.5	89.1	7.1	98.7	132
Bulawayo	2.5	92.4	5.1	100.0	76
Marital status					
Never married	2.2	89.6	4.9	96.7	88
Married or living together	3.0	88.8	6.6	98.4	1,000
Divorced or separated	10.6	81.0	5.7	97.3	61
Widowed	*	*	*	*	13
Education					
No education	*	*	*	*	14
Primary	5.4	81.4	9.2	96.0	333
Secondary	2.6	89.8	6.5	98.9	753
More than secondary	3.2	96.1	0.7	100.0	65
Religion					
Traditional	*	*	*	*	10
Roman Catholic	1.0	84.9	12.3	98.2	60
Protestant	3.4	88.5	7.3	99.2	156
Pentecostal	2.5	89.3	6.4	98.2	255
Apostolic Sect	4.0	86.8	7.2	97.9	515
Other Christian	1.4	92.9	4.7	99.0	91
Muslim	*	*	*	*	3
Other	*	*	*	*	3
None	4.6	86.9	4.5	96.0	72
Age					
15-19	1.2	95.5	0.0	96.7	173
20-24	2.1	93.4	3.2	98.7	316
25-29	4.3	88.5	5.5	98.3	271
30-34	3.6	85.6	10.8	100.0	211
35-39	4.9	72.4	20.4	97.7	155
40-44	(9.8)	(73.3)	(6.2)	(89.3)	35
45-49	*	*	*	*	4
Total 15-49	3.3	88.0	6.9	98.2	1,165

Table 3.5.C Prevention of mother-to-child transmission: HIV-positive pregnant women who received ARVs

Among HIV-positive women aged 15 to 49 years who delivered within the past 12 months, percentage who received antiretrovirals to reduce risk of mother-to-child-transmission during pregnancy and delivery, by age, ZIMPHIA 2015-2016

Characteristic	Percentage who were already taking ARVs at the time of their first ANC visit	Percentage who were newly initiated on ARVs during pregnancy or labor and delivery	Total percentage who received ARVs	Number of HIV-positive women who delivered within the past 12 months
Age				
15-19	*	*	*	2
20-24	*	*	*	17
25-29	(49.4)	(48.3)	(97.7)	31
30-34	(68.6)	(31.4)	(100.0)	30
35-39	(58.8)	(36.1)	(94.8)	43
40-44	*	*	*	6
45-49	*	*	*	0
Total 15-49	56.2	40.6	96.8	129

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 3.5.D Prevention of mother-to-child transmission: Early infant testing

Among HIV-positive women aged 15 to 49 years who delivered within the past 36 months, percentage whose last-born infant had an HIV test done within 2 months of birth and within 12 months of birth by result of HIV test, ZIMPHIA 2015-2016

Characteristic	Percentage of infants who had an HIV test done within 2 months of birth	Percentage of infants who had an HIV test done between 2 to 12 months of birth	Number of last-born infants of HIV-positive women who delivered within the past 36 months
Infant HIV status reported by the mother			
HIV positive	*	*	13
HIV negative	62.3	30.7	254
Don't know/other	(78.9)	(21.1)	30
Total	53.8	26.3	344

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 3.5.E Breastfeeding status by child's age and mother's HIV status

Breastfeeding status of last-born child among women aged 15 to 49 years who delivered within the past 36 months by child's age and mother's HIV status, ZIMPHIA 2015-2016

Characteristic	Percent Never breast fed	Percent Ever breast fed, but not currently breast feeding	Percent Currently breast feeding	Total[1]	Number
Child's age (months)					
0-1	0.4	1.2	97.3	100.0	139
2-3	0.0	0.0	98.5	100.0	185
4-5	0.0	1.0	96.8	100.0	237
6-8	0.8	1.3	97.2	100.0	325
9-11	1.3	6.4	91.8	100.0	285
12-17	0.8	21.4	76.5	100.0	553
18-23	0.5	76.2	21.2	100.0	621
24-36	0.7	95.3	2.4	100.0	1,197
Result of mother's PHIA survey HIV test					
HIV positive	2.7	53.2	40.5	100.0	484
HIV negative	0.3	49.9	48.6	100.0	2,787
Not tested	0.3	42.6	54.6	100.0	286
Total 15-49	0.6	49.7	48.1	100.0	3,557

[1] The sum of percentages for a given row may be slightly less than 100% due to missing responses.

3.6 Sexual Behavior

HIV prevalence among persons aged 15 to 64 years who had intercourse before the age of 16 was twice as high for females (24.0%) as for males (11.1%). Among persons reporting two or more sexual partners in the last 12 months, prevalence was again more than twice as high among females (30.8%) as among males (12.4%). HIV prevalence was higher among those who used a condom at last sexual intercourse during the previous 12 months (32.6%) than among those who did not use a condom (10.1%). HIV prevalence among those who reported paying or receiving money for sexual intercourse in the last 12 months is almost four times higher for females (47.2%) than for males (12.0%; Table 3.6.A).

Only 3.9% of persons aged 15 to 24 years reported sexual activity before the age of 15. Reporting sexual activity before the age of 15 was nearly twice as common among males (5.1%) as among females (2.7%). Among males living in rural areas, 6.3% reported having sex before the age of 15, compared to 2.6% of males in urban areas. A similar pattern was found across rural and urban areas among women. By province, the percentage of young persons reporting sex before age 15 ranged from 1.2% in Harare to 6.2% in Mashonaland Central (Table 3.6.B).

Among males aged 15 to 64 years who reported having had sex in the last 12 months, 39.7% reported having had sex with a nonmarital, noncohabitating partner. Among those who reported having had sex with a nonmarital, noncohabitating partner in the last 12 months, 61.5% used a condom the last time they had sex with such a partner (Table 3.6.C).

Among females aged 15 to 64 years who reported having had sex in the last 12 months, 18.6% reported having had sex with a nonmarital, noncohabitating partner during that time. Among those who reported having had sex with a nonmarital, noncohabitating partner in the last 12 months, 46.0% used a condom the last time they had sex with such a partner (Table 3.6.D).

Table 3.6.A HIV prevalence by sexual behavior

Prevalence of HIV among persons aged 15 to 64 years by sex and sexual behavior characteristics, ZIMPHIA 2015-2016

Characteristic	Males		Females		Total	
	Percentage HIV positive	Number	Percentage HIV positive	Number	Percentage HIV positive	Number
Age at first sexual intercourse						
<16	11.1	752	24.0	1,106	17.8	1,858
16-17	13.4	1,116	18.3	2,560	16.5	3,676
18-19	14.7	1,600	17.5	3,179	16.4	4,779
≥20	14.1	3,038	17.6	3,441	15.7	6,479
Number of sexual partners in the past 12 months						
0	13.8	1,087	27.0	2,179	21.6	3,266
1	14.2	4,063	15.6	7,740	15.0	11,803
2 or more	12.4	1,301	30.8	328	15.3	1,629
Condom use at last sexual intercourse in the past 12 months						
Used condom	24.7	1,535	44.0	1,493	32.6	3,028
Did not use condom	9.6	3,816	10.5	6,566	10.1	10,382
No sexual intercourse in the past 12 months	13.8	1,087	27.0	2,179	21.6	3,266
Paid sexual intercourse in the past 12 months						
Yes[1]	12.0	295	47.2	89	18.4	384
Used condom at last paid sexual intercourse	9.9	245	50.8	71	17.1	316
Did not use condom at last paid sexual intercourse	(24.2)	45	*	18	25.7	63
No	13.9	5,067	15.8	7,972	15.0	13,039
Total 15-49	10.7	7,241	15.9	10,221	13.4	17,462
Total 15-64	12.0	8,395	16.0	12,182	14.1	20,577

[1] Includes persons who paid or received money for sexual intercourse.

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed

Table 3.6.B Sex before the age of 15

Percentage of males and females aged 15 to 24 years who had sexual intercourse before the age of 15 by sex and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males		Females		Total	
	Percentage who had sex before age 15	Number	Percentage who had sex before age 15	Number	Percentage who had sex before age 15	Number
Residence						
Urban	2.6	900	1.9	1,485	2.2	2,385
Rural	6.3	2,553	3.3	2,740	4.8	5,293
Province						
Manicaland	6.0	364	1.8	440	3.8	804
Mashonaland Central	7.8	373	4.2	375	6.2	748
Mashonaland East	6.8	389	1.8	349	4.6	738
Mashonaland West	6.7	483	4.2	495	5.5	978
Matabeleland North	7.1	303	4.4	387	5.7	690
Matabeleland South	6.1	296	5.4	335	5.8	631
Midlands	3.4	311	2.4	433	2.9	744
Masvingo	3.4	350	3.1	455	3.3	805
Harare	1.6	306	0.9	490	1.2	796
Bulawayo	3.8	278	3.2	466	3.5	744
Marital status						
Never married	5.2	3,088	1.3	2,374	3.7	5,462
Married or living together	4.7	304	4.5	1,614	4.5	1,918
Divorced or separated	3.6	54	5.3	221	4.9	275
Widowed	*	1	*	13	*	14
Education						
No education	*	20	(16.6)	29	(12.2)	49
Primary	9.0	787	8.1	836	8.5	1,623
Secondary	4.2	2,463	1.4	3,163	2.7	5,626
More than secondary	3.1	183	1.2	197	2.3	380
Religion						
Traditional	8.8	56	(2.1)	32	6.6	88
Roman Catholic	3.9	276	1.8	297	2.9	573
Protestant	3.8	537	1.7	709	2.7	1,246
Pentecostal	4.7	660	1.7	1,070	3.0	1,730
Apostolic Sect	5.9	1,037	3.3	1,493	4.5	2,530
Other Christian	2.8	336	2.1	386	2.5	722
Muslim	*	15	*	10	*	25
Other	*	24	*	25	(6.0)	49
None	7.7	507	10.3	201	8.4	708
Age						
15-19	6.5	2,098	2.9	2,261	4.7	4,359
20-24	3.4	1,355	2.5	1,964	2.9	3,319
Total 15-24	5.1	3,453	2.7	4,225	3.9	7,678

Table 3.6.C Condom use at last sex with a nonmarital, noncohabitating partner: Males

Among males aged 15 to 64 years who reported having sex in the past 12 months, percentage who reported having a nonmarital, noncohabitating partner in the past 12 months; and among those who reported having sex with a nonmarital, noncohabitating partner in the past 12 months, percentage who reported using a condom the last time they had sex with a nonmarital, noncohabitating partner; both by selected demographic characteristics, ZIMPHIA 2015-2016

	Among males who reported having sex in the past 12 months		Among males who reported having sex with a nonmarital, noncohabitating partner in the past 12 months	
Characteristic	Percentage who reported having sex with a nonmarital, noncohabitating partner in the past 12 months	Number	Percentage who reported using a condom the last time they had sex with a nonmarital, noncohabitating partner	Number
Residence				
Urban	41.9	1,585	64.7	699
Rural	38.4	4,316	59.5	1,594
Province				
Manicaland	34.8	579	61.0	188
Mashonaland Central	42.0	647	61.4	255
Mashonaland East	41.5	595	62.8	240
Mashonaland West	38.9	765	59.2	288
Matabeleland North	40.8	621	54.9	239
Matabeleland South	50.6	475	62.4	230
Midlands	34.3	571	63.1	186
Masvingo	33.7	592	59.1	189
Harare	40.3	567	62.3	231
Bulawayo	49.5	489	66.8	247
Marital status				
Never married	95.9	1,357	63.9	1,296
Married or living together	16.5	4,203	58.3	674
Divorced or separated	96.5	273	56.2	260
Widowed	93.3	60	69.7	55
Education				
No education	19.4	76	*	13
Primary	35.7	1,681	53.6	573
Secondary	40.6	3,558	63.1	1,460
More than secondary	44.2	578	65.8	246
Religion				
Traditional	40.2	206	58.2	77
Roman Catholic	41.9	508	63.6	199
Protestant	41.3	796	63.0	321
Pentecostal	44.7	848	63.7	373
Apostolic Sect	32.9	1,625	60.2	542

Other Christian	44.5	416	64.3	184
Muslim	*	22	*	3
Other	(37.5)	48	*	19
None	41.0	1,426	59.2	572
Age				
15-19	94.2	439	62.4	414
20-24	78.5	848	62.4	652
25-29	47.0	855	58.9	408
30-34	32.7	905	65.7	300
35-39	23.3	774	57.3	181
40-44	18.5	673	61.5	128
45-49	14.6	476	60.7	76
50-54	15.2	328	68.5	54
55-59	15.4	317	(49.1)	46
60-64	10.7	286	(54.6)	34
Total 15-49	43.1	4,970	61.6	2,159
Total 15-64	39.7	5,901	61.5	2,293

Figures in parentheses are based on 25 to 49 unweighted cases. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.

Table 3.6.D Condom use at last sex with a nonmarital, noncohabitating partner: Females

Among females aged 15 to 64 years who reported having sex in the past 12 months, percentage who reported having a nonmarital, noncohabitating partner in the past 12 months; and among those who reported having sex with a nonmarital, noncohabitating partner in the past 12 months, percentage who reported using a condom the last time they had sex with a nonmarital, noncohabitating partner; both by selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Among females who reported having sex in the past 12 months		Among females who reported having sex with a nonmarital, noncohabitating partner in the past 12 months	
	Percentage who reported having sex with a nonmarital, noncohabitating partner in the past 12 months	Number	Percentage who reported using a condom the last time they had sex with a nonmarital noncohabitating partner	Number
Residence				
Urban	26.1	2,798	48.4	785
Rural	14.3	5,895	43.4	881
Province				
Manicaland	13.4	854	48.2	108
Mashonaland Central	14.6	845	45.0	118
Mashonaland East	13.0	712	41.8	87
Mashonaland West	13.4	965	42.6	125
Matabeleland North	24.7	921	52.1	213
Matabeleland South	30.2	720	47.3	214
Midlands	14.9	910	40.0	128
Masvingo	16.9	926	45.8	152
Harare	20.8	968	45.9	193
Bulawayo	39.3	872	49.1	328
Marital status				
Never married	88.8	775	48.4	687
Married or living together	2.5	7,047	33.5	189
Divorced or separated	92.8	616	45.1	569
Widowed	86.0	248	51.5	215
Education				
No education	12.5	260	(43.9)	32
Primary	14.3	2,799	42.1	414
Secondary	19.8	5,128	46.2	1,073
More than secondary	29.0	502	52.7	146
Religion				
Traditional	10.7	84	*	10
Roman Catholic	22.3	569	48.7	122
Protestant	20.9	1,428	46.4	300
Pentecostal	22.9	1,906	49.5	438
Apostolic Sect	13.7	3,262	43.3	485
Other Christian	18.8	808	40.2	171
Muslim	(16.4)	33	*	6
Other	15.9	64	*	12
None	23.2	536	45.7	120
Age				
15-19	40.3	687	46.8	300
20-24	24.8	1,524	42.0	400
25-29	17.8	1,491	40.6	281
30-34	14.6	1,451	52.0	220
35-39	13.9	1,192	54.2	168
40-44	17.0	860	55.2	151
45-49	13.0	537	46.8	74
50-54	8.4	414	(31.0)	35
55-59	5.3	316	*	19
60-64	6.7	221	*	18
Total 15-49	19.7	7,742	46.6	1,594
Total 15-64	18.6	8,693	46.0	1,666

3.7 Additional Selected Indicators

Syphilis

Among persons aged 15 to 64 years, 2.7% (2.4% of males and 3.0% of females) were ever infected with syphilis, while 0.8% (0.6% among males and 1.0% among females) had an active syphilis infection. Active syphilis infection was higher among HIV-positive (2.9%) than among HIV-negative (0.4%) persons. Active syphilis infection was highest among persons aged 60 to 64 years (2.0%). Prevalence of active syphilis ranged from 1.7% among those with no education to 0.2% among those with more than secondary education (Table 3.7.A).

Male Circumcision

Among males aged 15 to 64 years, 11.8% reported having been medically circumcised. Only 4.7% of HIV-positive males were medically circumcised, compared to 12.9% of HIV-negative males. In Bulawayo and Matabeleland South, approximately one-fourth had been circumcised by a medical practitioner (26.7% and 24.6%, respectively). Higher coverage of medical circumcision was also found among the never married (19.6%), those with more than secondary education (18.7%), and those 15 to 19 years of age (22.9%). Higher rates of medical circumcision were recorded in urban areas (15.5%) compared to rural areas (9.9%). Coverage of medical male circumcision also increased with education from 4.0% among those with no education to 18.7% among those with more than secondary education (Table 3.7.B).

Table 3.7.A Syphilis prevalence

Prevalence of syphilis (ever infected and active infection) among persons aged 15 to 64 years by sex, result of PHIA survey HIV test, and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Males			Females			Total		
	Percentage ever infected	Percentage active infection	Number	Percentage ever infected	Percentage active infection	Number	Percentage ever infected	Percentage active infection	Number
Result of PHIA survey HIV test									
HIV positive	8.2	2.8	1,155	6.5	3.0	2,230	7.1	2.9	3,385
HIV negative	1.6	0.3	7,240	2.3	0.6	9,952	1.9	0.4	17,192
Residence									
Urban	2.6	0.6	2,150	2.9	1.0	3,920	2.8	0.9	6,070
Rural	2.3	0.6	6,245	3.0	0.9	8,262	2.6	0.8	14,507
Province									
Manicaland	1.9	0.3	942	2.3	0.6	1,296	2.1	0.5	2,238
Mashonaland Central	1.8	0.5	958	3.4	0.5	1,143	2.6	0.5	2,101
Mashonaland East	2.3	0.4	902	1.8	0.6	1,045	2.1	0.5	1,947
Mashonaland West	2.0	0.5	1,137	3.3	1.4	1,328	2.6	0.9	2,465
Matabeleland North	3.7	1.0	784	5.1	1.4	1,190	4.4	1.2	1,974
Matabeleland South	4.1	1.1	631	4.8	2.0	968	4.5	1.6	1,599
Midlands	2.5	0.8	767	2.3	0.9	1,258	2.4	0.9	2,025
Masvingo	1.9	0.5	850	2.9	1.1	1,353	2.5	0.8	2,203
Harare	2.4	0.8	750	2.8	0.9	1,338	2.6	0.9	2,088
Bulawayo	3.3	0.8	674	3.3	0.9	1,263	3.3	0.9	1,937
Marital status									
Never married	0.7	0.3	3,386	1.3	0.6	2,681	0.9	0.4	6,067
Married or living together	3.4	0.7	4,530	2.7	0.8	7,278	3.0	0.7	11,808
Divorced or separated	5.0	2.7	348	5.3	2.2	1,040	5.2	2.4	1,388
Widowed	3.5	1.0	120	7.2	2.3	1,167	6.8	2.1	1,287
Education									
No education	8.2	1.0	122	10.4	1.8	510	9.9	1.7	632

Primary	3.5	0.9	2,381	4.5	1.4	3,888	4.1	1.2	6,269
Secondary	1.9	0.6	5,250	1.9	0.8	7,165	1.9	0.7	12,415
More than secondary	2.0	0.3	634	2.1	0.1	612	2.1	0.2	1,246
Religion									
Traditional	2.5	1.3	273	4.5	0.0	118	3.0	1.0	391
Roman Catholic	3.0	0.4	721	2.8	1.0	902	2.9	0.7	1,623
Protestant	2.1	0.5	1,234	3.4	1.1	2,115	2.8	0.8	3,349
Pentecostal	1.9	0.4	1,291	2.7	0.8	2,762	2.4	0.7	4,053
Apostolic Sect	2.1	0.4	2,342	2.5	0.8	4,294	2.3	0.7	6,636
Other Christian	1.8	0.3	637	3.0	1.1	1,183	2.5	0.8	1,820
Muslim	(11.2)	(3.7)	40	2.0	0.0	51	6.9	2.0	91
Other	0.0	0.0	68	4.2	1.1	96	2.1	0.5	164
None	3.0	1.1	1,778	6.0	2.4	658	3.7	1.4	2,436
Age									
15-19	0.3	0.2	1,950	0.8	0.4	2,114	0.5	0.3	4,064
20-24	1.0	0.4	1,220	2.1	1.3	1,817	1.5	0.9	3,037
25-29	1.3	0.4	979	2.4	1.1	1,573	1.9	0.8	2,552
30-34	1.8	0.8	942	2.1	1.0	1,579	2.0	0.9	2,521
35-39	3.8	1.7	843	2.3	0.8	1,326	3.0	1.2	2,169
40-44	4.2	1.0	754	3.9	1.0	1,063	4.0	1.0	1,817
45-49	2.9	0.1	553	4.1	0.6	749	3.5	0.3	1,302
50-54	5.3	0.5	383	7.1	1.0	707	6.3	0.7	1,090
55-59	9.0	0.0	382	9.7	1.2	702	9.4	0.7	1,084
60-64	8.9	2.0	389	9.0	2.0	552	9.0	2.0	941
Total 15-49	1.8	0.6	7,241	2.2	0.9	10,221	2.0	0.8	17,462
Total 15-64	2.4	0.6	8,395	3.0	1.0	12,182	2.7	0.8	20,577

Figures in parentheses are based on 25 to 49 unweighted cases.

Table 3.7.B Male circumcision

Percent distribution of males aged 15 to 64 years by self-reported circumcision status by result of PHIA survey HIV test and selected demographic characteristics, ZIMPHIA 2015-2016

Characteristic	Circumcised		Uncircumcised	Unknown	Total	Number
	Medical	Nonmedical				
Result of PHIA survey HIV test						
HIV positive	4.7	2.4	88.9	4.0	100.0	1,155
HIV negative	12.9	2.2	81.9	3.0	100.0	7,240
Not tested	11.0	2.5	82.4	4.1	100.0	876
Residence						
Urban	15.5	2.1	79.3	3.2	100.0	2,415
Rural	9.9	2.4	84.5	3.3	100.0	6,856
Province						
Manicaland	8.7	2.8	84.1	4.4	100.0	1,006
Mashonaland Central	6.3	1.7	89.3	2.7	100.0	1,089
Mashonaland East	9.0	1.4	85.2	4.4	100.0	997
Mashonaland West	10.3	1.4	85.8	2.5	100.0	1,241
Matabeleland North	11.6	3.5	79.7	5.3	100.0	858
Matabeleland South	24.6	3.1	69.1	3.2	100.0	691
Midlands	12.5	2.2	82.8	2.5	100.0	859
Masvingo	8.4	3.3	86.5	1.8	100.0	950
Harare	13.3	2.1	81.2	3.4	100.0	843
Bulawayo	26.7	3.3	67.2	2.8	100.0	737
Marital status						
Never married	19.4	1.2	77.3	2.1	100.0	3,744
Married or living together	6.1	3.0	87.1	3.8	100.0	4,989
Divorced or separated	8.7	3.1	83.9	4.3	100.0	395
Widowed	9.0	2.6	74.2	14.2	100.0	129
Education						
No education	4.0	3.5	84.7	7.8	100.0	133
Primary	7.1	3.1	85.3	4.6	100.0	2,584
Secondary	12.5	1.9	82.8	2.8	100.0	5,783
More than secondary	18.7	2.8	76.2	2.3	100.0	762
Religion						
Traditional	4.8	3.5	89.7	2.0	100.0	303
Roman Catholic	12.2	2.4	83.7	1.8	100.0	801
Protestant	14.9	1.6	80.3	3.3	100.0	1,335
Pentecostal	16.7	2.0	78.5	2.9	100.0	1,416
Apostolic Sect	9.4	2.1	84.1	4.4	100.0	2,614
Other Christian	14.3	1.8	80.5	3.5	100.0	716
Muslim	(30.0)	(25.6)	(31.8)	(12.6)	100.0	42
Other	11.1	1.2	87.0	0.8	100.0	76
None	8.0	2.6	86.8	2.6	100.0	1,956
Age						
15-19	22.9	0.7	74.3	2.2	100.0	2,112
20-24	15.8	1.8	80.5	1.9	100.0	1,373
25-29	10.1	1.7	84.0	4.2	100.0	1,077
30-34	6.0	1.8	88.9	3.4	100.0	1,076
35-39	6.1	2.0	87.5	4.3	100.0	943
40-44	6.3	2.9	86.5	4.3	100.0	831
45-49	5.8	5.1	85.4	3.7	100.0	608
50-54	9.2	5.1	82.5	3.2	100.0	414
55-59	4.9	4.5	86.1	4.5	100.0	414
60-64	2.6	7.5	85.2	4.7	100.0	423
Total 15-49	12.4	1.9	82.5	3.2	100.0	8,020
Total 15-64	11.8	2.3	82.7	3.2	100.0	9,271

CONCLUSION

The ZIMPHIA estimate of annualized national HIV incidence among adults aged 15 to 49 years (0.50%, 95% CI: 0.30-0.69) is significantly lower than the modeled estimate reported in 2015 (0.88%, 95% CI: 0.70-1.07), which suggests progress toward epidemic control (UNAIDS, 2015). However, incidence among women remains unacceptably high.

- Zimbabwe's HIV diagnosis, care, and treatment interventions have resulted in substantial progress toward the UNAIDS targets of 90-90-90, with 73% of PLHIV diagnosed, 87% of those diagnosed on ART, and 86% of those on ART virally suppressed.
- HIV prevalence among children aged 0-14 is 1.6%. Approximately half of children living with HIV are virally suppressed, suggesting a gap in treatment coverage among this age group.
- Across all demographic groups, there is a need to close the gap in the first goal, diagnosis. Increasing diagnosis of HIV among men and young persons will be particularly important.
- It will be important to examine the comparatively lower coverage of ART and VLS in Harare to understand how programmatic gaps can be filled to improve indicators in the capital.
- Zimbabwe has also made great strides toward preventing mother-to-child transmission of HIV. Nearly all women have at least one contact with the health system during pregnancy and nearly all women who are living with HIV report taking ARVs during their pregnancy.
- However, coverage of EID should still be improved to meet the goal of 80% of children tested both at less than two months and a second time between two and 12 months.
- Coverage of voluntary medical male circumcision remains at a fraction of the 65% target. However, it appears to be higher among younger men and men in higher-prevalence provinces, both of which have been targeted by programs.
- While the prevalence of active syphilis was relatively low in the general population, it was notably higher among HIV-positive (2.9%) than among HIV-negative (0.4%) persons.
- Continued expansion of HIV testing and treatment, especially for men and young persons, will play a central role to meet the goal of an AIDS-free generation by 2030.

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APPENDIX

Weighted counts for HIV-negative persons (N); HIV-positive persons (P); numbers tested on the LAg assay (Q); and numbers HIV recent (R) are provided for use in incidence calculations or UNAIDS Spectrum models. Incidence estimates were calculated using the following parameters: mean duration recent infection (MDRI) = 130 days (95% CI: 118-142 days); proportion false recent (PFR) = 0.00; time cutoff (T) = 1 year.

Table APPENDIX.A Annual HIV incidence auxiliary data: N, P, Q, R, MDRI, PFR, and T

	Males				Females				Total			
Age	Number HIV negative (N)	Number HIV positive (P)	Number tested on LAg assay (Q)	Number HIV recent (R)	Number HIV negative (N)	Number HIV positive (P)	Number tested on LAg assay (Q)	Number HIV recent (R)	Number HIV negative (N)	Number HIV positive (P)	Number tested on LAg assay (Q)	Number HIV recent (R)
15-24	3074.98	95.02	95.02	1.58	3701.02	229.98	228.86	7.00	6785.78	315.22	314.20	8.14
25-34	1740.91	180.09	180.09	2.95	2586.23	565.77	564.44	10.26	4360.5	712.5	711.34	12.54
35-49	1644.37	505.63	504.63	2.23	2255.32	882.68	882.22	3.36	3920.71	1367.29	1365.69	5.57
15-49	6466.26	774.74	773.78	6.92	8600.23	1620.77	1617.80	21.13	15127.12	2334.88	2331.13	26.74
15-64	7388.64	1006.36	1005	8.58	10231.07	1950.93	1947.83	22.06	17675.98	2901.02	2896.69	29.54