# ZAMBIA

## Population-based HIV/AIDS Impact Assessment (ZAMPHIA 2021)

The Zambia Population-based HIV/AIDS Impact Assessment 2021 (ZAMPHIA 2021) was a household-based national survey among adults (defined as individuals aged 15 years or older) conducted between April and December 2021 to measure the impact of the national HIV response. ZAMPHIA 2021 offered HIV counseling and testing with return of results to the participants and collected information about uptake of HIV care and treatment services.

ZAMPHIA 2021 was the second survey to estimate national HIV incidence and the national and provincial-level prevalence of HIV and viral load suppression (VLS), defined as HIV RNA <1,000 copies per milliliter (cp/mL). The first ZAMPHIA was conducted between March and August 2016. The results of these two surveys provide critical information about national and provincial-level progress toward control of the HIV epidemic.

ZAMPHIA was led by the Ministry of Health (MOH) and the Zambia Statistics Agency (ZamStats). The survey was conducted with funding from the United States (U.S.) President's Emergency Plan for AIDS Relief (PEPFAR) with technical assistance from the U.S. Centers for Disease Control and Prevention (CDC), ICF, and the University of Maryland, Baltimore (UMB).

The Government of Zambia, local civil society organizations, and international development partners participated in the Technical Working Group to provide input on survey planning and survey implementation.

## KEY FINDINGS

| HIV Indicator | Women | 95% CI | Men | 95% CI | Total | 95% CI |
|---|---|---|---|---|---|---|
| **Annual incidence (%)** | | | | | | |
| 15-49 | 0.63 | (0.24 - 1.02) | 0.05 | (0 - 0.15) | 0.34 | (0.14 - 0.53) |
| 15+ | 0.56 | (0.22 - 0.90) | 0.06 | (0 - 0.16) | 0.31 | (0.14 - 0.48) |
| **Prevalence (%)** | | | | | | |
| 15-49 | 13.2 | (12.2 - 14.3) | 6.3 | (5.0 - 7.7) | 9.9 | (9.1 - 10.7) |
| 15+ | 13.9 | (12.8 - 15.1) | 8.0 | (7.0 – 9.0) | 11.0 | (10.3 - 11.8) |
| **Viral load suppression (%)** | | | | | | |
| 15-49 | 85.4 | (80.7 - 90.0) | 82.0 | (77.3 - 86.7) | 84.3 | (80.7 - 88.0) |
| 15+ | 86.6 | (83.1 - 90.1) | 85.5 | (82.3 - 88.7) | 86.2 | (83.9 - 88.5) |

Viral load suppression is defined as HIV RNA <1,000 copies per milliliter among all persons who tested HIV positive.

Annual incidence of HIV among adults aged 15+ years in Zambia was 0.31%, which corresponds to approximately 28,000 new cases of HIV per year among adults . HIV incidence was 0.56% among women and 0.06% among men.

Prevalence of HIV among adults aged 15+ years in Zambia was 11.0%. HIV prevalence was 13.9% among women and 8.0% among men.

Prevalence of VLS among adults aged 15+ years living with HIV in Zambia was 86.2%: 86.6% among women and 85.5% among men. Note that these estimates of VLS prevalence are among all adults living with HIV, regardless of their knowledge of HIV status or use of antiretroviral therapy (ART).

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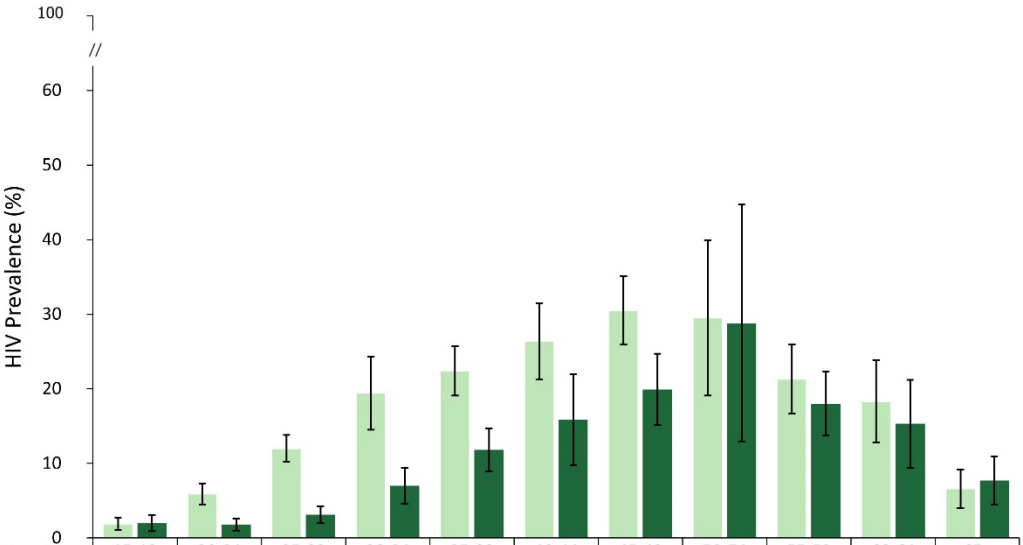
# HIV PREVALENCE




| Ages (years) | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65+ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Women | 1.9% | 5.9% | 12.0% | 19.4% | 22.4% | 26.4% | 30.5% | 29.5% | 21.3% | 18.3% | 6.6% |
| Men | 2.0% | 1.8% | 3.1% | 7.0% | 11.8% | 15.9% | 19.9% | 28.8% | 18.0% | 15.3% | 7.7% |

Error bars represent 95% CIs.

## HIV PREVALENCE, by AGE and SEX

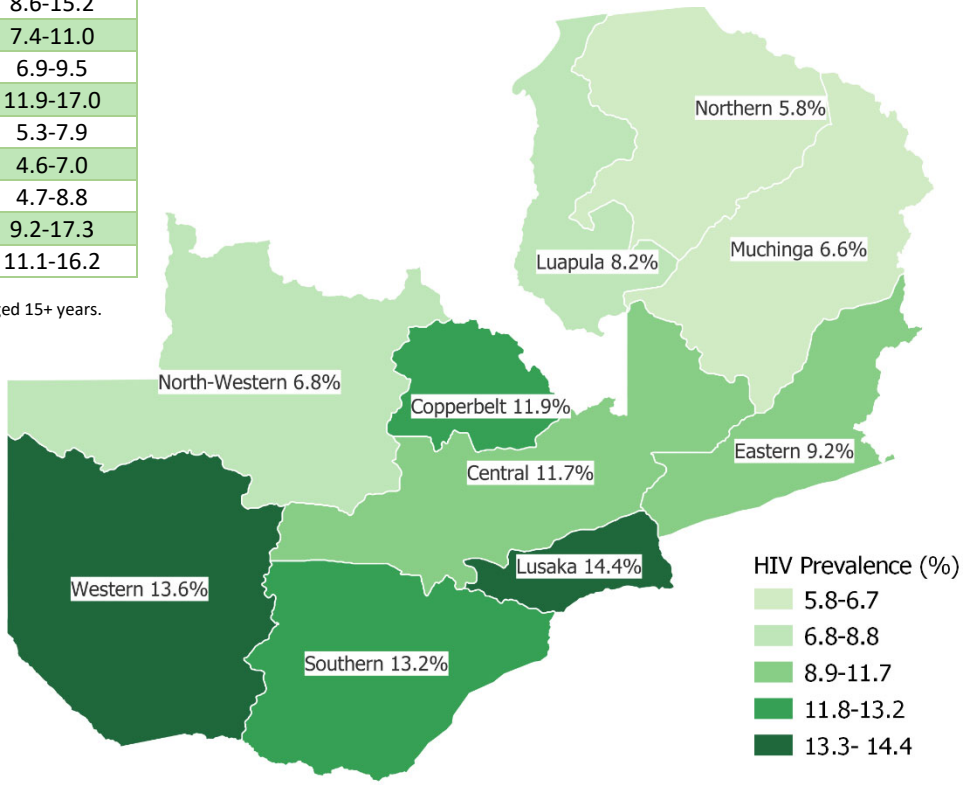
Among adults aged 15+ years, HIV prevalence ranged from 1.9% for women aged 15-19 years to 30.5% for women aged 45-49 years, and from 1.8% for men aged 20-24 years to 28.8% for men aged 50-54 years. By 5-year age groups, HIV prevalence was markedly higher among women than men in each age group from ages 20-24 years through 35-39 years and among 45-49 years.

| Province | HIV Prevalence (%) | 95% CI |
|---|---|---|
| Central | 11.7 | 8.7-14.6 |
| Copperbelt | 11.9 | 8.6-15.2 |
| Eastern | 9.2 | 7.4-11.0 |
| Luapula | 8.2 | 6.9-9.5 |
| Lusaka | 14.4 | 11.9-17.0 |
| Muchinga | 6.6 | 5.3-7.9 |
| Northern | 5.8 | 4.6-7.0 |
| North-Western | 6.8 | 4.7-8.8 |
| Southern | 13.2 | 9.2-17.3 |
| Western | 13.6 | 11.1-16.2 |

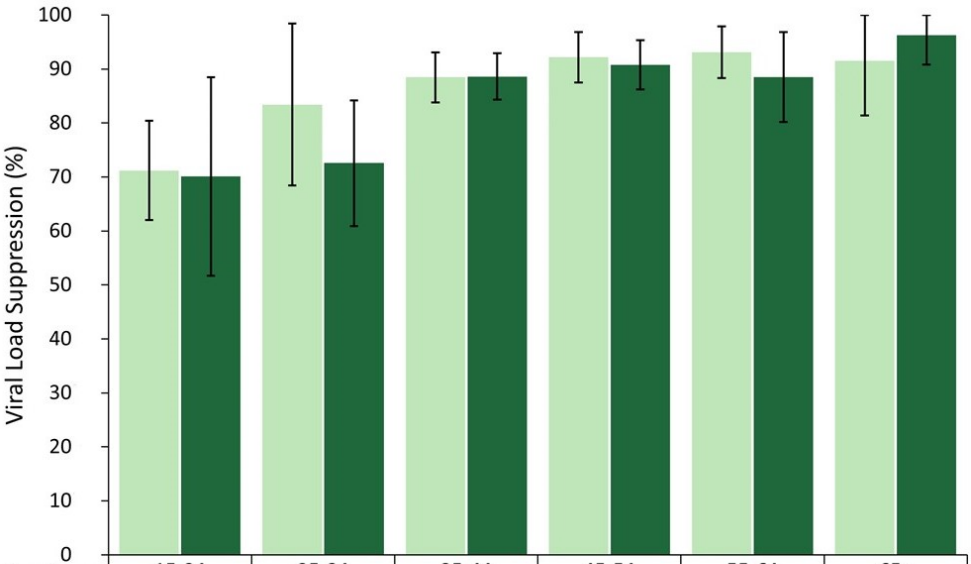
Percentage and 95% CIs for HIV prevalence apply to adults aged 15+ years.

## HIV PREVALENCE, by PROVINCE

Among adults aged 15+ years, HIV prevalence varied geographically across Zambia, ranging from 5.8% in Northern to 14.4% in Lusaka.



# VIRAL LOAD SUPPRESSION AMONG PERSONS LIVING WITH HIV




| Ages (years) | 15-24 | 25-34 | 35-44 | 45-54 | 55-64 | 65+ |
|---|---|---|---|---|---|---|
| Women | 71.2% | 83.4% | 88.5% | 92.2% | 93.1% | (91.5%) |
| Men | 70.1% | 72.6% | 88.6% | 90.8% | 88.5% | (96.3%) |

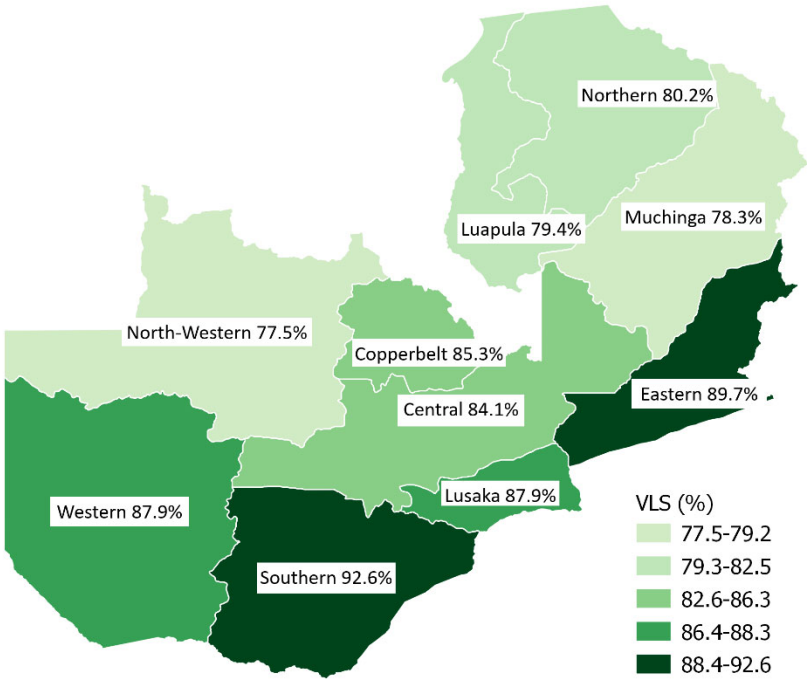
Error bars represent 95% CIs. Estimates based on a denominator between 25 and 49 are included in parentheses and should be interpreted with caution.

## VIRAL LOAD SUPPRESSION, by AGE and SEX

Among adults living with HIV in Zambia, the prevalence of VLS ranged from 71.2% among women aged 15-24 years to 93.1% among women aged 55-64 years, and from 70.1% among men aged 15-24 years to 96.3% among men aged 65+ years. VLS was similar for women and men across all age groups.

## VIRAL LOAD SUPPRESSION AMONG ADULTS LIVING WITH HIV, by PROVINCE

Among adults aged 15+ years living with HIV, prevalence of VLS ranged from 77.5% in North-Western to 92.6% in Southern.



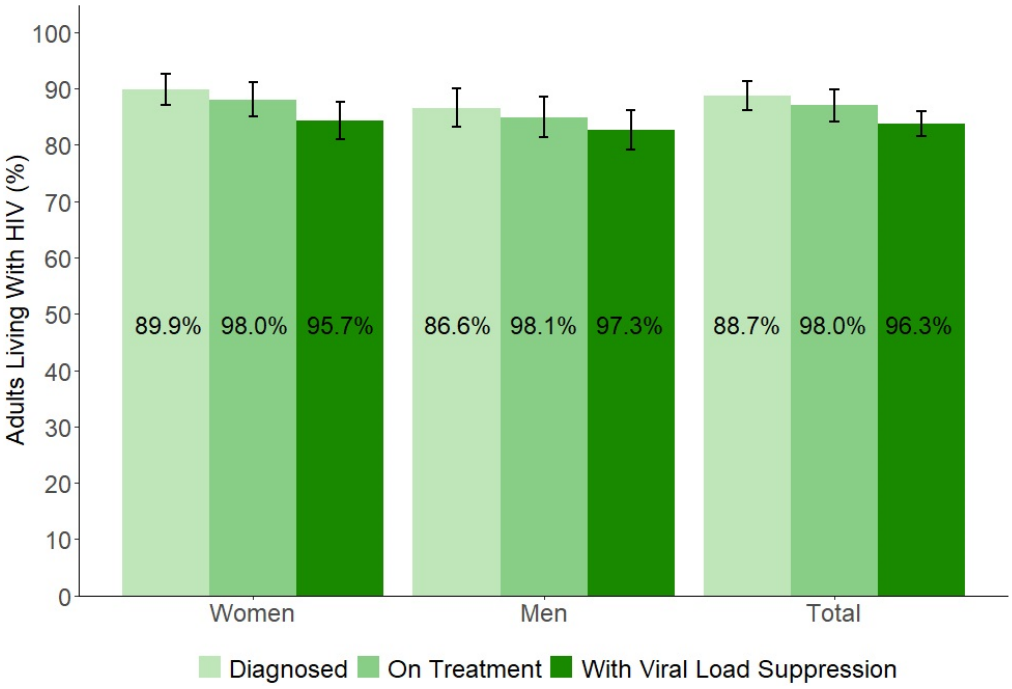

| District | VLS Prevalence (%) | 95% CI |
|---|---|---|
| Central | 84.1 | 80.2-88.1 |
| Copperbelt | 85.3 | 76.5-94.1 |
| Eastern | 89.7 | 84.6-94.9 |
| Luapula | 79.4 | 71.6-87.1 |
| Lusaka | 87.9 | 82.9-92.8 |
| Muchinga | 78.3 | 71.8-84.7 |
| Northern | 80.2 | 71.0-89.4 |
| North-Western | 77.5 | 69.6-85.5 |
| Southern | 92.6 | 88.7-96.5 |
| Western | 87.9 | 83.9-91.9 |

# ACHIEVEMENT OF THE 95-95-95 TARGETS AMONG ADULTS LIVING WITH HIV

## 95-95-95: Treatment targets to help end the HIV epidemic

The Joint United Nations Programme on HIV/AIDS (UNAIDS) set the 95-95-95 targets with the aim that by 2025, 95% of all people living with HIV will know their HIV status; 95% of all people with diagnosed HIV infection will receive sustained ART; and 95% of all people receiving ART will have VLS.

## ACHIEVEMENT OF THE 95-95-95 TARGETS, by AGE and SEX




Percentages shown in the graph refer to the conditional 95-95-95 targets described in the text to the right. The heights of the bars represent the unconditional (overall) percentages for each indicator among all people living with HIV. Male, female, and total percentages apply to adults aged 15-64 years. Error bars represent 95% CIs.

**Diagnosed:** In Zambia, 88.7% of adults (15+ years) living with HIV were aware of their HIV status: 89.9% of women and 86.6% of men. Individuals were classified as aware if they reported their HIV-positive status or had a detectable antiretroviral (ARV) in their blood.

**On Treatment:** Among adults living with HIV who were aware of their status, 98.0% were on ART: 98.0% of women and 98.1% of men. Individuals were classified as being on ART if they reported current ART use or had a detectable ARV in their blood.

**Viral Load Suppression:** Among adults who were on ART, 96.3% had VLS: 95.7% of women and 97.3% of men.

## CONCLUSIONS

- Among all adults living with HIV, VLS prevalence was 86%, suggesting that Zambia is well-positioned to achieve the UNAIDS goal of ending the AIDS epidemic by 2030.
- Zambia has met the 2nd and 3rd 95 targets of people (15+ years) who know their HIV status receiving ART and having VLS. The country is approaching the overall 95-95-95 target of 86% (95*95*95) with nearly 84% of all adults achieving VLS with ART use.
- While recognizing the remarkable accomplishments of Zambia in controlling HIV at the national level, key gaps remain. Zambia has not yet reached the first 95 target among adults aged 15+ years and VLS prevalence among men aged 15-34 years and women aged 15-24 years is lagging behind other age groups. Geographic variation in VLS prevalence indicates some provinces (Muchinga and North-western) are below targets.
- Moving forward, Zambia is well-positioned to achieve the UNAIDS 95-95-95 targets by closing the programmatic gaps in diagnosis, treatment, and adherence. The country can ensure that all people benefit from these achievements by increasing diagnosis among people who do not yet know they are living with HIV and helping younger people achieve viral load suppression.

## RESPONSE RATES AND HIV TESTING METHODS

Of 11,553 eligible households, 91.8% completed a household interview. Among 25,483 eligible adults aged 15+ years (13,871 women and 11,612 men), 73.8% were interviewed and tested for HIV (76.3% of women; 70.8% of men). The overall response rate was 67.7% (70.0% of women; 65.0% of men).

HIV testing was conducted in each household using a serological rapid diagnostic testing algorithm based on national guidelines, with laboratory confirmation of seropositive samples using a supplemental assay. For confirmed HIV-positive samples, laboratory-based testing was conducted for quantitative evaluation of viral load and qualitative detection of ARVs (efavirenz, nevirapine, atazanavir, lopinavir, and dolutegravir). A laboratory-based incidence testing algorithm (HIV-1 limiting antigen- avidity assay with correction for viral load and detectable ARVs) was used to distinguish recent from long-term infection.

Incidence estimates were obtained using the formula recommended by the World Health Organization Incidence Working Group and Consortium for Evaluation and Performance of Incidence Assays. Survey weights were utilized for all estimates.