LUMA RESOURCE SERIES | GUIDE 1

HIV Basics

What HIV Is, How It Works, and What It Does Not Do

Published by LUMA Nigeria — 2026

INTRODUCTION: WHY HIV KNOWLEDGE STILL MATTERS IN 2026

Despite decades of HIV education campaigns, misinformation about HIV continues to circulate on Nigerian university campuses at alarming rates. A 2024 study found that while 96.85% of Nigerian university students demonstrate high HIV knowledge in formal tests, only 55.52% hold non-stigmatising attitudes toward people living with HIV. Students can score perfectly on a knowledge test and still avoid sitting beside a classmate they know is HIV positive.

This paradox, knowing the facts but not changing behaviour, is exactly what LUMA was built to address. HIV knowledge is the foundation. Without it, nothing else works. But knowledge alone is not enough. Understanding HIV means understanding it fully: the science, the social reality, the human experience, and the extraordinary progress that has transformed HIV from a death sentence into a manageable chronic condition.

This guide covers all of it.

CHAPTER 1: WHAT IS HIV?

The Basic Biology

HIV stands for Human Immunodeficiency Virus. It is a virus, which means it cannot survive or reproduce on its own. Like all viruses, HIV needs to get inside living cells to make copies of itself. The specific cells HIV targets are called CD4 T-cells, a type of white blood cell that is central to the human immune system.

CD4 T-cells act like the commanders of your immune response. They identify threats, coordinate attacks on infections, and signal to other immune cells what to do. When HIV enters the body, it attaches to CD4 cells, gets inside them, uses their machinery to make copies of itself, and in doing so, destroys the cell. Over time, if HIV is untreated, the number of CD4 cells in the body falls, progressively weakening the immune system's ability to fight infections.

The Three Stages of HIV Infection

Stage 1: Acute HIV Infection

This is the period two to four weeks after HIV enters the body. The virus is multiplying very rapidly during this stage, and many people experience flu-like symptoms including fever, swollen lymph nodes, sore throat, rash, muscle aches, and fatigue. These symptoms typically last one to two weeks and then resolve on their own.

This stage is also when HIV is most transmissible, because the viral load in the blood is extremely high. Many people do not realise they have been infected during this stage because the symptoms resemble a common illness. Standard HIV antibody tests may not yet detect the infection at this stage; more sensitive combination tests are needed.

Stage 2: Chronic HIV Infection (Clinical Latency)

After the acute stage, HIV enters a period of slower activity. The virus is still present and still replicating, and a person can still transmit HIV to others, but the rate of replication is lower and there are often no noticeable symptoms. This stage can last a decade or more without treatment.

Even without symptoms, the immune system is being gradually damaged. CD4 counts typically decline slowly over this period in untreated individuals. With ART, this stage can last indefinitely because the medication keeps viral replication suppressed.

Stage 3: AIDS

AIDS, or Acquired Immune Deficiency Syndrome, is a clinical diagnosis given when HIV has severely damaged the immune system. Specifically, AIDS is diagnosed when a person's CD4 count falls below 200 cells per cubic millimetre of blood (the normal range is 500 to 1,500), or when certain specific illnesses, called AIDS-defining conditions, develop.

AIDS is not inevitable. With effective ART, most people living with HIV today never reach an AIDS diagnosis. It is important to understand that AIDS is a stage of advanced untreated HIV disease, not a separate condition. It can be reversed with treatment, and CD4 counts can recover significantly.

CHAPTER 2: HOW HIV IS TRANSMITTED

HIV transmission is one of the most misunderstood topics in public health. Decades of inaccurate messaging, combined with social stigma, have created persistent myths that cause real harm to people living with HIV. Understanding transmission accurately protects you and changes how you treat others.

How HIV Is Transmitted

HIV is present in specific bodily fluids and can be transmitted when these fluids enter another person's bloodstream or come into contact with mucous membranes or damaged tissue. The bodily fluids that transmit HIV are:

Blood

Semen and pre-seminal fluid

Rectal fluids

Vaginal fluids

Breast milk

HIV is transmitted through:

Unprotected anal, vaginal, or oral sex with a person living with HIV who is not on suppressive treatment. Anal sex carries the highest risk because rectal tissue is thin and prone to small tears.

Sharing needles, syringes, or other injection equipment with a person living with HIV.

From a parent living with HIV to a child during pregnancy, childbirth, or breastfeeding, if the parent is not on effective treatment. With treatment, this risk is reduced to nearly zero.

Blood transfusions with unscreened blood. This risk is now very low in Nigeria due to blood screening protocols.

Accidental needlestick injuries in healthcare settings. This risk is very low and is why healthcare workers use personal protective equipment.

How HIV Is NOT Transmitted

This list is as important as the one above. HIV is not transmitted through:

Casual contact of any kind, including handshakes, hugging, touching, or kissing.

Sharing food, water, plates, cups, or eating utensils.

Using the same toilet, bathroom, or shower.

Sharing a classroom, lecture hall, hostel room, or any other living or learning space.

Saliva. HIV is present in saliva in quantities too small to cause infection.

Tears or sweat.

Mosquito bites or any other insect bites. HIV cannot survive or replicate inside insects.

Air or water.

Coughing or sneezing.

Clothing or bedding.

Swimming pools.

CHAPTER 3: U=U: THE MOST IMPORTANT HIV SCIENCE OF THE LAST DECADE

U=U stands for Undetectable equals Untransmittable. It is a scientific finding so significant that it has fundamentally changed what it means to live with HIV in the 21st century. Yet awareness of

U=U among Nigerian university students is almost zero.

What Undetectable Means

When a person living with HIV takes antiretroviral therapy (ART) consistently, the medication works by blocking HIV from replicating inside the body. Over time, the amount of HIV in the blood drops to levels too low to be measured by standard laboratory tests. This is called having an undetectable viral load.

Reaching undetectable status typically takes between three and six months of consistent ART. Once reached, it is maintained by continuing to take medication. Regular viral load monitoring confirms that undetectable status is maintained.

What Untransmittable Means

The U=U finding, confirmed by multiple large-scale clinical studies, is this: a person living with HIV who has maintained an undetectable viral load for at least six months cannot transmit HIV to a sexual partner, even without using condoms.

The evidence behind this is exceptionally strong. The PARTNER study, the Opposites Attract study, and the PARTNER2 study collectively followed thousands of serodiscordant couples (where one partner is HIV positive and one is HIV negative) over several years. Across tens of thousands of condomless sex acts between couples where the HIV positive partner had an undetectable viral load, there were zero HIV transmissions. Not a small number. Zero.

Why U=U Changes Everything

For people living with HIV who are on treatment and undetectable, the fear of transmitting HIV to a partner is removed entirely. This has profound mental health benefits.

For relationships between positive and negative partners, U=U means that the HIV positive partner's status does not define the relationship's sexual possibilities.

For stigma, U=U removes one of the primary drivers of fear and discrimination. If a person living with HIV who is on treatment cannot transmit the virus, the fear-based justification for avoiding them disappears.

For public health, U=U is one of the strongest arguments for investing in treatment access, because treatment is prevention.

CHAPTER 4: HIV TREATMENT OVERVIEW

What Is Antiretroviral Therapy (ART)?

Antiretroviral therapy is the medical treatment for HIV. It consists of medications that target different stages of HIV's replication process, preventing the virus from making copies of itself inside the body. Current ART does not cure HIV, but it controls the virus so effectively that people on treatment can live normal, healthy lives.

Modern ART typically involves taking one or two pills once a day. The combination of medications in a single pill makes adherence simpler than earlier treatment regimens, which required taking multiple pills at different times of day.

When to Start ART

Current Nigerian guidelines, aligned with WHO recommendations, recommend that everyone diagnosed with HIV should start ART as soon as possible after diagnosis, regardless of their CD4 count or how healthy they feel. Early treatment leads to better long-term outcomes for immune system preservation and overall health.

How ART Works

Different antiretroviral drugs work at different stages of HIV's replication cycle. The main classes of antiretrovirals include:

Nucleoside/Nucleotide Reverse Transcriptase Inhibitors (NRTIs): Block an enzyme HIV needs to convert its genetic material. Examples include tenofovir and emtricitabine.

Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs): Block the same enzyme but differently. Examples include efavirenz and nevirapine.

Integrase Strand Transfer Inhibitors (INSTIs): Block HIV from inserting its genetic material into human cells. Examples include dolutegravir and raltegravir. These are now first-line treatment in Nigeria.

Protease Inhibitors (PIs): Block an enzyme needed for HIV to assemble mature virus particles.

Using two or three of these in combination makes treatment far more effective than any single drug and makes it very difficult for HIV to develop resistance.

What to Expect on ART

Most people tolerate modern ART well. Some experience mild side effects in the first few weeks, including nausea, fatigue, or vivid dreams. These typically resolve as the body adjusts to the medication. If side effects are severe or persistent, alternative regimens are available.

The key measures of treatment success are:

Viral load: Falling to undetectable levels within three to six months of starting treatment.

CD4 count: Rising over time as the immune system recovers.

Overall health: Improved energy, reduced illness, and better quality of life.

CHAPTER 5: HIV IN NIGERIA: THE FACTS

Prevalence and Impact

Nigeria has one of the largest HIV epidemics in the world. Understanding the scale and context helps explain why LUMA's work at the university level matters.

Approximately 1.9 million people are living with HIV in Nigeria as of 2025 estimates.

Nigeria's national HIV prevalence is approximately 1.4% of the adult population.

Nigeria accounts for a disproportionate share of HIV infections across West Africa.

The epidemic is generalised, meaning it is not concentrated in specific groups but spread across the population.

HIV Among Young People in Nigeria

Young people aged 15 to 24 are among the most vulnerable populations for new HIV infections in Nigeria.

Women and girls in this age group are disproportionately affected.

Rates of HIV testing among young Nigerians remain low, meaning many people are living with HIV without knowing it.

Access to HIV prevention tools including PrEP and condoms is uneven, with university students often poorly served.

The PEPFAR Funding Crisis and Its Impact

In 2025, significant cuts to PEPFAR (the US President's Emergency Plan for AIDS Relief) funding severely affected HIV services across Nigeria. An estimated 719,000 people across Africa lost access to PrEP. Nigeria was one of the five countries most severely affected.

This context makes community-level HIV education, peer support, and advocacy more critical than ever. As institutional funding contracts, grassroots organisations like LUMA become more important, not less.

Stigma in Nigeria: The Data

Stigma remains one of the greatest barriers to HIV prevention and treatment in Nigeria:

67% stigma prevalence rate in Nigerian communities.

59.8% of university students are unwilling to have contact with people living with HIV.

60% of students would not buy food from a person living with HIV.

43.5% of students are uncomfortable shaking hands with a person living with HIV.

CHAPTER 6: COMMON HIV MYTHS DEBUNKED

Myth: You Can Tell If Someone Has HIV by Looking at Them

Fact: HIV has no visible symptoms, particularly in people who are on treatment and healthy. Many people living with HIV look and feel completely well. The only way to know your HIV status, or anyone else's, is to test.

Myth: HIV Only Affects Certain Types of People

Fact: HIV affects people of all genders, sexual orientations, socioeconomic backgrounds, religions, and ethnicities. In Nigeria's generalised epidemic, the virus circulates across the population. Believing HIV only affects specific groups creates false confidence and delays testing.

Myth: If You Have HIV, You Will Get AIDS

Fact: With effective ART, most people living with HIV today never develop AIDS. AIDS is a stage of advanced, untreated HIV disease. Treatment prevents progression from HIV to AIDS in the vast majority of cases.

Myth: There Are Herbal or Natural Cures for HIV

Fact: There is no cure for HIV, herbal, natural, or pharmaceutical. Anyone claiming to offer a cure is either misinformed or deliberately deceptive, and potentially dangerous if they are encouraging people to stop proven treatment. ART controls HIV effectively, but does not eliminate it from the body.

Myth: HIV Positive People Should Not Have Relationships or Sex

Fact: People living with HIV have full, loving, sexual relationships. With U=U, a person on effective treatment who is undetectable cannot transmit HIV to a partner. With PrEP available for negative partners, the tools exist for serodiscordant couples to have completely safe sexual relationships.

Myth: HIV Is a Punishment

Fact: HIV is a virus. Viruses do not make moral judgements about the people they infect. HIV can be contracted through a single unprotected sexual encounter, a blood transfusion, a needlestick injury, or from a parent during birth or breastfeeding. It is a health condition, not a judgement.

Myth: HIV Can Be Spread Through Mosquitoes

Fact: Mosquitoes cannot transmit HIV. When a mosquito bites a person, it does not inject blood from previous people it has bitten. It injects its own saliva. HIV cannot survive or replicate inside mosquitoes and is broken down by the mosquito's digestive processes.

CHAPTER 7: THE KNOWLEDGE-ATTITUDE PARADOX AND WHAT IT MEANS

One of the most significant findings in HIV research in Nigeria is what researchers call the knowledge-attitude paradox. This is the consistently observed gap between what students know about HIV and how they actually treat people living with HIV.

Multiple studies have found that Nigerian university students can score high on HIV knowledge assessments while simultaneously holding deeply stigmatising attitudes. Knowing that HIV is not transmitted through casual contact does not prevent students from avoiding classmates they believe are HIV positive.

Why Knowledge Is Not Enough

This paradox exists because stigma is not primarily an information problem. It is a social, cultural, and emotional problem. Stigma is rooted in fear, in social norm enforcement, in the desire to distance oneself from something that feels threatening, and in deep-seated beliefs about illness, morality, and identity.

This is why LUMA's approach goes beyond information delivery. We build community, model non-stigmatising behaviour through the Peer Circle, and use narrative and storytelling through the Campus Truth Series to create the kind of emotional engagement that changes attitudes, not just knowledge scores.

HIV BASICS QUICK REFERENCE CARD

HIV Is Transmitted Through

- Unprotected sex with a person living with HIV who is not on suppressive treatment
- Shared needles or injection equipment
- From parent to child during pregnancy, birth, or breastfeeding (preventable with treatment)

HIV Is NOT Transmitted Through

- Casual contact of any kind
- Sharing food, water, or eating utensils
- Shared bathrooms, hostels, or classrooms
- Mosquito bites or any insect bites
- Saliva, sweat, or tears

Key Facts to Remember

- U=U: A person on effective ART who is undetectable cannot transmit HIV sexually
- ART is available free in Nigeria at government health facilities
- HIV is not AIDS: not everyone with HIV develops AIDS
- You cannot tell someone's HIV status by looking at them
- HIV stigma is built on false beliefs about transmission

LUMA Resource Series, Guide 1: HIV Basics. Published 2026. For educational purposes. Not a substitute for medical advice.