

## Lecture 6 & 7: HIV/AIDS Preventive and Control Measures

P. Kyalo Mulwa  
Department of Educational  
Communication & Technology  
Peter.kyalo@uonbi.ac.ke

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### Testing for HIV

- Testing for HIV is the most sure way of knowing one's HIV status – positive or negative
- When the HIV virus enters the body, the immune system creates antibodies that are made to perfectly fit its antigens
- **Antibodies** are proteins that the immune system creates in response to an infection. Antibodies are made specifically to fit the shape of whichever foreign invader enters the body. Foreign invaders like viruses, bacteria, chemicals, allergens, etc., are all considered **antigens**

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### Testing for HIV

- The purpose of antibodies bonding to the corresponding invading antigens is to mark the invading cells or substances for destruction by immune cells called T-cells or CD4+ cells
- The HIV virus attacks T-cells
- This attack of T-cells by the HIV slowly weakens the immune system
- The loss of T-cells killing foreign invaders is what makes individuals with HIV so sick, because not only can they not fight off the HIV virus, they do not have enough T-cells to fight off other illnesses.

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**Types of HIV Tests**

- HIV test is important to determine the viral load in ones body.
- The **viral load** is a measure of how much of the HIV virus is in your blood
- There are three types of HIV tests each with its testing window period.
- The tests are:
  - 1) HIV Antibody Test (3rd Generation HIV Test)
  - 2) HIV Antibody/Antigen Tests (4th Generation HIV Test)
  - 3) HIV RNA Test

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**1) HIV Antibody Test (3rd Generation HIV Test)**

- The HIV Antibody test is a blood test that searches a blood sample for antibodies that were created by the immune system's B-cells in response to the invasion of the Human Immunodeficiency Virus Type 1 and/or Type 2.
- If you have antibodies to the HIV virus in your blood, it means that the virus is present.
- An HIV Antibody test is a third generation test. It is outdated technology compared to the fourth generation

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**1) HIV Antibody Test (3rd Generation HIV Test)**

- **HIV Antibody Test Window After Potential Exposure:** 3-12 weeks – It can take 3-12 weeks for your body to produce enough antibodies to the HIV virus to get an accurate test result.

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**2) HIV Antibody/Antigen Tests (4th Generation HIV Test)**

- The HIV Antibody/Antigen test is a blood test that detects antibodies that the immune system makes to fight off HIV Type 1 and/or Type 2 (HIV-1 and HIV-2), and antigens of the HIV virus.
- These tests are sometimes called AG AB tests (short for **antigen antibody** tests).
- This test is also referred to as the HIV Antibody/Antigen Combination test or HIV Antibody/Antigen duo test)
- This test is able to detect p24 antigens as well as HIV antibodies unlike the HIV Antibody test.

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**2) HIV Antibody/Antigen Tests (4th Generation HIV Test)**

- The immune system takes time to produce antibodies, so there may not be enough in a blood sample that was taken shortly after the infection began, however, since p24 antigens are part of the HIV virus, this combination HIV test is able to still detect that the HIV virus is present because of the antigens, even if the antibody level is not high enough.
- If you have antibodies or antigens to the HIV virus in your blood, it means that the virus is present

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**2) HIV Antibody/Antigen Tests (4th Generation HIV Test)**

- **The HIV Antibody/Antigen Test Window After Potential Exposure is 2-6 weeks** – While it can take 3-12 weeks for your body to produce enough antibodies to the HIV virus to get an accurate test result, it only takes 2-6 weeks for there to be enough HIV antigens in your blood

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### 3) HIV RNA Test

- RNA stands for Nucleic Acid Assay
- Sometimes its referred to as NAT – Nucleic Acid Test
- This is a blood test that detects HIV ribonucleic acid (RNA), the virus's genetic material
- RNA test is used to detect only HIV Type-1, the most common strain of HIV in the United States and most of the world
- The HIV RNA test is more sensitive to detecting HIV faster than the antibody tests at the same window periods/time frames

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### 3) HIV RNA Test

- This makes the HIV RNA test popular at diagnosing very early infections of HIV, the reason it is sometimes referred to as an HIV Early Detection test.
- HIV RNA tests are more expensive than 4th generation HIV tests, but many individuals prefer getting peace of mind regarding their HIV status as soon as possible.
- **The HIV RNA (NAT) Test Window after Potential Exposure is 9-11 days** – The HIV RNA test is highly sensitive starting at 9 to 11 days post-exposure, and this sensitivity to detecting HIV RNA increases even further once 28 days post-exposure have passed

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### HIV Treatment

- Without treatment, most people with HIV will eventually develop AIDS (Opportunistic Diseases)
- There's no cure for HIV, but treatment options are much better than they were a few decades ago
- But because of medical advancements, many people now live long, active lives with HIV
- HIV treatment involves administering of Antiretroviral Treatment (ARTs) drugs

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**HIV Treatment**

- The goals for these drugs are to:
  - Control the growth of the virus
  - Improve how well your immune system works
  - Slow or stop symptoms
  - Cause as few side effects as possible

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**ART (Antiretroviral Therapy)**

- The medicines that treat HIV are called antiretroviral drugs
- There are more than two dozen of them, and they fall into six main types
- Each drug fights the virus in your body in a slightly different way
- A doctor will probably recommend that you take three different medicines from two of the groups
- The doctor prescription depends on what other medical conditions one has or are likely to get, how well his/her immune system is working, and even how many pills he/she want to take each day

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**ART (Antiretroviral Therapy)**

- One might also need medicines for health problems caused by or related to your HIV
- ARTs have side effects like;
  - Feeling queasy/nauseous or throwing up
  - Diarrhea
  - Fatigue
  - Skin rashes
  - Trouble sleeping
  - Pain, numbness, or tingling
- The side effects disappear as one's body adjusts to the medication

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**ART (Antiretroviral Therapy)**

- Other treatment options involves use of Alternative Medicine and supplements
- Alternative medicines are not approved by World Health Organization (WHO) and other bodies
- Most supplements help to improve the body immune system

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**Drug Resistance**

- Drug resistance can be a cause of treatment failure for people living with HIV
- As HIV multiplies in the body, the virus sometimes mutates (changes form) and produces variations of itself. Variations of HIV that develop while a person is taking HIV medicines can lead to drug-resistant strains of HIV
- With drug resistance, HIV medicines that previously controlled a person's HIV are not effective against new, drug-resistant HIV meaning the HIV medicines can't prevent the drug-resistant HIV from multiplying.

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**Drug Resistance**

- Drug-resistance testing identifies which, if any, HIV medicines won't be effective against a person's HIV.
- Drug-resistance testing results help determine which HIV medicines to include in an HIV treatment regimen
- Medication adherence - taking HIV medicines every day and exactly as prescribed reduces the risk of drug resistance.

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### HIV Prevention and Control Measure

- Some of the measures one can take to reduce risks of contracting HIV include;
  - Know your HIV status
  - Safe Sex – use of condoms both for female and male
  - Safer Drug Use - don't share needles, syringes etc and avoid sex when drunk
  - Taking ARTs when pregnant to avoid passing the virus to the unborn
  - Avoid breastfeeding if you are positive
  - Sex education
  - Creating HIV/AIDS education and awareness campaigns
  - Observing the ABC (**Abstinence, Being Faithful, use of Condom**) approach/strategy for HIV prevention

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### HIV Prevention and Control Measure

- Developing and operationalizing relevant HIV/AIDS policies
- Taking **Post-Exposure & Pre-Exposure Prophylaxis (PrEP)** pills when at a high risk of contracting HIV
- Avoid drugs and alcohol
- HIV/AIDS testing and counseling
- Avoid sharing of injection equipment
- Wearing protective gear when handling HIV positive patients and individual at accident scenes
- Empowering the girl child
- CULTURAL PRACTICES (FGM, wife inheritance)
- Observe 6<sup>th</sup> God's Commandment: DO NOT COMMIT ADULTERY

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### Obstacles/Challenges to HIV Prevention & Control

- Lack of Coverage and Access to Prevention Services
- Few people with HIV are aware of their infection
- Many people with HIV do not receive ongoing treatment
- Diverse populations require tailored prevention approaches
- Disparities in HIV rates are fueled by social and economic inequities
- Limited resources for HIV prevention force difficult choices
- Many people have become complacent about HIV.

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**Obstacles/Challenges to HIV Prevention & Control**

- Poor work environments
- Lack of HIV/AIDS policies or implementation of the policies
- Illiteracy levels especially in developing countries
- In some case, there is duplication and uncoordinated effort to fight the HIV/AIDS scourge
- Moral decay in most societies

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**Management of HIV/AIDS in Kenya**

- Kenya is widely regarded as one of sub-Saharan Africa's HIV prevention success stories
- Annual new HIV infections are less than a third of what they were at the peak of the country's epidemic in 1993
- In 2016, there were an estimated 62,000 new HIV infections in Kenya, following a trend of falling figures year on year since 2013 which witnessed 100,000 new infections across the country.

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**Management of HIV/AIDS in Kenya**

- The National AIDS Control Council (NACC) is the body responsible for coordinating the response to the HIV epidemic in Kenya
- In 2016, Kenya became the second country in sub-Saharan Africa to issue full regulatory approval of pre-exposure prophylaxis (PrEP), which uses antiretroviral drugs to protect HIV-negative people from HIV before potential exposure to the virus
- It is currently conducting research into the uptake and impact of PrEP, specifically with young women and girls in high-incidence areas

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**HIV/AIDS Management Initiatives in Kenya**

1) Establishment of NASCOP - The National AIDS and STI's Control Programme (NASCOP) was established in 1987 to spearhead the Ministry of Health's interventions on the fight against HIV/AIDS. NASCOP is mainly involved with technical co-ordination of HIV and AIDS programmes in Kenya. NASCOP contributes to the bulk of the implementation of the Kenya Aids Strategic Framework (KASF) 2014-2019. Through partner organizations, NASCOP also conducts regular HIV testing targeting specific groups at high risk of HIV infection e.g. the youth, long distance drivers, etc

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**HIV/AIDS Management Initiatives in Kenya**

2. Government establishment of the National AIDS Control Council (NACC) – this is the body responsible for coordinating stakeholders in the multi-sectorial response to the HIV epidemic in Kenya. NACC provide policy and a strategic framework for mobilizing resources and coordinating resources for prevention of HIV transmission and provision of care and support to the infected Kenya.

3. Consulted effort by faith-based organizations, civil societies and public-private partnership in the fight of HIV/AIDS

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**HIV/AIDS Management Initiatives in Kenya**

4) HIV testing and counseling (HTC) – This has become a major feature of Kenya's HIV response. The country has adopted a number of innovative approaches to HIV testing in recent years, including targeted community-based HIV testing and door-to-door testing campaigns. In 2015, Kenya announced plans to introduce self-test kits and began evaluating distributors. Counseling is done before and after testing

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**HIV/AIDS Management Initiatives in Kenya**

- 5) HIV prevention programmes – Kenya is widely regarded as one of sub-Saharan Africa’s HIV prevention success stories. Some prevention programmes which have carried out with vigor to prevent HIV infection by the government and in collaboration with other stakeholders include
  - i. Condom distribution and use
  - ii. Preventing mother-to-child transmission (PMTCT)
  - iii. Voluntary medical male circumcision (VMMC)
  - iv. HIV education and awareness
  - v. Distribution of ARTs in Kenya

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**HIV/AIDS Management Initiatives in Kenya**

- vi. Treatment of tuberculosis and HIV co-infection with free drugs
- vii. Implementation of relevant policies to deal with HIV stigma and discrimination in Kenya e.g. In 2015, the High Court of Kenya declared as unconstitutional a legal provision which obliges people living with HIV to disclose their HIV status
- viii. Funding the HIV response in Kenya by international donors

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**The Future of HIV/AIDS in Kenya**

- In recent years, Kenya has made huge strides in tackling its HIV epidemic and has been pioneering in the provision of HIV prevention – particularly the implementation of Voluntary medical male circumcision (VMMC)
- However, current efforts are not reaching all of those who need these services. As a result, concentrated epidemics are emerging among vulnerable groups
- In 2014, the Ministry of Health published the Kenya HIV Prevention Revolution Road Map. This outlines a new approach to drastically reduce new HIV infections that is “evidence-informed, rights-based and gender

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**The Future of HIV/AIDS in Kenya**

sensitive”. Its goal is to bring HIV infections to “near zero” by 2030

- The roadmap explicitly recognizes what it describes as the “disparities” of the HIV epidemic, and commits to combination interventions, targeted towards the different needs of key populations and geographical locations
- Progress on the roadmap is yet to be reported. However, if implemented successfully, the government projects it will avert 1,149,000 new HIV infections and 761,000 AIDS related deaths by 2030 and save the country \$US 19.9 billion.

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**The Future of HIV/AIDS in Kenya**

- Currently though, it is notable that although government spending has more than doubled between 2006 and 2012, dwindling funds from international donors pose a challenge for the sustainability of Kenya’s HIV response

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**Additional Reference Documents To Read**

**NB:** Additional documents to read send to you through email;

1. The Kenya HIV Prevention Revolution Road Map – Count Down to 2030 - [http://nacc.or.ke/wp-content/uploads/2017/12/kenya\\_hiv\\_prevention\\_revolution\\_road\\_map.pdf](http://nacc.or.ke/wp-content/uploads/2017/12/kenya_hiv_prevention_revolution_road_map.pdf)
2. About NASCOP - [http://www.nascop.or.ke/?page\\_id=800](http://www.nascop.or.ke/?page_id=800)
3. National HIV AND AIDS POLICY - <http://www.health.go.ke/wp-content/uploads/2015/09/Workplace-Policy-on-HIV-and-AIDS.pdf>

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**Additional Reference Documents To Read**

4. Kenya AIDS Strategic Framework (KASF) 2014/2015 - 2018/2019 - [http://nacc.or.ke/wp-content/uploads/2015/09/KASF\\_Final.pdf](http://nacc.or.ke/wp-content/uploads/2015/09/KASF_Final.pdf)
5. The Public Sector Workplace Policy on HIV and AIDS - <http://www.health.go.ke/wp-content/uploads/2015/09/PUBLIC%20SECTOR%20WORKPLACE%20POLICY.pdf>
6. University of Nairobi HIV/AIDS Policy - [http://www.uonbi.ac.ke/sites/default/files/staff/HIV\\_policy.pdf](http://www.uonbi.ac.ke/sites/default/files/staff/HIV_policy.pdf)

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