

## HIV Prevalence, Death Rates and HIV-Related Morbidities

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### DESCRIPTION

Morbidity describes a condition or disease. Death is referred to as mortal. Mortality and morbidity are closely related concepts. In recent years, Antiretroviral Treatment (ART) has considerably increased survival in Africa. When ART was first widely used in Botswana, where adult Human Immuno Deficiency (HIV) prevalence is 21.9%, it is projected that AIDS-related mortality decreased by 58% between 2005 and 2013. Since then, ART coverage has gradually increased, reaching 84% in 2016. The burden of HIV and its effects on mortality in the hospital context, where the majority of deaths take place, are still largely unknown. There were around 38 million people living with HIV in 2019, and 690,000 of them passed away from an HIV-related illness. Since the beginning of the epidemic in the early 1980s, more than 32.7 million people have passed away as a result of HIV-related diseases. At the end of 2022, there were 39.0 million (33.1-45.7 million) HIV-positive individuals worldwide. According to estimates, 0.7% (0.6%-0.8%) of adults in the world between the ages of 15 and 49 have HIV, while the severity of the epidemic continues to differ greatly between different nations and areas.

### Diagnosis

Tests on the blood or saliva can identify HIV. Some of the tests include:

**Antigen/Antibody tests:** Blood is often drawn for these tests from a vein. Within a few weeks of HIV contact, antigens, which are substances on the HIV virus itself, are typically detected in the blood (a positive test result). After being exposed to HIV, the immune system creates antibodies. Antibodies can take weeks or months to become detectable the combined antigen/antibody tests may become positive 2 to 6 weeks after exposure.

**Nuclear Acid Testing (NATs):** These tests search for the viral load, or actual virus, in the blood. They also entail the drawing of blood from a vein. The doctor could advise NAT if the patient believes that they might have recently been exposed to HIV. After exposure to HIV, NAT will be the first test to show a positive result. Several tests, such as some of them are listed below,

can help the doctor assess the stage of the patient condition and the best course of treatment if they are diagnosed with HIV/AIDS.

**CD4 T cell count:** HIV primarily targets and kills CD4 T cells, which are white blood cells. When the CD4 T cell count falls below 200, HIV infection advances to AIDS even if the patients are symptom-free.

**Viral load (HIV RNA) test:** This one gauges the virus count in the blood. The main objective after beginning HIV treatment is to have a viral load that cannot be detected. This greatly lowers the risk of contracting an opportunistic infection and other consequences caused by HIV.

**Drug resistance:** Certain HIV strains are resistant to certain drugs. This test aids in determining whether the virus that affects the patient specifically is resistant and directs treatment choices.

### Treatment

Currently, there is no cure for HIV/AIDS. Once the people have the illness, their body is unable to rid itself of it. However, there are many medications that can treat HIV without causing negative effects. These medications are referred to as "Antiretroviral Therapy" (ART). The classes of anti-HIV medications consist of Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTIs) which blocks the activity of a protein required for HIV to replicate. Efavirenz (Sustiva), rilpivirine (Edurant), and doravirine (Pifeltro) are few examples. Nucleoside or Nucleotide Reverse Transcriptase Inhibitors (NRTIs) are subpar versions of the components required by HIV to replicate itself. Emtricitabine (Emtriva), lamivudine (Epivir), zidovudine (Retrovir), and abacavir (Ziagen) are few examples. HIV protease, a different protein required for the virus to replicate itself, is rendered inactive by Protease Inhibitors (PIs). Atazanavir (Reyataz) is an example.

**Treatment-related side effects:** Diarrhoea, vomiting, or nausea, heart condition, damaged kidneys and liver, bone loss or weakened bones, abnormally high cholesterol, increased blood sugar, sleep issues, as well as cognitive and emotional issues.

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