HIV and Primary Care

2024 NYACP Annual Meeting, 10/26/24

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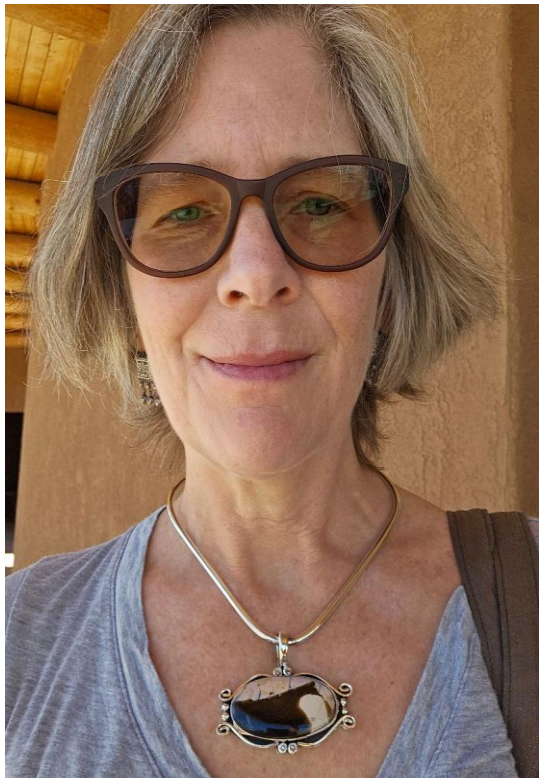
Disclosures

Kelly S. Ramsey, MD, MPH, MA, FACP, DFASAM has no financial disclosures.



Learning Objectives

At the end of this session, learners will be able to:

- Discuss the history and the epidemiology of HIV in the US
- Discuss HIV/AIDS: the basics
- Discuss acute HIV infection (AHI)
- Discuss HIV prevention
- Discuss HIV testing
- Discuss briefly HIV management and living with HIV
- Discuss stigma associated with HIV
- Discuss health inequities in the treatment sphere
- Discuss incorporating primary care for persons living with HIV (PLWH) into clinical practice

History and Epidemiology of HIV in the US

- Number of new HIV infections: 31,800
- Number of people living with HIV: 1.2 million
- Percent of people with HIV who don't know it: 13%
- Percent of people with HIV virally suppressed: 54%
- The first cases of what would later become known as AIDS were reported in the United States (U.S.) in Jun 1981. There are more than 2 million people living with HIV in the U.S. and there are an estimated 31,800 new infections (cases among people who are both diagnosed and undiagnosed) in 2022. While care and treatment can make HIV a manageable chronic condition, about 8,000 people die with HIV-related illness as a contributing cause of death each year.
- HIV continues to have a disproportionate impact on certain populations, particularly people of color, gay and bisexual men and other men who have sex with men, and transgender women.
- HIV testing is important for both treatment and prevention efforts. While patient knowledge of their HIV status is growing, in 2022, 13% of those with HIV were unaware they were HIV-positive.
- Antiretroviral therapy (ART) has substantially reduced HIV-related morbidity and mortality, improved long-term outcomes for people with HIV, and plays a key role in HIV prevention. Treatment guidelines recommend initiating treatment as soon as one is diagnosed with HIV (same day start). When an individual with HIV is on antiretroviral therapy and the level of HIV in their body is undetectable, THERE IS NO RISK of transmission through sex. Still, many persons with HIV are not in care, on treatment, or virally suppressed.
- Pre-exposure prophylaxis (PrEP) offers important prevention opportunities, but nearly 2/3 of those who could benefit from the medication have not been prescribed it and racial/ethnic disparities persist.

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History and Epidemiology of HIV in the US

- Initially, HIV-related mortality rates (deaths with HIV noted as the underlying cause of death), rose steadily through the 1980s and peaked in 1995, but have dropped by 9-fold since then, and by over half since 2010. This is largely due to ART, but also to decreasing HIV incidence. Still, in 2022, nearly 5,000 people died with HIV as the underlying cause of death and about 8,000 died with HIV as a contributing cause of death.
- In 2022, most newly diagnosed diagnosed cases of HIV occurred among gay and bisexual men and other men who have sex with men (67%). An additional 4% occurred among gay and bisexual men with a history of injection drug use. Diagnoses attributable to injection drug use alone have declined significantly over time and accounted for 7% of diagnoses in 2022. Transmission through heterosexual sex accounted for 22% of HIV diagnoses.

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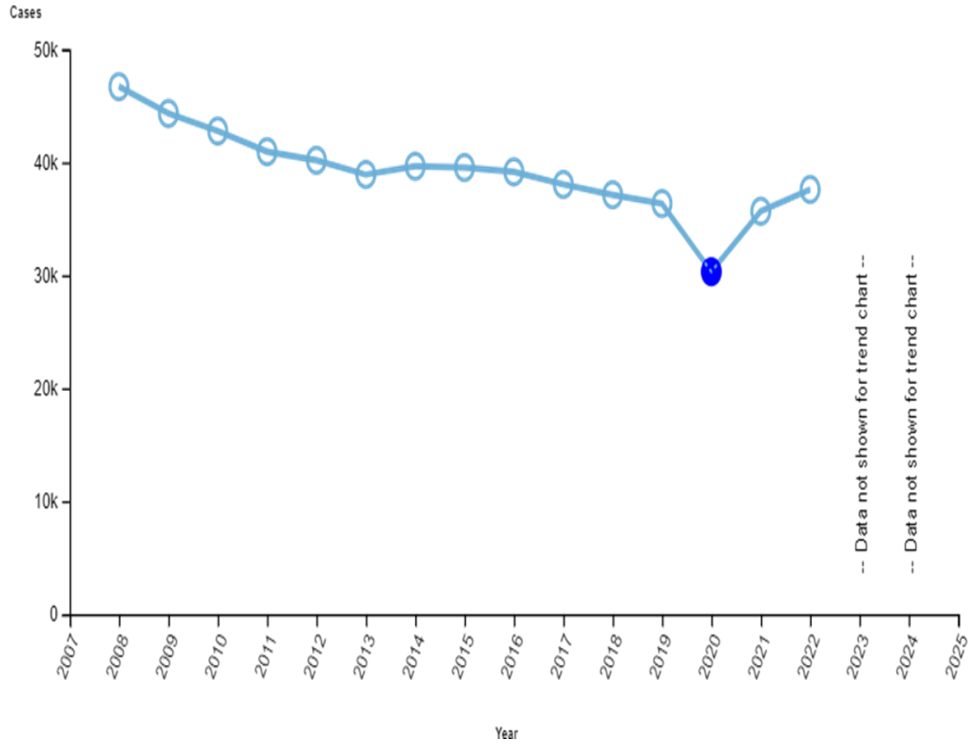
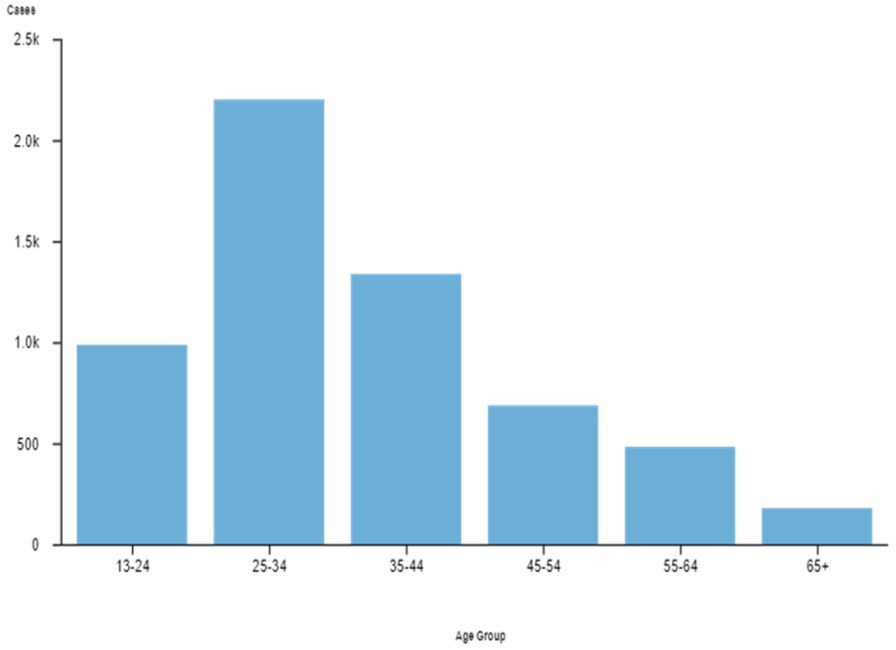
History and Epidemiology of HIV in the US

HIV DIAGNOSES | 2024 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES



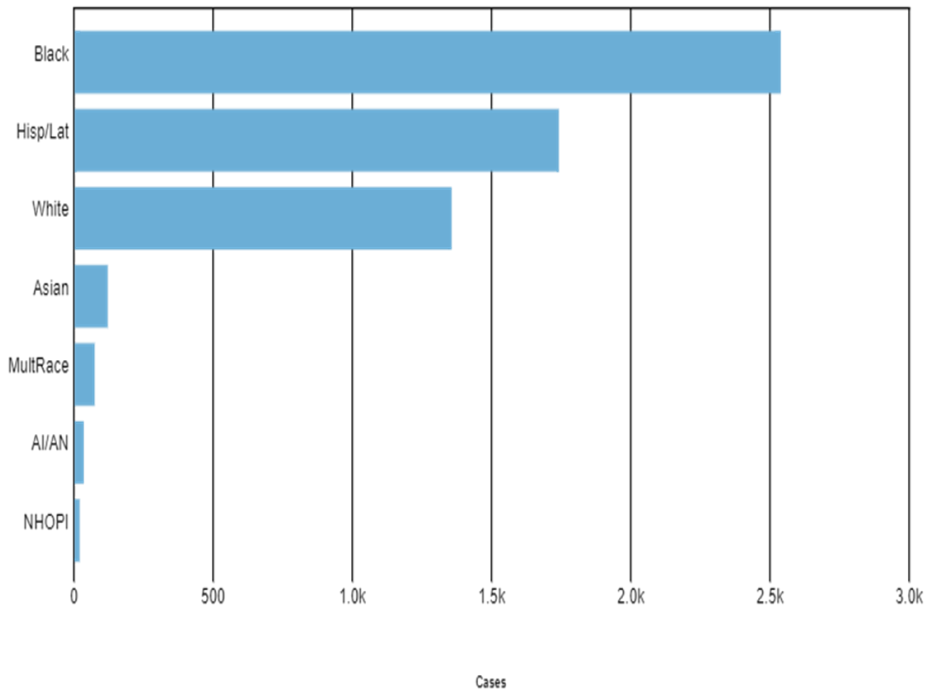
HIV DIAGNOSES | 2024 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES



CDC

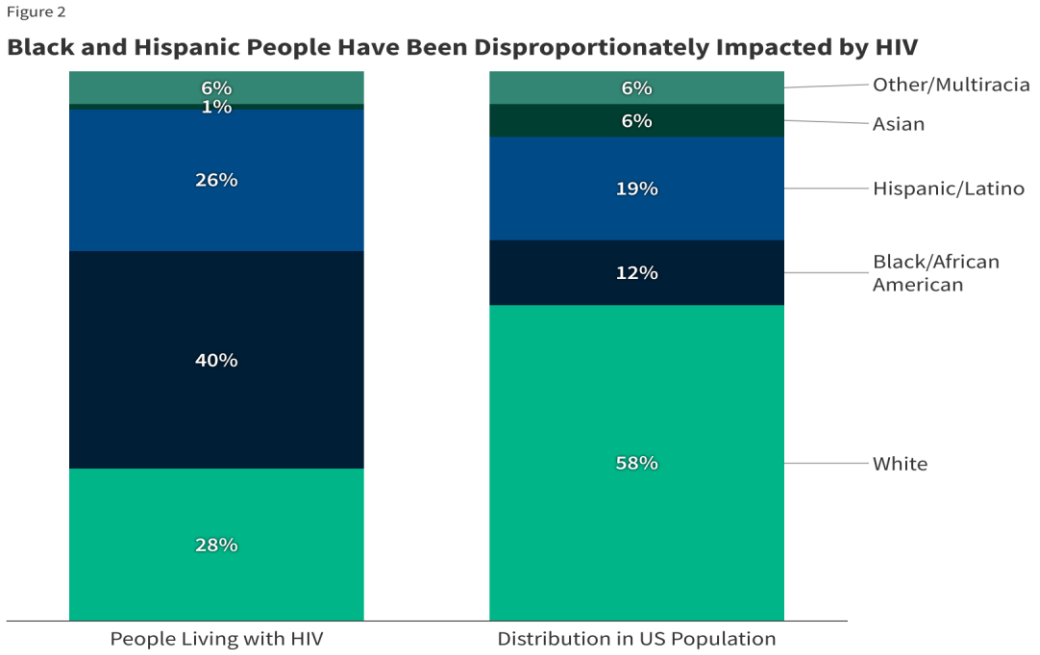
History and Epidemiology of HIV in the US

HIV DIAGNOSES | 2024 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES



CDC

PEOPLE LIVING WITH HIV (PLWH) AND DISTRIBUTION IN US POPULATION



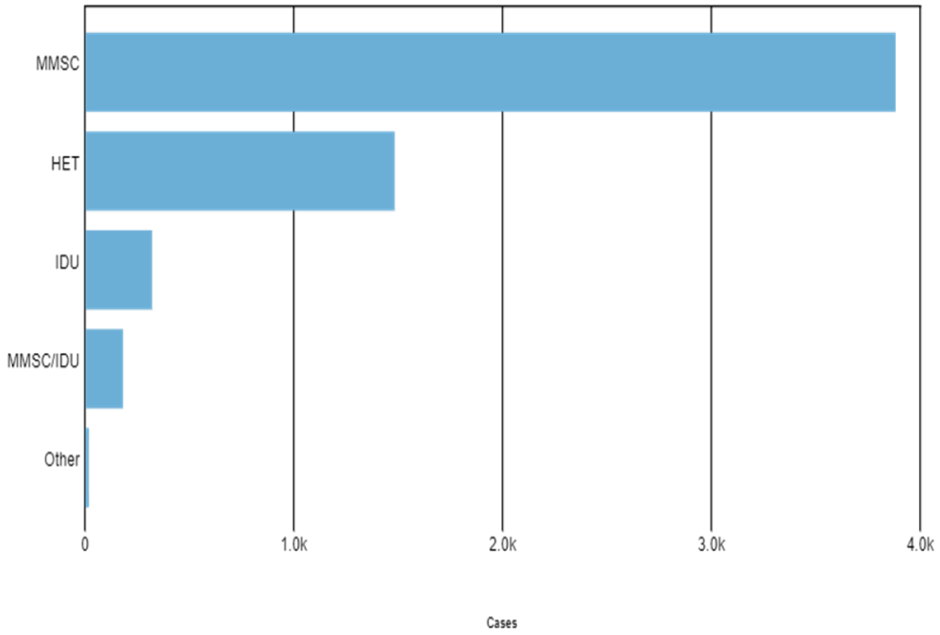
Source: US Population Data: KFF. State Health Facts. Population Distribution by Race/Ethnicity, 2022. HIV Prevalence: CDC. Atlas Plus

KFF

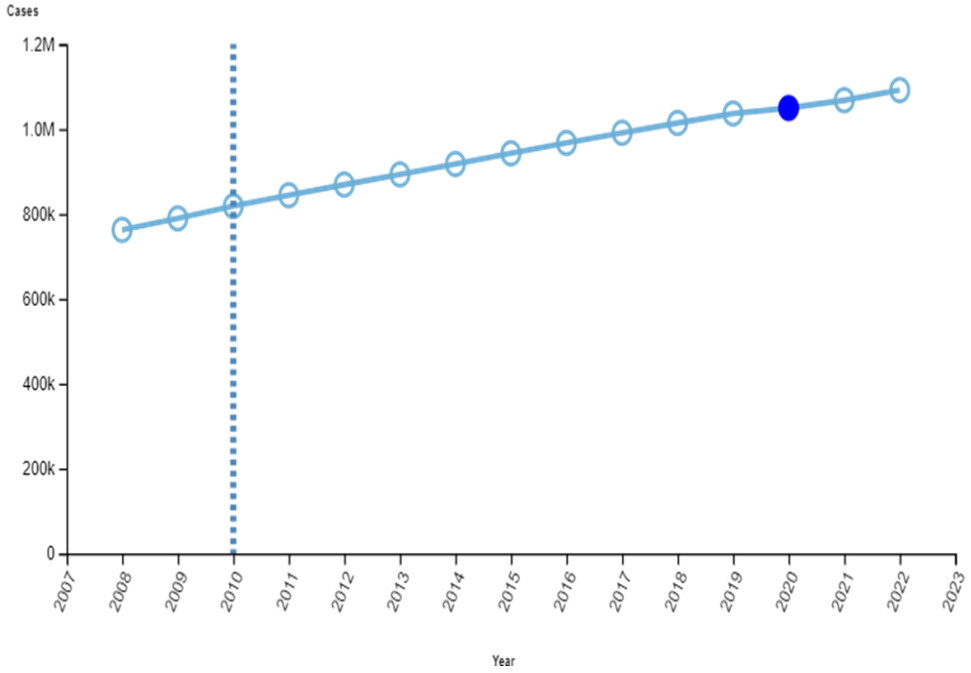
Kaiser Family Foundation

History and Epidemiology of HIV in the US

HIV DIAGNOSES | 2024 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES



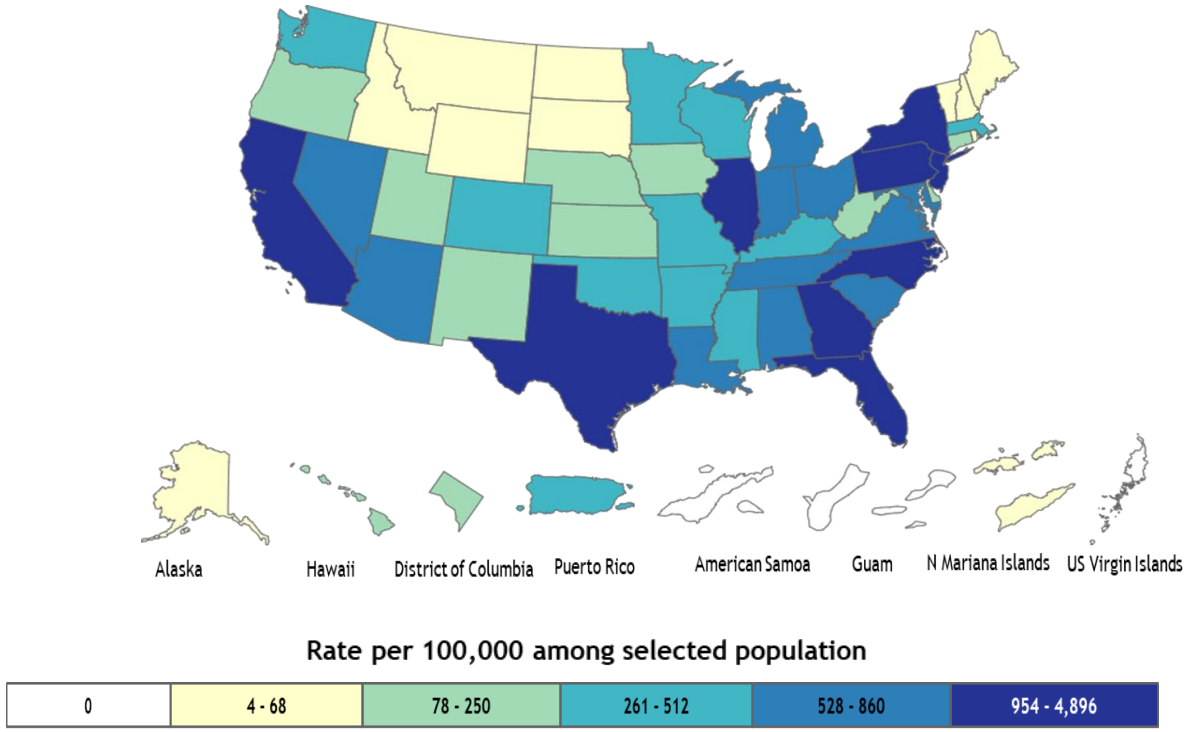
HIV PREVALENCE | 2022 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES



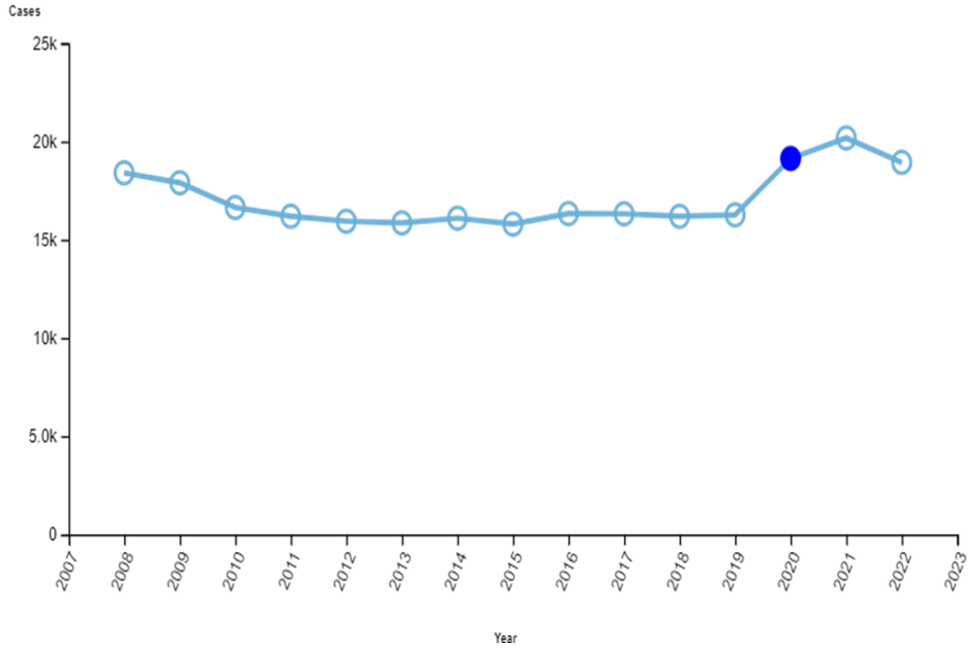
CDC

History and Epidemiology of HIV in the US

HIV DIAGNOSES | 2022 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | US MAP-STATE LEVEL

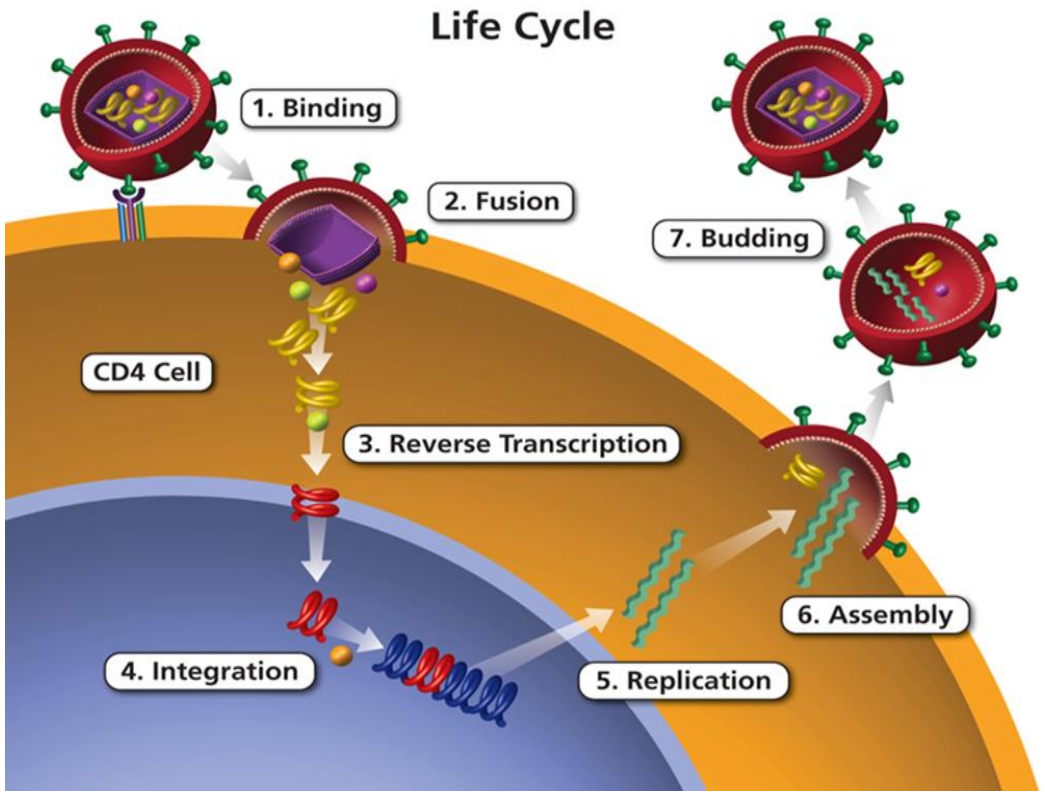


HIV DEATHS | 2022 | AGES 13 YEARS AND OLDER | ALL RACES/ETHNICITIES | BOTH SEXES | ALL TRANSMISSION CATEGORIES | UNITED STATES

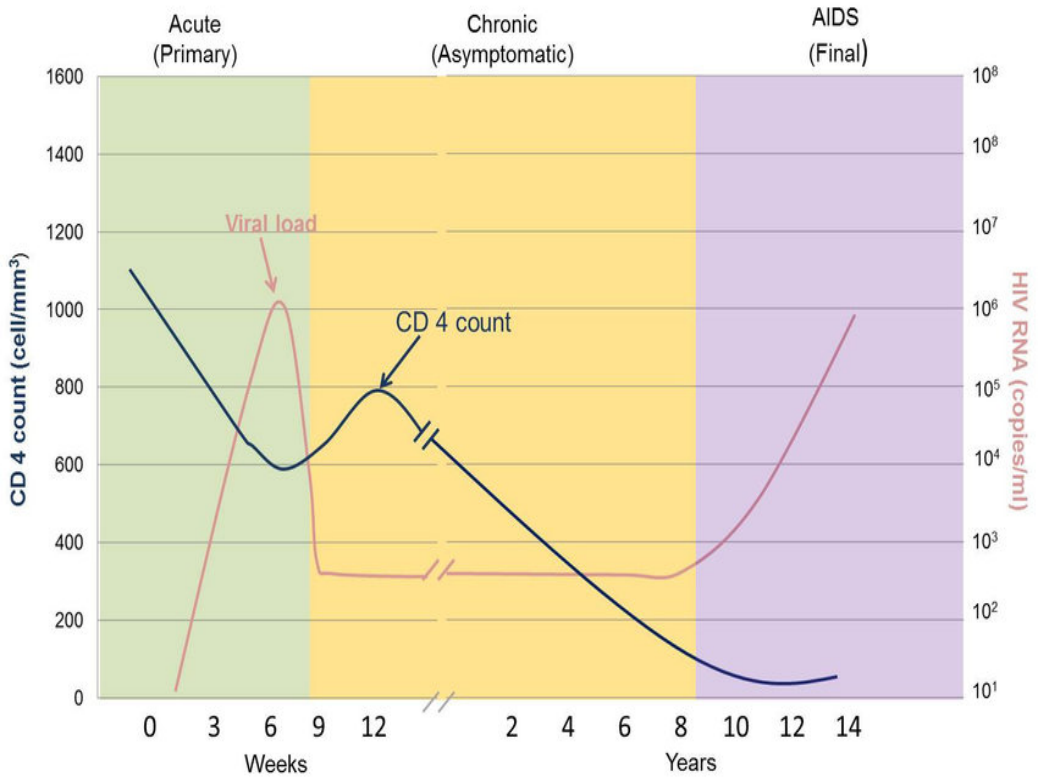


CDC

HIV/AIDS: The Basics



Clinical Info, hiv.gov



Manoto, SL, et al. Medicina, 2018

HIV/AIDS: The Basics

WHICH BODY FLUIDS TRANSMIT HIV?

Only certain body fluids from a person who has HIV can transmit HIV. These fluids include

- blood,
- semen,
- pre-seminal fluid,
- rectal fluids,
- vaginal fluids, and
- breast milk.

These fluids must come in contact with a mucous membrane or damaged tissue or be directly injected into the bloodstream (from a needle or syringe) for transmission to occur. Mucous membranes are found inside the rectum, vagina, penis, and mouth.

WHAT INCREASES THE RISK OF TRANSMISSION OR ACQUISITION OF HIV?

- a high viral load
- the presence of other STIs
- substance, particularly polysubstance use with stimulants

CDC

Acute HIV Infection (AHI)

WHY IS IT IMPORTANT TO DIAGNOSE AHI?

- AHI is often missed in the clinical setting (1/60,000 detection rate)
- Individuals with AHI have high viral loads and transmission risk is high (between 100-3000x more likely to transmit HIV than someone with chronic HIV)
- 29-50% of new HIV transmissions are attributable to AHI
- Initiation of ART during AHI has the potential to improve long-term clinical outcomes

Pilcher, CD, et al. J Infect Dis, 2004
Koopman, JS, et al. JAIDS and Human Retrovirology, 1997
Xiridou, M, et al. AIDS, 2003

AHI TIMELINE

- 2 to 4 weeks after exposure
- Flu-like illness
- Symptoms can last 1.5 – 2 weeks
- Some individuals may not consider themselves ill enough to seek care

CDC

Acute HIV Infection (AHI)

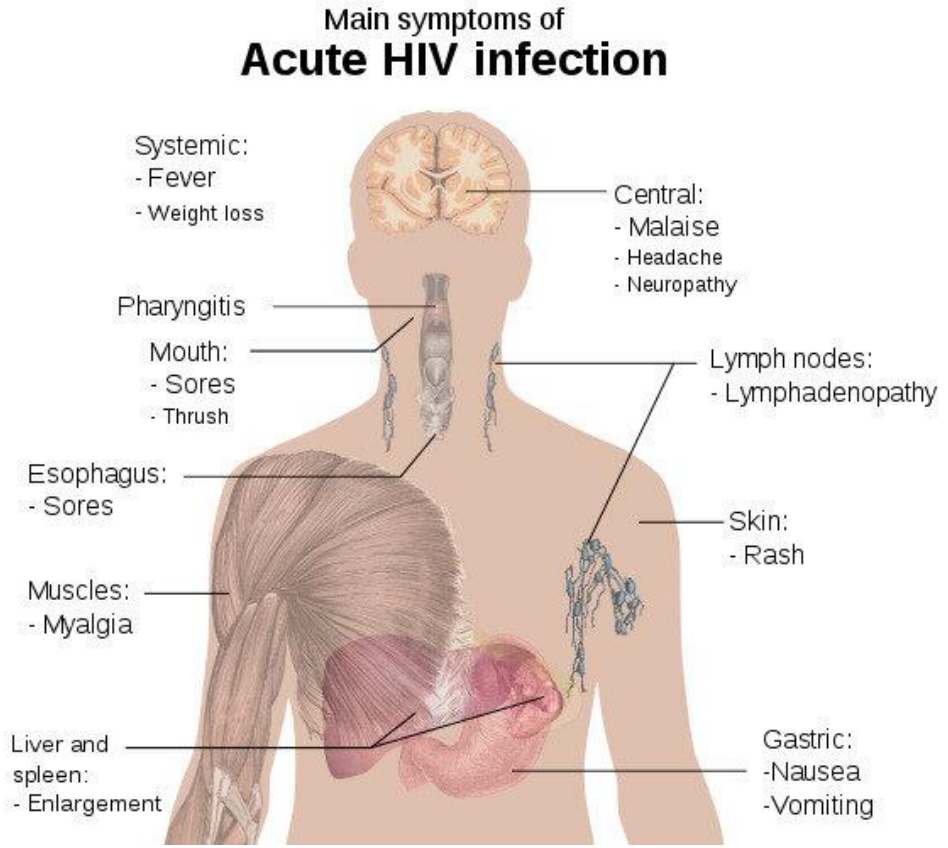
Box 1: Acute Retroviral Syndrome

Signs and symptoms of ARS with the expected frequency among symptomatic patients are listed below [a]. The most specific symptoms in this study were oral ulcers and weight loss; the best predictors were fever and rash. The index of suspicion should be high when these symptoms are present.

- Fever (80%)
- Tired or fatigued (78%)
- Malaise (68%)
- Arthralgias (joint pain) (54%)
- Headache (54%)
- Loss of appetite (54%)
- Rash (51%)
- Night sweats (51%)
- Myalgias (pain in muscles) (49%)
- Nausea (49%)
- Diarrhea (46%)
- Fever and rash (46%)
- Pharyngitis (sore throat) (44%)
- Oral ulcers (mouth sores) (37%)
- Stiff neck (34%)
- Weight loss (>5 lb; 2.5 kg) (32%)
- Confusion (25%)
- Photophobia (24%)
- Vomiting (12%)
- Infected gums (10%)
- Sores on anus (5%)
- Sores on genitals (2%)

Note:

a. Data are from Hecht FM, Busch MP, Rawal B, et al. Use of laboratory tests and clinical symptoms for identification of primary HIV infection. *AIDS* 2002;16(8):1119-1129. [PMID: 12004270]



Darazirar, Rassim. HIV transmission model study with imperfect vaccination and treatment, 2023

HIV Prevention

FOR PEOPLE WHO INJECT DRUGS

- Educate on safer injection practices; discourage sharing of any equipment used to prepare or use substances
- Inform regarding syringe services programs
- Recommend frequent testing for HIV, HCV, and STIs
- Prescribe needles/syringes and sharps containers
- Prescribe PrEP and PEP
- Prescribe MOUD (receipt of MOUD decreases the frequency of IDU)

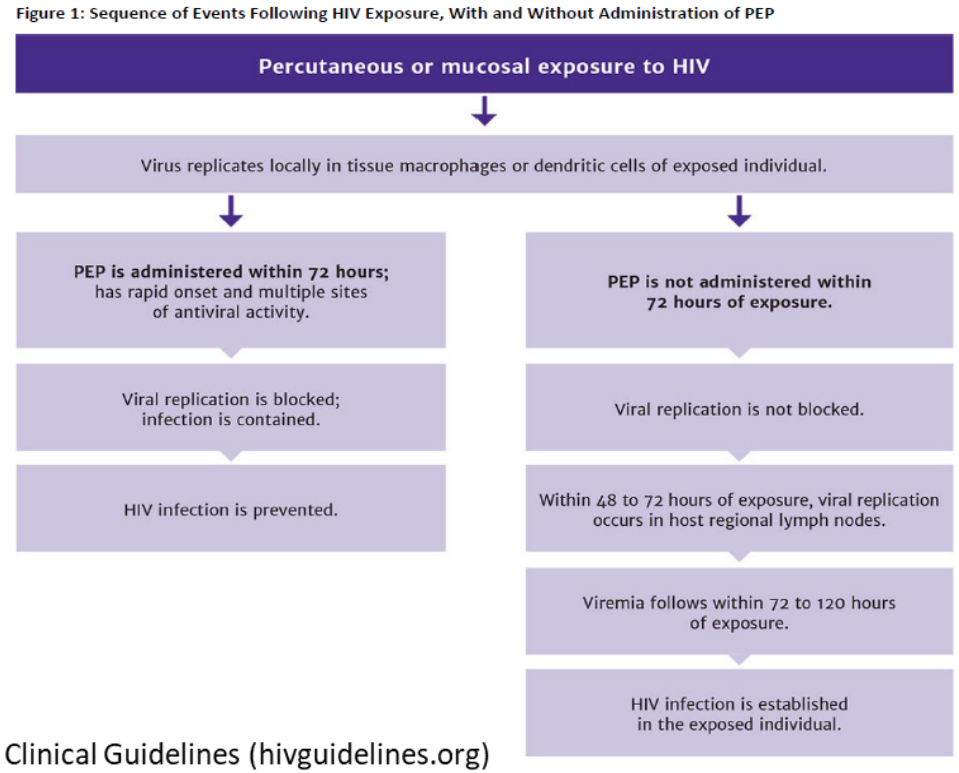
PRE-EXPOSURE PROPHYLAXIS (PREP)

- PrEP is a way to prevent HIV infection in people who do NOT have HIV, by taking a medication containing tenofovir disoproxil or tenofovir alafenamide and emtricitabine daily
- PrEP is more commonly known by the brand names Truvada or Descovy
- PrEP reduces the risk of getting HIV from sex by about 99%.
- PrEP reduces the risk of getting HIV from IDU by at least 74%

CDC

HIV Prevention

POST-EXPOSURE PROPHYLAXIS (PEP)



HIV Clinical Guidelines (hivguidelines.org)

USE OF BARRIERS WITH SEXUAL ACTIVITY AND MALE CIRCUMCISION

- external condoms
- internal condoms
- dental dams
- male circumcision: as a strategy to decrease risk in those unable or unwilling to use other prevention methods or in addition to other prevention methods

CDC

HIV Prevention: HIV Treatment=HIV Prevention, U=U (Undetectable=Untransmittable)

Transmission Category	Risk for People Who Keep an Undetectable Viral Load
Sex (oral, anal, or vaginal)	**Studies have shown no risk of transmission**
Pregnancy, labor, and delivery	**1% or less**†
Sharing syringes or other drug injection equipment	**Unknown, but likely reduced risk**
Breastfeeding/chestfeeding	**Substantially reduces, but does not eliminate risk.** For birth parents on ART with a sustained undetectable HIV viral load during and after pregnancy, the risk of transmission through breastfeeding/chestfeeding is less than 1%, but not zero. Current recommendations in the United States have changed and HIV is no longer a contraindication to breastfeeding/chestfeeding. Birth parents with HIV who want to breastfeed/chestfeed should receive patient-centered, evidence-based counseling on infant feeding options to allow for shared decision-making.

† The risk of transmitting HIV to the baby can be 1% or less if the pregnant person takes HIV medicine daily as prescribed throughout pregnancy, labor, and delivery and gives HIV medicine to their baby for 4-6 weeks after giving birth.

CDC

*"An HIV-positive individual not suffering from any other STD and adhering to antiretroviral therapy (ART) with a completely suppressed viremia **does not transmit HIV** sexually, i.e., he/she cannot pass on the virus through sexual contact." - Swiss government statement, 2008*

NEW YORK STATE Department of Health

New York State Becomes the First State in the U.S. to join U=U

September 29, 2017

Today, the New York State Department of Health became the first state in the United States to join the U=U campaign. New York State DOH Commissioner Zucker issued "Dear Colleague Letters" detailing this historic development.

"Results from clinical trials on TasP are now sufficiently robust for global authorities on AIDS research and policy to support a message that individuals with a sustained undetectable viral load will not sexually transmit HIV, or "Undetectable equals Untransmittable (U=U). The framework of U=U offers many opportunities for improving care and quality of life for New Yorkers living with HIV. Consequently, the Department recognizes that it is more important than ever to make consumers, the public, and providers aware of the changing scientific evidence related to HIV."

"U=U opens a new and hopeful chapter in the HIV epidemic." Read the statements at the NY DOH site .

Swiss HIV Cohort Study
NYS DOH

HIV Testing: NYS Law for Health Care Providers

Simplified Testing Process: Updates to public health law and regulation have removed the requirement of obtaining written or oral informed consent for an HIV test. At a minimum, patients must be orally informed that HIV testing is going to be conducted and have the right to refuse an HIV test. There are two different ways that health care facilities can operationalize HIV testing in a manner that meets or exceeds the requirement of the law.

Mandatory Offer of HIV Testing

HIV testing shall be offered at least once as a part of routine heath care to all individuals age 13 and older.

Settings and Providers Affected

Settings

Hospitals

- In-patient
- Emergency Dept
- Urgent Care
- Outpatient Primary Care

Diagnostic & Treatment Centers

- Outpatient Primary Care

Providers (regardless of setting)

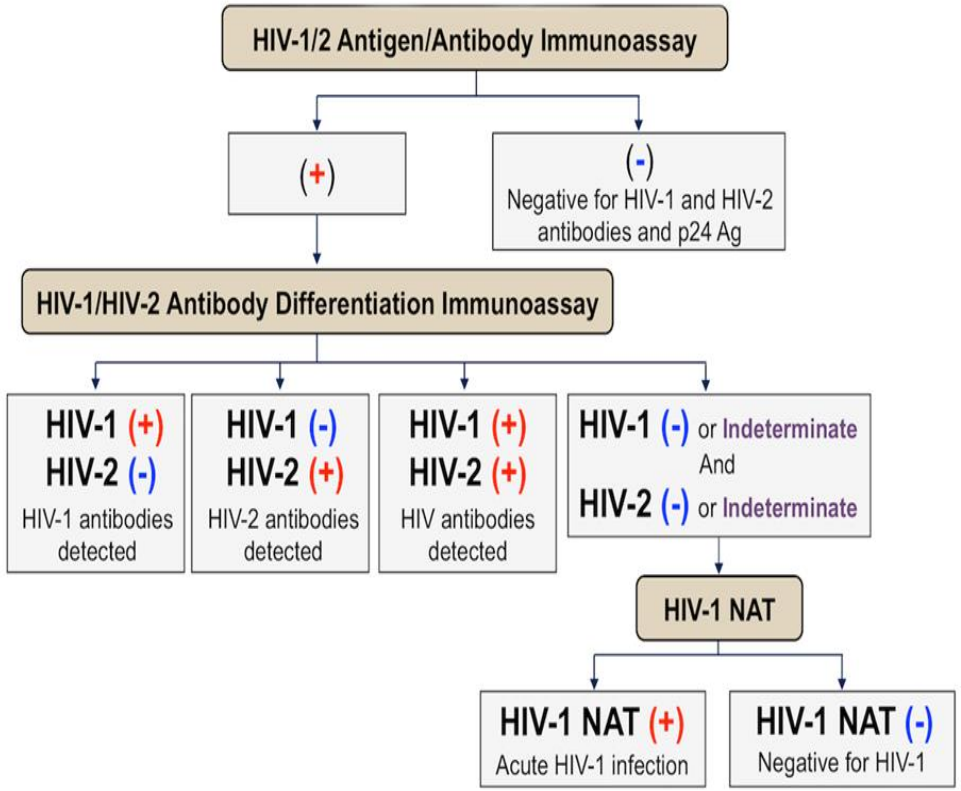
Primary Care Providers

- Physician
- Nurse practitioner
- Physician Assistant
- Midwives

Primary Care Field of Medicine

- Family Medicine
- Internal Medicine
- General Practice
- OB/GYN
- Pediatrics

HIV Testing

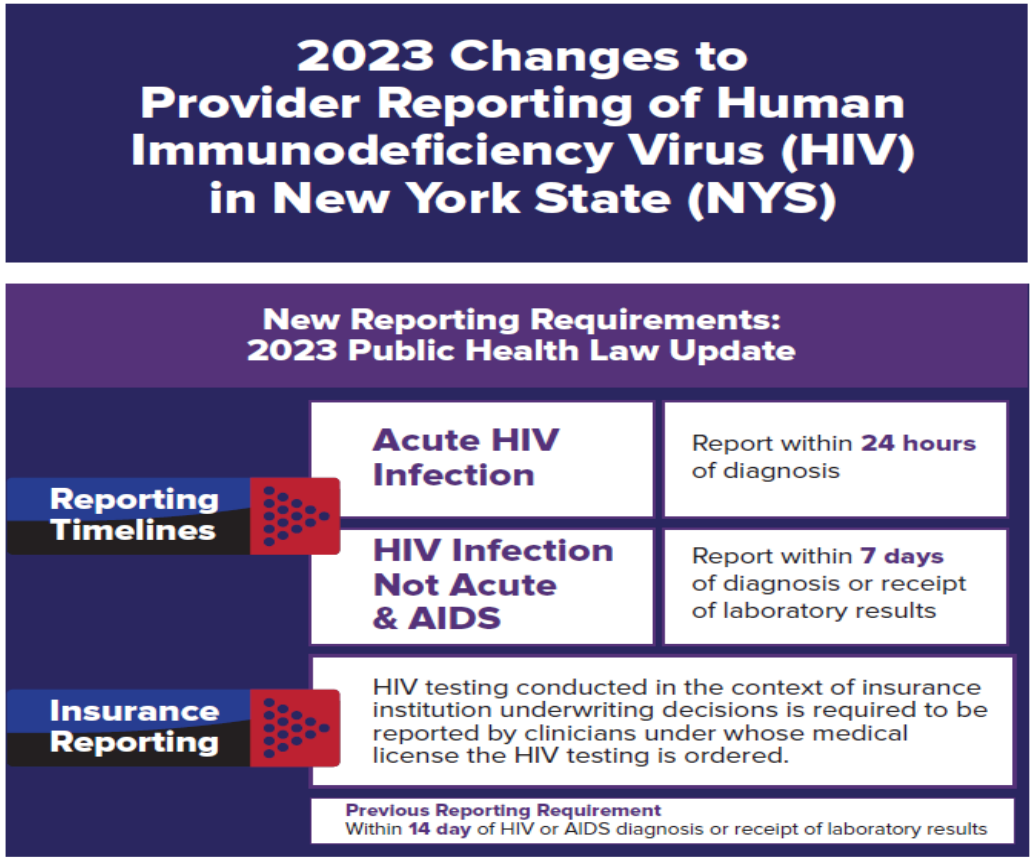


CDC

There are three types of tests available: nucleic acid tests (NAT), antigen/antibody tests, and antibody tests. HIV tests are typically performed on blood or oral fluid. They may also be performed on urine.

- A **NAT** looks for the actual virus in the blood and involves phlebotomy. The test can determine the viral load. While a NAT can detect HIV sooner than other types of tests, this test is very expensive and not routinely used for screening individuals unless they recently had a high-risk exposure or a possible exposure and have early symptoms of HIV infection.
- An **antigen/antibody (Ag/Ab) test** looks for both HIV antibodies and antigens. Antibodies are produced after HIV exposure. If you have HIV, the p24 antigen is produced even before antibodies develop. Ag/Ab tests are recommended for testing done in labs and are now common in the United States. This lab test involves phlebotomy. There is also a rapid Ag/Ab test available that is done with a finger prick.
- HIV **antibody tests** only look for antibodies to HIV in blood or oral fluid. In general, antibody tests from phlebotomy can detect HIV sooner after infection than tests done with blood from a finger prick or with oral fluid. Most rapid tests and the only currently approved HIV self-test are antibody tests.

HIV Testing and Reporting



The Public Health Law, Article 21, Title III, Section 2130 can be found at nysenate.gov/legislation/laws/PBH/2130
The update to AHI reporting can be found at dos.ny.gov/system/files/documents/2023/03/032223.pdf

HIV/AIDS Provider Reporting

What to Report

Reporting of HIV and AIDS is required by physicians and other persons authorized to order diagnostic testing for individuals screened for HIV in New York State. Reporting is initiated upon receipt of positive laboratory results or after diagnosis, whichever is sooner.

Reporting Timelines

Acute HIV Infection

Report any determination or diagnosis of Acute HIV Infection (AHI) including primary HIV infection, acute retroviral syndrome, and early HIV infection. An AHI is the earliest stage and is associated with high levels of viremia and undetectable antibodies.

Acute infection should be **reported within 24 hours of diagnosis**.

HIV Infection (not acute)

Non-AHI HIV infection is determined using the Diagnostic Testing Algorithm. Testing begins with an FDA-approved antigen/antibody immunoassay that detects HIV-1 and HIV-2 antibodies and HIV-1 p24 antigen. Reactive assays should have subsequent differentiation and viral load testing completed. Reports should be made **within 7 days of diagnosis or receipt of positive laboratory results** whichever is sooner.

AIDS

AIDS (Stage 3 HIV Infection) should be determined using criteria such as CD4+ T-lymphocyte <200 cells/µL or an opportunistic infection (AIDS-defining illness). Reports should be made **within 7 days of diagnosis or receipt of positive laboratory results** whichever is sooner.

Reporting Methods

Electronic Reports

Use the HIV/AIDS Provider Portal on the New York State Health Commerce System to complete the electronic provider reporting form.

Paper Reports

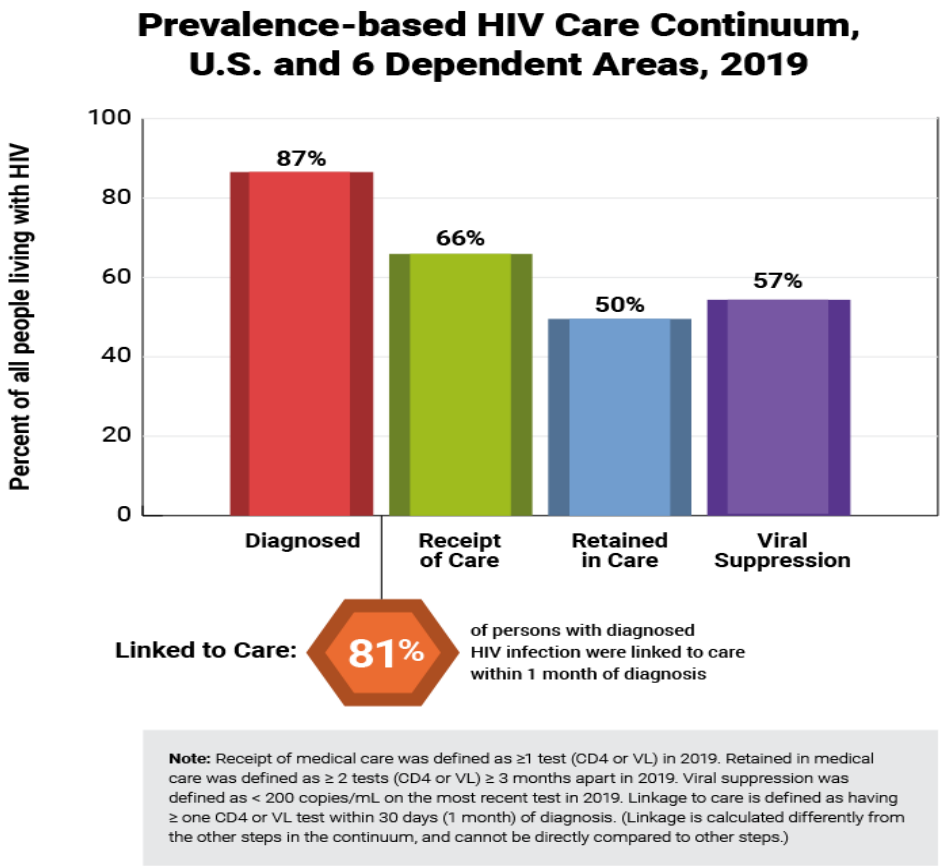
Non-New York City (NYC) Providers:
Complete DOH-4189 and mail **yellow copy only** to:

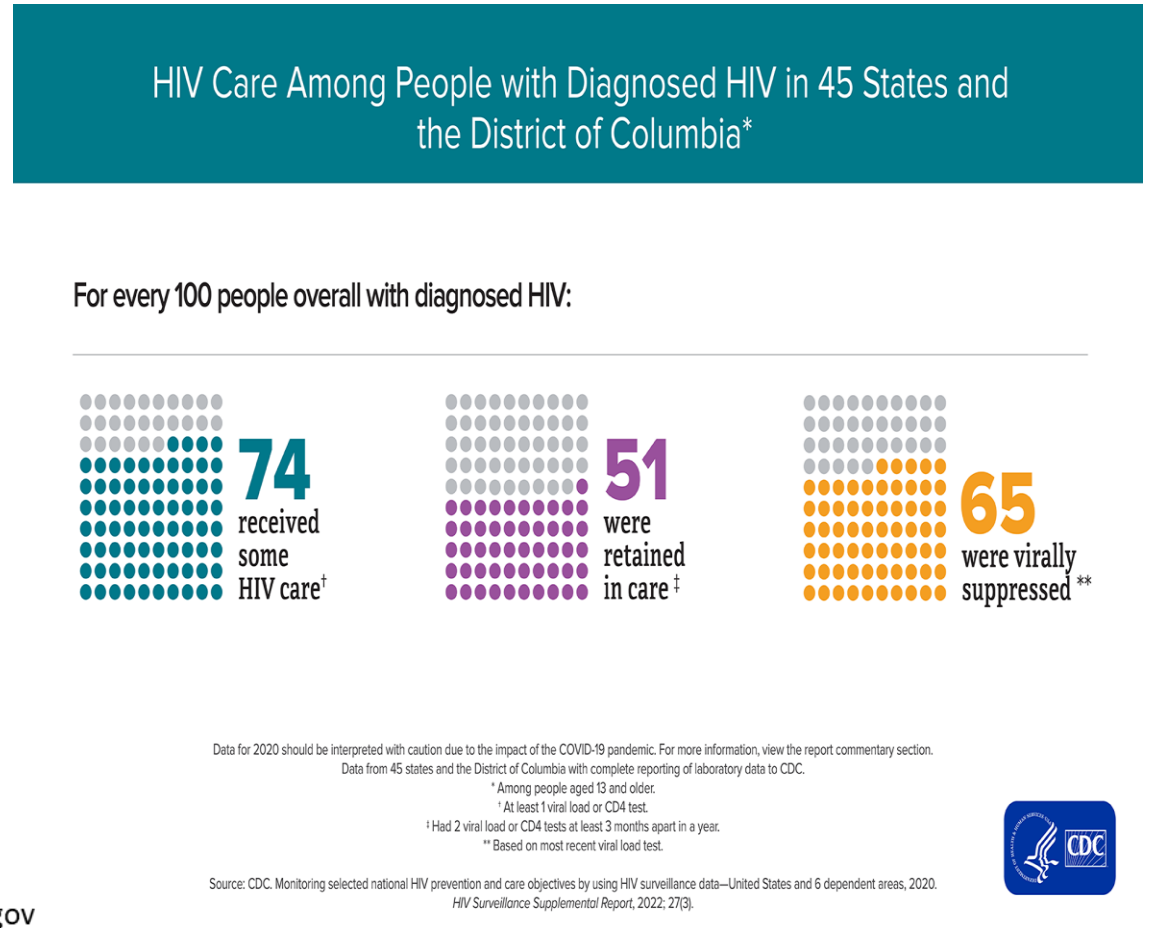
Division of Epidemiology, Evaluation, and Partner Services
PO BOX 2073, ESP Station
Albany, NY 12220-0073

NYC Providers:
Complete DOH-4189 and call the NYC HIV Epidemiology Program at 212-442-3388 to submit.

Completion of a Medical Provider HIV/AIDS Report Form (DOH-4189) is required by NYS public health law Article 21, Chapter 163. The form can be completed electronically (preferred) or by paper submission.

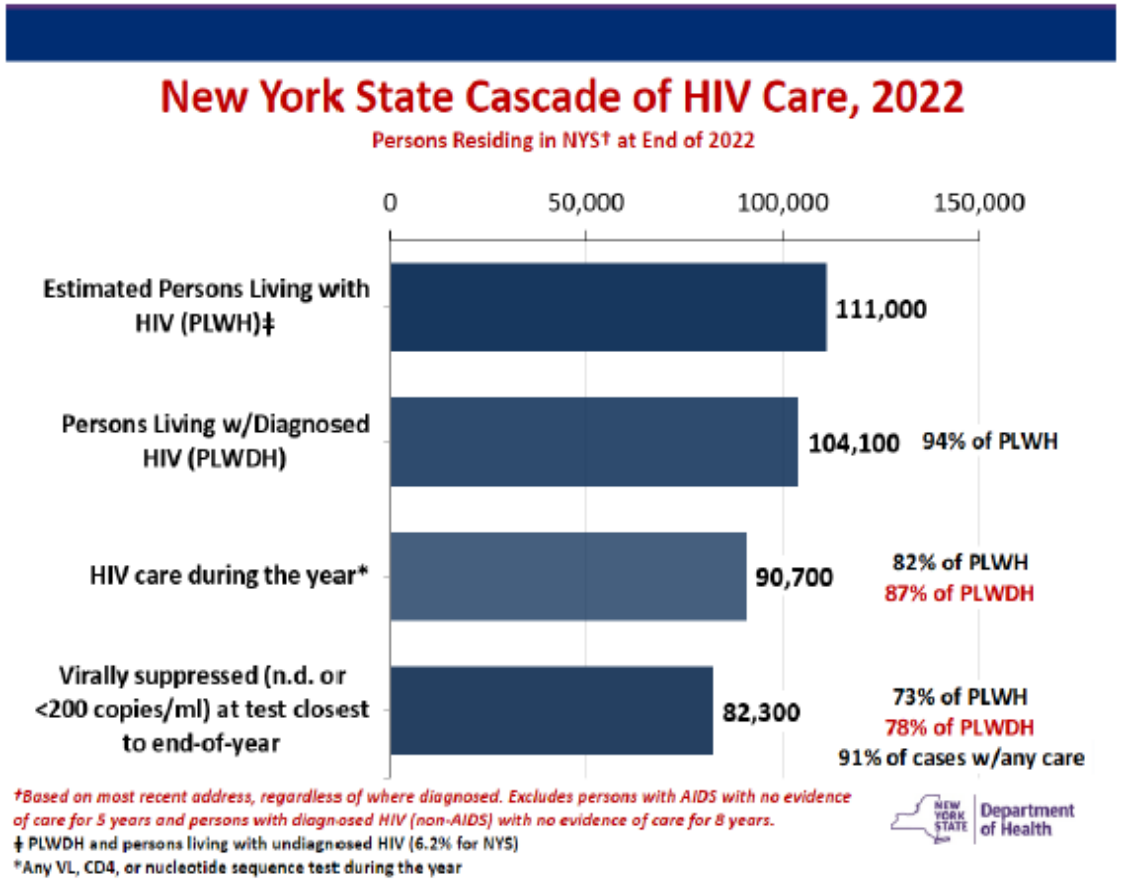
HIV Management and Living with HIV: US HIV Care Continuum





hiv.gov

HIV Management and Living with HIV: NYS HIV Care Continuum



NYS DOH, 10/2023

HIV Management and Living with HIV: Same Day Start of ART

- *In a randomized trial, initiation of antiretroviral therapy on the same day as HIV diagnosis improved outcomes.*
- Antiretroviral therapy (ART) for people with newly diagnosed HIV infection is often delayed until lab test results are available and extensive counseling has been provided. Now that there is definitive evidence that early initiation of ART saves lives (NEJM JW Infect Dis Aug 2015 and *N Engl J Med* 2015; 373:795), there is a push to start ART sooner. To investigate whether same-day HIV testing and ART initiation improves outcomes, investigators conducted a trial in Haiti.
- They randomized 762 patients with newly diagnosed HIV, CD4 counts <500 cells/mm^3, and a survey response indicating readiness to start ART to initiate TDF/FTC/EFV on the day of diagnosis or on day 21 (standard care). Patients had multiple counseling visits: same-day patients had them on the day of and after ART initiation; standard-care patients had them before starting ART. Only 4% of same-day patients required regimen adjustment because of abnormal renal function on baseline testing.
- At 12 months, more same-day patients were retained in care (80% vs. 72%) and more were retained in care with viral loads <50 copies/mL (53% vs. 44%). The adjusted relative risk for mortality was 0.43 (*P*=0.033) among same-day patients versus standard-care patients.

Koenig, SP, et al. PLOSMed, 2017

Gandhi, RT. NEJM, 2017

Figure 1: Protocol for Rapid ART Initiation

Identify Rapid ART Candidates	Assessment, Counseling, and Referrals	Baseline Lab Testing [a]	Payment Assistance?	Initiate ART	Follow-Up
Candidates have: • A new reactive POC HIV test result, new HIV diagnosis, known or suspected acute HIV, or known HIV, *and* • No or limited prior ARV use (except PEP/PrEP), *and* • No known medical conditions or OIs that require deferral of ART initiation	• Assess health literacy • Discuss HIV diagnosis and disclosure • Discuss ART benefits, adherence, adverse effects, and management • Identify and address medical and psychosocial barriers to treatment and adherence • Refer for substance use treatment, behavioral health services, and housing assistance, as needed	• HIV Ag/Ab test • Viral load • Resistance testing • CD4 count • HAV, HBV, and HCV testing • Metabolic panel • STI testing (including syphilis) • Urinalysis • Pregnancy test for individuals of childbearing potential	• Assess need for payment assistance • Refer patients with no insurance to NYSDOH UCP (or locally appropriate service) • Provide resources for payment assistance	• Choose among preferred regimens based on patient characteristics and preference • Initiate ART immediately—preferably on the same day—or within 72 hours • Administer the first dose on-site if possible	• Contact the patient within 24 to 48 hours by phone (or other preferred method) • Assess medication tolerance and adherence • If feasible, schedule in-person visit with medical care provider within 7 days • Reinforce adherence • Change or adjust the initial ART regimen as needed based on results of initial lab and/or resistance testing

Abbreviations: Ag/Ab, antigen/antibody; ART, antiretroviral therapy; ARV, antiretroviral medication; HAV, hepatitis A virus; HBV, hepatitis B virus; HCV, hepatitis C virus; NYSDOH UCP, New York State Department of Health Uninsured Care Programs; OI, opportunistic infection; PEP, post-exposure prophylaxis; POC, point-of-care; PrEP, pre-exposure prophylaxis; STI, sexually transmitted infection.

Note:

a. ART can be started while awaiting laboratory test results.

HIV Clinical Guidelines (hivguidelines.org)

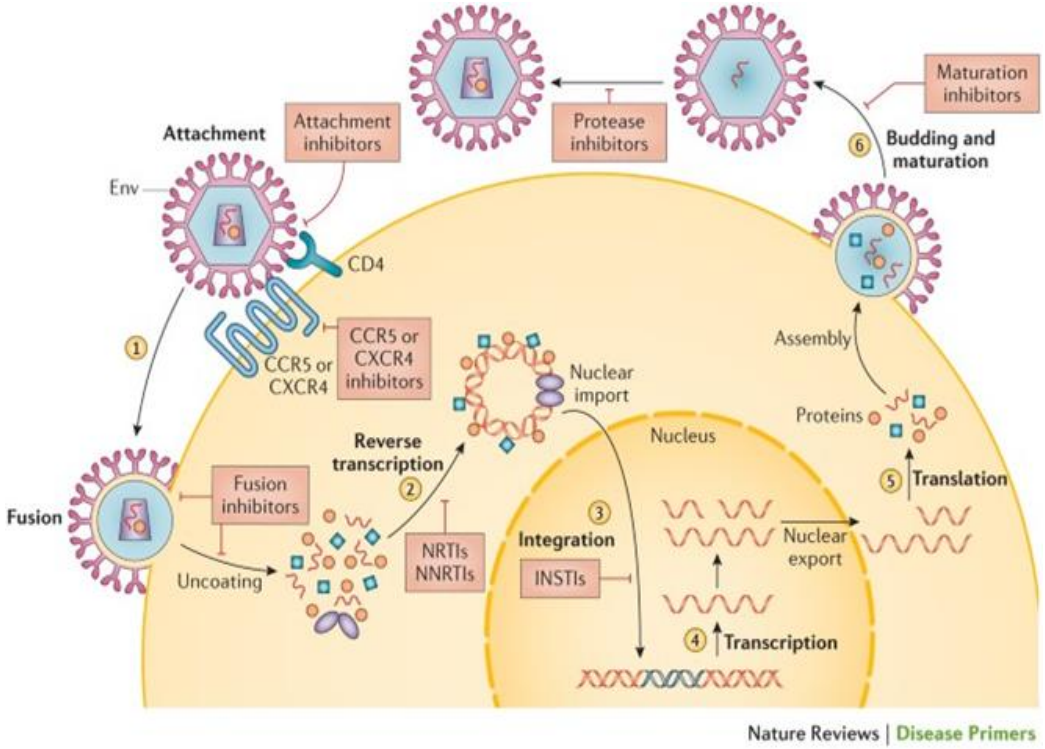
HIV Management and Living with HIV: ART is Recommended for All Persons Living with HIV

- **Antiretroviral therapy (ART) is recommended for all people living with HIV, regardless of CD4 cell count, to consistently suppress viral load, maintain high CD4 cell counts, prevent AIDS, prolong survival, and reduce risk of transmitting HIV to others.**
- **These seminal findings are from the Strategic Timing of AntiRetroviral Treatment (START) study, the first large-scale randomized clinical trial to establish that earlier antiretroviral treatment benefits all HIV-infected individuals.**
- The START study, which opened widely in March 2011, was conducted by the International Network for Strategic Initiatives in Global HIV Trials (INSIGHT) at 215 sites in 35 countries. The trial enrolled 4,685 men and women with HIV ages 18 and older, with a median age of 36. **Participants had never taken ART and were enrolled with CD4 counts in the normal range — above 500 cells Approximately half of the study participants were randomized to initiate ART immediately (early treatment), and the other half were randomized to defer treatment until their CD4 count declined to 350. On average, participants in the study were followed for three years.**
- The study measured a combination of outcomes that included serious AIDS events (such as AIDS-related cancer), serious non-AIDS events (major cardiovascular, renal and liver disease and cancer), and death. Based on data from March 2015, the DSMB found 41 instances of AIDS, serious non-AIDS events or death among those enrolled in the study's early treatment group compared to 86 events in the deferred treatment group. The DSMB's *interim analysis found risk of developing serious illness or death was reduced by 53 percent among those in the early treatment group, compared to those in the deferred group.*
- **Rates of serious AIDS-related events and serious non-AIDS-related events were both lower in the early treatment group than the deferred treatment group. The risk reduction was more pronounced for the AIDS-related events. Findings were consistent across geographic regions, and the benefits of early treatment were similar for participants from low- and middle-income countries and participants from high-income countries.**

INSIGHT START Study Group. NEJM, 2015

HIV Management and Living with HIV: ART Regimens

HIV LIFE CYCLE AND ART TARGETS



Deeks, S, et al. Nat Rev Dis Primers, 2015

Table 1: Preferred and Alternative Regimens for Rapid ART Initiation in Nonpregnant Adults

Regimen	Comments	Rating
Preferred Regimens for Patients Not on PrEP		
Tenofovir alafenamide/emtricitabine/ bictegravir (TAF 25 mg/FTC/BIC; Biktarvy)	• TAF/FTC/BIC is available as a single-tablet formulation, taken once daily. • TAF/FTC should not be used in patients with CrCl <30 mL/min; re-evaluate after baseline laboratory testing results are available. • This regimen contains 25 mg of TAF, unboosted. • Magnesium- or aluminum-containing antacids may be taken 2 hours before or 6 hours after BIC; calcium-containing antacids or iron supplements may be taken simultaneously if taken with food.	A1
Tenofovir alafenamide/emtricitabine *and* dolutegravir [a] (TAF 25 mg/FTC *and* DTG; Descovy *and* Tivicay)	• TAF/FTC should not be used in patients with CrCl <30 mL/min; re-evaluate after baseline laboratory testing results are available. • This regimen contains 25 mg of TAF, unboosted. • Administer as 2 tablets once daily. • Magnesium- or aluminum-containing antacids may be taken 2 hours before or 6 hours after DTG; calcium-containing antacids or iron supplements may be taken simultaneously if taken with food. • Documented DTG resistance after initiation in treatment-naive patients is rare.	A1
Tenofovir alafenamide/emtricitabine/ darunavir/cobicistat (TAF 10 mg/FTC/DRV/COBI; Symtuza)	• TAF/FTC/DRV/COBI is available as a single-tablet formulation, taken once daily. • This regimen contains 10 mg TAF, boosted. • TAF/FTC should not be used in patients with CrCl <30 mL/min; re-evaluate after baseline laboratory testing results are available. • Pay attention to drug-drug interactions.	A2
Regimen for Patients Who Have Taken TDF/FTC as PrEP Since Their Last Negative HIV Test [b]		
Tenofovir alafenamide/emtricitabine *and* dolutegravir [a] (TAF 25 mg/FTC *and* DTG; Descovy *and* Tivicay)	• TAF/FTC should not be used in patients with CrCl <30 mL/min; re-evaluate after baseline laboratory testing results are available. • Documented DTG resistance after initiation in treatment-naive patients is rare. • Magnesium- or aluminum-containing antacids may be taken 2 hours before or 6 hours after DTG; calcium-containing antacids or iron supplements may be taken simultaneously if taken with food. • TDF may be substituted for TAF; TDF/FTC is available as a single tablet (brand name Truvada). • 3TC may be substituted for FTC; 3TC/TDF is available as a single tablet (brand name Cimduo).	A1

HIV Clinical Guidelines (hivguidelines.org)

HIV Management and Living with HIV: Opportunistic Infections and Comorbidities

hivinfo.nih.gov

- HIV and hepatitis B
- HIV and hepatitis C
- HIV and tuberculosis
- HIV and STIs
- HIV and cardiovascular disease
- HIV and renal disease
- HIV, immune activation, and chronic inflammation
- HIV and metabolic disease

CDC

Stigma Associated with HIV

What is HIV stigma? HIV stigma is negative attitudes and beliefs about people living with HIV (PLWH). Here are a few examples:

- Believing that only certain groups of people can get HIV
- Making moral judgments about people who take steps to prevent HIV transmission
- Feeling that people deserve to get HIV because of their choices

What is discrimination? While stigma refers to an attitude or belief, discrimination is the behaviors that result from those attitudes or beliefs. HIV discrimination is the act of treating people living with HIV differently than those without HIV.

Here are a few examples:

- A health care professional refusing to provide care or services to a PLWH
- Refusing casual contact with a PLWH
- Socially isolating a member of a community because they are HIV positive
- Referring to PLWH as HIVers or Positives

CDC

What are the effects of HIV stigma and discrimination?

- HIV stigma and discrimination affect the emotional well-being and mental health of PLWH. PLWH often internalize the stigma they experience and begin to develop a negative self-image. They may fear they will be discriminated against or judged negatively if their HIV status is revealed.
- “Internalized stigma” or “self-stigma” happens when a person takes in the negative ideas and stereotypes about PLWH and starts to apply them to themselves. HIV internalized stigma can lead to feelings of shame, fear of disclosure, isolation, and despair. These feelings can keep people from getting tested and treated for HIV.

What causes HIV stigma?

- HIV stigma is rooted in a fear of HIV. Many of our ideas about HIV come from the HIV images that first appeared in the early 1980s. There are still misconceptions about how HIV is transmitted and what it means to live with HIV today.
- The lack of information and awareness combined with outdated beliefs lead people to fear getting HIV. Additionally, many people think of HIV as a disease that only certain groups get. This leads to negative value judgements about PLWH.

Health Inequities in the HIV Treatment Sphere

"Scientific advances have transformed the course of HIV in individuals. To transform the course of the epidemic, we need to expand care and prevention strategically to those who need it most," said NIDA Director Nora D. Volkow, M.D. "That means taking a hard look at who has been excluded from services and take immediate steps to overcome systemic barriers like stigma, structural racism, and other forms of discrimination to connect hardly reached people — such as individuals with substance use disorders — with HIV testing, prevention, and treatment."

NIH

- Disparities in access to HIV prevention (PrEP), testing, and treatment lead to disparate engagement in care, adherence to treatment, and, ultimately, HIV outcomes
- Within the US, there are stark differences in the number of HIV diagnoses and HIV outcomes between geographical regions, ages, racial and ethnic groups, genders, and other marginalized groups
- Globally, the burden of HIV/AIDS has decreased over the past two decades, accompanied by a trend of narrowing cross-country inequalities of HIV/AIDS burden. Moreover, the burden of HIV/AIDS continues to fall primarily in low-income countries.

The Lancet, HIV in the USA
Deng, P, et al. BMC Public Health, 2023

Incorporating Primary Care for PLWH into Clinical Practice: Goals

- The standard approach to primary care is the same for patients with and without HIV. In addition to mainstays of primary care, there are unique considerations for patients with HIV, including treatment of HIV itself.
- Regardless of HIV treatment, however, when compared with individuals without HIV, the risk of many comorbidities, including metabolic conditions, transmissible infections, and cancers, is higher in people with HIV. In one study, PLWH had significantly fewer morbidity-free years than persons without HIV.
- The increased incidence of comorbid conditions is associated with several factors, some of which are HIV-specific, such as ongoing immune activation-associated risks; presumed medication-associated toxicities, such as accelerated bone density loss; duration of HIV viremia; and others, including increased rates of malignancy and HCV infection. Many of these conditions occur regardless of immune reconstitution and HIV stage, and long-term HIV survivors may face the burdens of concomitant conditions, medication-associated toxicity (particularly for those on or with prolonged exposure to early antiretroviral medications), and advanced aging.
- Regardless of viral suppression or CD4 count, HIV infection is associated with an increased risk of comorbidities related to persistent inflammation associated with the virus itself. ART reduces morbidity and mortality but can also contribute to comorbidities, such as weight gain and osteoporosis.

Primary Care for Adults With HIV - Clinical Guidelines Program (hivguidelines.org)
Marcus, JL, et al. JAMA Netw Open, 2020

Box 1: Conditions With Higher Incidence in People With HIV and Selected Citations

Metabolic Diseases

- Cardiovascular disease [Avgousti and Feinstein 2023; Silverberg, et al. 2022; Shah, et al. 2018; Drozd, et al. 2017]
- Osteoporosis [Chang, et al. 2021; Compston 2016]
- Thromboembolic events [Morales, et al. 2022; Rokx, et al. 2020; Malek, et al. 2011]
- Type 2 diabetes [McMahon, et al. 2018; Nansseu, et al. 2018; Monroe, et al. 2015]
- Renal disease [Cervantes and Atta 2023; Swanepoel, et al. 2018; Althoff, et al. 2015]
- Liver disease [Morales, et al. 2022; Soti, et al. 2018]

Malignancies

- AIDS-defining malignancies (e.g., Kaposi sarcoma, non-Hodgkin Lymphoma) [Guiguet, et al. 2009]
- Hepatocellular carcinoma [McGee-Avila, et al. 2024; Sun, et al. 2021; Pinato, et al. 2019]
- HIV-associated cancers (e.g., lung cancer, Epstein-Barr virus-associated lymphoma) [Yarchoan and Uldrick 2018]
- Human papillomavirus-related malignancies (e.g., anal cancer, cervical cancer, head and neck cancer) [Morales, et al. 2022; Clifford, et al. 2017; Brickman and Palefsky 2015; Machalek, et al. 2012]
- Non-AIDS-defining malignancies [Veyri, et al. 2021; Park, et al. 2016; Althoff, et al. 2015; Deeken, et al. 2012]

Infectious Diseases

- Hepatitis A virus [Bosh, et al. 2018; Penot, et al. 2018]
- Hepatitis B virus [Bosh, et al. 2018; Singh, et al. 2017]
- Hepatitis C virus [Bosh, et al. 2018; Graham, et al. 2001]
- Systemic viral illnesses (e.g., cytomegalovirus, Epstein-Barr virus, human herpesvirus-8, varicella-zoster virus, herpes simplex virus) [Yang, et al. 2024; Morales, et al. 2022; Gilbert, et al. 2019; Basso, et al. 2018]
- Fungal illness (e.g., candidiasis, aspergillosis, *pneumocystis jiroveci* pneumonia, coccidiomycosis, cryptococcosis) [Morales, et al. 2022; Cilloniz, et al. 2019; Limper, et al. 2017]
- Syphilis [Fujimoto, et al. 2018]; see CDC: Sexually Transmitted Infections Surveillance, 2022
- Tuberculosis [van Geuns, et al. 2024; Bruchfeld, et al. 2015]

Other

- Chronic obstructive pulmonary disease [Thudium, et al. 2023; Bigna, et al. 2018; Risso, et al. 2017]
- Neurocognitive impairment [Deng, et al. 2021; Cysique and Brew 2019; Tozzi, et al. 2007]
- Depression [Vollmond, et al. 2023; Nanni, et al. 2015]
- Frailty [Lellouche, et al. 2021; Verheij, et al. 2021; Kooij, et al. 2016; Greene, et al. 2015]

Primary Care for Adults With HIV - Clinical Guidelines Program (hivguidelines.org)

Incorporating Primary Care for PLWH into Clinical Practice: HIV-specific Components of Primary Care and Immunizations

- Patient education and encouragement regarding adherence to ART to maintain viral suppression
- Opportunistic infection prophylaxis
- Immunizations (note recommendations specific to PLWH, which may differ from those for adults without HIV)
- Monitoring for potential long-term effects of HIV and ART, such as bone density changes, hyperlipidemia, weight gain, renal dysfunction, and impaired cognitive functioning
- Identification and management of comorbidities that occur more often and at younger ages in PLWH, including atherosclerotic heart disease, non-HIV-related malignancies, renal disease, liver disease, COPD, neurocognitive dysfunction, depression, and frailty. Recent studies have found that smoking and hypertension contribute significantly to morbidity, regardless of HIV-related risk factors, such as CD4 cell count or viral load.
- Ongoing surveillance for transmissible infections (HCV, HBV, HPV and other STIs)
- Screening and treatment for substance use, including tobacco use
- Ongoing discussion and patient education regarding disclosure of HIV status, principles of U=U, PrEP and PEP for sex partners, and harm reduction strategies

☑ RECOMMENDATION

Immunizations

- Clinicians should follow the recommendations for routine vaccination of adults with HIV issued by the Centers for Disease Control and Prevention, the National Institutes of Health, the HIV Medicine Association, and the Infectious Disease Society of America, as presented here. (A3)

→ KEY POINTS: USE OF LIVE, ATTENUATED VACCINES

- **Individuals with CD4 count <200 cells/mm^3:** The following live, attenuated vaccines are **contraindicated:** Bacillus Calmette-Guérin; measles, mumps, rubella; oral typhoid; rotavirus; varicella; yellow fever; zoster.
- **Individuals with CD4 count ≥200 cells/mm^3:** Use live, attenuated vaccines only if an inactivated alternative is not available *and* the risk of disease is greater than the risk of vaccination.
- **Patient education:** Patients with HIV should avoid handling diapers of infants vaccinated against rotavirus in the previous 4 weeks, and all household members should wash their hands after changing diapers of an infant recently vaccinated against rotavirus. Those who lack varicella immunity should avoid direct contact with people who develop rash.

Immunizations for Adults With HIV - Clinical Guidelines Program (hivguidelines.org)

Primary Care for Adults With HIV - Clinical Guidelines Program (hivguidelines.org)
Althoff, KN, et al. Lancet HIV, 2019

Incorporating Primary Care for PLWH into Clinical Practice: HIV-specific Care for Older Adults (by age and long-term survivors)

→ GOOD PRACTICES

Approach to Aging in HIV Care

- Discussing the effects of aging with patients who have HIV and are ≥50 years old can help identify medical priorities and evaluate physical function. Such conversations may also prompt consideration of advance directives and help patients recognize the effects of age-associated stigma.
- Taking a proactive approach to aging to help prevent or slow functional and social decline.
- Becoming familiar with the many available screening tools and local and national services will help meet the needs of older patients with HIV.

Box 1: General Geriatric Screening Tools for Older Adults With HIV

- World Health Organization (WHO): Integrated care for older people (ICOPE): guidance on person-centered assessment and pathways in primary care
- NYSDOH HIV Quality of Care Program: Modified WHO ICOPE screening tool
- Vulnerable Elders Survey-13 (VES 13) [Saliba, et al. 2001]
- Medicare annual wellness visit:
  - Centers for Disease Control and Prevention: A Framework for Patient-Centered Health Risk Assessments
  - American College of Physicians: A Checklist for Your Medicare Wellness Annual Visit

→ GOOD PRACTICES

- Screening for frailty or functional decline can enable early identification of at-risk patients.
- Including nonpharmacologic measures, such as exercise, nutrition, and socialization is essential to a patient's physical and emotional health.
- Using a framework such as the geriatric 5Ms—mind, mobility, medications, multimorbidity, and matters most—can help inform the choice of screening tests or communicate geriatric concepts, but it is important that screening and assessment be performed with established tools that assess specific domains.
- Prioritizing treatment plans may help reduce the potential for polypharmacy in older patients with HIV who are being treated for multiple comorbidities.
- Evaluating medication lists at every clinical visit to eliminate unnecessary or toxic medications and to identify and mitigate potentially harmful drug-drug interactions will help minimize the effects of polypharmacy in older patients with HIV.
- Facilitating and simplifying access to care (e.g., arranging for a cardiologist to see a patient in the HIV primary care setting) and services as patients' care needs increase can improve overall adherence to and satisfaction with treatment.
- Having familiarity with the benefits and local sources of palliative care will help clinicians recognize and meet the needs of older patients who have HIV and other serious illnesses.
- Referring to a social worker or care coordinator can help older patients with HIV to transition from commercial insurance or Special Needs Plans (SNPs) to Medicare without experiencing a loss of services or medication coverage.

Conclusions: HIV and Primary Care

- HIV disproportionately affects some communities in the US (and in the world)
- HIV testing should be performed in all individuals 13 years and older; HIV testing should be a routine part of health care
- HIV treatment is prevention; HIV treatment is recommended for all PLWH; providers treating HIV should be well informed regarding HIV, including its potential complications and how to identify HIV resistance and choose an appropriate ART regimen; employ same day ART starts; inform patients regarding U=U as it is empowering and decreases internalized stigma
- Health inequities exist in multiple domains due to structural racism, implicit bias, and stigma
- Applying harm reduction principles, including trauma-informed care and low threshold access and prescribing, can decrease these inequities
- Educate all patients on HIV transmission and prevention and on appropriate harm reduction measures they can take to avoid acquisition and transmission; prescribe PEP and PrEP
- Primary care for PLWH can be incorporated into your clinical setting even if you are not the treating provider for the HIV care itself

Questions?

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CEI HIV CLINICAL TOOLS ORDER FORM (GOOGLE.COM)