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Counseling, screening, and therapy for newly-diagnosed HIV patients

Abstract: Newer testing methods, simplified treatment options, and advances in prevention have changed the way HIV is diagnosed and managed. This article reviews issues relevant for primary care clinicians and highlights the latest advances in HIV care and prevention. In addition, considerations for special populations are highlighted.

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Ms. M is a 26-year-old Black female law student who requests an HIV test as part of her routine well-woman exam. The nurse practitioner (NP) reviews the patient's history and risk factors. Ms. M's last HIV test was 3 years ago. She reports five male partners in the past 3 years. She does not consistently use condoms, and her past medical history is significant for chlamydia 5 years ago.

Change in HIV treatment

HIV treatment and management has significantly changed since the first antiretroviral was approved in 1987. With the availability of highly-effective antiretroviral therapy (ART), the number of individuals living with chronic HIV infection continues to rise while mortality from advanced HIV disease is on the decline.[1] Screening methodologies, treatment options, and HIV prevention strategies are continually evolving, helping improve the overall outcomes for people living with HIV (PLWH) and those at risk for infection.

Given the transition of HIV into a chronic disease, an increasing number of PLWH are receiving care as part of integrated primary care practices. It is imperative for primary care providers to be familiar with the latest HIV screening guidelines, initial clinical evaluation, and recommended treatment options for individuals diagnosed with HIV. This article reviews the latest changes to the HIV diagnostic algorithm, summarizes the current evidence-based treatment guidelines, highlights considerations for special populations, and discusses the most recent information on HIV prevention.

Epidemiology

According to the CDC, approximately 1.2 million individuals are living with HIV infection in the United States, with 1 in 7 individuals unaware of their status.[1] Globally, rates of new HIV infections declined 38% since 2001, while the annual number of new HIV infections in the United States has remained relatively stable.[2] The most heavily impacted populations affected by HIV in the United States are gay, bisexual, and other men who have sex with men (MSM).[1] As in previous years, Blacks carry the greatest burden of HIV—particularly MSM.[3,4] In 2012, 47% of the individuals who were diagnosed with HIV were Black.[4] In addition, the

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estimated number of deaths among Black PLWH was 1.5 times higher than Whites and 3.2 times higher than Hispanics.[4] Fortunately, the number of deaths declined among all race/ethnicity groups from 2008 to 2012.

From a public health perspective, there have been concentrated efforts to engage and retain racial and ethnic groups living with HIV infections in ongoing medical care to help reduce these health disparities.[3,4] Women, particularly women of color, are also disproportionately affected by HIV, and most are not in regular care. Additionally, women living with HIV can experience different clinical symptoms and complications.[5] Older individuals in the United States are another subgroup that merits special attention. Currently, nearly 20% of PLWH in the United States are 55 years or older.[6] However, with successes in HIV treatment and longer life expectancy, it is estimated that nearly 50% of PLWH will be 50 years or older by 2030.[6] Furthermore, individuals 50 years or older account for more than 50% of deaths associated with HIV, and HIV is considered one of the top 10 causes of death for men and women ages 50 to 54 in the United States.[6]

Pathophysiology and natural history

HIV is a single-stranded RNA virus that targets CD4 cells. CD4 cells play an integral role in immune protection against illness and disease. Following initial exposure to HIV, dendritic cells in the mucosal surface of the genital tract transport HIV into the lymphatic system where the virus targets and fuses to CD4 cells.[7] After fusion occurs, HIV inserts its RNA into the CD4 cell where it undergoes a process of reverse transcription. HIV RNA is transcribed into proviral DNA. From the proviral DNA, copies of HIV RNA are formed. An enzyme called protease cleaves the newly-formed HIV RNA strands into multiple RNA chains, which become individual virions capable of infecting new cells.[7] The host CD4 cell is destroyed once the new HIV virions are formed and released.

Approximately 2 to 4 weeks following initial infection, levels of circulating HIV rise significantly and are typically associated with a constellation of flu-like or mononucleosis-like symptoms, including fever, lymphadenopathy, myalgia, and rash.[8] This period is referred to as acute infection (or acute retroviral syndrome). Individuals are most infectious during this period.

Following acute infection, HIV continues to replicate, resulting in a gradual decline in CD4 cells. During this period, which may last 10 or more years, a person may remain relatively asymptomatic.[7] As more severe immune compromise develops (typically when the CD4 count drops to below 200 cells/mcL or cells per cubic millimeter [mm^3]), individuals become symptomatic and susceptible to opportunistic infections, such as *pneumocystis jiroveci* pneumonia (previously referred to as *Pneumocystis carinii* pneumonia or PCP). The goal of HIV treatment is to increase or maintain the CD4 cells and suppress HIV replication.

Testing and diagnosis

In a recent analysis, it was estimated that nearly 30% of new HIV infections are due to those who unknowingly transmit HIV.[3] Therefore, early identification of HIV infection is a critical component for both HIV treatment and prevention. Both the CDC and the U.S. Preventive Services Task Force (USPSTF) recommend HIV testing be incorporated as part of routine care for all adolescents and adults.[9,10] The CDC and the USPSTF guidelines differ slightly in the age recommendation for testing. The CDC recommends screening persons 13 to 64 years of age regardless of risk as part of routine healthcare.[9]

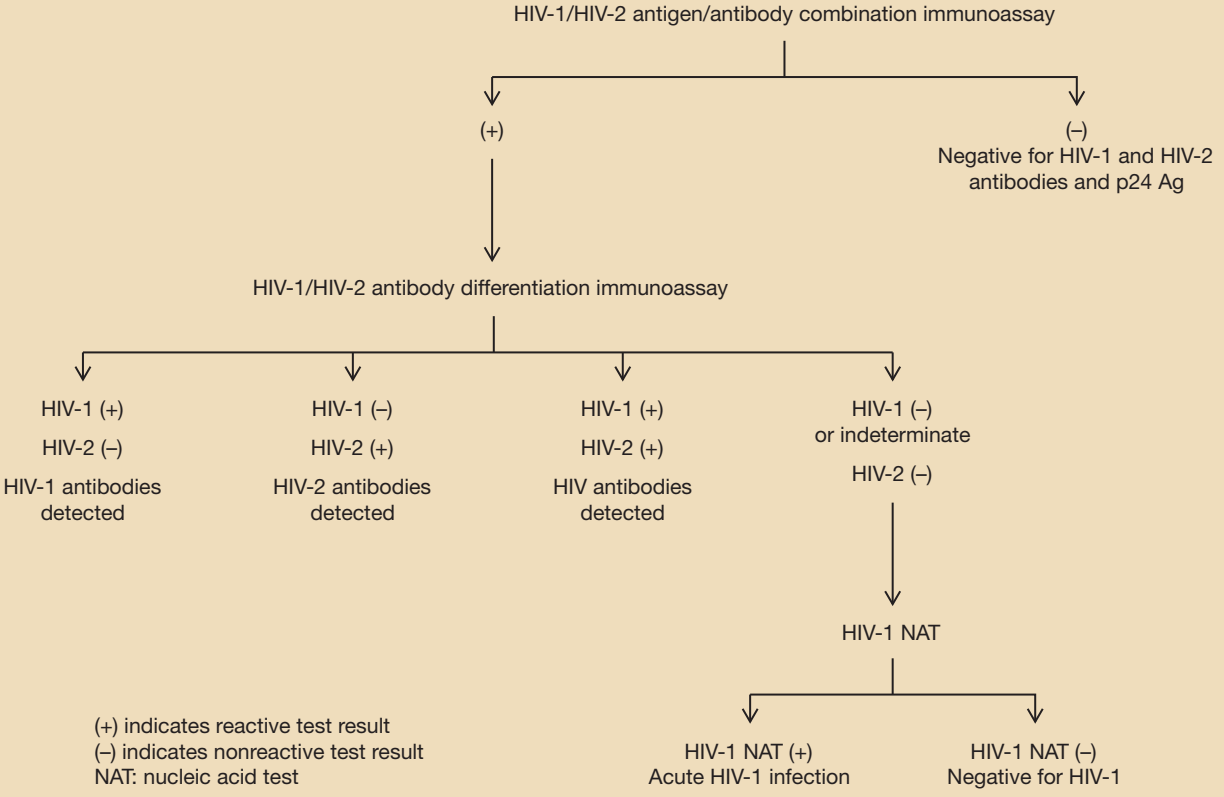
Early identification of HIV infection is a critical component for both HIV treatment and prevention.

Persons at high risk for HIV infection should be screened more frequently based on risk history. Women who live in areas where the prevalence of HIV is greater than 1.0%, pregnant women, and women who present in labor without evidence of a previous test should be screened for HIV. Previous recommendations focusing only on screening high-risk individuals missed a significant proportion of those infected. The USPSTF guidelines recommend persons 15 to 65 years of age to be screened along with any pregnant woman or woman presenting in labor whose HIV status is unknown.[10]

Advances in testing and diagnosis

Advances in diagnostic technology have improved the ability to detect HIV infection earlier than previous methods. Traditionally, HIV screening tests only detected antibodies to HIV, which can take several weeks or months to become detectable on a lab assay. The new 4th generation assays detect both antibodies as well as p24 antigen, a protein associated with HIV infection.[11] This combined antigen-antibody assay decreases the "window period" to approximately 2 weeks.[11] The window period refers to the

HIV testing algorithm using 4th generation HIV antibody-antigen assay



Centers for Disease Control and Prevention and Association of Public Health Laboratories. Laboratory Testing for the Diagnosis of HIV Infection: updated recommendations. stacks.cdc.gov/view/cdc/23447.
Credit: CDC

time from initial infection to detection of infection by lab testing. With a more sensitive assay, it is anticipated that individuals who may have been undiagnosed due to prolonged window periods will be identified earlier, allowing for more prompt treatment and initiation of care.

With the 4th generation assay, a new diagnostic algorithm has also been implemented (see *HIV testing algorithm using 4th generation HIV antibody-antigen assay*). With earlier generation HIV assays, a reactive HIV antibody test was confirmed with a Western blot test. However, in the new algorithm, initial reactive tests undergo confirmatory testing with an HIV-1/HIV-2 differentiation assay. The differentiation assay is a more sophisticated antibody test that can discern between HIV-1 and HIV-2.[11] HIV-1 is the most common strain in the United States, while HIV-2, a less virulent strain, is typically found in Africa. These two strains of HIV are treated and monitored slightly differently. The Western blot is unable to differentiate between HIV-1 and HIV-2 infection.

The more specific and faster differentiation assay improves the accuracy of HIV diagnosis. A reactive differentiation assay would confirm infection. Specimens are tested with nucleic acid testing (NAT) if the differentiation assay is nonreactive or indeterminate. A negative NAT would exclude HIV infection. A positive NAT would be diagnostic of acute HIV infection. Most commercial labs are now using 4th-generation testing; however, some still have 3rd-generation testing methodologies. It is important for clinicians to verify which generation HIV assay is being used in order to interpret and counsel patients appropriately.

Other testing methods currently available include rapid point-of-care tests, including an over-the-counter test that is available without a prescription.[11] Rapid tests provide results in 20 to 40 minutes. There is only one FDA-approved, rapid, point-of-care, 4th-generation assay currently available. Many point-of-care rapid tests use older generation technology. Therefore, it is important for clinicians to be cognizant of this information when interpreting results and counseling patients. Patients should be informed that the window period for rapid testing may differ from lab-based 4th-generation assays.

Recommended baseline lab testing for all individuals with newly-diagnosed HIV

- CD4+T cell count
- HIV RNA viral load
- HIV genotype
- Complete blood cell count
- Fasting blood glucose or HbA1C
- Aspartate aminotransferase, alanine aminotransferase, alkaline phosphatase, total bilirubin
- Hepatitis A, B, and C
- Creatinine, blood urea nitrogen, including estimated glomerular filtration rate
- Urinalysis
- Fasting lipid profile
- Gonorrhea, chlamydia, and syphilis testing
- Toxoplasma IgG
- Glucose-6-dehydrogenase
- Purified protein derivative or interferon gamma release assay

For women:
- Pregnancy test

For individuals who may be candidates for abacavir-containing regimens:
- HLA-B*5701[a]

[a] Persons with presence of HLA-B*5701 should not be given abacavir due to possibility of potentially fatal hypersensitivity reaction.

Source: Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. http://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-treatment-guidelines/0.

Case study (continued)

Ms. M's results were positive for HIV-1 infection. Her initial CD4+-cell count was 375 cells/mcL, and her HIV RNA was 78,000 copies/mL. A genotypic resistance test showed no significant HIV mutations and susceptibility to all classes of HIV ART. She is interested in starting treatment and feels that she will be able to take her medications on a regular basis. Her preference is for as few pills as possible, since she has never had to take a daily medication.

Initial diagnosis and clinical evaluation

The initial clinical evaluation following an HIV diagnosis plays a critical role in establishing a trusting relationship between patient and provider. Data have shown that of the 1.2 million PLWH in the United States, only 40% are connected with medical care, 37% receive ART, and 30% achieve an undetectable viral load.[12] Over the past several years, there has been significant emphasis on improving both the engagement of patients in HIV care as well as keeping them on treatment and having them follow up on a regular basis (often referred to as "retention in care"). One factor that has been associated with improved retention and engagement in care is a patient's perceived relationship with their provider.[13] Therefore, establishing a supportive and trusting relationship at the initial visit can increase the likelihood that a patient will remain in care.

Although HIV is no longer considered a fatal illness, the diagnosis of HIV infection can still be emotionally devastating for individuals. Individuals who are newly-diagnosed with HIV may experience a range of emotions, including fear, depression, isolation, or in some cases, relief. NPs should be prepared to offer unconditional, nonjudgmental support for patients. Mental health and social support services should be made available to patients who may need more extensive counseling following a new diagnosis.[14]

The initial health history should include a comprehensive assessment regarding risk factors for HIV infection, recent or previous signs or symptoms of acute HIV, any history of opportunistic or AIDS-related infections, and identification of behaviors or conditions that may impact treatment adherence, such as ongoing substance use or psychiatric illness.[14,15] Additionally, the patient's social history assessment should include level of support, risk of violence, level of personal safety, and assessment of financial and health resource needs.[14]

In addition to the traditional medical history typically performed for all patients (such as family history, surgical history, and social history), it is important to obtain an accurate medication history. Several of the recommended first-line ART regimens interact with over-the-counter and herbal supplements.[14]

The physical exam should assess for any evidence of possible opportunistic infections or common HIV-associated conditions, such as candidiasis, lymphadenopathy, evidence of any cardiopulmonary compromise, hepatic disease, or any genital infection or disease.[14,15]

Lab testing prior to initiating ART

Initial lab testing following a new diagnosis of HIV infection assists clinicians in determining the patient's degree of immunosuppression, need for opportunistic infection prophylaxis, and identifies which ART options are best suited for the patient (see *Recommended baseline lab testing for all individuals with newly diagnosed HIV*). A baseline CD4+ count determines the degree of immunosuppression and the need for opportunistic infection prophylaxis. The HIV RNA viral load, a direct measurement of the amount of circulating virus, is obtained at baseline and used to monitor response to ART. The goal of treatment is to get the viral load to the lowest level possible, often referred to as "undetectable."[16] This does not mean that a person is free from HIV infection but

Medications used for opportunistic infection prophylaxis

Opportunistic infection	CD4 threshold at which to initiate prophylaxis	Preferred prophylaxis
Pneumocystis jiroveci pneumonia (PCP)	<200 cells/mcL	Trimethoprim-sulfamethoxazole
Toxoplasmosis (for IgG-positive individuals)	<100 cells/mcL	Trimethoprim-sulfamethoxazole
Mycobacterium avium complex	<50 cells/mcL	Azithromycin

Source: U.S. Department of Health and Human Services HIV/AIDS Bureau. Guide for HIV/AIDS Clinical Care. 2014. http://hab.hrsa.gov/deliverhivaidscare/2014guide.pdf.
U.S. Department of Health and Human Services HIV/AIDS Bureau. Guide for HIV/AIDS Clinical Care. 2014. http://hab.hrsa.gov/deliverhivaidscare/2014guide.pdf.

rather that the viral load is below the limit of detection on lab assay.

HIV genotype assays are used to determine the drug resistance pattern of an individual's virus. Information from the genotype can assist clinicians in determining if a patient will be able to take certain types or classes of ART. Nearly 20% of individuals newly infected with HIV have some form of resistance to at least one class of ART.[16] Knowing the resistance pattern can assist the clinician in selecting an ART regimen that has full efficacy for the particular patient's strain of HIV.

Other baseline tests to consider include genetic testing for human leukocyte antigen (HLA)-B*-5701. One of the recommended first-line ART medications includes the nucleoside reverse transcriptase inhibitor, abacavir. This medication is known to cause a fatal hypersensitivity reaction. Patients who are HLA-B*5701 positive are the ones who are likely to have the hypersensitivity reaction. Individuals who test negative for HLA-B*5701 can safely be prescribed abacavir.[16] NPs considering the use of abacavir-containing regimens should obtain HLA-B*5701 testing prior to prescribing this medication.

If an individual is not started on ART right away, patients should still be monitored periodically (for example, every 3 months) to monitor their degree of immune suppression and the need to start opportunistic infection prophylaxis.[14] If an individual starts ART, patients are typically seen after the first 2 to 4 weeks to assess response to therapy, including adverse reactions, adherence, and tolerability.[15,16] Repeat viral load testing and other safety labs, such as renal and hepatic function, are also tested at this time. Once an individual achieves an undetectable viral load, patients can be monitored every 3 to 4 months. Persons who are stable on ART for at least 2 years can be monitored every 6 months.[16]

Opportunistic infection prophylaxis. Patients with CD4+ counts less than 200 cells/mcL are at risk for opportunistic infection. Prophylaxis against *pneumocystis jiroveci* pneumonia, toxoplasmosis, and *mycobacterium avium* complex should be started in those who meet specific CD4+ cell thresholds (See *Medications used for opportunistic infection prophylaxis*). Prophylaxis may be discontinued for some conditions once the CD4+ count is restored.[14]

Initial treatment options

The Department of Health and Human Services and the International Antiviral Society—USA publish evidence-based guidelines for the treatment of HIV. These guidelines are updated periodically to reflect the most current evidence for initial ART (see *Initial antiretroviral regimens for treatment of HIV*). Both guidelines recommend treatment for all persons infected with HIV, not only to prevent or reduce the likelihood of HIV-associated morbidity and mortality but also to prevent transmission of disease.[16,17]

If an individual is not started on ART right away, patients should still be monitored periodically.

Treatment is targeted at interrupting the HIV replication cycle. Current classes of ART approved by the FDA to treat HIV include nucleoside and nucleotide reverse transcriptase inhibitors (NRTIs), nonnucleoside reverse transcriptase inhibitors (NNRTIs), integrase strand transfer inhibitors (INSTIs), protease inhibitors (PIs), entry inhibitors, and fusion inhibitors.

Initial ART regimens consist of a combination of at least three different drugs from two different classes. All first-line medications include at least two drugs from the NRTI

Initial antiretroviral regimens for treatment of HIV

Medication combination	Available as single-tablet regimen?	Comments	Evidence-based rating*
Recommended regimen options			
dolutegravir + abacavir + lamivudine	Yes	Use only in patients who are HLA-B*5701 negative.	***AI***
dolutegravir + tenofovir + emtricitabine	No	May cause modest rise in creatinine due to inhibition of creatinine excretion.	***AI***
elvitegravir + cobicistat + tenofovir + emtricitabine	Yes	May cause modest rise in creatinine due to inhibition of creatinine excretion. Do not initiate in patients with baseline creatinine clearance (CrCl) <70 mL/min. Discontinue if CrCl <50 mL/min.	***AI***
raltegravir + tenofovir + emtricitabine	No	Twice-daily dosing	***AI***
darunavir + ritonavir + tenofovir + emtricitabine	No	No significant interactions with proton pump inhibitors or Histamine 2-receptor antagonists (H2 blockers).	***AI***
Alternative regimen options			
atazanavir + ritonavir + tenofovir + emtricitabine	No	Atazanavir associated with scleral icterus, nephrolithiasis, cholelithiasis, and chronic kidney injury. Drug-drug interactions with proton pump inhibitors and H2 blockers.	***BI***
efavirenz + tenofovir + emtricitabine	Yes	May cause central nervous system adverse reactions, including increased depression, dizziness, vivid dreams. Recommended to take at night.	***BI***
rilpivirine + tenofovir + emtricitabine	Yes	Do not use in patients with baseline viral load >100,000 copies/mL or CD4 count ≤200 cells/mcL. Contraindicated with proton pump inhibitors. Must be taken with at least 400 calories of food.	***BI***

*Evidence Grade (***AI***): Strong Recommendation with data from one or more randomized trials with clinical outcomes and/or validated lab endpoints. (***BI***): Moderate Recommendation with data from one or more randomized trials with clinical outcomes and/or validated lab endpoints.

Source: Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Department of Health and Human Services. http://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-treatment-guidelines/0.

class.[16,17] The two "backbone" NRTIs are tenofovir paired with emtricitabine or abacavir paired with lamivudine. The third agent comes from one of the other classes of drugs (INSTIs, PIs, or NNRTIs). Entry and fusion inhibitors are not recommended for initial ART.

Considerations when selecting an initial regimen

The efficacy of all recommended ART options is relatively similar. The choice of treatment should be based on several factors, the primary factor being baseline drug resistance.[15] If drug resistance is noted on a genotype, then drug choices should be tailored in order to provide the patient with a regimen that has the highest efficacy possible. If there is no drug resistance to first-line ART regimens, then secondary issues should be considered.[16,17]

Other issues that should be considered when selecting an initial ART regimen include: baseline HIV RNA viral load; use of other medications that may alter drug metabolism; comorbidities, such as cardiovascular disease, chronic viral hepatitis, and kidney disease; patient preference regarding pill burden; dosing frequency; and adverse reactions. Both guidelines emphasize that patients should be assessed for readiness and ability to adhere to medications prior to starting.[16,17] Inconsistent adherence and nonadherence can lead to drug resistance and limit future treatment options.

To simplify treatment, four single-tablet regimens are currently FDA approved for the treatment of HIV.[16,17] These single-tablet regimens contain a complete 3- or 4-drug ART regimen in one pill that is taken only once daily. In addition to decreased pill burden, single-tablet regimens can improve adherence by minimizing the possibility of a patient inadvertently missing a component of a multidrug regimen. Not every individual qualifies for a single-tablet regimen. As noted earlier, factors such as drug resistance, comorbidities, and use of other medications may limit the use of single-tablet regimens for some individuals.

Case study: A final look

After reviewing Ms. M's baseline lab information and preference for as few pills as possible, the NP started the patient on a single-tablet integrase inhibitor-based regimen. After 4 weeks, the patient's repeat viral load was less than 20 copies/mL, and her renal and hepatic function studies were stable. At her follow-up visit, Ms. M appeared to be coping well emotionally to her diagnosis. The NP provided support and education on the importance of continued adherence to treatment, reinforced the need for routine follow-up and monitoring of her viral load and CD4+ count, and discussed strategies to prevent transmission of HIV, including counseling and education regarding safer sex.

Considerations for certain populations

With the growing trend of people living longer with HIV, the number of older adults with HIV is expected to increase significantly over the next 20 years.[6,18] Although many of these individuals will have been diagnosed at an earlier age, older adults are at risk for new HIV infection. Currently, about 5% of all new infections occur in persons older than 55.[6] In addition, older adults are diagnosed with more advanced stages of immune suppression. Recent data found that persons age 50 years and older were more likely to progress to AIDS within 12 months of diagnosis compared with younger adults.[6,18]

The risks of HIV are similar for older adults as for younger adults. Sexual transmission remains the most common mode of transmission in older adults. Some of the other unique challenges that have been identified include lack of knowledge regarding HIV transmission and prevention.[18] Older adults who are widowed or divorced may be unaware of safer sex practices and feel uncomfortable discussing these issues with others.[18] Older women may be less likely to use condoms because the risk of pregnancy is not an issue. In addition, vaginal dryness associated with menopausal changes may result in more tissue trauma during sex, which can facilitate transmission of HIV as well as other sexually transmitted infections (STIs).[18]

Other considerations for older adults relate to selection of ART due to the greater likelihood of comorbid chronic disease, such as cardiovascular disease, diabetes mellitus, and chronic kidney disease.[18] As stated earlier, these comorbidities may require consideration when selecting initial ART due to risk of toxicity or exacerbation of other comorbid conditions.

Young MSM. For young MSM, particularly those from racial and ethnic minorities, HIV infection rates are disproportionately higher than other sub-populations. Reasons for these disparities are multifactorial and include lower risk perception and use of condoms, lower likelihood of HIV testing, infection with multiple STIs, and substance use.[19] Research on the behaviors of young MSM has found that many young MSM reported little concern regarding HIV infection, and were unlikely to use protective measures to minimize their risk of infection.[19] Furthermore, younger MSM are more likely to experience higher rates of depression, isolation, and stigmatization, placing them at high risk of engaging in behaviors that place them at higher risk of HIV, including unprotected sex and injection drug use.[16,19] Being aware of these issues is important when caring for young MSM. Clinicians may need to address other psychosocial needs and utilize additional support services in order to effectively engage this population and assist them with adherence to therapy.

Women. One significant consideration for women in the United States living with HIV is barriers to care. According to the Henry J. Kaiser Family Foundation, some of the structural barriers that keep women from getting the services they need are poverty, cultural inequities, and sexual violence.[5] Moreover, women often place the needs of their families above their own, thus delaying or ignoring care.[5]

Healthcare systems must be able to adapt to the needs of populations at greatest risk for and disproportionately affected by HIV.

Once infected, other health problems that affect women can be harder to treat and more complicated than in a healthy person. These include vaginal infections, STIs, pelvic inflammatory disease, pneumonia, human papillomavirus, and other opportunistic infections that affect the eyes,

digestive tract, kidneys, lungs, skin, and the central nervous system.[16,20]

Women who are pregnant at the time of diagnosis should be started on ART as evidence has shown that the risk of mother-to-child transmission is significantly reduced in women who have an undetectable viral load.[16,21] Pregnant HIV-infected women should be referred to a specialist familiar with monitoring and managing pregnancy in the setting of HIV infection.[16,21]

Patient education and prevention

As part of comprehensive care, providers should incorporate ongoing patient education as part of primary care visits. Given the chronic nature of HIV, it is important to reinforce the benefits of exercise, maintaining a healthy weight, tobacco cessation, and adherence with other age-related preventive screening interventions—such as cervical cancer screening, mammography, colonoscopy, and immunizations.[14,15] Part of ongoing patient education also includes counseling and education regarding HIV transmission prevention. One of the most effective ways to prevent or minimize risk of transmission is to insure that a patient's viral load remains undetectable.[14,16] Data have shown the risk of transmission of HIV in patients who have an undetectable viral load is low.[14,15] In addition, it is important for PLWH to protect themselves from other infections that may complicate or exacerbate HIV infection, such as infection with chronic viral hepatitis.

In 2014, the CDC implemented a published report advocating interventions that reduce infectiousness and strategies that reduce the risk of exposure. Strategies that reduce infectiousness focus on helping patients achieve an undetectable viral load, identification and treatment of concurrent bacterial and viral STIs, and pregnancy. Strategies that reduce the risk of exposure focus on sex partners, persons who share drug-injection equipment, and the fetus and infants of women with HIV.[22]

For PLWH who have HIV-uninfected partners, it is important to inform both patients and their partners (if possible), regarding two interventions that are available to prevent or reduce the risk of HIV infection.[14] Nonoccupational postexposure prophylaxis (nPEP) and preexposure prophylaxis (PrEP) are two interventions currently available for HIV-uninfected persons. For nPEP, individuals who experience a high-risk exposure are started on ART (tenofovir/emtricitabine with raltegravir) for a time-limited period.[14] Persons must start nPEP as soon as possible (up to 72 hours) following a high-risk exposure. Persons remain on nPEP for 28 days and are monitored for HIV infection for several months following completion of therapy.[14]

For HIV-uninfected persons at ongoing risk, such as persons who are in an ongoing sexual relationship with a PLWH, the CDC now recommends HIV PrEP.[23] This is a strategy where HIV-uninfected individuals take ART on a daily basis to prevent infection. Tenofovir/emtricitabine is FDA approved for use as PrEP.[23] Newer data have consistently shown that this intervention is effective in MSM, heterosexual couples, and injection drug users. Individuals who are placed on PrEP are monitored at least every 90 days for HIV and other STIs.[23]

Implications for NPs

As new advances in HIV prevention and care evolve, healthcare systems must be able to actively engage, retain, and adapt to the needs of populations at greatest risk for and disproportionately affected by HIV. The need for NPs able to provide comprehensive care to PLWH and those at risk for HIV infection will continue to rise. NPs are in an ideal position to provide access to quality care to these populations, as they can play a key role in the identification and diagnosis of new HIV infection, provide supportive care for persons newly diagnosed with HIV, and educate those who are both living with HIV and those at risk for HIV on ways to stay as healthy as possible. NP

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