

# 2018 DISTRICT OF COLUMBIA MEDICAL LICENSURE PROGRAM

TARGETED SERIES OF CME FOR LICENSE RENEWAL



**PROGRAM  
INCLUDES:**

**2 HOURS  
LGBTQ CULTURAL  
COMPETENCY (NEW)\***

**3 HOURS  
HIV/AIDS**

**\*NEW CME REQUIREMENT:** Health Occupations Licensees are required to complete a new LGBTQ Cultural Competency training requirement as a condition of renewal. **See inside for details.**

**DC.CME.EDU**



Informed is Accredited With Commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

# 2018 DISTRICT OF COLUMBIA

**01 HIV/AIDS UPDATE FOR HEALTHCARE PROFESSIONALS**  
COURSE ONE | 3 CREDITS\*

**38 LGBTQ CULTURAL COMPETENCY**  
COURSE TWO | 2 CREDITS+

**65 SELF-ASSESSMENT & EVALUATION SURVEY**  
REQUIRED TO RECEIVE CREDIT

\* Completion of this course satisfies the three (3) credit HIV/AIDS requirement.  
+ Completion of this course satisfies the two (2) credit LGBTQ Cultural Competency requirement.

## GETTING STARTED. . .

**Select** which course you wish to complete

**Answer** the test questions following each course

**Submit** your answers through one of the convenient methods

**Input** your customer information, payment method and answer the evaluation questions

**Receive** course certificate & accredited credits to save, print and e-mail

**\$55.00**

**COURSE PRICE**

Take advantage of  
**FREE ACCESS, FREE CREDITS**

**directus** Earn *AMA PRA Category 1 Credits™* for internet point of care

Participants receive free use of this application. See page 63 for more details.

## TURNING IT IN. . .

**ONLINE**



dc.cme.edu

**MAIL**



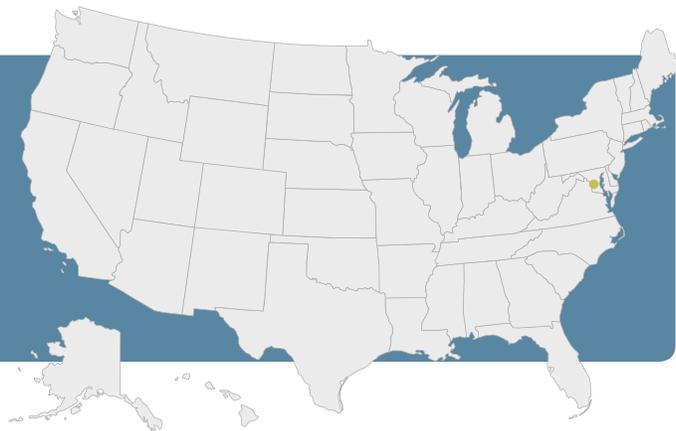
1649 Atlantic Blvd #100  
Jacksonville, fl 32207

**FAX**



f. 1.800.647.1356

# INFORMED TRACKS WHAT YOU NEED, WHEN YOU NEED IT



## District of Columbia Professional License Requirements

### PHYSICIANS (MD/DO)

Per D.C. Municipal Regulations (§ 4614.2): Physicians actively practicing medicine in the District of Columbia shall submit proof of having completed fifty (50) American Medical Association Physician Recognition Award (AMA/PRA) Category I hours of Board of Medicine approved continuing education credit during the two-year period preceding the date the license expires.

### PHYSICIAN ASSISTANTS

Per D.C. Municipal Regulations (§ 4906.4): An applicant for renewal of a license to practice as a physician assistant shall submit proof pursuant to § 4906.7 of having completed during the two-year (2) period preceding the date the license expires; approved continuing medical education as follows:

- (a) Forty (40) hours of credit in continuing medical education meeting the requirements of Category 1, as specified in § 4907.2; and
- (b) Sixty (60) hours of credit in continuing medical education meeting the requirements of either Category 1 or Category 2, as specified in § 4907.2 or § 4907.3.

### MANDATORY CME REQUIREMENTS

#### HIV/AIDS

Unless exempted, Code of the District of Columbia (§ 3-1205.10) requires that any continuing education requirements for the practice of medicine and physician assistants include three (3) credits of instruction on the Human Immunodeficiency Virus ("HIV") and the Auto Immune Deficiency Syndrome ("AIDS").

#### LGBTQ CULTURAL COMPETENCY (NEW)

Unless exempted, D.C. Law 21-95 requires that any continuing education requirements for the practice of any health occupation licensed, registered, or certified by a Health Occupation Board include two (2) credits of instruction on cultural competency or specialized clinical training focusing on patients who identify as lesbian, gay, bisexual, transgender, gender nonconforming, queer, or question their sexual orientation or gender identity and expression ("LGBTQ"). The instruction required shall, at a minimum, provide information and skills to enable a health professional to care effectively and respectfully for patients who identify as LGBTQ.

#### WHAT DOES THAT MEAN FOR YOU?

- License Renewals (MD/DO/PA):
- **3 Hours** of HIV/AIDS
  - **2 Hours** of LGBTQ Cultural Competency



**LICENSE TYPES**  
Physicians (MD/DO)  
Physician Assistants (PA)



Next Renewal Date:  
**12/31/18**

**Department of Health**  
**Board of Medicine**  
899 North Capitol Street, NE  
Washington, DC, 20002  
P : (877) 672-2174

**Disclaimer:** The following information is provided by InforMed and is intended to summarize state CE/CME license requirements for informational purposes only. This is not intended as a comprehensive statement of the law on this topic, nor to be relied upon as authoritative. All information should be verified independently.

## ABOUT US

InforMed is a continuing medical education (CME) company that offers high level education activities to physicians and health care professionals across the United States. With over 45 years of professionals experience in health care education, we provide mandatory CME activities to health care professionals as a means of updating knowledge, improving competencies and fulfilling the requirements of license renewal.

Dear District of Columbia Medical Professional,

InforMed is pleased to offer this collection of CME activities for health care professionals licensed by the District of Columbia. This uniquely tailored curriculum is designed to promote a learning experience customized to the educational needs of the District of Columbia medical professional. Participants can earn up to 5 *AMA PRA Category 1 Credits™* through these self-directed, on-demand courses.

This CME series is designed to streamline the education requirements for individuals licensed by the District of Columbia Board of Medicine. Licensees who complete this program optimize their learning path while satisfying professional credentialing requirements for three (3) credit hours in HIV/AIDS and two (2) credit hours in Cultural Competency for LGBTQ patients. All activities are independently sponsored by InforMed Continuing Medical Education without commercial support.

Thank you for choosing InforMed as your CME provider. Please do not hesitate to contact us with any questions, concerns or suggestions.

-InforMed CME Team

## COMPLETION INSTRUCTIONS

- **ONLINE:** Visit [DC.CME.EDU](http://DC.CME.EDU), select NETPASS to begin.
- After receiving a passing score on the test(s), claim your credit and print your verified certificate.



[DC.CME.EDU](http://DC.CME.EDU)

- **MAIL:** Use the enclosed envelope to mail self-assessment answer sheet, course evaluations and payment information to InforMed. If the envelope has been misplaced, please mail to the following address:



1649 Atlantic Blvd. #100  
Jacksonville, FL 32207

- **FAX:** Fax self-assessment answers, course evaluation and payment information. Scores of 70% or higher will receive a verified certificate. For answers submitted via fax, please allow us 24 hours to process your request.



f: 1.800.647.1356

# HIV/AIDS UPDATE FOR HEALTHCARE PROFESSIONALS

COURSE DATES:	MAXIMUM CREDITS:	FORMAT:
Release Date: 05/2018 Exp. Date: 04/2021	3 AMA PRA Category 1 Credits™	Enduring Material (Self Study)

## TARGET AUDIENCE

This course is designed for all physicians (MD/DOs), physician assistants, and nurse practitioners.

## COURSE OBJECTIVE

The purpose of this course is to educate healthcare providers in recognizing, preventing, and managing HIV infection in their clinical practice.

## **HOW TO RECEIVE CREDIT:**

- Read the course materials
- Complete the self-assessment questions at the end. A score of 70% is required.
- Return your customer information/ answer sheet, evaluation, and payment to InforMed by mail, phone, fax or complete online at course website under NETPASS.

## LEARNING OBJECTIVE

**Completion of this course will better enable the course participant to:**

1. Identify the key steps in the process of HIV infection and pathogenesis.
2. Describe the US Preventive Services Task Force (USPSTF) recommendations for routine screening for HIV infection
3. Discuss the role of antiretroviral therapy (ART) and the application of guidelines to the management of treatment-naïve HIV-infected patients.
4. Describe the preferred antiretroviral therapy regimens for first-line use in antiretroviral-naïve HIV-infected patients.
5. Describe current recommendations for postexposure prophylaxis (PEP) of HIV infection.
6. Explain the appropriate use of preexposure prophylaxis (PrEP) for prevention of HIV infection.
7. Discuss the goals of the culturally and linguistically appropriate services (CLAS) standards in the provision of healthcare services.
8. Identify key considerations in the management of unique populations of HIV-infected individuals.

## ACCREDITATION STATEMENT:

InforMed is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

## DESIGNATION STATEMENT:

InforMed designates this enduring material for maximum of 3 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

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MSN, WHNP-BC, NP-C

## **DISCLOSURE OF INTEREST:**

In accordance with the ACCME Standards for Commercial Support of CME, Informed implemented mechanisms, prior to the planning and Implementation of this CME activity, to identify and resolve conflicts of Interest for all Individuals in a position to control content of this CME activity.

## **FACULTY/PLANNING COMMITTEE DISCLOSURE:**

The following faculty and/or planning committee members have indicated they have no relationship(s) with industry to disclose relative to the content of this CME activity:

- Elizabeth Thomas, MSN, WHNP-BC, NP-C
- Steve McGuire, MA

The following faculty and/or planning committee members have indicated they have relationship(s) with industry to disclose:

W. David Hardy, MD has received research support and/or honoraria as an investigator/advisor from AMGEN, Cytodyne, Gilead, Janssen, Merck, Viiv Healthcare and Theratechnologies.

## **STAFF AND CONTENT REVIEWERS:**

InforMed staff and any content validation reviewers involved with this activity have reported no relevant financial relationships with commercial interests.

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## **COURSE SATISFIES**



### **SPECIAL DESIGNATION**

This course satisfies three (3) credit hours in the area of HIV/AIDS required by the DC Board of Medicine and in accordance with DC law 19-156.

Physicians and physician assistants licensed in the District of Columbia must complete three (3) credit hours of instruction of the Human Immunodeficiency Virus (HIV) and Autoimmune Deficiency Syndrome (AIDS) for license renewal.

## What is an HIV Specialist?

### Introduction

Many healthcare practitioners, as well as HIV-positive individuals, may be surprised to learn that there is no dedicated board certification for HIV treatment. Nor is there general agreement about what the requirements to be an HIV specialist should be. Two HIV professional associations have published their own definitions (neither group is an official subspecialty board):

The HIV Medicine Association (HIVMA) lists 3 suggested categories to be a “qualified HIV physician,” stipulating that a clinician should meet the criteria in all 3 categories:

- Patient management: Management of  $\geq 25$  HIV-infected patients in the preceding 36 months.
- Continuing medical education:  $\geq 40$  hours of HIV-related continuing medical education in the preceding 36 months, earning a minimum of 10 hours per year.
- Board certification or significant clinical experience: Board certification or equivalent in  $\geq 1$  medical specialties or subspecialties is preferred. Significant clinical and professional experience in HIV medicine, defined as  $\geq 5$  years, should be considered in the absence of board certification.
- Recently trained or recertified infectious disease (ID) physicians should be considered qualified HIV physicians within 36 months of completing certification or recertification. However, ID physicians who continue to provide long-term care for HIV-infected patients should meet the criteria above beginning 36 months after certification or recertification in order to continue to be considered a qualified HIV physician.

The American Academy of HIV Medicine (AAHIVM) also indicates 3 categories of requirements to be eligible to take the HIV Specialist™ credentialing exam to receive the designation HIV Specialist™:

- Licensure: Current, valid MD, DO, physician assistant (PA), or nurse practitioner (NP) state license.
- Experience: Provide direct, ongoing care to  $\geq 20$  HIV patients within the 24 months preceding the date of application. (Providers with  $< 20$  regular HIV patients may still apply by selecting “1-19” as their patient count on the application. Once approved, the “lower-volume” applicant is then paired with a local, experienced Academy-credentialed member.)
- Education: Complete  $\geq 45$  credits of HIV-related Category 1 CME/CEU/CE within the 24 months preceding the date of application. Acceptable substitutions: Certain training

programs, HIV-specific fellowships, lecturing, and other types of educational activity are acceptable, with explanation.

- Successful completion of the AAHIVM HIV Specialist™ credentialing exam

### Patient Outcomes by Practitioners’ Experience

The correlation between greater clinician experience in managing HIV patients and the likelihood of better clinical outcomes for patients has been studied and well-established for many years. Studies have shown improved clinical outcomes when practitioners with experience and training in managing HIV infection are involved in the care of HIV-infected individuals. Expert management can significantly influence survival, lower the risk of opportunistic infections (OIs), decrease the risk of antiretroviral therapy (ART) adverse effects, and decrease the risk of drug-drug interactions. Early and appropriate ART not only benefits the HIV-infected individual, but it also reduces transmission in the communities to which those patients belong.

The development of single-tablet, highly effective, and easily tolerated antiretroviral regimens has significantly simplified HIV management for most patients. However, that has not yet led to a situation in which practitioners with little or no experience in working with HIV-infected individuals can achieve patient outcomes that are comparable to those achieved by practitioners with wide experience in HIV management. Several studies have compared the clinical outcomes of HIV patients managed by nonspecialist clinicians with those managed by clinicians with more extensive experience in managing HIV disease.

In a 2005 survey of 177 physicians managing 5,247 HIV-positive patients, 58% were general medicine physicians (“generalists”) and 42% were ID specialists. Of the generalists, 63% (37% overall) considered themselves expert in HIV care. The researchers found that ID physicians and expert generalists had similar patient outcomes, but nonexpert generalists delivered lower-quality care. More than 80% of the patients being cared for by ID physicians and expert generalists were receiving ART, compared with 73% of patients of nonexpert generalists. Physicians with  $< 20$  HIV patients had fewer patients on ART (73% vs 82% of physicians with  $\geq 20$  such patients) and saw those patients less frequently. The authors concluded that their findings suggest that generalists with appropriate experience and expertise in HIV care can provide high-quality care to their patients.

In an analysis of 267 HIV-positive illicit drug users who began ART, Sangsari and colleagues found that 227 (85%) achieved undetectable viral load (HIV RNA  $< 500$  copies/mL) during the study period.

When evaluating the association between physician experience and the likelihood that a patient would achieve undetectable viral load, greater physician experience was independently associated with the probability of attaining virologic suppression. In addition, the researchers reported that the median time to achieve undetectable plasma HIV-1 RNA  $< 500$  copies/mL for patients treated by physicians who had managed  $< 22$  patients previously was 9.5 months, compared with 6.2 months for physicians who had managed 22 to 81 patients, and 3.0 months for physicians who had treated  $> 81$  patients.

In a study of 514 HIV-infected inmates, Young and colleagues compared a range of patient outcomes in these patients managed by onsite correctional physicians without subspecialty training vs outcomes in 687 inmates managed by HIV subspecialty clinicians via telemedicine. The proportion of patients who achieved virologic suppression during the first 6 visits was significantly greater in the patients managed by telemedicine (91.1% vs 59.3%), even when removing all participants who already had undetectable viral load at the first visit (75.8% vs 23.0%). The telemedicine group also had significantly greater virologic suppression regardless of baseline CD4+ T-cell count.

In another important outcome, the telemedicine group had a lower mean community viral load (CVL)—an aggregate measure of a community’s viral burden over a specific time that is sometimes utilized as an indicator of a community’s level of infectiousness and transmission probability—during the first 6 visits (89.5 copies/mL vs 206 copies/mL). Although there was no difference in baseline mean CD4+ T-cell counts between the groups, the overall mean CD4+ T-cell count was significantly higher in the patients managed in the subspecialty telemedicine clinic (527.9 cells/mm<sup>3</sup> vs 491.6 cells/mm<sup>3</sup>), indicating a greater CD4+ T-cell increase for those managed via specialty telemedicine.

### HIV Knowledge and Practice among Nonspecialists

A variety of studies have sought to shed light on the degree of knowledge about HIV screening, prevention, and treatment held by nonspecialist healthcare practitioners. This information can help public health officials and professional medical associations develop policies and educational approaches to enhance HIV diagnosis, link individuals to care, and optimize clinical outcomes for HIV-infected patients.

## **Stigma**

In 2010, the US National HIV/AIDS Strategy for the United States urged that, “The United States will become a place where new HIV infections are rare, and when they do occur, every person, regardless of age, gender, race/ethnicity, sexual orientation, gender identity, or socioeconomic circumstance, will have unfettered access to high quality, life-extending care, free from stigma and discrimination.”

However, stigma toward HIV-positive persons among healthcare providers still represents one of the barriers to achieving optimal patient outcomes—e.g., HIV testing, medication adherence, and continuation in care. One study of attitudes among medical professionals in Los Angeles between 2003 and 2006 reported that 56% of skilled nursing staff, 26% of cosmetic surgeons, and 47% of obstetricians refused to provide any services to HIV-positive persons regardless of disease state. In a survey of 651 healthcare workers (60% white; 83% female) in 2 states that are among those with the highest HIV incidence rates, Alabama and Mississippi, Stringer and colleagues reported that several factors were independently associated with stigmatizing attitudes: Protestant compared with other religions, white race compared with other races, type of clinic, availability of postexposure prophylaxis (PEP), and perceptions of policy enforcement (ie, policies not enforced).

The authors offer several conclusions and recommendations for reducing HIV stigma in clinical settings. Reduction efforts, they suggest, may be particularly necessary at clinics that provide sexually transmitted infection (STI) services and HIV testing. In terms of the clinics' physical environment, it is important that workers feel that they have the supplies and equipment required to prevent occupational HIV transmission—e.g., sufficient access to gloves, sharps containers, and PEP helps to reduce stigma arising from fear of HIV transmission. In addition, policies that protect HIV-positive individuals should be developed and enforced.

## **HIV Testing Knowledge**

To better understand the relatively high percentage of undiagnosed HIV infections and late linkage to care (i.e., patients with more advanced HIV disease), British investigators conducted an online survey of the knowledge, attitudes, and practice of non-HIV-specialist physicians regarding HIV testing in 2 regions with low HIV prevalence. The outcomes included recognition of recommended clinical indications for HIV testing and perceived barriers to performing HIV tests more routinely. The authors reported that:

- 43.7% of 119 respondents correctly identified the recommended indicators for HIV testing and 47.9% cited a low prevalence of HIV as a barrier to routine testing.
- 88% of 60 consultant physicians (senior hospital-based physicians) were unaware of current guidelines on testing for HIV.

To increase awareness of current guidelines on HIV testing and to reduce barriers to testing, the researchers recommended improving distribution of guidelines, along with education that targets perceived barriers to HIV testing.

## Barriers and Facilitators

White and colleagues conducted 18 in-depth interviews with primary care physicians (PCPs) on their perceptions of barriers and facilitators to implementing routine HIV testing in North Carolina, categorizing responses into 5 groups: policy, community, practice, physician, and patient. Lack of universal reimbursement was identified as the major policy barrier. Physicians reported HIV stigma, socially conservative communities, lack of confidentiality, and rural geography as community barriers. Physicians believed public HIV testing campaigns would legitimize testing and decrease community stigma. They cited time constraints and competing clinical priorities as physician barriers that could be overcome by delegating testing to nursing staff. Patients' HIV test refusal, low perceived risk for HIV infection, and stigma were reported as patient barriers. Physicians recommended adoption of routine HIV testing for all patients to facilitate and destigmatize testing. Based on these findings, the researchers recommended multilevel approaches to enhance routine HIV testing in primary care settings.

Another survey of 180 physicians in Houston reported that:

- One third of physicians faced  $\geq 1$  interpersonal barriers to HIV testing, such as a difference in age or language.
- 41% faced  $\geq 1$  intrapersonal barriers, such as believing their patients would feel uncomfortable about discussing HIV.
- 71% of physicians would prefer that their patients ask to be tested for HIV.

## Support for PCPs

With many more individuals receiving health insurance coverage following passage of the Affordable Care Act in 2010, HIV-infected patients will increasingly be cared for by PCPs, many of whom lack the experience to deliver full-spectrum HIV care. To assess PCPs' preparedness to care for these individuals, Barnes and colleagues interviewed 20 PCPs from community health centers (CHCs) in California, inquiring about their experiences with HIV, their strategies for dealing with unfamiliar aspects of medicine, and their

management of complicated patients. The authors reported that PCPs are not yet comfortable with being providers of comprehensive HIV care but are, nevertheless, dedicated to delivering excellent care to all patients, regardless of disease. Although they indicated a preference for referring HIV patients to specialists, they were willing to adopt full responsibility when necessary and believed they could deliver high-quality HIV care if provided with adequate consultation and informational resources. The researchers concluded that PCPs will go to great lengths to ensure that HIV-positive patients receive superior care, but that they need the support of HIV specialists to expand their skills. They recommended that ensuring the wide availability of expert consultation should be a priority for PCPs who need to care for HIV patients.

## Residents' Knowledge

In an effort to measure resident physicians' knowledge of HIV epidemiology and screening guidelines, attitudes toward testing, testing practices, and barriers and facilitators to routine testing, Bares and colleagues surveyed 162 (of 259 requested) residents in internal medicine, pediatrics, obstetrics and gynecology, and emergency medicine at an urban medical center. The researchers reported the following:

- Half of responding residents knew the details of the HIV screening guidelines, but few followed them.
- Fewer than one third reported always or usually performing routine testing. A significant proportion reported only sometimes or never screening patients who had risk factors for HIV infection.
- The most frequently cited barriers to testing were competing priorities and forgetting to order the test.
- Elimination of written consent and electronic reminders were identified as facilitators to routine testing.
- Although an institutional policy assigns responsibility for test notification and linkage of HIV-positive patients to care to the HIV care program, only 29% of residents were aware of this.

The authors concluded that few resident physicians routinely screen for HIV infection and some do not even test patients with risk factors. Although competing clinical priorities remain a significant barrier, eliminating written consent forms and use of electronic reminders have facilitated testing. They also suggest that increasing the awareness of policies regarding test notification and linkage to care may improve screening.

**Indiana Survey**

A 2013 survey of 28 CHCs in Indiana found that:

- 85.7% of CHCs reported HIV testing, primarily at patients' request or if a patient was symptomatic.
- Routine HIV testing was provided for pregnant women by 60.7% of CHCs.
- Only 10.7% provided routine testing for adolescents and adults up to 65 years of age.
- Routine testing was reported by 14.3% for gay and bisexual men, although only 46.4% of CHCs reported asking patients about sexual orientation.
- Linkage to care for HIV-positive patients, counseling for antiretroviral adherence, and partner testing generally were not provided.

The researchers concluded that HIV testing at most CHCs did not reflect the standard of care, because it depended on patient request or symptomatic presentation.

**Conclusion**

Findings such as those discussed above show that knowledge about HIV infection, HIV screening guidelines, and treatment recommendations among healthcare providers who do not specialize in the management of HIV disease is less than optimal. Moreover, population-based surveys and epidemiologic data reveal that both individual and community health outcomes still have significant room for improvement. A variety of practical measures that can improve rates of HIV testing, practitioners' knowledge, and patient outcomes are readily available to be implemented in various clinical as well as nonclinical settings. These measures will be explored in the following sections of this program.

**HIV Epidemiology in the United States**

According to the most recent Centers for Disease Control and Prevention (CDC) findings, at the end of 2015, 1.1 million persons in the United States (all 50 states, the District of Columbia, and 6 dependent areas) were living with diagnosed HIV infection (estimated prevalence rate was 295.1 per 100,000 population). In addition, 162,500 (15% of all estimated infections) are unaware of their infection. In 2016, there were 39,782 new HIV diagnoses in the United States—32,131 among adult and adolescent males (≥13 years of age), 7,529 among adult and adolescent females, and 122 among children <13 years.

**HIV Cases by Race/Ethnicity, Exposure Category, Gender, Age**

In 2016, African Americans continued to be the racial/ethnic group with the largest number of new HIV infections (17,528), whereas the smallest number of new infections occurred among American Indian/Alaska Natives (243). Table 1 shows the complete breakdown of new HIV infections by race/ethnicity.

**Exposure Category**

In 2014, gay, bisexual, and other men who have sex with men (MSM) were at the highest risk for HIV infection, accounting for 70% of all new infections, whereas individuals infected through heterosexual sexual activity comprised 23% of new infections.

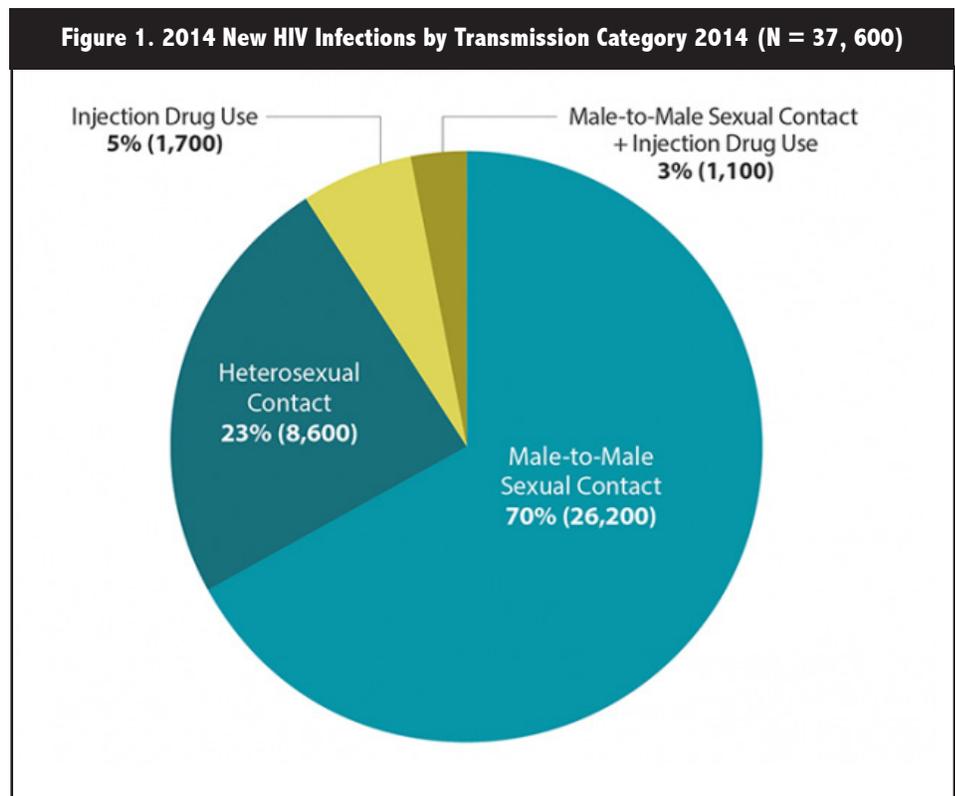
As Figure 1 shows, injection drug use (IDU) and MSM plus IDU were the most significant risk groups for acquiring HIV infection.

**Injection Drug Use**

The risk for acquiring or transmitting HIV is very high for individuals who share injection equipment that someone who is HIV-positive has used. HIV diagnoses among persons who inject drugs (PWID) declined 48% from 2008 to 2014. However, with the increased numbers of PWID arising from the epidemic of prescription opioid abuse, new populations are now at increased risk for HIV acquisition.. Nonurban areas with limited HIV prevention and treatment services and substance use disorder treatment services, which have traditionally been areas at low risk for HIV, have been disproportionately affected.

Race or Ethnicity	Number of HIV Diagnoses
American Indian/Alaska Native	243
Asian	977
African American	17,528
Hispanic*	9,766
Native Hawaiian/Other Pacific Islander	48
White	10,345
Multiple Races	875

*\*Hispanics can be of any race*



- In 2015, 6% (2,392) of the 39,513 diagnoses of HIV in the United States were attributed to IDU and another 3% (1,202) to MSM plus IDU
- 59% (1,412) of IDU-related 2015 HIV diagnoses were among men, and 41% (980) were among women
- 38% (901) of IDU-related 2015 HIV diagnoses were among African Americans, 40% (951) were among whites, and 19% (443) were among Hispanics.
- Of the 18,303 acquired immune deficiency syndrome (AIDS) diagnoses in 2015, 10% (1,804) were attributed to IDU, and another 4% (761) to MSM plus IDU.
- At the end of 2013, there were an estimated 103,100 US men and 69,200 women with HIV infection attributed to IDU; 5% of them were undiagnosed.

Figure 2 shows how major subpopulations are affected by new HIV infections. African American MSM were at the highest risk for HIV transmission, and African American women experienced significantly more new HIV infections than either white or Hispanic women.

### Women

More than 7,000 women received an HIV diagnosis in 2015, with African American women being disproportionately affected. Among all women living with HIV at the end of 2014, 60% (139,058) were African American, 17% (39,343) were white, and 17% (40,252) were Hispanic. Other key facts include:

- Women made up 19% (7,402) of the 39,513 new US HIV diagnoses in 2015.
- 86% (6,391) of HIV diagnoses among women were attributed to heterosexual sex and 13% (980) to IDU, although among white women, 32% of diagnoses were due to IDU.

- Annual HIV diagnoses declined 20% among women from 2010 to 2014.
- Women accounted for 24% (4,459) of the 18,303 AIDS diagnoses in 2015 and represent 20% (248,270) of the 1,216,917 cumulative AIDS diagnoses in the United States through 2015.
- In 2014, 1,783 women died from HIV or AIDS

### Transgender Persons

“Transgender” refers to individuals whose gender identity or expression differs from their sex assigned at birth. “Gender identity” refers to a person’s own understanding of his or her gender, whereas “gender expression” describes individuals’ outward presentation of their gender (e.g., clothing). Important findings about transgender persons and HIV include:

- Almost 1 million US adults are estimated to identify as transgender.
- From 2009 to 2014, 2,351 transgender individuals were diagnosed with HIV in the United States: 84% (1,974) transgender women, 15% (361) transgender men, and <1% (16) another gender identity.
- A 2013 report estimated that 29% of transgender women (of 2,705 sampled) were HIV-positive.
- Among the 3.3 million HIV testing events reported to the CDC in 2013, the percentage of transgender persons who received a new HIV diagnosis was more than 3 times the national average.

### Sex Workers

Sex workers—i.e., individuals who exchange sex for money or nonmonetary items (e.g., food, drugs, medicine, or shelter)—are at increased risk of acquiring or transmitting HIV and other STIs because they are more likely to engage in risky sexual

behaviors (e.g., sex without a condom, sex with multiple partners) and substance use. Sex workers may include escorts; people who work in massage parlors, brothels, and the adult film industry; exotic dancers; state-regulated prostitutes in Nevada; and men, women, and transgender persons who participate in survival sex, i.e., trading sex to meet basic daily needs.

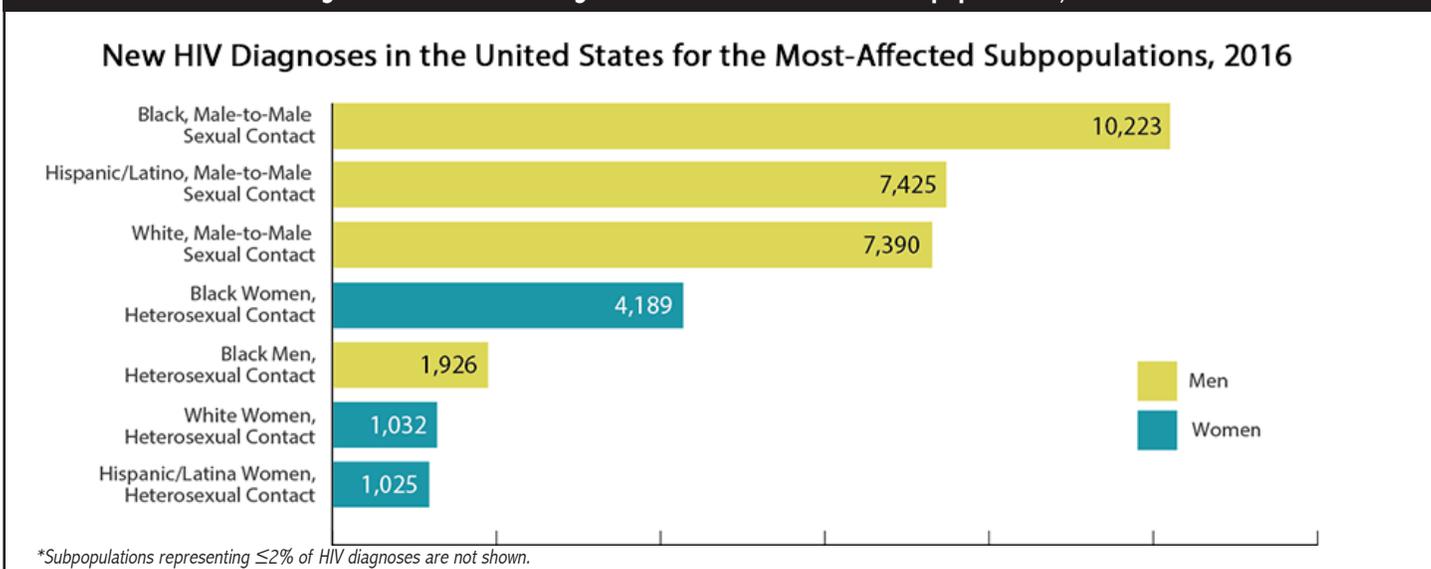
There are few population-based studies regarding persons who participate in sex work, although some studies have been done in specific settings such as prisons and exotic dance clubs. The illegal, often criminalized, nature of sex work makes gathering population-level data on HIV risk difficult. This lack of data poses significant barriers to developing targeted HIV prevention efforts. Available evidence, however, suggests that many sex workers may not know their HIV status because they do not know where to access services or are uncomfortable sharing information about sexual and substance use histories. Furthermore, some sex workers who do know their HIV status may hesitate to seek or stay in care due to:

- Mistrust of the healthcare system
- Concern that they may lose income if identified as HIV-positive
- Financial circumstances and other barriers (e.g., health insurance) that affect healthcare access

### Older Persons

Due to the highly effective antiretroviral treatments that have been in use since the mid-1990s, HIV-infected persons now live longer, with people ≥50 years of age accounting for an estimated 45% of Americans living with diagnosed HIV. Individuals in this demographic group have the same HIV risk factors as younger people, but they may be less attuned to those risks. At the end of 2014, there

Figure 2. New US HIV Diagnoses for the Most Affected Subpopulations, 2016\*



were an estimated 428,724 HIV-positive individuals  $\geq 50$  years of age in the United States.

From 2010 to 2014, HIV diagnoses among all people  $\geq 50$  years of age decreased by 10%. Alarmingly, annual HIV infections among gay and bisexual men  $\geq 50$  years of age increased 18% (from 1,100 to 1,300) during this period. Among this population, African Americans accounted for 43% of all new diagnoses in 2015, whites for 36%, and Hispanics for 17%.

In 2014, 40% of people  $\geq 55$  years of age had late-stage infection (AIDS) at the time of their diagnosis. Late diagnoses can occur because healthcare providers may not always test older people for HIV infection. In addition, older people may not consider themselves at risk of HIV infection or may mistake HIV symptoms for those of normal aging. Aging with HIV infection also presents special challenges for preventing and managing other diseases because both age and HIV increase risk for cardiovascular disease, bone loss, and certain cancers.

### **AIDS Diagnoses and Deaths**

In 2016 there were 18,160 individuals in the United States whose diagnosed HIV infection was classified as stage 3 (AIDS)—13,851 adult and adolescent males, 4,271 adult and adolescent females, and 38 children  $< 13$  years of age. The cumulative number of persons ever diagnosed with AIDS at the end of 2016 was 1,232,346. In 2015, the number of deaths of persons ever diagnosed with AIDS was 12,497. The cumulative number of deaths of persons ever diagnosed with AIDS through 2015 was 692,789. At the end of 2015, 522,283 Americans were living with a diagnosis of AIDS. HIV remains a significant cause of death for certain populations. In 2014, HIV was the eighth leading cause of death for persons 25 to 34 years of age and the ninth leading cause for those 35 to 44 years of age. Because of delays in reporting deaths, data are available only through the end of 2015.

### **Role of Nonspecialists in HIV Screening**

#### **Undiagnosed Population**

According to the CDC, individuals who are not aware that they are HIV-positive are responsible for almost one third of ongoing transmissions in the United States. Among the estimated 1.1 million persons living with HIV in the United States in 2015, 162,500 (15%) had undiagnosed HIV infection. Among the states, there is considerable variation in the percentages of diagnosed HIV cases, ranging from 77% in Louisiana (i.e., 23% undiagnosed) to  $\geq 90\%$  in Colorado, Connecticut, Delaware, Hawaii, and New York. In 39 jurisdictions with stable estimates, the percentage of diagnosed HIV

cases among MSM ranged from 75% in Louisiana to  $\geq 90\%$  in Hawaii and New York. These data underline the continuing need to identify, diagnose, and link to care the members of this population—both for their personal health and as a critical public health strategy.

Diagnosis serves as the essential first step in the HIV care continuum, allowing individuals then to receive treatment to reduce viral load and improve immune function, thereby reducing risk for transmission, morbidity, and mortality. Moreover, once individuals are aware of their HIV infection, they can make behavioral changes to reduce transmission. Although the overall percentage of HIV-positive individuals who have been diagnosed is high, the need for further efforts to implement routine HIV screening in healthcare settings is clear. In addition, such efforts should target testing in non-healthcare settings in order to reach individuals in communities that have disproportionately high HIV burdens.

#### **USPSTF HIV Screening Recommendations**

In 2006, the US Preventive Services Task Force (USPSTF) issued a recommendation that all individuals 15 to 65 years of age should be tested for HIV infection at least once; younger adolescents and older adults who are at increased risk should also be screened. In addition, the USPSTF recommends that clinicians screen all pregnant women for HIV, including those who present in labor who are untested and whose HIV status is unknown (<https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/human-immunodeficiency-virus-hiv-infection-screening>).

Based on HIV prevalence data, the USPSTF considers MSM and active IDU to be at very high risk for acquiring HIV infection. Behavioral risk factors for HIV acquisition include:

- Having unprotected vaginal or anal intercourse
- Having HIV-positive, IDU, or bisexual sexual partners
- Exchanging sex for drugs or money
- Being diagnosed with other STIs

Individuals not at increased risk for HIV infection include those who are not sexually active, who are sexually active in exclusive monogamous relationships with HIV-negative partners, and who do not fall into any of the previously mentioned categories. Moreover, individuals may not be aware of their sexual partners' risk factors for HIV infection. For patients  $< 15$  or  $> 65$  years of age, it would be reasonable for clinicians to consider HIV risk factors for individual patients, especially those with new sexual partners. However, clinicians should bear in mind that adolescent and adult patients may be reluctant to disclose HIV risk factors, even when asked.

The optimal time between HIV tests for individuals has yet to be determined. However, a reasonable approach would be to perform one-time HIV testing for adolescent and adult patients to identify those who are already HIV-positive, followed by repeated screening of those known to be at risk for HIV infection, actively engaged in risky behaviors, and living or receiving medical care in a high-prevalence setting. According to the CDC, a high-prevalence setting is a geographic area or community with an HIV seroprevalence of  $\geq 1\%$ —e.g., STI clinics, correctional facilities, homeless shelters, tuberculosis clinics, clinics serving MSM, and adolescent health clinics with a high prevalence of STIs.

Due to the lack of evidence for specific screening intervals, it may be appropriate to rescreen individuals who are at very high risk for new HIV acquisition at least once a year and individuals at increased risk at somewhat longer intervals (e.g., 3 to 5 years). Routine rescreening may not be necessary for individuals who have not been at increased risk since they were found to be HIV-negative. Women screened during a previous pregnancy should be rescreened in subsequent pregnancies.

Among populations having undiagnosed HIV infection of  $\leq 0.1\%$  (i.e.,  $\leq 1$  person in 1,000 is HIV-positive), the potential benefit per person screened is low. In such areas, it is reasonable not to do routine HIV screening and instead screen based on individuals' risk assessment. The CDC further recommends that in populations with undocumented HIV prevalence, clinicians should offer voluntary routine screening.

Patients should be informed either orally or in writing that HIV testing will be performed unless they decline (an approach known as opt-out screening). Before HIV testing, patients should also receive an explanation of HIV infection and the meaning of positive and negative test results and should be given an opportunity to ask questions and to decline testing.

#### **Types of HIV Tests.**

Three types of HIV tests are available:

- **Nucleic Acid Tests (NAT).** A NAT looks for the viral nucleic acid in a blood sample. The test can either give a positive/negative result or indicate the amount of virus present in the blood (i.e., HIV viral load). A NAT is expensive and is not routinely used for screening individuals unless they have recently had a high-risk exposure or possible exposure to HIV or have symptoms of acute HIV infection. Nucleic acid testing is usually considered accurate during the early stages of infection.

In an HIV-positive person who is taking PrEP or PEP, the accuracy of NAT may be reduced.

- **Antigen/Antibody Tests.** An antigen/antibody test looks for both HIV antigens and antibodies. In an HIV-infected person, p24 antigen is produced before antibodies develop. Antigen/antibody tests are recommended for testing done in laboratories and are now common in the United States. A rapid antigen/antibody test is also available.
- **Antibody Tests.** HIV antibody tests look for antibodies to HIV in a sample of blood or oral fluid. In general, antibody tests that use blood from a vein can detect HIV sooner after infection than tests done with blood from a finger prick or with oral fluid. Most rapid tests and home tests are antibody tests.

### HIV Pathogenesis

HIV pathogenesis is the process by which HIV becomes attached to a host cell, hijacks the host's reproductive capacity to replicate itself, and releases virions into the bloodstream to infect other cells. HIV infection leads to a gradual deterioration of immune function in most individuals. CD4+ T-cells (i.e., T-helper cells), which signal other immune system cells to perform their functions, are the primary targets of HIV infection. During infection, CD4+ T-cells are disabled and destroyed, thereby eroding their key role in immune function over several years.

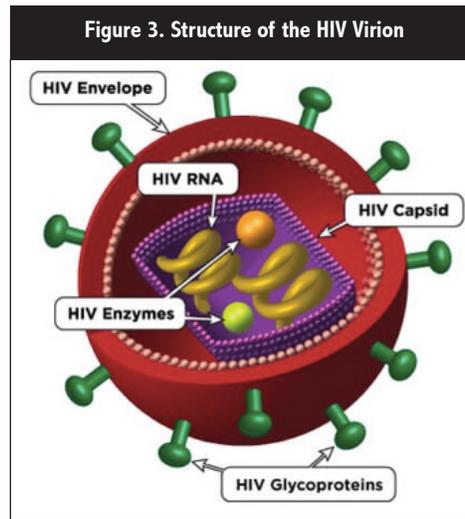
HIV causes AIDS by directly inducing the death of CD4+ T-cells or interfering with their functioning, and by triggering other events that weaken immune function. For example, the network of signaling molecules that regulates the immune response is disrupted during HIV disease, impairing the ability to fight other infections. The HIV-mediated destruction of the lymph nodes and other immunologic organs also contributes to immunosuppression.

### HIV Structure

HIV belongs to a class of viruses called retroviruses, which are single-strand RNA viruses. To replicate, HIV must make a DNA copy of its RNA. This requires that HIV infect a host cell in order to commandeer its biosynthetic machinery to make DNA copies of its genetic material in order to replicate.

#### Viral envelope.

HIV's envelope (Figure 3) comprises 2 lipid layers, acquired from the host cell membrane when a new virion buds off from the infected cell. Embedded in the viral envelope are host cell proteins, along with copies of a viral envelope protein that protrudes through the virion's surface, consisting of an extracellular cap made of 3 molecules called glycoprotein 120 (gp120) and a stem made of 3 molecules called glycoprotein 41 (gp41) that anchor the structure in the viral envelope.



#### Viral core.

Inside an HIV virion is the bullet-shaped capsid, which contains 2 strands of HIV RNA, each of which has a copy of the virus's 9 genes that are needed to infect a cell, produce new virions, and cause disease. Three enzymes—reverse transcriptase, integrase, and protease—carry out later steps in the viral life cycle.

### Infection and Replication

Infection begins when HIV encounters a CD4+ T-cell via the cell's surface molecule called cluster designation 4 (CD4)—hence, CD4+ T-cells. One or more of the virus's gp120 molecules binds tightly to CD4 molecule(s) on the cell surface, resulting in a conformational change in the gp120 protein that allows it to bind to a second molecule on the cell surface known as a chemokine coreceptor (i.e., CCR5 or CXCR4). The virus's envelope and the cell membrane then fuse, allowing the virus to enter the cell. The envelope's gp41 is critical to the fusion process.

Although CD4+ T-cells are the main targets of HIV, other immune system cells can also be infected, including the long-lived monocytes and macrophages, which apparently can harbor large amounts of virus without being destroyed, thereby acting as HIV reservoirs. CD4+ T-cells also serve as important HIV reservoirs, and a small proportion of them harbors HIV in a stable, inactive form. Normal immune processes may activate these cells, resulting in the production of new virions.

HIV replication involves the following stages:

- **Reverse transcription.** In the host cell's cytoplasm, HIV's reverse transcriptase enzyme converts viral single-stranded RNA into a double-stranded DNA copy.

- **Integration.** The HIV DNA moves to the cell's nucleus, where viral integrase assists in splicing it into the host cell's DNA. HIV DNA that enters the DNA of the cell is called a provirus.
- **Replication.** Once HIV is integrated into the host CD4+ T-cell's DNA, the virus begins to use the machinery of the CD4+ T-cell to create long chains of HIV proteins, which are the building blocks for more HIV.
- **Assembly and budding.** During assembly, new HIV RNA and HIV proteins made by the host cell move to the cell's surface and assemble into immature (noninfectious) HIV. During budding, immature HIV pushes itself out of the host cell. Once outside the CD4+ T-cell, the new virion releases protease, an HIV enzyme, which acts to break up the long protein chains that form the noninfectious virus. The smaller HIV proteins combine to form mature, infectious HIV.

### Acute HIV Infection

After HIV enters the body, it infects a large number of CD4+ T-cells, replicates rapidly, and progressively destroys the infected cells. During this acute or primary phase of infection, the blood contains many virions that spread throughout the body, seeding various organs, particularly the gut-associated lymphoid tissues and other lymphoid organs.

Two to 4 weeks after exposure to the virus, most HIV-infected people experience flu-like symptoms. The immune system then responds with killer CD8+ T-cells and B-cell-produced antibodies, greatly reducing HIV levels, and the CD4+ T-cell count may rebound somewhat and even regain its original level. An infected individual may remain free of HIV-related symptoms for years despite continuous HIV replication.

Despite the body's aggressive immune responses, HIV invariably evades immune system detection and destruction, partly due to the high rate of mutation that occurs during viral replication. In addition, the killer CD8+ T-cells that recognize HIV under the direction of CD4+ T-cells become dysfunctional, and people may lose HIV-specific cellular responses that normally slow the replication of viruses. HIV may also hide within the chromosomes of infected cells and be shielded from immune system surveillance; these cells constitute the latent reservoir of virus. Because current antiretrovirals are only effective in actively replicating virus, they have little to no effect against this latent, inactive form of the virus (i.e., provirus).

Without antiretroviral therapy, the median time from acute infection to development of AIDS-related symptoms is approximately 10 to 12 years.

However, approximately 10% of infected people may progress to an AIDS diagnosis within 2 to 3 years following infection, while approximately 5% have stable CD4+ T-cell counts and no symptoms even after  $\geq 12$  years. A variety of factors—e.g., genetic differences or coinfections—may influence the rate and severity of HIV progression. Individuals having high plasma HIV RNA levels are more likely to experience AIDS-related symptoms or to die compared with those with lower viral loads. Current antiretroviral regimens cannot completely eradicate HIV. HIV persists in a latent, but replication-competent form in resting CD4+ T-cells and other anatomic reservoirs even in people who have maintained complete virologic suppression for many years.

### **Other Key Features of Pathogenesis**

HIV activity in lymph nodes. Despite its lengthy clinical latency, HIV is never completely latent. Early in infection, the virus replicates in lymph nodes and related organs. Over several years, even when plasma HIV RNA levels are low, significant amounts of virus accumulate in lymphoid tissue. In and around the germinal centers of lymphoid tissue, numerous CD4+ T-cells are activated by the immune system's increased production of signaling cytokines—e.g., TNF-alpha and IL-6—thereby enabling uninfected cells to become infected more easily and increasing replication of HIV in already infected cells. Eventually, this immune activation and increased cytokine production can lead to breakdown of the complex lymph node architecture and development of fibrosis or scar tissue, resulting in immune system dysfunction.

Role of CD8+ T-cells. These cells are critical in the immune response to HIV by attacking and killing infected cells that are producing virus.

Rapid replication and mutation. Without treatment, several billion new HIV virions can be produced every day. HIV makes numerous genetic errors while making DNA copies from its RNA. Therefore, many variants of HIV develop in a person, some of which may escape destruction by antibodies or killer T-cells.

Immune system cell loss. During HIV infection, 100s of millions of CD4+ T-cells may be destroyed every day, eventually overwhelming the immune system's capacity to regenerate itself.

Central nervous system damage. Monocytes and macrophages can be infected by HIV and travel throughout the body and carry HIV to various organs, including the brain, which may serve as an HIV reservoir that is inaccessible by most antiretrovirals. Varying degrees of neurologic

manifestations of HIV are seen in as many as 50% of infected persons—e.g., cognitive, motor, or behavioral symptoms.

Role of immune activation. During a normal immune response, CD4+ T-cells may quickly multiply and increase their cytokine secretion, thereby signaling other cells to perform their functions. For most of its course, HIV infection is characterized by immune system overactivation, and HIV replication and spread are much more efficient in activated CD4+ T-cells. Chronic immune activation resulting from HIV infection results in massive stimulation of B-cells, impairing their ability to produce antibodies against other pathogens. Chronic immune activation also can result in premature apoptosis—i.e., programmed cell death—and greater production of cytokines that may increase HIV replication and have other deleterious effects.

Inflammation. CD4+ and CD8+ T-cell activation in untreated HIV-infected individuals remains significantly elevated compared with HIV-negative individuals; ART reduces this activation significantly, although it still remains significantly higher than in uninfected persons. Studies have also found that several biological markers of inflammation (e.g., hsCRP [high-sensitivity C-reactive protein], IL-6)—which have been associated with increased risk for cardiovascular events—remain elevated above baseline in HIV-positive persons, even those receiving ART.

### **Chronic HIV Infection**

In the absence of ART, clinical manifestations of HIV infection become increasingly likely as immune system deterioration progresses. Viral replication and CD4+ T-cell turnover continue even in the absence of clinical manifestations for a number of years, and on average, CD4+ T-cell counts will decrease by 50 to 90 cells/mm<sup>3</sup>/year in asymptomatic individuals, although the rate typically accelerates over time and can vary significantly among individuals. During chronic infection, plasma HIV RNA levels typically correlate with the rate of CD4+ T-cell decline, with higher plasma viral loads predicting more rapid progression to AIDS and death. An undetectable HIV RNA level in peripheral blood is associated with stable or increasing CD4+ T-cell counts, whereas increases in HIV RNA correlate with more rapid CD4+ T-cell count decline.

### **Clinical AIDS**

The CDC has established clinical criteria to define a diagnosis of AIDS—a diagnosis of one of 27 AIDS-defining conditions (e.g., cervical cancer, pneumocystis pneumonia, non-Hodgkin lymphoma, esophageal candidiasis, cytomegalovirus retinitis, and others), or having a CD4+ T-cell count  $< 200$  cells/mm<sup>3</sup>. Survival time from a diagnosis of AIDS

varies according to the AIDS-defining event. One study found that median survival after a single AIDS-defining condition ranged from 3 to 51 months for the 10 most common conditions. Before the availability of ART, the mean survival time in the United States after an AIDS diagnosis was 10 to 12 months. HIV progression can occur at different rates, depending on such factors as genetic makeup, comorbidities, time between HIV diagnosis and access to care, retention in care, medication adherence, and lifestyle factors like diet, exercise, and smoking.

### **HIV Indicator Conditions/Warning Signs**

Symptoms alone are not reliable indicators of HIV infection at any stage of disease; only an HIV test itself can confirm a diagnosis. Nevertheless, certain symptoms may be associated with HIV infection and can serve as indicators that HIV testing may be warranted. The symptoms of HIV vary, depending on the individual and the stage of disease: acute/early infection, clinical latency—i.e., chronic HIV infection—or AIDS—i.e., late-stage infection.

### **Acute/Early HIV Infection.**

Early infection is typically defined as having acquired HIV infection in the past 6 months and includes acute infection. Within 2 to 4 weeks after exposure to HIV (i.e., acute infection), most individuals experience symptoms very similar to EBV-related mononucleosis, although others experience no symptoms during this stage. These symptoms can include:

- Fever
- Chills
- Rash
- Night sweats
- Muscle aches
- Sore throat
- Fatigue
- Swollen lymph nodes
- Mouth ulcers

These symptoms can last from a few days to several weeks. During this time, some types of HIV tests may not yet be able to detect the presence of HIV infection, but during early infection, people are highly infectious and can transmit HIV to others. None of these symptoms are definitive indicators of HIV infection, and each can be caused by other illnesses.

### **Chronic HIV Infection.**

After the early stage of infection, HIV enters the clinical latency stage—i.e., chronic HIV infection. People with chronic HIV infection may have no HIV-related symptoms or only mild ones. Patients who receive ART can remain in the chronic stage for many years or decades.

In the vast majority of HIV-infected persons who are not on ART, the virus will eventually degrade the immune system and progress to a diagnosis of AIDS, the late stage of HIV infection. Symptoms can include:

- Rapid weight loss
- Recurring fever or profuse night sweats
- Extreme, unexplained fatigue
- Prolonged and generalized swelling of lymph glands
- Persistent diarrhea
- Sores in the mouth, anus, or genitals
- Pneumocystis pneumonia
- Recurrent and/or persistent skin, nail, oral, or genital infections—e.g., candidiasis, seborrheic dermatitis, herpes simplex virus (HSV), varicella zoster virus (VZV), psoriasis, eczema
- Red, brown, pink, or purplish macules or papules on or under the skin or inside the mouth, nose, or eyelids—possible signs of Kaposi sarcoma (KS)
- Memory loss, depression, and other neurologic disorders

Each of these symptoms can also be related to other illnesses, and a definitive diagnosis of HIV infection must be determined by an HIV screening assay.

### **HIV Screening Pointers**

Any plan to increase rates of HIV screening in routine medical care will have 2 overarching features:

#### Integrate HIV screening into practice

- Train staff to perform HIV opt-out screening
- Instruct nurses and PAs to review patient visit checklists
- Provide easily understood patient information materials
- Include testing reminders in the patient's electronic medical record

#### Address patients' misperceptions and concerns

- Patients may not know the basic facts about HIV
- Many patients assume that they were previously tested for HIV, particularly if blood was drawn, and that if they did not receive a call from their doctor, they do not have HIV
- *Patients see no need for HIV testing*
  - HIV testing is part of the standard tests recommended for all patients and does not mean that the patient is suspected to be HIV-positive
  - The CDC and many professional medical associations, including the American College of Physicians, recommend an HIV test as a routine part of care for all patients

#### *Is the test expensive?*

- Insurance companies typically pay for tests ordered as part of routine care, unless a specific provision related to that test is included
- If a patient's insurance will not pay, many places offer HIV testing at reduced or no cost (clinical practices that offer screening should have information about such resources available)

### **Informing Patients of Test Results**

Patients receive the result of a rapid HIV test during the same visit in which the test is performed. For example, the test may be offered when the patient's vital signs are taken, and by the time the patient is in the exam room with the provider, results are available. If a conventional test has been used, patients return to the clinic in approximately 1 week.

#### Negative Test Result.

Patients whose test result is negative must understand that this does not mean that they are immune to HIV. For patients who continue to engage in risky behavior, it is important to provide information about steps to minimize or eliminate possible exposure to HIV. Clinicians should stress the importance of being retested if a patient engages in unsafe behaviors during the "window period," the period after exposure during which an HIV test will be negative. Practitioners should also determine whether a patient needs to be referred to social service organizations that treat cofactors such as substance abuse, mental illness, or addictive sexual behaviors. Patients who indicate that they plan to continue risky behavior should receive written materials on HIV prevention, condom usage, and referral to more intensive prevention counseling services. A negative HIV test is an excellent opportunity to discuss HIV PrEP with the patient.

#### Positive Test Result.

Before telling a patient that a test result is preliminarily positive (by rapid test) or confirmed as positive (by conventional test), practitioners should have additional supportive resources available—e.g., a mental health counselor, social worker, or psychologist. If a post-test counseling session will take place at the same facility, clinicians should confirm in advance that an appropriate staff member will be available. Some patients may be more prepared than others to receive positive test results. For some patients, the emotional impact of hearing positive results may prevent them from clearly understanding information in the post-test counseling session.

If HIV tests are performed in a setting other than a primary care site—e.g., at a health fair—there should be a predetermined process for support

and referral. Names, telephone numbers, and transportation to counseling and supportive services, either at the health center or at a partner organization, need to be confirmed and available. Timeliness and efficiency are critical to ensure that individuals are linked to care. Healthcare facilities should strongly consider partnering with the local health department's disease intervention specialists (public health outreach workers who are responsible for finding and counseling individuals with STIs and their contacts), who may be able to assist with delivering results, post-test counseling, and other services. These specialists may be particularly important resources for sites that lack social workers or other staff trained to perform these tasks.

### **Immediate Clinical Management Issues**

Depending on a patient's state of mind and behavior during post-test counseling, it may be appropriate to assess whether the patient is at risk of self-harm or other violent behavior. If there are any concerns about the patient's or others' safety (e.g., a patient who may assault a partner whom he or she suspects of transmitting the virus), clinic staff should obtain the immediate assistance of a mental health provider.

After receiving positive results, patients need to be informed about taking precautions regarding risky behavior and provided ways to obtain additional sources of information, such as the local health department and CDC hotline numbers (1-800-CDC-INFO [1-800-232-4636], 24 hours a day, 7 days a week; email [cdcinfo@cdc.gov](mailto:cdcinfo@cdc.gov); TTY: 1-888-232-6348). All patients should be offered confidential partners' services through a health department disease intervention specialist, although participation in partners' services should be voluntary. Initiating ART immediately or very soon after informing a patient of a positive HIV test ("test and treat") is becoming increasingly common, as one would do with almost any other new STI diagnosis.

Before beginning a routine testing program, clinics should determine who should manage the care of newly diagnosed patients (e.g., an HIV specialist at the clinic, a Ryan White-funded program, a local ID clinician, or another community resource) to support the complexities of HIV care and treatment. Healthcare facilities that plan to comanage patients or to refer them to a local HIV primary care provider should establish these referral relationships before initiating routine testing.

### **Settings for HIV Screening**

Screening for HIV infection, as recommended in the guidelines discussed above, can be performed in a variety of either clinical or nonclinical settings.

### **Primary Care Practices**

In a Web survey of 137 physicians, 55 respondents (41.0%) were unaware of the CDC's 2006 recommendation for routine HIV testing. Physicians were unaware that testing should be routinely offered in primary care settings for adolescents (62 physicians, 45.6%) and primary care settings for adults (33, 24.3%). Physicians were also unaware that teenage patients 13 to 17 years of age (68, 49.6%) and adult patients 18 to 64 years of age (40, 29.2%) should be routinely HIV tested.

A study of HIV screening practices in Rochester, Minnesota, assessed rates of screening before and after implementation of an electronic clinical decision support tool. The investigators reported that out of 12,596 patients eligible for HIV screening in 2014, 327 underwent HIV screening—1.80% of eligible patients and 3.34% of eligible patients before and after initiation of the intervention, respectively, nearly doubling the percentage of patients screened when clinicians received an electronic reminder during patient encounters.

Findings such as these regarding providers' knowledge of HIV testing guidelines are a source of great concern, particularly in light of the estimated 162,500 Americans whose HIV infection remains undiagnosed. During recent years, numerous studies in a variety of settings have evaluated approaches to improving rates of HIV screening in order to come closer to fulfilling the USPSTF goal of screening all persons between 15 and 65 years of age. The following paragraphs will provide an overview of some of the approaches that have been shown to enhance HIV screening rates.

#### Factors That Facilitate Routine HIV Testing in Primary Care

Based on a review of the literature, one HIV support organization identified 8 facilitators of routine HIV testing:

- Identify a champion to lead and support routine HIV testing in the practice.
- Make supportive organizational policy change regarding HIV testing.
- Adapt clinic flow to facilitate HIV testing.
- Adapt the practice's electronic medical record (EMR) system to prompt staff to offer HIV testing.
- Train staff on how to offer, perform, and talk to patients about HIV testing.
- Develop support tools for staff.
- Monitor and evaluate the HIV testing program.
- Establish strong links to HIV-specific clinical services.

### **Sexually Transmitted Infection (STI) Clinics**

Investigators who evaluated HIV testing, receipt of HIV test results, linkage to medical care, and referral

services in 61 CDC-funded STI clinics reported that in 2013, 18.6% (621,010) of all HIV-testing events were conducted in STI clinics, and 0.8% were newly identified as HIV-positive. In addition, 27.3% of all newly identified HIV-positive persons and 30.1% of all newly identified HIV-positive MSM were identified in STI clinics. Linkage to care within any time frame was 63.8%, and linkage within 90 days was 55.3%. Although the number of first-time HIV testers in STI clinics decreased from 2011 to 2013, identification of new positives increased. The authors concluded that, although linkage to care and referral to partner services had room for improvement, STI clinics appeared to be successful at serving populations disproportionately affected by HIV. Moreover, such clinics may reach individuals who may not otherwise seek HIV testing or medical services and may offer an avenue to provide services to these populations.

Another study assessed the costs of implementing routine HIV screening at 7 public STI clinics across the United States, using rapid HIV testing either with or without brief risk-reduction counseling. The researchers reported that rapid HIV testing cost an average of \$22/patient without brief risk-reduction counseling and \$46/patient with counseling. Median start-up costs per clinic were \$1,100 and \$16,100 without and with counseling, respectively. Estimated incremental annual costs per clinic of implementing universal rapid HIV testing varied by whether or not brief counseling was conducted and by current clinic testing practices, ranging from savings of \$19,500 to a cost of \$40,700 without counseling and a cost of \$98,000 to \$153,900 with counseling.

They also found that for a clinic that was currently performing 8,000 enzyme immunoassay (EIA) HIV tests per year, choosing instead to implement rapid testing with information only, rather than rapid testing with risk-reduction counseling, would save approximately \$113,500 before overhead savings were taken into account. However, adding brief risk-reduction counseling more than doubled the cost per patient tested, although this higher cost was still comparable to some other STI tests; start-up costs were also substantially higher. CDC guidelines suggest that counseling not be required as part of HIV testing in healthcare settings, although the guidelines encourage prevention counseling for individuals at high risk for HIV acquisition in settings where risk behaviors are routinely assessed (such as STI clinics).

### **Family Planning Providers**

#### Title X HIV Services.

For decades, the federal Title X Family Planning Program—administered by the Department of Health and Human Services' Office of Population Affairs—has provided comprehensive family

planning (FP) and related preventive healthcare services to primarily low-income individuals and families at >4,000 sites across the country. All Title X-funded agencies are required to provide HIV prevention education, including education on HIV risks and prevention, and HIV testing, either onsite or by referral.

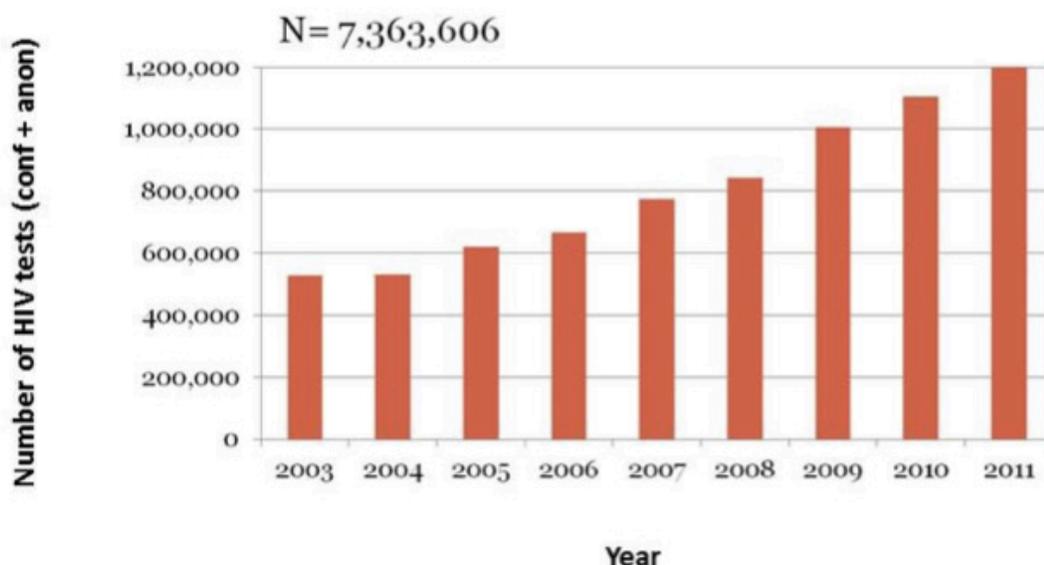
Over the 9-year period from 2003 to 2011, the number of HIV tests administered at Title X sites more than doubled, rising to 1.3 million in 2011, with more than 1,600 clients testing positive in 2011 (Figure 4). Since 2010 these sites have been required to put in place systems and structures to ensure that clients who test HIV-positive are linked to care, meaning that the client is seen in a healthcare setting by a physician, NP, or PA within 3 months of a positive HIV test. In 2011, 81% of clients who tested positive in these projects were linked to HIV care.

Moreover, because Title X FP sites play an important role in reaching many women at risk for or living with HIV infection, they often serve as entry points to the healthcare system for women who need subsidized care. More than 60% of women of reproductive age who receive healthcare at a publicly funded FP site (including both Title X and other sites) report that the site is their usual source of healthcare services, and 41% report that the site is their only source of healthcare.

Title X FP sites also are important in reaching populations that are disproportionately affected by HIV, including racial and ethnic minorities, who represent the majority of individuals living with HIV. In 2011, racial and/or ethnic minorities comprised 77% of all clients tested in Title X HIV prevention projects and 82% of all clients who tested HIV-positive.

Furthermore, in many low-income communities, HIV prevalence has been notably higher among heterosexuals. A CDC report found that heterosexuals in 24 large urban areas having annual household incomes at or below the poverty level had an HIV prevalence rate of 2.3%, vs 1.0% among households with incomes above the poverty level. The study's authors concluded that in urban areas with high HIV prevalence, HIV prevention activities aimed at heterosexuals should focus on low-income communities, the same populations that receive priority for services at Title X sites. In 2011, two thirds of Title X users had family incomes at or below the federal poverty level, and 89% had family incomes  $\leq$ 200% of the poverty level.

Figure 4. Trends in HIV Testing in Title X HIV Service Sites



Source: Family Planning Annual Report, 2003-2011



#### Screening in FP Facilities: Houston

A project at 10 Texas FP clinics can illustrate the outcomes that can be achieved when facilities transition from offering targeted HIV screening to offering routine opt-out screening. The study assessed HIV screening data from clinics serving adolescents and young adults in Houston, where 34,299 patients were tested for HIV from January 2010 through December 2014. Eighty-eight patients (0.3%) were diagnosed with HIV, a higher seropositivity rate than the CDC's recommended threshold of 0.1% for settings in which routine screening is warranted.

The researchers observed that studies have shown that adolescents and young adults are more likely to receive an HIV test if:

- The test is offered to them vs requested by them.
- The test is given in a convenient setting, such as an emergency department or a school- or community-based clinic.
- The result is available immediately.

This study gathered data from facilities located in public hospitals, schools, and community settings with documented high rates of teen pregnancy and STIs. The clinics provide low-cost or free comprehensive FP and reproductive health services to adolescents and young adults 13 to 23 years of age who live in Houston, which has a high incidence of HIV among adolescents and young adults.

The following findings were reported for individuals 13 to 24 years of age:

- 2006: an estimated 238 individuals newly diagnosed with HIV in Houston/Harris County
- 2011: 286 new HIV cases, a 20.2% increase
- Age group accounted for 22.8% of all new HIV diagnoses, although comprising only 5% of total area population
- Majority (64.7%) of newly HIV-positive individuals self-identified as either African American or Hispanic (26.2%)
- 73.4% reported acquiring HIV through MSM activity

Before implementing routine opt-out HIV screening in 2008, the clinics conducted testing using a risk-based, opt-in process via blood draw. This approach resulted in low rates of HIV testing acceptance, HIV diagnoses, and follow-up, with 35% to 38% of patients not returning to receive their test results. In 2011, the clinics fully implemented routine, opt-out rapid screening, with blood drawn for a confirmatory test only if there was a preliminary positive result. The clinics also offered STI and HIV tests to clients' partners, regardless of age.

Key findings included:

- HIV testing more than doubled between the 2 reference periods, 2006 to 2007 (average of 2,406 tests) and 2008 to 2010 (average of 5,611).
- Number of tests further increased by >50% when routine, opt-out, rapid testing was

implemented during the 2011 to 2014 study period, from a mean of 5,611 tests to a mean of 8,575 tests.

- Of patients tested, 88 (0.3%) tested HIV-positive from 2011 through 2014 (66 [75.0%] male and 22 [25.0%] female).
- Mean age of HIV-positive patients: 20.1 years (range, 15 to 25 years).
- HIV positivity rates: 0.1% for females and 0.8% for males (unchanged from opt-in to opt-out period)
- Total number of HIV tests administered nearly doubled, with percentage of HIV-positive diagnoses increased by 0.5%.

The authors noted that, despite the challenges in linking young people to HIV care, the clinics in this study were able to link 80% of patients to care, using strategies like developing relationships and agreements with various HIV service organizations, accompanying patients to their first appointment, and assisting patients with any eligibility process.

Because many adolescents and young adults engage in sexually risky behaviors, there is a clear need to develop comprehensive programs that integrate FP and HIV programs to reduce the impact of HIV infection among this demographic.

#### Emergency Departments

In a policy statement first released in 2007 and revised in 2014, the American College of Emergency Physicians (ACEP) affirmed its agreement with the

USPSTF recommendation that all individuals 15 to 65 years of age should be tested for HIV infection: "HIV testing in the evaluation for acute care conditions in the ED should be available in a timely and efficient fashion similar to testing and results for other conditions" (<https://www.acep.org/clinical--practice-management/hiv-testing-and-screening-in-the-emergency-department/>).

A number of studies have evaluated both the extent to which this recommendation is followed in practice and various approaches to making HIV testing in the ED more common and more efficient. In 2011, the CDC's Expanded HIV Testing Initiative reported that EDs accounted for 8% of all testing venues, but 32% of all previously undiagnosed HIV infections, thereby underlining the key role that EDs play in identifying undiagnosed cases.

In a 2011 special supplement, the *Annals of Emergency Medicine* published the findings of a set of studies of routine HIV testing in emergency departments ([http://www.annemergmed.com/issue/S0196-0644\(11\)X0013-6](http://www.annemergmed.com/issue/S0196-0644(11)X0013-6)). The findings included:

- The number of institutions providing HIV testing in EDs has grown substantially in recent years. A 2009 national survey of EDs found that 22% had routine HIV testing programs, >90% of them started between 2004 and 2009.
- However, the 2009 survey revealed that despite this progress, 78% of EDs had no systematic HIV testing programs in 2009. Of those that did, only one third used the opt-out approach recommended by the CDC.
- A separate national survey of academic and community-based EDs indicated that greater education efforts are needed to reach emergency physicians and administrators. According to the survey, 60% of nonacademic EDs were not aware of the CDC's HIV testing recommendations.
- Routine opt-out HIV screening programs can lead to high levels of HIV testing among ED patients. One program in Augusta, Georgia, found that 91% of patients accepted HIV testing when offered on an opt-out basis.

### Enhancing Rates of HIV Diagnosis and Linkage to Care

In the context of the above findings, numerous studies have evaluated the feasibility and efficacy of a variety of approaches to enhancing HIV screening in EDs. The findings of 3 such efforts are summarized below and represent just a small sample of the strategies that may contribute to optimal ED screening for HIV infection.

### Intensified Linkage to Care

An analysis of 31 articles evaluating the effectiveness of linkage to care (LTC) approaches in 37 ED HIV testing programs found 3 general approaches:

- Intensive LTC protocol—physically escorting newly HIV-diagnosed patients to an HIV/infectious disease clinic or interaction with a specialist healthcare provider at the ED.
- Mixed LTC protocol—a program that employed intensive linkage during only part of coverage hours.
- Nonintensive LTC protocol—all other approaches.

The LTC programs were assessed on the degree to which they succeeded in achieving the goal established in the 2010 national HIV/AIDS strategy of achieving an LTC rate of 85% within 90 days of diagnosis. The researchers reported that LTC rates for programs with intensive and nonintensive LTC protocols were 80% and 72.7%, respectively. Four programs (44.4%) with intensive protocols and 9 (36%) with nonintensive protocols had LTC rates >85%. The authors suggested that, when possible, ED-based HIV testing programs should adopt intensive LTC protocols, although such protocols generally required involvement of multidisciplinary non-ED professionals and external funding.

### Video Intervention

In a high-volume New York City ED, 160 patients who had declined HIV tests during triage watched a 16-minute video-based intervention. One third of the participants (n = 53) accepted an HIV test after the intervention. Interviews with participants who accepted an HIV test indicated that learning specific information from the video contributed to their decisions to test. Of the 40 participants interviewed, 15 (37.5%) accepted an HIV test after watching a video. Of these, 6 said that before watching the video segments, they did not know that HIV test results could be available in 20 minutes and that learning this encouraged them to test. Three of the 15 participants who were interviewed after agreeing to test said that they learned from the video that HIV tests could be administered without drawing blood and that learning about oral swab tests during the intervention contributed to their decisions to test.

### EMR Configuration

Key features of a routine HIV screening program in the ED are that it must be quick and practical and not interfere with acute patient care or patient flow through the ED. To this end, investigators at an urban safety-net hospital serving underserved populations designed the Test, Educate, Support, and Treat Arizona (TESTAZ) program to implement routine, non-targeted, opt-out, rapid HIV screening in the ED by configuring their organization's EMR system. The researchers integrated custom documentation elements specific to HIV screening into the triage/intake process, implemented clinical decision support tools to guide clinicians in each step of the process, and used electronic data collection and reporting to drive new screening protocols that led to a significant increase in overall HIV testing rates. Their organization used a fourth-generation antigen/antibody rapid assay that typically returned results within 1 hour.

In Year 2 of TESTAZ, by which time HIV test ordering was done as part of the triage protocol ordering, the overall testing rate was 97% of eligible patients, which increased to 98% in Year 3. From July 11, 2011, through June 30, 2014, the total number of preliminarily positive HIV test results was 133, of which 90 were confirmed positive and 4 had been previously diagnosed. Out of 33,683 HIV tests for positivity, this represented a case finding rate of 0.27%—nearly triple the rate recommended by the CDC at which routine HIV testing should be implemented. The authors also observed that this effectiveness was achieved without reports of disruption to patient flow through the ED and that integrating the process into a task-oriented, data-collection workflow was generally well received by nursing staff compared with the challenge of trying to motivate clinicians to routinely order an HIV test

<p><b>Patient Scenario: R.T.; male; 36 years old; no notable medical history; no physical complaints; presents to initiate primary care</b></p> <ul style="list-style-type: none"> <li>• Family history <ul style="list-style-type: none"> <li>○ Adult-onset diabetes in mother and sister</li> <li>○ Coronary artery disease in father</li> <li>○ Patient requests only blood glucose and lipid testing</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Other history <ul style="list-style-type: none"> <li>○ Divorced recently, now sexually active with 1 female</li> <li>○ Tested for HIV 7-8 years ago, with negative result</li> <li>○ Reports approximately 10 lifetime female sexual partners (2 in last 10 years)</li> <li>○ Inconsistent condom use</li> <li>○ No history of STIs</li> <li>○ Denies injection drug use</li> <li>○ Social drinker, nonsmoker</li> </ul> </li> <li>• Physical exam generally normal, except <ul style="list-style-type: none"> <li>○ Moderately overweight; BMI, 28</li> <li>○ Blood pressure: 136/90</li> <li>○ Agrees to fast for glucose and lipid testing</li> <li>○ Reluctant to have HIV test</li> </ul> </li> </ul>
<p><b>How to discuss his reluctance about HIV test and persuade him of its benefit?</b></p> <ul style="list-style-type: none"> <li>• With self-reported 10 sex partners, patient is at some risk for STIs, including HIV.</li> <li>• Only HIV test was in distant past, but has had moderate, "nontraditional" risk behaviors since that time.</li> <li>• Patient may not understand how HIV can be transmitted.</li> <li>• Patients may be concerned about stigma or other challenges of possible positive test result.</li> <li>• Clinician should counsel patient about these issues to try to allay concerns.</li> </ul>

while they are focused on acute care of the ED patient.

### Substance Use Treatment Programs

In 2015, 6% (2,392) of the 39,513 new diagnoses of HIV in the United States were attributed to IDU and another 3% (1,202) to male-to-male sexual contact and IDU. Of the HIV diagnoses attributed to IDU in 2015, 59% (1,412) were among men, and 41% (980) were among women. Figure 5 shows the distribution of new HIV diagnoses due to IDU by race/ethnicity.

At the end of 2013:

- An estimated 103,100 men in the United States were living with HIV attributed to IDU, with an estimated 5% undiagnosed.
- An estimated 68,200 women were living with HIV attributed to IDU, with an estimated 5% undiagnosed.

If current new infection rates continue, 1 in 23 women and 1 in 36 men who inject drugs will be diagnosed with HIV in their lifetimes. Of the 18,303 AIDS diagnoses in 2015, 10% (1,804) were attributed to IDU and another 4% (761) to male-to-male sexual contact and IDU. Among PWID diagnosed with HIV in 2014, 82% of males and 83% of females were linked to care within 3 months. Among PWID diagnosed with HIV in 2012 or earlier, 49% of males and 56% of females were retained in HIV care at the end of 2013.

### Testing Challenges

People who use drugs are at increased risk for HIV acquisition, inadequate linkage to and maintenance in healthcare, and late screening, with advanced HIV disease at diagnosis and increased HIV-related morbidity, mortality, and healthcare costs. A recent review of several hundred articles related to the effectiveness and feasibility of implementing HIV

testing in substance use treatment programs found that, although the evidence supported rapid, routine, and streamlined HIV testing in substance use treatment programs, there are serious challenges regarding organizational support and sustainable funding. A study by the National Institute on Drug Abuse (NIDA)—the multisite HIV Rapid Testing and Counseling Study—showed that offering onsite rapid HIV testing in substance abuse treatment programs substantially increased testing rates and receipt of HIV test results. Onsite testing was found to be more effective than referrals for offsite testing: >80% of individuals tested onsite received their test results, vs only 18% who followed through when referred to another site for testing. A related study also showed that rapid testing can be implemented for <\$40 per test and is cost-effective.

### Testing Uptake

Using data on 196 opioid treatment programs (OTPs) from the 2011 National Drug Abuse Treatment System Survey (NDATSS), Frimpong and colleagues studied the extent to which such programs offer onsite rapid HIV testing. The researchers reported that only 31.6% of OTPs offered onsite rapid HIV testing to their clients and that onsite rapid HIV testing was more commonly available in larger, publicly owned, and better-staffed facilities. In addition, onsite rapid HIV testing was less common in OTPs that prescribed only buprenorphine—compared with those offering methadone or both methadone and buprenorphine—as a method of opioid dependence treatment and that were for-profit, privately owned facilities. The availability of onsite rapid HIV testing reduced the likelihood that an OTP had not tested any of its clients during the preceding year, but onsite availability of rapid HIV testing was not otherwise associated with an increased number of clients tested for HIV at an

OTP. An earlier study using data collected in 2005 and 2011 reported that the percentage of OTPs offering HIV testing decreased significantly between 2005 and 2011—from 93% to 64% and that the percentage of clients tested decreased from an average of 4% in 2005 to 17% in 2011.

Frimpong and colleagues concluded that, because OTPs are not rapidly adopting onsite rapid HIV testing, there is an urgent need both to understand the barriers to adopting rapid HIV testing and to identify strategies to address these barriers. Such strategies could include grants to purchase rapid test kits or to train OTP personnel in conducting rapid testing and assistance in requesting state or federal funds for HIV testing. They further expressed concern that even among OTPs that have adopted rapid testing, its implementation is inconsistent, with a limited number of clients tested.

### Cost-effectiveness

An earlier study assessed the cost-effectiveness of 3 HIV testing strategies performed in 12 community-based substance abuse treatment programs:

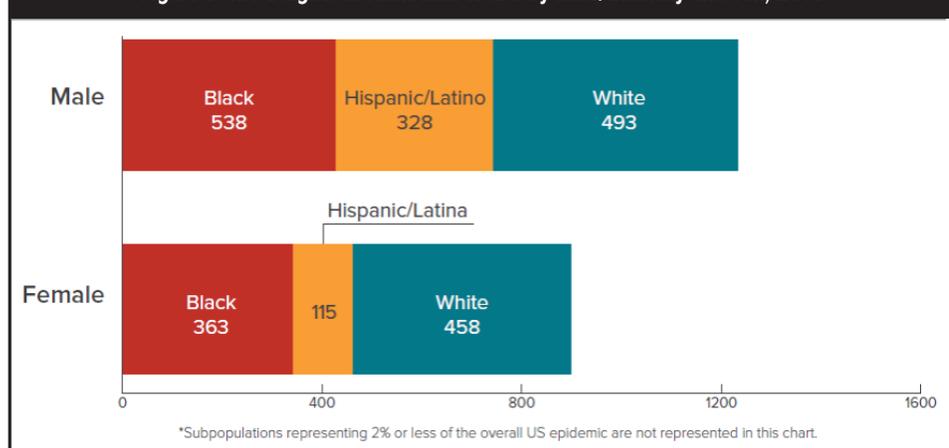
- Referral to off-site testing
- Onsite rapid testing with information only
- Onsite rapid testing with risk-reduction counseling

The investigators used the Cost-Effectiveness of Preventing AIDS Complications (CEPAC) computer simulation model to project life expectancy, lifetime costs, and quality-adjusted life years (QALYs) for HIV-infected individuals (using a threshold of \$100,000/QALY). They reported that referral for off-site testing was less efficient vs offering onsite testing with information only. The cost-effectiveness ratio for onsite testing with information was \$60,300/QALY, and HIV risk-reduction counseling cost \$36 per person more without additional benefit. The authors concluded that offering onsite rapid HIV testing with information only in substance abuse treatment programs increases life expectancy at a cost-effectiveness ratio <\$100,000/QALY and recommended that policymakers and substance abuse treatment leaders should seek funding to implement onsite rapid HIV testing in substance abuse treatment programs for clients who have not been tested recently.

### The Blending Initiative

NIDA and the Substance Abuse and Mental Health Services Administration's (SAMHSA) Addiction Technology Transfer Center Network have partnered to create the "Blending Initiative," a program to help the findings of drug abuse research get into front-line clinical practice. The initiative has produced user-friendly tools and products regarding the importance of onsite rapid HIV testing in substance abuse treatment programs, which can be found on

Figure 5. HIV Diagnoses Attributed to IDU by Race/Ethnicity and Sex, 2015



Source: CDC. Diagnoses of HIV infection in the United States and the dependent areas, 2015 (<http://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-report-2015-vol-27.pdf>) *HIV Surveillance Report 2016*;27.

the Blending Initiative's website (<http://attnetwork.org/projects/hivrapiidtesting.aspx>) and include:

- Video interviews with researchers, treatment providers, and others about the value of onsite rapid HIV testing.
- Fact sheet detailing the urgent need to provide HIV testing for people in substance abuse treatment programs due to high HIV prevalence and information about findings from NIDA's HIV Rapid Testing and Counseling Study.
- Resource guide with links to implementation guidelines, funding information, and other testing resources.

### **Home Testing**

At the present time, the Food and Drug Administration (FDA) has licensed only 2 home HIV test kits: the Home Access HIV-1 Test System and the OraQuick/E Oral In-home HIV Test. Both are available for purchase at pharmacies and from online retailers.

#### Home Access HIV-1 Test System.

This test detects HIV antibodies. It involves collecting a blood sample by pricking a finger, sending the sample to a laboratory, and calling for results as early as the next business day. This test is anonymous. If there is a positive result, the lab immediately performs a follow-up test, and the kit's results include the follow-up test. The manufacturer provides confidential counseling and referral to treatment.

#### OraQuick In-home HIV Test.

This test can provide rapid results in the privacy of a user's home. The testing procedure involves swabbing the mouth for an oral fluid sample and using a kit to test it, with results available in approximately 20 minutes. If the result is positive, a follow-up blood-based test will be necessary to confirm the initial result. The test's manufacturer provides confidential counseling and referral to follow-up testing sites. Because the level of antibody in oral fluid is lower than in blood, oral fluid tests find infection later after exposure than do blood tests. Up to 1 in 12 HIV-infected individuals may test false-negative with this test.

#### Potential Settings for Home Testing

A 2013 article by Myers and colleagues suggested that rapid HIV tests, such as those available for home use, may be most useful in 4 potential scenarios:

- They may be used by persons in high-prevalence communities who have eluded previous prevention and testing efforts. In the United States, the proportion of persons with undiagnosed infection is highest among racial and ethnic minorities and young people.

A 2012 CDC report noted that an estimated 68% of all persons with undiagnosed HIV are African American or Hispanic and 60% of persons 13 to 24 years of age with HIV are unaware of their infection.

- A second potential use for rapid HIV self-tests may be to facilitate more frequent testing among persons at highest risk for HIV, particularly men who have sex with men (MSM).
- A third possible application for rapid self-tests may be to facilitate mutual HIV testing with current or potential sex partners, potentially even just before beginning sexual activity.
- Such tests could be used to help detect window period infections—i.e., the 3- to 12-week period following exposure to HIV before a body produces enough antibodies to be detected by an antibody assay—by repeat testing several weeks after a negative HIV test in persons with very recent potential exposure to HIV.

### **HIV Prevention**

#### **Biomedical Prevention**

##### ***Occupational Postexposure Prophylaxis***

Postexposure prophylaxis (PEP) for the prevention of HIV acquisition involves taking antiretroviral (ARV) drugs as soon as possible after being exposed to HIV in order to reduce the risk of seroconversion. The delay should be no longer than 72 hours (3 days), but most experts recommend starting PEP within 4 hours in an occupational setting—eg, a clinic or laboratory. US National Institutes of Health guidelines provide guidelines for both occupational (primarily for healthcare workers) and nonoccupational (eg, due to a single incident of shared IDU or sexual activity) exposure to HIV. PEP is not always effective, and receipt of PEP is not a guarantee that seroconversion will not occur.

The risk of exposure to blood and blood-borne pathogens is somewhat increased among healthcare workers vs people who do not work around blood. Exposure to infected blood, tissue, or other potentially infectious body fluids can occur via:

- Percutaneous injury (eg, a needlestick or cut with a sharps object)
- Contact with mucous membranes or nonintact skin (eg, skin that is chapped, abraded, or affected by dermatitis)

Other potentially infectious bodily fluids include semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, pericardial fluid, and amniotic fluid. Feces, nasal secretions, saliva, sputum, sweat, tears, urine, and vomitus are not considered potentially infectious unless they are visibly bloody.

The risk of infection after an exposure varies among different circumstances and appears to be greater with:

- Exposure to a larger amount of blood or other infectious fluid
- Exposure to the blood of a patient with advanced HIV disease or with higher viral load
- Deep percutaneous injury
- Procedures in which a sharp has been in a vein or artery of an infected source patient
- Injury with a hollow-bore, blood-filled needle
- Limited or delayed access to PEP
- Prolonged or extensive exposure of nonintact skin or mucous membrane to blood or other infectious fluid or concentrated virus in a laboratory setting

If the source patient is HIV-positive, the risk of HIV transmission is approximately 0.3% after a percutaneous exposure and 0.09% after a mucous membrane exposure. The risk of HIV transmission for an exposure with nonintact skin has not been determined but is estimated to be lower than the risk from a mucous membrane exposure. Exposure to a source patient with an undetectable viral load does not eliminate the possibility of HIV transmission or the need for PEP and follow-up testing. Although the risk in such circumstances is thought to be very low, PEP should still be offered.

To avoid potential exposure to HIV, healthcare workers should be familiar with these standard precautions:

- Use personal protective equipment—gloves, gowns, boots, shoe covers, eyewear, masks, and shields—as appropriate for the patient care situation.
- Gloves must be worn when any kind of venous or arterial access is being performed.
- Use sharps with caution:
  - Plan ahead and use sharps in a safe environment with a sharps container nearby.
  - Dispose of used sharps in puncture-proof receptacles immediately after use.
  - Do not recap needles.
  - Use safety devices if available.

The site of known or suspected exposure should be treated as follows:

- Wash areas exposed to potentially infectious fluids with soap and water as soon as possible. Puncture wounds can be cleaned with an alcohol-based cleanser, chloroxylenol, or chlorhexidine.
- Flush exposed mucous membranes with water.
- Flush exposed eyes with water or saline solution.

### Source Patient

If the source patient of the HIV exposure is known, that individual should be tested for HIV antibodies using a rapid HIV-antibody test (fourth-generation antigen/antibody testing if available). When a source patient's HIV status is unknown and he or she agrees to HIV testing, a practitioner should perform a clinical evaluation that includes HIV testing using a fourth-generation combined Ag/Ab test. The risk for transmission may be especially great if the source patient has been recently infected because the viral load in blood and semen may be particularly high. However, determining this in the short time available for initial PEP evaluation may not be possible, and, if the risk associated with the exposure is high, starting PEP and then deciding whether to continue after the source patient's HIV status is determined is preferable. State regulations regarding informed consent and confidentiality should be followed. If the source patient is not known or cannot be tested immediately, the likelihood of high-risk exposure should be assessed: Consider the likelihood of HIV infection among patients in the exposure setting—eg, the community infection rate, whether the healthcare facility cares for a large number of HIV-infected or at-risk patients, whether there is a high suspicion for HIV infection and the patient cannot be tested immediately. Although there have been concerns about HIV-negative sources who may be in the window period (ie, the time between initial HIV infection and development of detectable HIV antibodies), reports of such instances of occupational transmission are lacking. However, if acute retroviral syndrome is suspected, initiation of PEP may be advisable.

### Starting PEP

PEP should be started as soon as possible following a positive exposure, preferably within hours. The optimal time to start PEP is unknown, although efficacy is thought to begin to decrease after 24 to 36 hours following an exposure, and in healthcare settings, the goal is to start PEP within 4 hours of exposure. The person who has experienced exposure should receive PEP for 28 days. If information on the source patient is unknown and the decision to start PEP must be made based on risk factors of the source patient or the type of exposure, PEP should not be delayed. The exposed worker should be reevaluated within 72 hours as additional information about the source is obtained. If the source patient is subsequently found to be HIV-negative, PEP should be discontinued. When a healthcare worker initiates PEP, complete blood count (CBC) and renal and hepatic function tests should be performed at baseline and 2 weeks after starting PEP. However, HIV practitioners do not typically perform 2-week toxicity monitoring when initiating antiretroviral therapy (ART) in an HIV-positive individual, and the purpose of CBC

monitoring is to monitor for toxicity of zidovudine, which is now seldom used for PEP.

Some healthcare workers may be unable to complete PEP regimens due to adverse effects, although this is uncommon with currently used regimens. Providing appropriate education about symptom management can improve adherence, and most adverse effects can be easily managed. Drug selection should be based in part on information about the source patient, including available data on that individual's HIV resistance profile. PEP regimens should be chosen based on tolerability, safety, and efficacy, particularly if the source patient is known to have drug-resistant virus. However, delays in getting information should not delay PEP initiation, as modifications can be made later if needed.

The current guideline-recommended PEP regimen comprises raltegravir plus coformulated tenofovir/emtricitabine, a well-tolerated, effective regimen that has minimal drug-drug interactions. This regimen can be administered to pregnant women, although safety data in pregnancy are limited. In most cases, any integrase inhibitor-based regimen, except ones containing abacavir, can be used for PEP. When initiating an expanded regimen for exposure to HIV that is known to have drug resistance variants, prescribers should seek expert guidance.

PEP guidelines recommend that certain ARV agents be avoided because of toxicity, including nevirapine, nelfinavir, didanosine, and tipranavir. Other drugs that are typically avoided or used only with expert consultation include abacavir (because of the need for pretesting for HLA-B\*5701), efavirenz (because of early central nervous system adverse effects), enfuvirtide (T-20, because of the need for subcutaneous injection), as well as maraviroc, fosamprenavir, stavudine, and saquinavir.

### PEP Follow-up

Workers who have received PEP should be followed up with:

- Repeat HIV-antibody testing at 6 weeks, 12 weeks, and 4 or 6 months postexposure.
- If fourth-generation HIV antigen/antibody testing is available, follow-up testing can be performed at 6 weeks and 4 months postexposure.
- If the worker experiences illness compatible with acute retroviral syndrome, perform HIV viral load testing.
- PEP recipients should be monitored for drug toxicity. CBC and renal and hepatic function tests should be repeated at 2 weeks.

### Special Considerations

Expert consultation in providing PEP is advised in these situations:

- Delayed exposure report, ie, >24 to 36 hours postexposure
- Unknown source (eg, needle inside a sharps container)
  - Decide use of PEP on a case-by-case basis.
  - Consider the severity of the exposure and epidemiologic likelihood of HIV exposure.
  - Do not test needles or other sharp instruments for HIV.
- Known or suspected pregnancy of healthcare worker:
  - Does not preclude use of optimal PEP regimens; special consideration should be given to the potential risks and benefits of PEP during pregnancy.
  - PEP should not be denied solely on the basis of pregnancy.
  - DHHS guidelines contain recommendations for preferred ART regimens in pregnancy (<https://aidsinfo.nih.gov/guidelines/html/3/perinatal/0>).
- ARV resistance in the source patient's virus
- The psychological impact on healthcare providers of needlesticks or exposure to blood or body fluid should not be underestimated. Therefore, offering psychological counseling should be an essential part of the management and care of exposed workers.

### ***Nonoccupational Postexposure Prophylaxis***

Because randomized clinical trials are not possible, the efficacy of nPEP is hypothetical, but it appears to be safe. Overall, nPEP is more likely to be effective when a person has experienced a single episode of exposure and nPEP is initiated quickly. It is not appropriate for cases of repeated sexual or IDU exposures over time or for exposures that occurred >72 hours before starting nPEP. The model for nPEP is derived in part from protocols for occupational PEP. One significant difference between the protocols is that nPEP protocols should include interventions to reduce the risk of future HIV acquisition, and nPEP offers an important opportunity to provide risk-reduction counseling and education.

When a patient reports a potential exposure to HIV through a sexual encounter or sharing of needles or other IDU equipment, a clinician should perform a thorough history of the specific sexual or drug-use activities, the time of the exposure, the HIV status of the source person (if known), and HIV risk factors of the source person (if HIV status not known). Cases of sexual assault may also require evidence collection and specific paperwork.

The patient should then be evaluated as follows:

- Examine for trauma and signs or symptoms of STIs, which may increase the risk of HIV transmission. In IDUs, examine for abscesses and signs or symptoms of infection. For women who may be pregnant, perform a pregnancy test.
- Assess for potential exposures to HIV and other blood-borne pathogens and for the presence of other STIs. The risk of HIV infection depends on the HIV status of the source individual and on source factors such as HIV viral load. The estimated risk of HIV exposure will determine whether nPEP should be offered.
- Determination of HIV status for anyone being considered for nPEP should preferably be done by using rapid combined antigen/antibody or antibody blood tests.
  - If rapid HIV test results are not available and nPEP is otherwise indicated, treatment should be started without delay and can be discontinued if the patient is later determined already to be HIV-infected or the source patient is determined to be HIV-negative.
- Evaluate and test for other infections transmittable through sexual or IDU exposure, including chlamydia, gonorrhea, syphilis, herpes simplex virus, hepatitis B virus, and hepatitis C virus.
- Obtain baseline CBC, liver function tests, and creatinine and estimated glomerular filtration rate before starting nPEP.

#### Treatment

Patients should receive counseling about the potential risks and benefits of nPEP. In general, recommended nPEP regimens involve 3-drug combination therapy. In some circumstances, more than 3 agents may be appropriate, eg, if the source virus has drug resistance variants. If a regimen other than one containing 3 agents is being considered, expert consultation is recommended. A 28-day course of a 3-drug ARV regimen should be prescribed. The preferred regimen for otherwise healthy adults and adolescents is coformulated tenofovir disoproxil fumarate (TDF)/emtricitabine (300 mg/200 mg) once daily plus raltegravir 400 mg twice daily or dolutegravir 50 mg once daily. An alternative regimen is TDF/emtricitabine plus darunavir (800 mg) and ritonavir (100 mg) once daily. If the source person is known or suspected to have HIV infection that is ARV-resistant, seek expert consultation in selecting an appropriate nPEP regimen.

Once the decision to start nPEP is made:

- Begin as soon as possible after exposure, but always within 72 hours. Treatment should

be continued for 28 days, unless the source person is determined to be HIV-negative.

- Provide counseling about the efficacy of nPEP, regimen adherence, and the importance of preventing additional HIV exposures during this time.
- Counsel exposed patients to use latex barriers with sex partners until HIV transmission has been ruled out.
- Counsel patients as appropriate about ways to reduce risks of future exposure to HIV.
- In cases of sexual assault, refer the patient to a rape counselor.

*Follow-up.* Patients should be seen again within 1 week to review all test results and to provide further risk-reduction counseling. For patients receiving nPEP, this follow-up should include adherence assessment and evaluation of any adverse effects, which should be managed aggressively to optimize the likelihood of adherence. Individuals who are receiving either of the 2 recommended nPEP regimens should be evaluated with the following at baseline and 4 to 6 weeks after exposure:

- HIV antigen/antibody test (repeat at 3 months and 6 months)
- Complete hepatitis B serology (surface antigen, surface antibody, core antibody)
- Hepatitis C virus antibody test (repeat at 6 months)
- Syphilis serology (repeat at 6 months)
- Gonorrhea
- Chlamydia
- Serum creatinine
- Liver function tests

#### HIV Exposure Due to Sexual Assault

All adults and adolescents exposed to HIV by sexual assault should receive the following routine prophylaxis for STIs and HBV:

- For gonorrhea (males and females): intramuscular ceftriaxone 250 mg, single dose, plus azithromycin 1 g orally, single dose
- For chlamydia (males and females): azithromycin 1 g orally, single dose, or doxycycline 100 mg orally, twice daily for 7 days
- For trichomonas (females): metronidazole 2 g orally, single dose, or tinidazole 2 g orally, single dose

Anyone not known to have been previously vaccinated against hepatitis B virus (HBV) should receive HBV vaccination (without immune globulin), with the first dose administered during the initial examination. If the exposure source is available for testing and is HBsAg-positive, unvaccinated nPEP patients should receive both HBV vaccine and hepatitis B immune globulin during the initial evaluation. Follow-up vaccine doses should be administered at 1 to 2 months and at 4 to 6

months after the first dose. Previously vaccinated sexually assaulted individuals who did not receive postvaccination testing should receive a single vaccine booster dose.

Human papilloma virus (HPV) vaccination is recommended for female survivors 9 to 26 years of age and male survivors 9 to 21 years of age. For MSM who have not received an HPV vaccine or who have been incompletely vaccinated, vaccine can be administered through 26 years of age. HPV vaccine should be administered to sexual assault survivors at the initial examination, with follow-up dose administered at 1 to 2 months and 6 months after the first dose.

Nonoccupational PEP programs should provide risk-reduction counseling rather than frequent, repeated use of nPEP. However, many nPEP patients may be good candidates to transition to preexposure prophylaxis (PrEP) after they have completed PEP. For this reason, many programs have case managers, social workers, or health educators to provide follow-up and counseling after an exposure, with referral to clinicians as needed. Any patient who develops acute HIV infection or is discovered to be HIV-positive at follow-up should immediately be referred to an HIV specialist for evaluation and care.

#### Expert Consultation

For consultation on the treatment of exposures to HIV (and HBV and HCV), clinicians managing exposed persons can call the National HIV/AIDS Clinicians' Post-Exposure Prophylaxis Hotline at 888-448-4911 (7 days a week). Additional information is available at [www.nccc.ucsf.edu](http://www.nccc.ucsf.edu). Support may be especially useful in challenging situations, such as when drug resistance is suspected or when the exposed person is pregnant.

#### **Preexposure Prophylaxis**

To prevent HIV transmission, preexposure prophylaxis (PrEP) is approved for use by HIV-negative individuals who are at high risk for HIV acquisition. When used consistently, PrEP has been shown to significantly reduce the risk of HIV infection, but efficacy is significantly lower in persons who do not adhere to the treatment properly.

Ideally PrEP should be used in combination with condoms and other HIV prevention methods. When used alone, it is highly effective at preventing HIV transmission, but it does not prevent other STIs. Patients who wish to initiate PrEP must commit to taking the tablet daily and seeing their healthcare provider every 3 months for HIV testing, toxicity monitoring, and STI screening.

The CDC estimated that in 2014, approximately 24.7% of sexually active adult men MSM (492,000), 18.5% of PWID (115,000), and 0.4% of heterosexually active adults (624,000) had substantial risks for acquiring HIV infection that are consistent with indications for PrEP.

#### PrEP Medications

Most PrEP clinical trials have evaluated a coformulation of 2 ARVs, tenofovir disoproxil fumarate (TDF) plus emtricitabine (brand name Truvada/E), taken as a single coformulated tablet once daily. Some clinical studies have also evaluated the use of tenofovir alone as HIV prophylaxis, but this usage is not FDA-approved. Although a reformulated version of tenofovir (tenofovir alafenamide, TAF)—including in coformulation with emtricitabine—has been approved for the treatment of HIV infection, TAF/emtricitabine has not yet received approval for use as PrEP. TAF has been shown in clinical trials to be associated with lower rates of bone and renal toxicity. The DISCOVER trial, now under way, is evaluating the efficacy and safety of TAF/emtricitabine for use as HIV prophylaxis (<https://clinicaltrials.gov/ct2/show/NCT02842086>).

#### What Not to Use

No ARV regimens other than a daily oral dose of TDF/emtricitabine should be used for PrEP. Other medications and other dosing schedules have not yet been shown to be safe or effective in preventing HIV acquisition in otherwise healthy adults and are not FDA-approved for PrEP.

- Do not use other ARV medications (eg, lamivudine, TAF), either in place of or in addition to TDF/emtricitabine.
- Do not use other than daily dosing (eg, intermittent, before or after sex only, or other discontinuous dosing).
- Do not provide PrEP as expedited partner therapy (ie, do not prescribe for an uninfected person not in your care).

#### Research Supporting PrEP

The studies on which the approval of TDF/emtricitabine was based found that the risk of acquiring HIV infection was up to 92% lower for participants who took the medications consistently compared with those who did not take them consistently. (For brief descriptions of the clinical trials, with links to the published studies, please visit: [www.cdc.gov/hiv/prevention/research/prep/](http://www.cdc.gov/hiv/prevention/research/prep/).) Although the effectiveness of PrEP for transgender women has not yet been definitively proven in trials, and trials have not been conducted in transgender men, PrEP has been shown to reduce the risk for HIV acquisition during anal sex and penile-vaginal sex. Therefore, its use may be considered in all persons at risk of acquiring HIV sexually.

#### Guidelines for PrEP Use

US Public Health Service guidelines for healthcare providers recommend that PrEP be considered for people who are HIV-negative and at substantial risk for HIV infection. For sexual transmission, this includes anyone who is in an ongoing relationship with an HIV-positive partner. Others considered to be at substantial risk include:

- Anyone who is not in a mutually monogamous relationship with a partner who has recently tested HIV-negative
- Any gay or bisexual man who has had anal sex without a condom or been diagnosed with an STI in the past 6 months
- Any heterosexual man or woman who does not regularly use condoms during sexual activity with partners of unknown HIV status who are at substantial risk of HIV infection (eg, PWID or who have bisexual male partners)

For PWID, this includes those who have injected illicit drugs in the past 6 months and who have shared injection equipment or been in drug treatment for injection drug use in the past 6 months. Healthcare providers should also discuss PrEP with heterosexual couples in which one partner is HIV-positive and the other is HIV-negative as one of several options to protect the partner who is HIV-negative during conception and pregnancy. However, in a completely monogamous relationship, the risk of transmission is extremely low when the positive partner's viral load is consistently suppressed with ART. In such cases, there may be little or no additional benefit to use of PrEP.

HIV transmission risk is substantial for women whose HIV-positive partners are not taking ART or women whose partners are receiving ART but do not have undetectable viral load. Women whose partners have documented sustained undetectable viral load are at minimal risk for HIV acquisition.

Persons who meet the above criteria are eligible for PrEP if they also meet these clinical criteria:

- Documented negative HIV test before prescribing PrEP
- No signs/symptoms of acute HIV infection
- Normal renal function
- No contraindicated medications

Patients for whom PrEP is recommended should receive a prescription for  $\leq 90$ -day supply of TDF/emtricitabine and should be monitored with follow-up visits at least every 3 months to provide:

- HIV testing, medication adherence counseling, behavioral risk reduction support, adverse events assessment, STI symptom assessment
- At 3 months and every 6 months after, assess renal function

- At least every 6 months, test for bacterial STIs (more frequently if at high risk)

In MSM, STI testing should include pharyngeal and rectal screening for gonorrhea and chlamydia. Heterosexual men and women should be assessed for pregnancy intentions, with women being tested for pregnancy every 3 months. PWID should be referred to programs offering access to clean needles and syringes and drug treatment services.

Because no prevention strategy for sexually active people is 100% effective, patients taking PrEP should be encouraged to use other effective prevention strategies to optimally reduce their risk of acquiring HIV, including:

- Using condoms consistently and correctly
- Getting HIV tested with partners
- Choosing less risky sexual behaviors, such as oral sex
- For PWID, getting into drug treatment programs and using sterile equipment

### Initial Antiretroviral Treatment (ART)

#### **HIV Treatment Guidelines**

As the vision and proposed outcomes of the “National HIV/AIDS Strategy: Updated to 2020” suggest, understanding and implementing the US Department of Health and Human Services’ (DHHS) guidelines for the treatment of HIV infection (Guidelines for the Use of Antiretroviral Agents in HIV-1-Infected Adults and Adolescents) serve as a critical component in achieving the strategy’s goals. This section will review the key features of those guidelines’ recommendations for the first-line treatment of HIV-infected adults and adolescents.

In addition to that comprehensive set of guidelines, DHHS has issued additional guidelines on the treatment of a range of special populations—eg, young persons and pregnant women—and the use of ART in special circumstances—eg, treatment of opportunistic infections (OIs) and prevention of HIV transmission, all of which can be found at <https://aidsinfo.nih.gov/guidelines>. It is important to note that these guidelines are reviewed and updated regularly, and clinicians should check the website, <https://aidsinfo.nih.gov/>, for new or more detailed information. The information contained in this section will review the core recommendations for treatment of HIV infection in treatment-naive patients. For detailed discussion of these recommendations, as well as the evidence supporting them, please see the complete Guidelines.

Other US organizations also issue HIV treatment guidelines. The next most widely cited set of recommendations are those of the International Antiviral Society - USA (IAS-USA),

Antiretroviral Drugs for Treatment and Prevention of HIV Infection in Adults 2016 Recommendations of the International Antiviral Society–USA Panel (<https://www.iasusa.org/content/antiretroviral-drugs-treatment-and-prevention-hiv-infection-adults-2016-recommendations>).

In addition, the HIV Medicine Association of the Infectious Diseases Society of America has issued its “Primary Care Guidelines for the Management of Persons Infected with Human Immunodeficiency Virus” (<https://academic.oup.com/cid/article/58/1/e1/374007>).

### **Baseline Evaluation**

Every HIV-infected patient entering into care should have a complete medical history, physical examination, and laboratory evaluation and should be counseled regarding the implications of HIV infection. The goals of the initial evaluation are to confirm the diagnosis of HIV infection, obtain appropriate baseline historical and laboratory data, ensure patient understanding about HIV infection and how it can be transmitted, and initiate care. This evaluation should include an introductory discussion of the benefits of ART for the patient’s health and to prevent HIV transmission. Newly diagnosed patients should also be asked about any previous use of ARVs for prevention of HIV infection (ie, PrEP).

The following laboratory tests should be performed, with the results used to stage HIV disease and assist in the selection of ART:

- HIV antibody testing (if prior documentation not available or if HIV RNA [viral load] is undetectable)
- CD4+ T-cell count and percentage
- Plasma viral load
- CBC, comprehensive chemistry panel, urinalysis, and serologies for hepatitis A, B, and C viruses
- Fasting blood glucose and serum lipids
- Genotypic resistance testing (In patients with viral load <500 to 1,000 copies/mL, resistance testing may not always be successful.)

Other tests (including screening for STDs and tests to determine risk of OIs and whether prophylaxis is needed) should be performed as recommended in HIV primary care and OI guidelines.

The baseline evaluation should assess the patient’s readiness for ART, including an assessment of high-risk behaviors, substance abuse, social support, mental illness, comorbidities, economic factors (eg, unstable housing, inadequate income), medical insurance coverage, and other factors that are known to impair adherence to ART and to increase risk of HIV transmission. Once evaluated, these

factors should be addressed appropriately.

The baseline evaluation should also include a discussion of risk reduction and disclosure to sexual and/or needle-sharing partners, especially with ARV-naïve patients who continue to be at high risk of HIV transmission.

### Other Laboratory Tests

Two surrogate markers are used routinely to assess immune function and level of HIV viremia: CD4+ T-cell count and viral load, respectively. Resistance testing should be used to guide selection of an ART regimen. A viral tropism assay should be performed before initiation of a CCR5 antagonist (ie, maraviroc) or upon virologic failure during therapy with a CCR5 antagonist. HLA-B\*5701 testing should be performed before prescribing abacavir. Patients should be screened for HBV and HCV infection before starting ART and, if indicated, periodically after ART initiation, because certain HBV and HCV treatments may affect the choice of ART.

### **Treatment Goals**

The primary goals of initiating ART are:

- To suppress plasma viral load as low as possible for as long as possible
- To restore and preserve immunologic function
- To reduce HIV-associated morbidity and prolong the duration and quality of life
- To prevent HIV transmission

HIV suppression with ART may also decrease the inflammation and immune activation that are thought to contribute to higher rates of cardiovascular and other end-organ damage reported in HIV-infected individuals. Durable virologic suppression also delays or prevents the selection of drug-resistance mutations, preserves CD4+ T-cell numbers, and confers substantial clinical benefits. Achieving virologic suppression requires the use of ART regimens with at least 2, and usually 3, active drugs from at least 2 drug classes. Baseline resistance testing and patient characteristics should guide the choice of the regimen. When virologic suppression is not achieved or is lost, it is critical to quickly switch to a new regimen with at least 2 active drugs. Because there is such a variety of drugs and drug classes, maintaining virologic suppression represents an appropriate goal for all patients.

Achieving undetectable viral load in an ART-naïve patient usually occurs within the first 8 to 24 weeks of therapy, depending on the baseline viral load and the regimen chosen. Lower baseline viral load and the use of integrase inhibitor-based regimens are associated with more rapid virologic suppression. Other predictors of success include use of potent ARV regimens, adherence to therapy, and higher baseline CD4+ T-cell count. Of these predictors, the most important is adherence.

### **Selection of Initial Regimen**

There are several recommended and alternative initial ARV regimens, many of which have comparable efficacy but vary somewhat in dosing frequency, pill burden, drug interactions, and potential adverse effects. Regimens should be tailored for the individual patient to enhance adherence and thereby improve long-term outcomes. Individual regimen choice is based on such considerations as expected adverse effects, convenience, comorbidities, interactions with coadministered medications, and results of pretreatment drug-resistance testing. Both the University of Liverpool in the United Kingdom and the University of California, San Francisco, maintain regularly updated databases on interactions between ARVs and numerous other medications: <https://www.hiv-druginteractions.org/>, and <http://arv.ucsf.edu/insite?page=ar-00-02>, respectively. The DHHS ART guidelines also contain extensive information on interactions between ARVs and other medications.

### Improving Adherence

Suboptimal adherence may result in reduced treatment response. Incomplete adherence can result from complex medication regimens, patient factors such as active substance abuse and depression, and health system issues, including interruptions in patient access to medication and inadequate treatment education and support. Clinicians should ensure that measures are in place to optimize treatment adherence before and after ART is initiated. The DHHS Guidelines contain detailed recommendations on approaches to enhancing adherence.

### Rationale for Prompt Initiation of ART

Early diagnosis of HIV and linkage to care are associated with improved clinical outcomes, as the magnitude of CD4+ T-cell count recovery is directly correlated with a patient’s CD4+ T-cell count at ART initiation. Therefore, many individuals who start ART with CD4+ T-cell counts <350 cells/mm<sup>3</sup> never achieve CD4+ T-cell counts >500 cells/mm<sup>3</sup> after as many as 10 years on ART and have a shorter life expectancy compared with those who start therapy at higher CD4+ T-cell counts.

Two large controlled trials that addressed the optimal time to initiate ART—the START and TEMPRANO studies—demonstrated an approximately 50% reduction in morbidity and mortality among HIV-positive individuals who had CD4+ T-cell counts >500 cells/mm<sup>3</sup> and who were randomized to receive ART immediately vs delaying initiation of ART. Findings such as these underlie recommendations for immediate start of ART for all HIV-infected persons, regardless of CD4+ T-cell count.

Although initiation of ART is recommended for all HIV-infected persons, the need to start treatment is particularly urgent for individuals with the following conditions:

- Pregnancy
- AIDS-defining conditions, including HIV-associated dementia (HAD) and AIDS-associated malignancies
- Acute OIs
- CD4+ T-cell count <200 cells/mm<sup>3</sup>
- HIV-associated nephropathy
- Acute/early HIV infection
- HBV or HCV coinfection

Against that background, the core DHHS recommendations regarding when to initiate ART are the following:

- ART is recommended for all HIV-infected individuals to reduce the risk of disease progression.
- ART is also recommended for HIV-infected individuals to prevent HIV transmission.
- Patients starting ART should receive education regarding the benefits and risks of therapy and ways to optimize adherence.
  - Patients may choose to postpone therapy, and providers may decide to defer therapy on the basis of clinical and/or psychosocial factors.

#### Adolescents with HIV

Compared with adults, young people have tended to have significantly lower levels of treatment adherence and virologic suppression and higher rates of viral rebound following initial HIV suppression. Because youth often face multiple psychosocial and other barriers to adherence, their ability to adhere to therapy should be carefully considered when deciding whether to start treatment. Although some adolescents may not be ready to initiate therapy, clinicians should offer ART while providing effective interventions to assess and address barriers to agreeing to and adhering to therapy, including a multidisciplinary care team that can provide psychosocial and adherence support.

#### **Initial Regimens for ARV-Naive Patients**

More than 25 ARV drugs in 6 mechanistic classes have been approved by the US Food and Drug Administration (FDA) to treat HIV infection. These 6 classes include the nucleoside/nucleotide reverse transcriptase inhibitors (NRTIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), protease inhibitors (PIs), a fusion inhibitor (FI), a CCR5 antagonist, and integrase strand transfer inhibitors (INSTIs). In addition, 2 drugs (pharmacokinetic [PK] enhancers or boosters) are used solely to improve the pharmacokinetic profiles of some ARV drugs (eg, PIs and the INSTI elvitegravir).

#### Recommended Regimens

An ARV regimen for a treatment-naive patient generally consists of 2 NRTIs plus a third active ARV from one of 3 drug classes: an INSTI, an NNRTI, or a PI with a PK enhancer (cobicistat or ritonavir). As shown in clinical trials and by retrospective analyses of patients in clinical care, this strategy has resulted in viral load decreases and CD4+ T-cell count increases in most patients. Selection of a regimen should be individualized for each patient based on virologic efficacy, potential adverse effects, pill burden, dosing frequency, potential drug-drug interactions, comorbidities, cost, access, and resistance test results.

The DHHS guidelines recommend the following regimens for most ARV-naive patients:

- Integrase strand transfer inhibitor-based regimens:
  - Dolutegravir/abacavir/lamivudine (coformulated in a single tablet)—only for patients who are HLA-B\*5701-negative
  - Dolutegravir plus either tenofovir disoproxil fumarate (TDF)/emtricitabine or tenofovir alafenamide (TAF)/emtricitabine
  - Elvitegravir/cobicistat/TDF/emtricitabine (coformulated in a single tablet)—not recommended in patients with pretreatment estimated creatinine clearance <70 mL/minute
  - Elvitegravir/cobicistat/TAF/emtricitabine (coformulated in a single tablet)—not recommended in patients with pretreatment estimated creatinine clearance <30 mL/minute
- Raltegravir plus either TDF/emtricitabine or TAF/emtricitabine
- Several other regimens are also recommended as initial therapy in certain clinical situations—eg, concurrent treatment of tuberculosis with rifamycin, HBV coinfection, or hyperlipidemia. These regimens are effective and tolerable but have some disadvantages compared with the regimens listed above, or have fewer supporting data from clinical trials. However, in certain clinical situations, one of these regimens may be preferred:
  - Darunavir/cobicistat or darunavir/ritonavir plus either TDF/emtricitabine or TAF/emtricitabine
  - Atazanavir/cobicistat or atazanavir/ritonavir plus either TDF/emtricitabine or TAF/emtricitabine
  - Darunavir/cobicistat or darunavir/ritonavir plus abacavir/lamivudine
  - Atazanavir/cobicistat or atazanavir/ritonavir plus abacavir/lamivudine
  - Efavirenz plus either TDF/emtricitabine or TAF/emtricitabine

- Coformulated rilpivirine/TDF emtricitabine—if viral load <100,000 copies/mL and CD4+ T-cell count >200 cells/mm<sup>3</sup>
- Raltegravir plus abacavir/lamivudine—if HLA-B\*5701-negative and viral load <100,000 copies/mL
- Regimens to consider in patients who cannot use abacavir, TAF, or TDF
  - Darunavir/ritonavir plus raltegravir—if viral load <100,000 copies/mL and CD4+ T-cell count >200 cells/mm<sup>3</sup>
  - Darunavir/ritonavir plus lamivudine

#### Choosing the 2 NRTIs

Nearly all of the recommended first-line ART regimens include a coformulated NRTI combination of abacavir/lamivudine, TAF/emtricitabine, or TDF/emtricitabine. The emtricitabine and lamivudine components have few adverse events and comparable efficacy. The main advantages of TAF and TDF over abacavir are their activity against HBV and no need for HLA-B\*5701 testing. TDF has been associated with lower lipid levels than TAF and abacavir but also with declines in kidney function, proximal renal tubulopathy, and reduced bone mineral density (BMD). Therefore, TAF's main advantage over TDF is its more favorable effects on renal markers and BMD. Abacavir's main advantages over TDF are that it does not require dose adjustment in patients with renal insufficiency and has less nephrotoxicity and less effect on BMD. However, abacavir has been linked to cardiovascular events in some observational studies.

#### Choosing among an INSTI, PI, or NNRTI

Whether to prescribe an INSTI, PI, or NNRTI as the third drug for initial ART should be guided by the regimen's efficacy, genetic barrier to resistance, adverse effects profile, and convenience. Other considerations include the patient's comorbidities, concomitant medications, and the potential for drug-drug interactions. DHHS's recommended initial regimens for most patients include an INSTI plus 2 NRTIs. For most patients, an INSTI-containing regimen will be highly effective and have few adverse effects. In addition, studies comparing boosted PI- and INSTI-containing regimens have shown that the INSTI was better tolerated with fewer treatment discontinuations. An exception is for individuals with uncertain adherence or in whom treatment must begin before resistance testing results are available (eg, during acute HIV infection, pregnancy, and with certain OIs). In these circumstances, darunavir/ritonavir may be preferable due to its low rate of transmitted PI resistance, high resistance barrier, and low rate of treatment-emergent resistance.

Dolutegravir may also be considered for patients who must start ART before resistance results are available. Because of its high resistance barrier,

dolutegravir resistance is uncommon in patients who experience virologic failure, and transmitted resistance has not yet been reported. Atazanavir/ritonavir has excellent virologic efficacy and relatively few metabolic adverse effects vs other boosted PIs; however, one study showed that atazanavir/ritonavir had a higher rate of discontinuation due to adverse effects vs darunavir/ritonavir and raltegravir. On the other hand, it was associated with less progression of atherosclerosis; whether this translates into clinical benefit is uncertain. Large observational cohorts have found an association between the PIs darunavir/ritonavir, fosamprenavir, indinavir, and lopinavir/ritonavir and increased risk of cardiovascular events that was not seen with atazanavir.

NNRTI-based (efavirenz or rilpivirine) regimens may be preferable for some patients, although these agents have low resistance barriers. Efavirenz has long been used successfully worldwide, and its minimal interaction with rifamycins makes it an attractive option for patients who require coadministered TB treatment. However, the relatively high rate of central nervous system-related adverse effects makes efavirenz-based regimens less tolerable than other regimens. Rilpivirine has fewer adverse effects than efavirenz, is available as one of the smallest coformulated tablets, and has a favorable lipid profile, although it has lower virologic efficacy in patients with baseline viral load >100,000 copies/mL and CD4+ T-cell count <200 cells/mm<sup>3</sup>.

#### Acute and Early HIV Infection

Healthcare providers should maintain a high level of suspicion for acute HIV infection in patients who have a compatible clinical syndrome—especially in those who report recent high-risk behavior. Patients may be reluctant to disclose or admit to high-risk behaviors, or they may not even realize that their behaviors put them at risk for acquiring HIV. Therefore, even in patients who do not report high-risk behaviors, signs and symptoms consistent with acute retroviral syndrome should raise suspicion of acute HIV infection. Because the symptoms of acute HIV infection resemble those of many other viral infections—eg, influenza, mononucleosis—nonspecialist practitioners may not recognize acute HIV infection and should be familiar with the signs and symptoms of early HIV infection so that recently infected individuals can be promptly diagnosed and linked to HIV care.

“Acute” infection is the phase of HIV disease immediately after infection; it is characterized by an initial burst of viremia, but absence of detectable HIV antibodies. “Recent” infection generally is considered the phase up to 6 months after infection during which HIV antibodies are detectable.

Together, acute and recent HIV infections are considered “early” infection. Although some persons may exhibit the above signs and symptoms, a recent prospective study has shown that most patients have nonspecific and relatively mild signs and symptoms.

In routine clinical practice, the following findings should give rise to suspicion of acute HIV infection:

- A potential diagnosis of acute HIV-1 infection should be considered in individuals who present with signs or symptoms of acute HIV-1 infection and who have had recent (within 2 to 6 weeks) high risk of exposure to HIV-1.
- High-risk exposures include sexual contact with an HIV-infected person or a person at risk of HIV infection, sharing IDU paraphernalia, or contact of mucous membranes or breaks in skin with potentially infectious fluids.
- Signs, symptoms, or laboratory findings may include but are not limited to  $\geq 1$  of the following: fever, lymphadenopathy, skin rash, myalgia/arthritis, headache, diarrhea, oral ulcers, leucopenia, thrombocytopenia, transaminase elevation.
- The differential diagnosis of patients presenting with HIV infection may include, but is not limited to, viral illnesses such as Epstein-Barr virus (EBV) and non-EBV (eg, cytomegalovirus) infectious mononucleosis syndromes, influenza, viral hepatitis, streptococcal infection, or syphilis.

In cases of suspected acute HIV infection, the following diagnostic measures apply:

- Acute HIV infection is defined as detectable viral load or p24 antigen in the setting of a negative or indeterminate HIV antibody test result.
- Reactive HIV antibody test result or antigen/antibody combination test result must be followed by confirmatory testing.
- Negative or indeterminate HIV antibody test result in a person with a reactive antigen/antibody test result or in whom acute HIV infection is suspected requires assessment of plasma viral load to diagnose acute infection.
- Positive result on a plasma HIV RNA test in the setting of a negative or indeterminate antibody test result indicates that acute infection is highly likely and should later be confirmed by documentation of HIV antibody seroconversion.

Some healthcare facilities may still use HIV testing algorithms that recommend initial testing with an assay that tests only for HIV antibodies. In such settings, when acute HIV infection is suspected in a patient with a negative or indeterminate HIV

antibody result, a quantitative or qualitative HIV RNA test should be performed. A presumptive diagnosis of acute HIV infection can be made on the basis of a negative or indeterminate HIV antibody test result and a positive HIV RNA test result. Providers should be aware that a low-positive viral load (eg, <10,000 copies/mL) may represent a false-positive result because HIV RNA levels in acute infection are generally very high (eg, >100,000 copies/mL). Therefore, when a low-positive quantitative viral load result is returned, the test should be repeated using a different specimen from the same patient. In this setting, the diagnosis of HIV infection should be confirmed by subsequent documentation of HIV antibody seroconversion.

Practitioners who identify early HIV infection in a patient should be aware of the following considerations in deciding whether and when to initiate ART:

- ART is recommended for all HIV-infected individuals.
- All pregnant women with early HIV infection should start ART as soon as possible to prevent perinatal transmission of HIV.
- For patients with early HIV infection who begin ART, testing for plasma viral load, CD4+ T-cell count, and toxicity monitoring should be done just as for those with chronic infection.
- Genotypic drug resistance testing should be performed before starting ART to guide selection of the regimen, but ART should be started as soon as possible, often before resistance test results are available. If resistance is subsequently identified, treatment should be modified as needed.
- If no resistance data are available, a boosted PI-based regimen is recommended because resistance to PIs emerges slowly and clinically significant transmitted PI resistance is uncommon. For similar reasons, dolutegravir plus either TDF/emtricitabine or TAF/emtricitabine are reasonable options.
- In patients without transmitted resistance, ART should be started with one of the combination regimens recommended for patients with chronic infection.
- Patients starting ART should be willing and able to commit to treatment and should understand the possible benefits and risks of ART and the importance of adherence.
- Patients may wish to delay the start of treatment, and clinicians may decide, on a case-by-case basis, to do so because of clinical and/or psychosocial factors.

**Virologic Failure and Treatment-experienced Patients**

The ART regimens that are currently recommended for initial therapy of HIV-positive patients provide a high probability of achieving and maintaining viral load levels below the lower limits of detection of currently available assays. Patients receiving ART who do not achieve this fundamental treatment goal or who experience virologic rebound can develop resistance mutations to ≥1 of the drugs in their regimens. Many patients who have detectable viral loads have challenges related to adhering to treatment. Depending on their treatment histories, some of these patients may have minimal or no drug resistance, whereas others may have extensive resistance. Managing patients with extensive resistance is complex, requiring extensive understanding of resistance patterns within and among the various antiretroviral classes. In most cases, management of patients who have HIV drug resistance or who experience treatment failure for other reasons requires consultation with an HIV expert and should not be attempted by practitioners with limited experience in this area.

**Culturally Competent Care**

**Defining Cultural Competence**

Sensitivity to the needs of individuals from all ethnicities, languages, and ways of life can make a large contribution to developing a productive, respectful relationship between healthcare providers and patients who may enter such a relationship with significant cultural differences. For several decades, efforts to engender cultural competence have been pursued as key for healthcare providers to understand and respond effectively to the cultural and linguistic needs and practices that patients present during a clinical encounter. Many healthcare organizations across the United States have developed culturally responsive practices, and some academic institutions and community organizations have developed tools and resources to help healthcare organizations improve their services for diverse populations.

In 2000, after a lengthy process of research and public hearings, the Department of Health and Human Services Office of Minority Health issued a report, "National Standards for Culturally and Linguistically Appropriate Services (CLAS) in Health and Health Care." (In addition, the office's Think Cultural Health website, [www.thinkculturalhealth.hhs.gov](http://www.thinkculturalhealth.hhs.gov), contains a trove of resources on health disparities, culturally competent care, and related issues.) The CLAS Standards are a set of 15 action steps intended to advance health equity, improve quality, and help eliminate healthcare disparities by providing a blueprint for individuals and healthcare organizations to implement culturally and

linguistically appropriate services. The standards, which are classified under 4 categories, are shown in Table 2.

Since the CLAS Standards were issued, an extensive array of tools, services, and organizations has emerged to help guide healthcare organizations to understand the standards and to develop programs, educational materials, and staffing that will optimize healthcare services for the tapestry of races, ethnicities, cultures, and languages that comprise the US population. Because the cultural competence literature is so vast, this section will present only features that may be valuable to healthcare practitioners who serve the different demographic groups affected by HIV. This section does not attempt to review the socioeconomic, historical, and other factors that underlie cultural preferences and practices (although links to further information are included). Rather, the focus will

be on particular measures that practitioners may find useful in relating more productively with their patients.

**Cultural Competence Framework**

Many clinicians treat patients from a variety of racial/ethnic and cultural backgrounds, and being able to provide care that is appropriate for each patient's particular needs is critical. One HIV clinician has advocated the use of "a cultural competence framework." This framework, as outlined below, offers the advantage of not requiring a clinician to memorize all of the specific beliefs and practices that are characteristic of each different group. Rather, it utilizes a structured provider-patient dialogue that allows the patient to introduce key issues that are important to her or him, whether involving culture, lifestyle, religion, sexual behaviors, or other factors.

**Table 2. National CLAS Standards**

<b>Principal Standard</b>
Provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs.
<b>Governance, Leadership, and Workforce</b>
Advance and sustain organizational governance and leadership that promotes CLAS and health equity through policy, practices, and allocated resources.
Recruit, promote, and support a culturally and linguistically diverse governance, leadership, and workforce that are responsive to the population in the service area.
Educate and train governance, leadership, and workforce in culturally and linguistically appropriate policies and practices on an ongoing basis.
<b>Communication and Language Assistance</b>
Offer language assistance to individuals who have limited English proficiency and/or other communication needs, at no cost to them, to facilitate timely access to all healthcare and services.
Inform all individuals of the availability of language assistance services clearly and in their preferred language, verbally and in writing.
Ensure the competence of individuals providing language assistance, recognizing that the use of untrained individuals and/or minors as interpreters should be avoided.
Provide easy-to-understand print and multimedia materials and signage in the languages commonly used by the populations in the service area.
<b>Engagement, Continuous Improvement, and Accountability</b>
Establish culturally and linguistically appropriate goals, policies, and management accountability, and infuse them throughout the organization's planning and operations.
Conduct ongoing assessments of the organization's CLAS-related activities and integrate CLAS-related measures into measurement and continuous quality improvement activities.
Collect and maintain accurate and reliable demographic data to monitor and evaluate the impact of CLAS on health equity and outcomes and to inform service delivery.
Conduct regular assessments of community health assets and needs and use the results to plan and implement services that respond to the cultural and linguistic diversity of populations in the service area.
Partner with the community to design, implement, and evaluate policies, practices, and services to ensure cultural and linguistic appropriateness.
Create conflict and grievance resolution processes that are culturally and linguistically appropriate to identify, prevent, and resolve conflicts or complaints.

The steps to employ this cultural competence framework are:

- Identify the patient's core cultural issues—by asking about values and preferences regarding healthcare, while watching for any spoken or nonverbal hints about these preferences.
- Explore what HIV means to the patient by asking what the patient believes might have caused it and how it affects his or her life. This can elicit information about how the patient regards his own culture's values.
- Inquire about the patient's social context:
  - To what extent does the patient feel in control of life—eg, are there financial or other material constraints?
  - Has the patient experienced any change in environment, such as immigration or relocation?
  - What is the patient's preferred language and what is her or his literacy level?
  - What kind of support systems does the patient have, including factors such as sources of stress, living situation, religious affiliation, family and friends?
  - Negotiate with the patient to develop a treatment plan that is agreeable to both the patient and the practitioner.

This framework allows a practitioner to learn the key issues that are important to the patient—eg, the extent to which he or she adheres to the traditional values of his culture or is more acculturated to mainstream US society—and to incorporate them into a treatment plan. In addition, however, practitioners who are managing diverse groups of patients need to take additional measures to optimize patient outcome, as discussed in the following sections.

## **African Americans**

### ***Importance of Staff Diversity***

An analysis from the HIV Cost and Services Utilization Study (HCSUS) found that racial concordance between HIV-positive patients and their providers was associated with reduced time to starting ART for African American patients. Such findings confirm the important potential benefit of diversifying the clinical staff who are involved in caring for HIV-positive patients, but recruiting other patient-facing staff—eg, front-desk staff, medical assistants—who are African American can substantially increase African American patients' comfort level. Furthermore, both current and new staff members at all levels should receive regular cultural competence education and training.

### ***Improving Use of HIV Testing and Access to Care***

Increasing the numbers of African Americans who are aware of their HIV status represents a critical first step in decreasing health disparities. Studies have shown that individuals who know that they are HIV-positive typically reduce risky sexual behaviors, thereby helping to reduce HIV transmission and community viral load. In addition, HIV-positive persons who are not aware of their status are the primary cause of new HIV infections. Expanding the number of African Americans who are aware of their HIV status will require that both community members and the healthcare providers who work with them become knowledgeable about the CDC's guidelines for HIV testing. Similarly, in order to link HIV-positive African Americans to care and to ensure that they are retained in care, healthcare providers and facilities need to develop and implement approaches that take into account the many risks and challenges faced by African Americans in accessing HIV information and healthcare services in general.

A host of programs designed to increase the rates of testing and to expand access to care among HIV-positive African Americans have been developed, tested, and implemented. Some of these have succeeded, some have not, and some are ongoing. A number of the resources listed below discuss these programs. The following section will provide a discussion of just two of these programs.

#### STYLE

One program, called the YMSM of Color Initiative, was developed by the US Health Resources and Services Administration (HRSA). Through social marketing aimed at young people and members of their sexual and social networks on college campuses and within broader communities, Hightow-Weidman and colleagues developed STYLE (Strength Through Youth Livin' Empowered), an intervention meant to diagnose, engage, and retain young HIV-positive African American and Hispanic MSM in HIV care. Through STYLE, the researchers evaluated 81 MSM who were either newly diagnosed or reengaged in care during a 3-year period. Retention in care was defined as attending  $\geq 1$  medical visit every 4 months.

The main components of STYLE are:

- A social marketing campaign developed with input from a youth advisory board and focus groups
- Intensified outreach—via social and sexual networks—to groups serving young African Americans and Hispanics
- A tightly linked network of medical and social support (including an infectious disease physician overseeing the care of all patients)

for HIV-positive youth who are newly diagnosed or reengaging in care)

One goal of STYLE was to address young people's previously unmet needs by providing services beyond the standard of care:

- A peer outreach worker
- A case manager
- Research staff members who formed a medical/social support system (eg, weekly support group meetings and staff members available by text or phone to assist with appointments or to answer medical questions)

Participants—identified at STYLE-sponsored HIV testing events or through testing done through partner agencies and local health departments—received a physician appointment within 72 hours, thereby linking them almost immediately to care. STYLE also partnered with a local AIDS service organization (ASO). This approach enabled STYLE to leverage the resources of an academic medical center, an ASO, and a local historically African American university to provide a comprehensive strategy to identify, test, and link HIV-positive young MSM into care.

#### Outcomes

The researchers reported that 63% of the overall STYLE participants were retained in clinical care (ie, 67% of the newly diagnosed group and 55% of the reengaging group kept all of their scheduled visits). Still, among those who missed at least one 4-month visit—and therefore were considered not retained in regular care—the newly diagnosed participants kept 73% of their visits, and the reengaged kept 67% of their visits, with forgetting and transportation difficulties cited as the most common reasons for missing appointments.

Fifty participants (62%) began ART during their enrollment in STYLE; at 1 year 34 achieved viral load  $< 200$  copies/mL at 3, 6, and 12 months (79%, 75%, and 76%, respectively). The mean change in CD4+ T-cell count for all patients was an increase of 100 cells/mm<sup>3</sup>, and the percentage with CD4+ T-cell count  $\geq 350$  cells/mm<sup>3</sup> increased from 71% at baseline to 85% at study end.

#### Recommendations

Regarding the components of a successful outreach effort for young HIV-positive African Americans, Hightow-Weidman and colleagues observed that having young people actively involved in making their healthcare decisions is key and that doing so requires a multidisciplinary care team that provides comprehensive, culturally sensitive care for all of the patients' developmental, physical, and mental health issues. Important elements of a successful multidisciplinary approach should involve HIV

counseling, testing, and referral services at venues frequented by young African Americans or through outreach to make testing easily accessible and linkage to care seamless.

#### Popular Opinion Leader (POL) Approach

In the context of the very small number of HIV interventions designed specifically for African American MSM, Jones and colleagues adapted a proven intervention that had been developed for MSM populations generally. The investigators chose as their model the Popular Opinion Leader (POL) intervention, a community-level intervention that seeks to increase safer-sex norms among members of a target population, in this case, white MSM in Southern cities. The POL approach recruits and trains opinion leaders to engage friends and acquaintances in risk reduction conversations, with the goal of increasing healthy sexual behaviors.

#### **African American HIV Resources**

##### ***BEBASHI***

A Philadelphia organization that provides HIV prevention and support services to that city's African American community:  
[www.bebashi.org](http://www.bebashi.org).

##### ***Black AIDS Institute***

A policy center dedicated to reducing HIV-related health disparities by mobilizing community institutions and individuals to confront the epidemic in their communities:  
[www.blackaids.org](http://www.blackaids.org).

##### ***Black Brothers Esteem***

A San Francisco AIDS Foundation program for African American gay, bisexual, and same gender-loving men regardless of HIV serostatus:  
[www.sfaf.org/client-services/black-brothers-esteem/?utm\\_source=url-redirect&utm\\_medium=url-redirect&utm\\_term=sfaf.org%2FBBE&utm\\_campaign=SFaf-org-redirect](http://www.sfaf.org/client-services/black-brothers-esteem/?utm_source=url-redirect&utm_medium=url-redirect&utm_term=sfaf.org%2FBBE&utm_campaign=SFaf-org-redirect).

##### ***National Minority AIDS Council***

NMAC's mission is to develop leadership in communities of color to end the HIV epidemic:  
<http://nmac.org>.

##### ***Office of Minority Health***

OMH is a part of the US Department of Health and Human Services, with the goal of improving the health of racial and ethnic minority populations through the development of health policies and programs that will help eliminate health disparities:  
<https://minorityhealth.hhs.gov/>.

##### ***Whitman-Walker Clinic***

Whitman-Walker provides prevention and care services throughout the Washington, DC, area:  
[www.whitman-walker.org](http://www.whitman-walker.org).

Jones and colleagues targeted African American MSM 18 to 30 years of age by conducting the study's recruitment and evaluation in nightclubs frequented by the target population. They asked participants to identify issues and challenges facing MSM, barriers to accessing prevention services, topics that prevention activities should address, and the best approaches to marketing interventions for African American MSM. The information gathered was used to adapt the POL intervention. In a series of 4 interviews over 1 year, they gathered a total of 1,190 responses to the questionnaires.

#### Results

- The researchers reported the following findings:
- Significant decreases in unprotected receptive anal intercourse at 4 months (by 23.8%) and 8 months (by 24.7%)
- Significant decreases in unprotected insertive anal intercourse (by 35.2%), unprotected receptive anal intercourse (by 44.1%), and any unprotected anal intercourse (by 31.8%) at 12 months
- Decrease of 40.5% in mean number of partners for unprotected receptive anal intercourse at 12 months
- 53% decrease in mean number of unprotected insertive anal intercourse episodes
- 56.8% decrease in mean number of unprotected receptive anal intercourse episodes
- Increases in the percentage of respondents reporting always using condoms for insertive and receptive anal intercourse of 23% and 30.3%, respectively

#### Recommendations

- The researchers concluded that successful interventions for African American MSM should include these elements:
- Dispel myths about HIV disease, including conspiracy beliefs, as these are associated with inconsistent condom use among African American men
- Assess community and agency needs and challenges and establish appropriate linkages among researchers, target population, and community-based agencies before designing, implementing, or evaluating interventions
- Employ investigators and project staff who are demographically similar to the target population (race, gender, age, and sexual identity) to design, implement, and evaluate interventions

#### Summary

In managing the care of HIV-positive African Americans, practitioners should be familiar with the key risk factors for HIV transmission and inadequate

access to care and with the very serious challenges related to these young people's social, cultural, and financial circumstances. Moreover, practitioners should learn how to apply this knowledge during clinical encounters. Appreciation of African American MSM's beliefs, attitudes, and behaviors can be practically applied through a "cultural competence framework" that allows a practitioner to learn the issues that are important to the patient and to incorporate them into treatment plans. Effective communication is key to patient satisfaction with healthcare encounters. Practitioners should take appropriate measures to ensure that patients understand and agree with recommended treatment plans. Staff diversity plays an important role in enhancing patients' comfort in accessing HIV care services. ART adherence is critical to optimal clinical outcomes, and studies have shown that race/ethnicity are not associated with patients' ability to achieve optimal adherence. Factors associated with greater risk of poor adherence include: depression, active alcohol or substance abuse, and low health literacy.

#### **Hispanics/Latinos**

Hispanic communities face unique challenges in accessing healthcare services and receiving culturally and linguistically appropriate and effective care. The following paragraphs very briefly review some of these challenges:

**Poverty.** With a poverty rate of 26.7%, Latinos experience poverty much more frequently than the population as a whole (15.2%), leading to a range of problems that can impede their ability to access and benefit from healthcare services.

**Insurance Issues.** Health insurance coverage has often posed a significant barrier to accessing healthcare services, according to 2011 Kaiser Family Foundation survey:

- HIV-positive Hispanics were more likely to be publicly insured or uninsured than non-Hispanic whites, with 50% vs 32%, respectively, relying on Medicaid.
- Nearly one-quarter (24%) of HIV-positive Hispanics were uninsured, compared to 17% of non-Hispanic whites.
- A much smaller proportion of Hispanics than non-Hispanic whites had private health insurance (23% vs 44%, respectively).

**Immigrants.** Undocumented immigrants experience certain increased risks for HIV transmission. Researchers have found that Hispanic MSM often come to the United States to escape homophobia and to gain greater sexual freedom. For migrant workers particularly, some HIV risk factors are associated with migrant living:

- Frequent mobility
- Geographic barriers to healthcare services

- Limited education
- Psychosocial factors (isolation, discrimination)
- Poverty (chronic underemployment, substandard housing)

**Language Barriers.** A wide range of English-language fluency characterizes Hispanic communities—from monolingual Spanish through limited English fluency to monolingual English. Individuals' language facility can affect their ability to understand HIV prevention messages, adherence to provider instructions, and satisfaction with healthcare encounters. Some Spanish-speaking patients, for example, report being more satisfied when they receive care from Spanish-speaking practitioners or when interpreters are present during healthcare encounters. Other issues include lack of printed materials and signage in the appropriate language or at the appropriate literacy level.

**Culture.** This includes the pluses and minuses of machismo and familismo, protecting the family on the one hand and engaging in risky sexual behaviors as a way to assert masculinity or not getting an HIV test or treatment because of family advice and opinions on the other. Studies have reported that many HIV-positive Hispanics seek treatment at botanicos (stores that sell traditional herbal medicines) or curanderos (practitioners of folk medicine), where

they may find supportive encounters that they do not receive from mainstream practitioners.

### **Culture-specific Approaches**

Increasing HIV testing and linkage to care among Hispanics will require healthcare practitioners to be aware of the sociocultural issues that contribute to beliefs, behaviors, and attitudes to ensure that their patients understand what being HIV-positive means and how it can be effectively clinically managed. Knowing the importance of 2 values that are prized among Hispanic cultures can enhance provider-patient communications:

- **Personalismo.** In Hispanic communities, personalismo represents a preference for personal relationships and human interactions that are characterized by a sense of familiarity and warmth. Practitioners who appreciate the value of personalismo and try to act accordingly during patient encounters are more likely to gain patients' trust. Patients, in turn, may be more receptive to clinicians' instructions and more likely to adhere to treatment plans after they have experienced a warm, respectful interaction.
- **Simpatia.** For many Hispanics, simpatia (kindness) stresses the importance of polite, empathetic social relations; simpatia also involves avoiding assertiveness, negativity, and criticism. Practitioners should keep in mind that for some patients, this may lead to a reluctance to question a provider's instructions or to ask for clarification, which increases the risk for inadequate adherence and poorer outcomes.

The following include some of the measures that practitioners can use to incorporate personalismo and simpatia into clinical encounters with their HIV-positive young Hispanic patients:

- Maintain eye contact as a way of showing respect.
- Use facial expressions such as an unforced, friendly smile to help make the patient feel comfortable and involved in the encounter.
- Valuable gestures can include walking up to and greeting the patient with a handshake at the start of the visit, as well as offering a handshake at its end.
- In addressing Hispanic patients, use appropriate titles—eg, Mr., Ms., and so forth.
- If the patient requires or requests the use of an interpreter to guarantee appropriate communication and understanding, be sure that one is available.

### **Men Who Have Sex with Men (MSM)**

As discussed in the Epidemiology section of this program, MSM have long comprised a large majority (more than two-thirds of new diagnoses) of people

with HIV in the United States. CDC analyses show that from 2008 to 2014, HIV infections stabilized among MSM overall. During the same time, HIV infections declined by 18% among white MSM (from 9,000 to 7,400 infections), stabilized among African American MSM (approximately 10,000 infections per year), and increased by 20% among Hispanic MSM (from 6,100 to 7,300 infections). It is important to note, however, that young African American MSM (13 to 24 years of age) accounted for more new diagnoses than any other subgroup by race/ethnicity, age, and sex—meaning that they are the most severely affected subpopulation of MSM.

Many MSM remain unaware of their status and may unknowingly transmit HIV to others. Therefore, encouraging sexually active MSM to be tested for HIV at least annually, or more frequently if appropriate, is critical. For some MSM—especially those in communities of color—social and economic factors, including homophobia, stigma, and lack of access to healthcare—may increase risky behaviors or pose barriers to receiving HIV prevention services.

### **Intersecting Health Issues**

For MSM, HIV must be regarded as one of many intersecting and mutually reinforcing health challenges; these may include other STIs, substance use, mental health challenges, and violence—all issues that healthcare providers should address to provide optimal care for this population. Halkitis and colleagues reported that, of 349 young MSM in the P18 Cohort Study, nearly 10% have already been exposed to syphilis and 2% were actively infected with either urethral or rectal chlamydia and 2% with urethral or rectal gonorrhea. Such findings indicate the health challenges that MSM experience, as well as the fact that many are either not accessing care or are not being routinely screened for these infections. In addition, <10% of participants reported having received the full dosage of HPV vaccination for protection against rectal and genital warts and certain forms of cancer. Alarmingly, almost 40% had not accessed any medical care at all in the previous 12 months and approximately 60% did not have a primary source of healthcare.

Too often, healthcare for MSM is limited to prevention and treatment for HIV, despite the other health challenges they may face. Comprehensive care includes screening and care for mental health and substance use, cardiovascular health, and comprehensive testing for STIs other than HIV. Primary care can also link these men to HIV prevention services, such as PrEP. In part this is because men in general, regardless of sexual orientation, are less likely than women to access healthcare. This nexus of concerns underlines the

### **Hispanic Resources**

#### **AIDS Project Los Angeles**

A long-established, comprehensive HIV service organization offering many Spanish-language programs and resources.  
[www.apla.org](http://www.apla.org).

#### **Diaz RM. Latino Gay Men and HIV: Culture, Sexuality, and Risk Behavior.**

Taylor and Francis; 1997.  
Latino Commission on AIDS  
A community-based HIV education and advocacy organization.  
[www.latinoids.org/](http://www.latinoids.org/).

#### **Office of Minority Health**

OMH is a part of the US Department of Health and Human Services, with the goal of improving the health of racial and ethnic minority populations through the development of health policies and programs to help eliminate health disparities.  
<https://minorityhealth.hhs.gov/>.

#### **National Minority AIDS Council**

An association of >3,000 HIV service organizations serving people of color.  
[www.nmac.org/](http://www.nmac.org/).

importance of culturally competent healthcare in which MSM feel free to discuss a range of health and sexuality concerns.

#### MSM Age Cohorts

*Young MSM.* Young MSM face unique challenges: They may face a lack of support or even rejection from people close to them (family, friends, classmates) or from people in authority (clergy, teachers, coaches). In addition, they may be subject to bullying, harassment, threats, and violence. According to an Institute of Medicine report, young MSM may experience higher rates of smoking, alcohol use, substance abuse, STIs, anxiety, depression, suicidal ideation and attempts, and eating disorders. Clinicians should be aware of these risks and be prepared with education, referrals, and resources—he or she may be a young person's only adult confidant. The degree of safety, comfort, openness, and respect that patients feel often has an impact on their future access to healthcare, risk reduction, and help-seeking behaviors.

*Older MSM.* Older MSM experience many of the same concerns about aging as the rest of the population, along with unique challenges and concerns, as discrimination, stigma, and victimization within the healthcare system remain a problem. In addition, they are less likely to have children than heterosexual elders and are less likely to receive care from adult children, and some may experience isolation due to a lack of family or social support. The organization SAGE (Services and Advocacy for GLBT Elders) offers the National Resource Center on LGBT Aging, a clearinghouse of information for care givers of LGBT older adults (<https://www.sageusa.org/programs/nrc.cfm>).

A further barrier, especially for those residing outside large urban centers, is the difficulty of finding culturally competent care. Whether patients request an influenza vaccine or an STI screening, it is critical that they feel comfortable in discussing all health concerns with their clinicians. According to a 2011 Institute of Medicine report, lack of a comprehensive understanding of the healthcare needs of the LGBT (lesbian, gay, bisexual, transgender) population is one of the drivers behind the health disparities experienced by this population. Greater access to healthcare for MSM needs to be promoted—eg, by developing points of entry into the healthcare system in settings familiar to MSM such as schools; mobile units near to clubs, bars, and recreational facilities; and community centers.

#### **Culturally Competent Care**

Both individual clinicians and their practices can take some relatively simple measure to make clinic environments more welcoming and safe for MSM patients.

The following section provides a brief overview of some of these measures.

#### Creating a Welcoming Environment

It is important for a clinical environment to support the diversity of the patients it serves. Providing a welcoming environment can set the tone for the entire healthcare encounter:

- Post the practice's nondiscrimination policy in registration, waiting, or other high-traffic areas to demonstrate a commitment to equitable care for all patients.
- Waiting rooms and other common areas should be inclusive of MSM patients. Brochures and other reading material should include topics relevant to LGBT patients. LGBT-friendly symbols (eg, rainbow flag, Safe Zone sign) can be displayed in waiting areas.
- Create or designate at least one unisex or single-stall restroom. Patients whose appearance might not conform to gender stereotypes may feel more comfortable and safe in a single-stall or unisex restroom.

#### Avoiding Assumptions about Orientation and Identity

Any patient may be LGBT, regardless of appearance, behavior, age, socioeconomic status, religion, race, ethnicity, ability/disability, or culture.

- Clinicians should refrain from making assumptions about a person's sexual orientation or gender identity based on appearance. Incorrect assumptions about a patient's sexual orientation or gender identity can impede trust and rapport and lead to inappropriate care. Clinic staff who are unsure of a person's gender identity or how he/she wishes to be addressed, should ask gender-neutral questions, such as, "How would you like to be addressed?"
- Recognize that self-identification and behaviors do not always align. How an individual identifies and what behaviors he or she engages in can be fluid and change over time—eg, a man may identify as heterosexual but engage in sex with other men. In addition, the ways in which people use identity labels can vary among cultural, racial/ethnic, socioeconomic, and age groups. Practitioners should refrain from making assumptions about patients' health needs based on identification alone.

#### Providing Relevant Information and Guidance

- Become familiar with online and local resources available for MSM.
- Practitioners should obtain and become familiar with information on MSM health topics in order to be prepared with appropriate counseling and referrals.

- Several resources are available to assist providers:

- The Gay and Lesbian Medical Association's (GLMA) Guidelines for Care of Lesbian, Gay, Bisexual, and Transgender Patients, [http://glma.org/\\_data/n\\_0001/resources/live/GLMA%20guidelines%202006%20FINAL.pdf](http://glma.org/_data/n_0001/resources/live/GLMA%20guidelines%202006%20FINAL.pdf)
- American College of Physicians' Fenway Guide to Lesbian, Gay, Bisexual, and Transgender Health, <https://store.acponline.org/ebizatpro/Default.aspx?TabID=251&ProductId=21572>
- The American Medical Association's Advisory Committee on Gay, Lesbian, Bisexual and Transgender Issues, <https://www.ama-assn.org/about/advisory-committee-lgbtq-issues>

#### Collecting Community Feedback

- Conduct confidential patient satisfaction surveys that include questions regarding sexual orientation and gender identity.
- Ask patients and families about staff responsiveness to their needs.
- Encourage community input and collaboration by establishing a community advisory board.
- Engage MSM organizations to provide feedback on internal and external written material and policies.

#### Ensuring Commitment to Community

- Utilize the practice's website to communicate information about available services, programs, and initiatives to meet unique MSM needs.
- Designate an individual or create a committee to handle community outreach activities and to establish or maintain ties to community partners.
- Establish partnerships with community health centers and other community healthcare facilities.

#### **Older Patients**

The most recent HIV surveillance data reveal the extent of the HIV epidemic among older Americans, and with today's highly effective and tolerable ART regimens, these numbers will continue to increase:

- At the end of 2014, there were an estimated 428,724 HIV-positive people  $\geq 50$  years of age.
- People  $\geq 50$  years of age accounted for 17% (6,725) of the 39,513 HIV diagnoses in 2015.
- Among people  $\geq 50$  years of age, African Americans accounted for 43% of new HIV diagnoses in 2015, whites for 36%, and Hispanics for 17%.

- In this age group, 49% of new HIV diagnoses in 2015 were among gay and bisexual men, 15% among heterosexual men, 23% among heterosexual women, and 12% among persons who inject drugs.
- From 2010 to 2014, HIV diagnoses among all people ≥50 of age decreased by 10%.
  - However, annual HIV infections among gay and bisexual men in this age cohort increased 18% from 2010 to 2014.
  - In 2014, 40% of people ≥55 years of age had late-stage infection (ie, AIDS) at the time of HIV diagnosis.

Older people are more likely than younger people to present with late-stage HIV infection at the time of diagnosis, which means that they start treatment late and possibly have sustained more immune-system damage. Late diagnoses can occur because healthcare providers may not test older people for HIV infection or because older people may not consider themselves to be at risk of HIV infection or may mistake HIV symptoms for those of normal aging.

This patient scenario illustrates the importance of routine HIV screening for patients ≥50 years old as recommended by USPSTF
H.W.; male; 52 years old; lives in a rural area; no notable medical history; frequently works outdoors
<ul style="list-style-type: none"> <li>• <b>November 2012</b> <ul style="list-style-type: none"> <li>– Hospitalized for febrile illness</li> <li>– Work-up negative; no HIV test performed</li> <li>– Diagnosis: Rocky Mountain spotted fever</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>June 2015</b> <ul style="list-style-type: none"> <li>– Complains of dyspnea on exertion and chest tightness</li> <li>– Treatment: antibiotics</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>September 2015</b> <ul style="list-style-type: none"> <li>– Oral thrush               <ul style="list-style-type: none"> <li>• Treatment: fluconazole</li> </ul> </li> <li>– No HIV test performed</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>January 2016</b> <ul style="list-style-type: none"> <li>– Pneumonia               <ul style="list-style-type: none"> <li>• Treatment: prednisone and antibiotics</li> <li>• Admitted to ICU, then transferred to a major medical facility</li> <li>• Computed tomography</li> <li>• Diagnosis: <i>Pneumocystis pneumonia</i> <ul style="list-style-type: none"> <li>– Treatment: trimethoprim-sulfamethoxazole and prednisone</li> </ul> </li> </ul> </li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>January 2016</b> <ul style="list-style-type: none"> <li>– HIV-positive</li> <li>– CD4+ count: 73 cells/mm<sup>3</sup></li> <li>– Viral load: 117,000 copies/mL</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Additional history</b> <ul style="list-style-type: none"> <li>– Donated blood in 2009</li> <li>– Had HIV test in 2010 to apply for a life insurance policy; policy granted</li> <li>– Consistently denied extramarital sexual activity               <ul style="list-style-type: none"> <li>• Specifically denied sex with men</li> </ul> </li> <li>– Consistently denied injection drug use</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• <b>Routine HIV screening could have led to earlier diagnosis</b></li> <li>• Late HIV diagnosis associated with morbidity, increased healthcare costs, ongoing transmission</li> <li>• Late HIV diagnosis common in H.W.'s age group</li> </ul>

### Unique Concerns

- Many older people, including those who are HIV-positive, remain sexually active and may have the same HIV risk factors as younger people, including lack of knowledge about HIV prevention or having multiple sex partners.
- Those who are widowed or divorced may be less aware of their risks for HIV than younger people, in the belief that HIV is not an issue for older people. For that reason, they may be less likely to follow safer sex practices.
- Women who are no longer concerned about pregnancy may be less likely to use condoms or to practice safer sex. In addition, age-related thinning and dryness of vaginal tissue may increase older women's risk for HIV acquisition.
- Although older people tend to visit doctors more frequently, they are less likely to discuss their sexual habits or drug use with doctors. Moreover, doctors are less likely to ask their older patients about these issues.

Stigma is a particular concern among older people, who may already face isolation due to illness or loss of family and friends. Stigma negatively affects people's quality of life, self-image, and behaviors, and may prevent them from seeking HIV care and disclosing their HIV status. In addition, aging with HIV infection also adds to the challenges of preventing other diseases because both age and HIV increase risk for cardiovascular disease, bone loss, and certain cancers. In addition, HIV disease may affect the biology of aging itself, possibly resulting in early manifestations of clinical syndromes generally associated with advanced age. Older HIV patients and their healthcare providers need to maximize prevention efforts against these conditions and monitor for early signs of illness. Both practitioners and patients also need to be careful about drug interactions between ARVs and medications used to treat common age-related conditions such as hypertension, diabetes, hyperlipidemia, and obesity.

HIV testing prevalence remains low (<5%) among adults aged 50 to 64 and decreases with increasing age. Clinicians must be attuned to the possibility of HIV infection in older patients, especially those who may engage in high-risk behaviors. Therefore, sexual history taking is an important component of general healthcare for older adults, along with risk-reduction counseling and screening for HIV and STIs, if indicated.

### Key Management Issues

Prompt initiation of ART may be particularly important in older adults in part because of decreased immune recovery and increased risk of serious non-AIDS events in this population. One study found that the beneficial effects of early ART

were projected to be greatest in the oldest age group (patients between ages 45 and 65 years). There are no data supporting a preference for any one of the recommended initial ART regimens on the basis of patient age. In older patients with reduced renal function, dosage adjustment of NRTIs may be necessary. Older adults should be monitored for ART effectiveness and safety similarly to other populations; however, special attention should be paid to the greater potential for adverse effects of ART on renal, liver, cardiovascular, metabolic, and bone health.

In HIV-negative older patients, polypharmacy is a major cause of iatrogenic complications; some of these may be due to medication errors (by prescribers or patients), medication nonadherence, additive drug toxicities, and drug-drug interactions. When evaluating any new clinical complaint or laboratory abnormality in HIV-positive patients, especially older patients, clinicians should always consider the possible role of adverse drug reactions from both ARVs and other co-administered medications.

Nonadherence is the most common cause of treatment failure. Although many factors associated with nonadherence— inability to afford medications, depression, pill burden, costs, cognitive impairment—may be more prevalent in older patients, some studies have shown that older patients may actually be more adherent to ART than younger patients. Clinicians should regularly assess older patients to identify any factors, such as neurocognitive deficits, that may decrease adherence. To facilitate medication adherence, it may be useful to discontinue unnecessary medications, simplify regimens, and recommend evidence-based behavioral approaches, including the use of adherence aids such as pillboxes or daily calendars, and support from family members.

Important issues to discuss with aging HIV patients also include living wills, advance directives, and long-term care planning. Out-of-pocket healthcare expenses (eg, copayments, deductibles), loss of employment, and other financial factors can cause temporary treatment interruptions, which should be avoided whenever possible. The increased life expectancy and the higher prevalence of chronic complications in aging populations with HIV can place greater demands on HIV services. Facilitating a patient's continued access to insurance can minimize treatment interruptions and reduce the need for other services to manage concomitant chronic disorders.

In summary, providing comprehensive multidisciplinary medical and psychosocial support to patients and their families (sometimes referred to as the “medical home” concept) is crucial in the aging HIV-positive population. Continued involvement of HIV experts, geriatricians, and other specialists in the care of older patients can be invaluable.

### **Women**

Although HIV diagnoses among women have declined sharply in recent years, >7,000 women were diagnosed with HIV in 2015, and approximately 25% of all persons now living with HIV are women. African American women are disproportionately affected: Of the total number of women living with HIV at the end of 2014, 60% (139,058) were African American, 17% (39,343) white, and 17% (40,252) Hispanic.

The main risk factors for HIV acquisition apply to both women and men: 1) having unprotected sex with an HIV-infected person and 2) sharing drug injection equipment (eg, needles and syringes) with an HIV-positive person. Several factors increase the risk of HIV infection in women: During unprotected vaginal sex, HIV can be transmitted more easily from a man to a woman than from a woman to a man. Age-related thinning and dryness of vaginal tissues may also increase the risk of HIV acquisition in older women. A woman's risk of HIV can also increase because of her partner's high-risk behaviors, such as injection drug use or having unprotected sex with other men.

### **Antiretroviral Therapy**

Studies have generally found no gender differences in virologic responses to ART, although limited data have shown that pharmacokinetics (PKs) of some antiretrovirals may differ between men and women, possibly due to variations in body weight, plasma volume, gastric emptying time, plasma protein levels, cytochrome P (CYP) 450 activity, drug transporter function, and excretion activity.

### Adverse Effects

Women are more likely to develop severe hepatotoxicity with nevirapine use and to develop symptomatic lactic acidosis with prolonged use of older drugs like zidovudine, stavudine, and didanosine; however, these agents are no longer recommended for use in the United States.

Women have an increased risk of osteopenia, osteoporosis, and fractures, particularly after menopause, and the risk is exacerbated by HIV and ART. ART regimens that contain TDF, ritonavir-boosted PIs, or both are associated with a significantly greater loss of bone mineral density than regimens containing other NRTIs and

raltegravir. Abacavir, NRTI-sparing regimens, and TAF, which induces less bone loss than TDF, may be considered as alternatives to TDF in patients who are at risk for osteopenia or osteoporosis. Recommendations for management of bone disease in HIV disease have been published.

### Women of Childbearing Potential

All HIV-infected women of childbearing potential should be offered comprehensive reproductive and sexual health counseling regarding ART use when using hormonal contraceptives, when trying to conceive, and during pregnancy.

Efavirenz is teratogenic in nonhuman primates. Nonpregnant women of childbearing potential should have a pregnancy test before starting efavirenz and be advised of potential risks to a fetus and the desirability of avoiding conception while receiving efavirenz. Regimens that do not include efavirenz should be considered in women who are planning to become pregnant or who are sexually active and not using effective contraception. The most vulnerable period is early in gestation, usually before pregnancy is recognized; efavirenz use after the first 8 weeks of pregnancy appears safe.

### Hormonal Contraception

Women using hormonal contraception should be advised that PK interactions between ARVs and hormonal contraceptives may reduce contraceptive efficacy. Regardless of hormonal contraceptive use, women with HIV should be advised to consistently use condoms (male or female) during sex and adhere to an HIV regimen that effectively maintains viral suppression. Both strategies are crucial to prevent transmission of HIV to uninfected partners and to protect against infection with other STIs.

### Drug Interactions

There are limited clinical data regarding drug interactions between ARVs and hormonal contraceptives. The magnitudes of changes in drug levels that may reduce contraceptive efficacy or increase adverse effects are unknown. Drug interactions have been reported between combined oral contraceptives and several PIs, efavirenz, and elvitegravir/cobicistat-based regimens, including either a decrease or an increase in blood levels of ethinyl estradiol, norethindrone, or norgestimate, which may decrease contraceptive efficacy or increase estrogen- or progestin-related adverse effects (eg, thromboembolism). Small studies of HIV-positive women receiving the injectable contraceptive depot-medroxyprogesterone acetate (DMPA) while on ART showed no significant interactions between DMPA and efavirenz, lopinavir/ritonavir, nevirapine, nelfinavir, or NRTIs.

Contraceptive failure of the etonogestrel implant in women receiving efavirenz-based therapy has been reported. Concerns about PK interactions between oral or implantable hormonal contraceptives and ARVs should not prevent clinicians from prescribing hormonal contraceptives for women receiving ART who prefer this contraceptive method. However, use of an alternative or additional contraceptive method is recommended when there are significant drug interactions between hormonal contraceptives and ARVs (see the drug interaction tables in the DHHS antiretroviral guidelines and the Perinatal Guidelines).

- Risk of HIV Transmission. Studies have yielded conflicting data on the association between hormonal contraception and the risk of HIV acquisition. A World Health Organization expert group reviewed all available evidence regarding hormonal contraception and HIV transmission and recommended that HIV-infected women can continue to use all existing hormonal contraceptive methods without restriction.
- IUDs. Intrauterine devices (IUDs) appear to be a safe and effective contraceptive option for HIV-positive women. Although studies have focused primarily on nonhormone-containing IUDs, several small studies have found that levonorgestrel-releasing IUDs are also safe and not associated with increased HIV shedding in the genital tract.

### **Pregnant Women**

The use of ART is recommended for all HIV-positive pregnant women, regardless of virologic, immunologic, or clinical parameters, for their own health and to prevent transmission of HIV to the fetus. Women with HIV should be counseled regarding the known benefits and risks of ART use during pregnancy to the woman, fetus, and newborn (see Perinatal Guidelines). The reduction of viral load due to ART decreases perinatal transmission of HIV. Long-term follow-up is recommended for all infants born to women who receive ART during pregnancy, regardless of the infant's HIV status.

### ART Considerations

Pregnancy should not preclude the use of optimal ART regimens. As with other patients, genotypic resistance testing is recommended for all pregnant women before starting ART and for pregnant women with detectable viral load while receiving ART. However, ART initiation should not be delayed in pregnant women while waiting for genotypic resistance testing results; the regimen can be modified, if necessary, once the results are available. Considerations that influence antiretroviral selection for pregnant women include:

- Physiologic changes associated with pregnancy that potentially result in PK changes, which

may affect antiretroviral dosing at different stages of pregnancy

- Potential adverse effects in pregnant women and the potential for adherence to a particular regimen during pregnancy
- Potential short- and long-term effects of an ARV on the fetus and the newborn, which are unknown for many drugs

If a pregnant woman receiving efavirenz presents to prenatal care during the first trimester with undetectable viral load, efavirenz can be continued, as the risk of fetal neural tube defects is restricted to the first 5 to 6 weeks of pregnancy. Unnecessary changes in ART during pregnancy may be associated with loss of viral control and increased risk of perinatal transmission. See the Perinatal Guidelines for detailed recommendations on ARV choice in pregnancy.

If maternal viral load is  $\geq 1,000$  copies/mL or unknown near delivery, IV infusion of zidovudine during labor is recommended regardless of the mother's antepartum regimen and resistance profile, and the mode of delivery. Administration of ART should continue during labor and before a cesarean delivery.

Clinicians who are treating pregnant women with HIV are strongly encouraged to report cases of prenatal exposure to ARVs to the Antiretroviral Pregnancy Registry, which collects observational data regarding exposure to ARVs during pregnancy to assess potential teratogenicity.

#### Postpartum Management

Because maternal ART reduces but does not eliminate the risk of HIV transmission in breast milk and postnatal transmission can occur despite maternal ART, women should be counseled to avoid breastfeeding. Women with HIV should not pre-masticate food for their infants because the practice has been associated with mother-to-child transmission of HIV. Maternal ART should be continued after delivery. Several studies have demonstrated that adherence to ART may decline in the postpartum period. Clinicians caring for postpartum women who are receiving ART should address adherence, including an evaluation of specific facilitators and barriers to adherence and may wish to recommend an intervention to improve adherence.

#### **Substance Users**

Injection drug use is the second most common mode of HIV transmission in the United States. In addition, noninjection illicit drug use may facilitate sexual transmission of HIV. Injection and noninjection illicit drugs include: heroin, cocaine, marijuana, and club drugs (ie, methamphetamine,

ketamine, gammahydroxybutyrate [GHB], and amyl nitrate [ie, poppers]). The most commonly used illicit drugs associated with HIV infection are heroin and stimulants (eg, cocaine and amphetamines); however, the use of club drugs has increased substantially in the past several years and is common among individuals who have or who are at risk of HIV infection. Methamphetamine and amyl nitrate are the club drugs most strongly associated with high-risk sexual behavior in MSM.

Underlying health problems in people who use injection and/or noninjection drugs result in increased morbidity and mortality, either independent of or exacerbated by HIV disease, often due to prior exposures to pathogens from nonsterile needle and syringe use. Such problems can include hepatitis B or C virus infection, tuberculosis (TB), skin and soft tissue infections, recurrent bacterial pneumonia, and endocarditis. Other common morbidities include altered levels of consciousness and neurologic and renal disease and are associated with higher risk of drug overdose in HIV-positive persons who use illicit drugs, due in part to respiratory, hepatic, and neurological impairments associated with HIV infection. Successful ART in HIV-positive individuals who use illicit drugs often depends on clinicians' knowing how to manage these comorbidities and providing overdose prevention support.

Individuals who use illicit drugs have less access to HIV care and are less likely to receive ART than other populations. Factors associated with low rates of ART use among these individuals include active drug use, younger age, female gender, suboptimal healthcare, recent incarceration, lack of access to rehabilitation programs, and healthcare providers' limited expertise in HIV treatment. The chronic and relapsing nature of substance abuse, compounded by the high rate of mental illness that precedes or is exacerbated by illicit substance use, further complicates the relationship between practitioners and people who use illicit drugs. Assessing a patient for a substance use disorder should be part of routine medical history taking and should be done in a straightforward, nonjudgmental manner.

#### **Treatment Efficacy**

Available data indicate that ART efficacy in people who use illicit drugs—when they are not actively using drugs—is similar to that in other populations. Furthermore, therapeutic failure in this population generally correlates with the degree that drug use disrupts daily activities rather than with drug use itself. Clinicians need to remain attentive to the possible impact of disruptions caused by drug use on the patient both before and during ART. Although many drug users can sufficiently control their habit to benefit from care, treatment for substance use disorders is often necessary for successful HIV

management, which requires close collaboration with substance use treatment programs and support and attention to users' multidisciplinary needs. Facilities that provide HIV care should be accommodating, flexible, and community-based, with experience in managing the wide-ranging needs of drug users—including strategies to support medication adherence. Whenever possible, these strategies should include adherence support mechanisms such as modified directly observed therapy, which has shown promise among HIV-positive persons who use illicit drugs.

#### **Antiretrovirals and Opioid Substitution Therapy**

People who use illicit drugs are more likely to experience increased ART adverse effects and toxicities, probably due to underlying hepatic, renal, neurologic, psychiatric, gastrointestinal, and hematologic disorders. These comorbidities should be considered when designing ART regimens. Opioid substitution therapies such as methadone and buprenorphine/naloxone and extended-release naltrexone are commonly used for management of opioid dependence in HIV patients.

#### Methadone and Antiretroviral Therapy.

Methadone, an orally administered, long-acting opioid agonist, is the most common pharmacologic treatment for opioid addiction. Because of its effects on gastric emptying and the metabolism of CYP450 isoenzymes 2B6, 3A4, and 2D6, interactions with ARVs may be common. These may result in opioid withdrawal symptoms or overdose, increased methadone toxicity, or decreased ART efficacy. Efavirenz, nevirapine, and lopinavir/ritonavir have been associated with significant decreases in methadone levels. The clinical effect is usually seen after 7 days of coadministration and may be managed by increasing the methadone dosage, usually in 5 to 10 mg increments daily until the desired effect is achieved.

#### Buprenorphine and Antiretroviral Therapy.

Buprenorphine, which is administered sublingually and is often coformulated with naloxone, is increasingly used for opioid dependence treatment. Compared with methadone, buprenorphine has a lower risk of respiratory depression and overdose. This allows primary care practitioners to prescribe buprenorphine for treatment of opioid dependency. This can be vital for patients with HIV and opioid addiction who require ART because it enables one physician or program to provide both medical and substance abuse services. Currently available information about interactions between buprenorphine and ARVs is limited, although available findings indicate that buprenorphine's drug interaction profile is more favorable than methadone's.

**Naltrexone and Antiretroviral Therapy.** A once-monthly extended-release intramuscular formulation of naltrexone for prevention of relapse in patients who have undergone opioid detoxification is now available. Naltrexone is not metabolized via the CYP450 enzyme system and so is not expected to interact with PIs or NNRTIs.

Effective communication between HIV care providers and drug treatment programs is essential to prevent additive drug toxicities and drug interactions that result in opiate withdrawal or excess. For currently available PK interaction data on ARVs and methadone or buprenorphine, see the drug interaction tables in the DHHS Guidelines. Methylenedioxymethamphetamine (MDMA), GHB, ketamine, and methamphetamine all have the potential to interact with ARVs because all are at least partly metabolized by the CYP450 system. Overdoses secondary to interactions between club drugs (ie, MDMA or GHB) and PIs have been reported.

A history of drug use alone should not be used to justify withholding ART because such individuals can achieve adherence rates comparable to those who do not use drugs. Practitioners should consider simple regimens to enhance treatment adherence, with preference given to ARVs that have a lower risk of hepatic and neuropsychiatric side effects, simple dosing schedules, and minimal interactions with methadone.

### **HIV and Transgender Persons**

A familiarity with some basic terminology is key to understanding transgender persons' healthcare needs and providing culturally competent care:

- "Transgender" refers to people whose gender identity or expression differs from their sex assigned at birth.
- "Gender identity" refers to individuals' internal understanding of their own gender.
- "Gender expression" describes a person's outward presentation of gender (eg, clothing).
- "Transgender women" describes people who were assigned the male sex at birth but identify as women.
- "Transgender men" describes people who were assigned the female sex at birth but identify as men.

### **Epidemiology**

Almost 1 million American adults are estimated to identify as transgender. The following statistics underscore the seriousness of the HIV epidemic among transgender individuals:

- From 2009 to 2014 2,351 transgender people were diagnosed with HIV in the United States: 84% (1,974) transgender women; 15% (361) transgender men; <1% (16)

another gender identity.

- 43% (844) of transgender women and 54% (193) of transgender men diagnosed with HIV from 2009 to 2014 lived in the South.
- Half of HIV-positive transgender people are African American.
- An estimated 22% (of 2,705 sampled) of transgender women were HIV-positive in 2013.
- The percentage of transgender people who received a new HIV diagnosis was more than 3 times the national average in 2013.

### **HIV Risks**

A range of factors present risks for HIV acquisition and transmission among transgender people, including multiple sexual partners, anal or vaginal sex without condoms or PrEP, injecting hormones or drugs with shared equipment, commercial sex work, mental health issues, incarceration, homelessness, unemployment, and high levels of substance misuse, as well as violence and lack of family support.

Transgender people often face stigma, discrimination, and social rejection that prevent them from full participation in society, including accessing healthcare, education, employment, and housing—all of which affect their health and well-being and place them at increased risk for HIV transmission. Transgender men's sexual health, in particular, has not been well studied. More than half of transgender men diagnosed with HIV had no identified or reported risk.

Few practitioners are knowledgeable about transgender health issues and the unique needs of transgender persons, potentially leading to limited access to healthcare services and negative healthcare encounters. Although HIV behavioral interventions developed for other at-risk groups have been adapted for use with transgender people, their effectiveness has not been adequately studied.

Compared with the literature on other populations of HIV patients, that on HIV-positive transgender people is limited, although there have been a growing number of practice guidelines and standards of care. One transgender-focused program, the Center of Excellence for Transgender Health at the University of California, San Francisco, has developed the following 14 standards for the provision of HIV care, "Transgender HIV Health Services Best Practices Guidelines."

A small number of studies underline the importance of clinicians' understanding and implementing culturally appropriate care for transgender patients. Melendez and Pinto reported that HIV-positive transgender women were less likely to be receiving ART than a control group of nontransgender men

and women. In addition, HIV-positive transgender women who were receiving ART demonstrated worse adherence than nontransgender people, reported less confidence in their ability to integrate treatment regimens into their daily lives, and experienced fewer positive interactions with their healthcare providers.

### **Gender-neutral Language**

A gender-affirming healthcare encounter would include a transgender patient's being called by the correct name and pronoun by all staff. Gender affirmation also includes having access to and support for transition-related healthcare, such as hormones and surgeries. Intake forms should allow patients to identify themselves, and their records should correctly identify their preferred name and pronoun. This increases trust in the clinician and clinic by ensuring that patients are addressed properly, an important affirmation for transgender people.

### **Provider Collaboration**

After starting ART, transgender women often encounter barriers to integrating the regimens into their daily lives. A common challenge is the need for concurrent administration of ART and hormone therapy, and one approach to this challenge is to integrate hormone therapy and ART into HIV primary care settings. Having the same clinician manage both hormone therapy and ART or clinicians at the same clinic may 1) facilitate patients' management of their appointments and medications, 2) increase the likelihood that they keep their appointments (supported by a high level of motivation to adhere to their hormone regimen), and 3) increase trust in their practitioners.

To guide the administration of hormone therapy, several resources are available for clinicians who may be new to managing transgender patients:

- The UCSF Center of Excellence for Transgender Health offers "Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People," which provides peer-reviewed guidelines and additional resources.
- The World Professional Association for Transgender Health publishes "Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People," which has long served as a resource for practitioners seeking guidance in providing healthcare services to transgender patients.

### **Staff Diversity**

Increased visibility of transgender people in peer and professional support roles can enhance patients' comfort level. Transgender staff members who have established relationships with the

community that a program serves can assist in patient recruitment and retention, and staff who have personal experience with many of the same issues that patients face can offer important support, guidance, and mentoring.

### **Safe Spaces**

Amenities such as a transgender-specific portal to a larger clinic, peer health navigators, and transgender-specific clinic hours can significantly enhance patients' comfort levels. If such features are not feasible, it may be possible to tailor existing ones, such as adding a transgender-specific support group to a substance abuse treatment or housing program.

### **Community Networks**

Although some areas may not have many transgender-specific referral resources, identifying informed and sensitive services can help patients avoid negative experiences in the community—and may support them in accessing services that can help them stay engaged in care, such as complementary and alternative therapies that help alleviate adverse effects of ARVs and spiritual or meditation groups that promote healthy coping strategies. When possible, clinics should create an up-to-date, comprehensive transgender resource guide to give to patients.

## **HIV/HCV Coinfection**

In recent years, the treatment of hepatitis C virus (HCV) infection has been evolving rapidly. Patients with HCV/HIV coinfection who receive all-oral, direct-acting antiviral (DAA) HCV regimens can achieve sustained virologic response (ie, HCV cure) rates comparable to those of patients with HCV mono-infection. For detailed guidance on HCV treatment, clinicians should refer to <http://www.hcvguidelines.org/>, published by the American Association for the Study of Liver Diseases (AASLD).

## **Telemedicine**

For several decades, clinicians, healthcare scholars, telecommunications experts, and others have been investigating the use of advanced telecommunications and computer technologies to improve a range of healthcare services. A 1996 Institute of Medicine report defined telemedicine as “the use of electronic information and communications technologies to provide and support health care when distance separates the participants.” More recently, the Centers for Medicare & Medicaid Services (CMS) explained that “telemedicine seeks to improve a patient’s health by permitting two-way, real time interactive communication between the patient and the physician or practitioner at the distant

site. This electronic communication means the use of interactive telecommunications equipment that includes, at a minimum, audio and video equipment. Telemedicine is viewed as a cost-effective alternative to the more traditional face-to-face way of providing medical care (e.g., face-to-face consultations or examinations between provider and patient).” Equally important is that telemedicine can enable clinicians in settings with limited access to specialists to manage patients with clinicians in a remote setting who have the required expertise.

As discussed earlier in this monograph, HIV patients in a correctional facility whose care was managed via a telemedicine program achieved greater virologic and immunologic outcomes compared with HIV patients whose care was managed by onsite correctional physicians. Other HIV clinical care programs have also tried a variety of telemedicine approaches as a way to enhance patient outcomes in settings where an HIV specialist’s expertise was desirable but not easily accessed.

### **Project ECHO**

One successful model of telemedicine that was developed in a related area of infectious disease is Project ECHO (Extension for Community Healthcare Outcomes), which was designed to provide expert guidance in the management of HCV infection for community healthcare facilities in rural areas of New Mexico. Clinicians and others at the University of New Mexico developed Project ECHO to improve access to care for underserved populations of persons with complex health problems like HCV infection through use of videoconferencing to train primary care providers to treat complex diseases. In its development phase ECHO enrolled 407 patients with chronic HCV infection who had received no previous HCV treatment at 21 sites in rural areas and prisons in New Mexico. The project’s primary endpoint was a sustained virologic response (SVR, ie, no detectable virus 24 weeks after treatment completion).

The researchers reported that 57.5% of patients (84 of 146) treated at the university’s HCV clinic and 58.2% of those treated at ECHO sites (152 of 261 patients) achieved SVR. They concluded, “The results of this study show that the ECHO model is an effective way to treat HCV infection in underserved communities. Implementation of this model would allow other states and nations to treat a greater number of patients infected with HCV than they are currently able to treat.” It is important to note, however, that study participants were treated with pegylated interferon plus ribavirin, the standard treatment at that time; these drugs are commonly associated with high rates of serious adverse events and treatment discontinuation. Using current generations of direct-acting antivirals (DAAs),

most HCV patients can achieve SVR without use of interferon or ribavirin.

Since the original Project ECHO study, other researchers and clinicians have employed its model to provide distant management of numerous medical conditions, eg, chronic pain, diabetes, substance abuse, and HIV.

Published findings are limited regarding the success of the Project ECHO telemedicine model when adapted to HIV management. In early 2017, the New York State Department of Health launched HIV ECHO, which is modeled on New Mexico’s Project ECHO. HIV ECHO links HIV specialist teams at an academic “hub”—in this case Mt. Sinai Institute for Advanced Medicine in New York City—with clinicians in local practice settings, known as “spokes” (<https://ceitraining.org/resources/echo/hiv-echo.cfm>). Together, they comprise a learning community where the spokes receive mentoring and feedback from specialists via monthly teleconferences on designated topics. Spokes are encouraged to send in de-identified real cases for discussion. In addition, a number of other programs have evaluated the use of telemedicine and other management models to manage the care of HIV-positive patients who may not have easy access to a clinician with HIV expertise.

### **Iowa City VA**

In 2009 the Iowa City Veterans Affairs (ICVA) healthcare system cared for >30 HIV-positive veterans who traveled more than 1 hour each way from mostly rural areas to receive all their care at the HIV specialty clinic, bypassing primary care clinics closer to home. To relieve these patients’ travel burdens and to enhance the quality of their care, ICVA developed an innovative telehealth collaborative care (TCC) program for patients with HIV, integrating HIV specialty care delivered by videoconference with primary care delivered by teams at community-based outpatient clinics; care is delivered during a single patient visit. The HIV team supervised ART, OI prophylaxis, and discussions about HIV prevention. The community-based team supervised other primary and preventive care, such as screening and care for common coexisting conditions (eg, hypertension, hyperlipidemia, diabetes, smoking cessation, depression, and osteopenia). An individualized patient handout helped patients in navigating their managed care. A nurse care manager from the primary care team met with the patient and reviewed—along with the HIV team via videoconference—the care plans made during that day’s visits.

The researchers found that 17 patients (out of 32) showed a statistically significant improvement in syphilis screening, influenza vaccination, tobacco

screening and cessation counseling, and screening for alcohol disorders and depression. Median yearly travel time decreased from 320 minutes per patient to 170 minutes. In interviews, patients reported that the convenience of travelling to a local clinic for care outweighed any problems related to care coordination and continuity.

### **HIV Warmline**

The federally funded HIV teleconsultation service (HIV Warmline) offers clinicians live telephone access to HIV specialists from 6:00 am to 5:00 pm (Pacific Standard Time), Monday through Friday (800-933-3413). The Warmline's primary purpose is to support clinicians nationwide by providing readily available expert HIV clinical consultation; callers include physicians, nurses, pharmacists, and other healthcare professionals. Waldura and colleagues investigated, by online survey, whether primary care clinicians who used the HIV Warmline felt more capable of managing HIV in their own practices.

Survey participants (N = 191, 59% response rate) compared the HIV Warmline with other methods of obtaining HIV clinical support (eg, medical literature search, formal specialist referral, textbook) and then rated its impact on their confidence in their HIV skills and their referral patterns. Participants' locations were 60% urban, 15% suburban, and 25% rural; slightly more than half (51%) reported that they managed the care of <25 HIV-infected patients.

Respondents found the Warmline to be quicker (65%), more applicable (70%), and more trustworthy (57%) than other sources of HIV information. After using the Warmline, 90% reported that they felt improved confidence in caring for HIV patients, 67% stated that it changed how they managed HIV patients, and 74% were able to avoid referring patients to specialists. All of the respondents indicated that they valued the availability of live, free consultation.

The investigators concluded that teleconsultation could offer a powerful tool to help strengthen HIV care in primary care settings.

### **Benefits and Risks of Telemedicine**

Anderson and colleagues sought to assess practitioners' use of and perceptions regarding the benefits and risks among the currently available array of tools that are subsumed by the term "telemedicine"—eg, email, telephone, teleconsultation, instant messaging. Forty-eight, of 51 invited (94%), practitioners completed a Web-based, self-administered survey. Approximately half of the participants were generalists (44% family physician, 2% internal medicine, and 2% pediatrics); 36% were infectious diseases specialists; and 9%

were psychiatrists focusing in HIV. More than half of the physicians (62%, 29/47) reported that they used some form of telemedicine to care for HIV patients, whereas 18 (38%, 18/47) indicated that they had never used telemedicine. The researchers reported a wide range of viewpoints on the pros and cons of telemedicine:

**Challenges.** Eighty-three percent of clinicians (38/46) felt they could not adequately assess a patient's health via telemedicine; 62% (28/45) reported that telemedicine took too much time; and 60% (27/45) felt they lacked the technology to use telemedicine. Many respondents cited other challenges: confidentiality (60%, 27/45), lack of remuneration (62%, 28/45), concerns that patients will abuse telemedicine services (71%, 32/45), and medicolegal concerns (51%, 23/45).

**Risks.** Many respondents (65%, 28/43) agreed that patients may not "feel adequately connected" to them as a provider with telemedicine. Fifty-eight percent (25/43) indicated that HIV patients would receive poorer quality assessments via telemedicine. However, most (77%, 33/43) disagreed with the statement that HIV patients would feel more social isolation with the use of telemedicine. Two-thirds of respondents (67%, 29/43) disagreed that remote patients would lose the opportunity to visit their practice.

**Benefits.** All respondents (100%) agreed that telemedicine would be able to reduce patients' travel times. 65% (30/46) agreed that telemedicine can increase patients' privacy. Many also concurred that both the quality (61%, 28/46) and efficacy (67%, 31/46) of patient care could improve through use of telemedicine. Eighty-five percent (39/46) of respondents agreed with the statement that telemedicine will be able to increase the number of times that patients are able to interact with their physicians and that it could improve access and timeliness of care.

In their discussion of the study's findings, the authors stated that many perceived challenges and risks surrounding telemedicine must be addressed before it expands significantly in practice. They added, however, that the challenges may be due primarily to a lack of information among the physicians with respect to the telemedicine services at their disposal and due less to regulatory or technological limitations. Moreover, the authors thought that a Web-based interface might be misunderstood as impersonal—ie, that the introduction of telemedicine would be a replacement for in-person consultations, rather than a complement to current practice. The authors further explained that the nature of HIV as a complex syndrome of clinical manifestations may also contribute to clinicians'

hesitation to endorse telemedicine. For example, because people living with HIV may have complex social, financial, and psychological concerns, their treatment may seem less amenable to telemedicine techniques if a practitioner lacks experience in using such remote modalities.

They concluded that, although many physicians are concerned about their ability to appropriately treat patients via telemedicine, most in fact realize that there is a need for it in order, for example, to help reduce patient travel times and improve efficiency and timely access to care. For that to happen, the challenges and risks identified in this study—such as technological gaps, confidentiality, and medicolegal concerns—must be addressed so that clinicians become more comfortable in using telemedicine.

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# HIV/AIDS UPDATE FOR HEALTHCARE PROFESSIONALS

## Self-Assessment

Choose the best possible answer for each question and mark your answers on the Self-Assessment answer sheet at the end of this book. There is a required score of 70% or better to receive a Certificate of completion.

- How frequently do the US Preventive Services Task Force recommendations suggest that sexually active men who have sex with men in nonexclusive relationships be screened for HIV infection?**
  - Every 3 years
  - Annually
  - Monthly
  - Every 5 years
- Which of the following is estimated to be the current percentage of HIV-positive individuals in the United States who are not aware that they are HIV-positive?**
  - 24%
  - 15%
  - 6%
  - 10%
- Regarding the prevalence of HIV infection among transgender women, which of the following statements is True?**
  - A survey reported that an estimated 29% of transgender women in the United States are HIV-infected.
  - A survey reported that an estimated 84% of transgender women in the United States are HIV-infected.
  - A survey reported that an estimated 15% of transgender women in the United States are HIV-infected.
  - There are no data available at this time regarding the prevalence of HIV infection among transgender women.
- Diagnosis of which of the following in an HIV-infected individual is NOT one of the criteria established as a diagnosis of acquired immunodeficiency syndrome (AIDS)?**
  - Cytomegalovirus retinitis
  - Apoptosis
  - Esophageal candidiasis
  - Non-Hodgkin lymphoma
- According to a 2015 Centers for Disease Control and Prevention survey, which of the following subpopulations of injection drug users had the largest number of new HIV diagnoses that year?**
  - White males
  - White females
  - Hispanic males
  - African American females
- At which stage in the HIV life cycle does the HIV protease enzyme function?**
  - Budding
  - Fusion
  - Transcription
  - Integration
- Which of the following can be one of the signs/symptoms of acute HIV infection?**
  - Pneumocystis pneumonia
  - Rapid weight loss
  - Red or purplish blotches under the skin
  - Swollen lymph nodes
- Exposure to which of the following bodily fluids from an HIV-infected person is generally considered to pose a risk for HIV acquisition?**
  - Saliva
  - Cerebrospinal fluid
  - Sputum
  - Urine
- Regarding the use of nonoccupational postexposure prophylaxis (nPEP), which of the following statements is True?**
  - nPEP is recommended after all incidents of unprotected sex with a person who is known to be HIV-positive.
  - nPEP is recommended only for sexual partners of injection drug users who are known to be HIV-positive.
  - nPEP is not recommended for use more than 72 hours after a potential exposure to HIV.
  - nPEP is recommended only for victims of sexual assault.
- Which of the following combinations of antiretroviral agents is licensed by the US Food and Drug Administration for use as preexposure prophylaxis (PrEP) of HIV infection?**
  - Tenofovir disoproxil fumarate and dolutegravir
  - Tenofovir alafenamide and emtricitabine
  - Raltegravir and emtricitabine
  - Tenofovir disoproxil fumarate and emtricitabine

- 11. At which of the following CD4+ cell count thresholds do the Department of Health and Human Services Guidelines for the Use of Antiretroviral Agents in Adults and Adolescents recommend that antiretroviral therapy should be started?**
- A.  $\leq 500$  CD4+ cells/mm<sup>3</sup> plasma
  - B. 200 to 350 CD4+ cells/mm<sup>3</sup> plasma
  - C. Any CD4+ cell count
  - D.  $\leq 200$  CD4+ cells/mm<sup>3</sup> plasma
- 12. Which of the following antiretroviral agents should be avoided as part of a first-line regimen for an HIV-positive woman in the first trimester of pregnancy?**
- A. Abacavir
  - B. Tenofovir alafenamide
  - C. Efavirenz
  - D. Elvitegravir
- 13. Which of the following treatments for opioid dependence can be prescribed in primary care settings?**
- A. Buprenorphine
  - B. Methadone
  - C. Naltrexone
  - D. A, B, and C
- 14. Which of the following programs was developed as a model strategy for delivering specialty care to patients residing in remote rural areas without easy access to a major medical center?**
- A. The Blending Initiative
  - B. Project ECHO
  - C. STYLE
  - D. Popular Opinion Leader
- 15. Screening for the HLA-B\*5701 allele in an HIV-infected patient is performed before prescribing which of the following antiretroviral agents?**
- A. Efavirenz
  - B. Atazanavir
  - C. Lopinavir
  - D. Abacavir

# LGBTQ Cultural Competency

<b>COURSE DATES:</b>	<b>MAXIMUM CREDITS:</b>	<b>FORMAT:</b>
Release Date: 05/2018 Exp. Date: 04/2021	2 AMA PRA Category 1 Credits™	Enduring Material (Self Study)

## TARGET AUDIENCE

This course is designed for all physicians (MD/DOs), physician assistants, and nurse practitioners.

## COURSE OBJECTIVE

The purpose of this course is to educate physicians with respect to recognizing and managing the unique healthcare needs of lesbian, gay, bisexual, and transgender (LGBT) persons, with an understanding of the linguistically and culturally appropriate approaches to care for these populations.

## **HOW TO RECEIVE CREDIT:**

- Read the course materials
- Complete the self-assessment questions at the end. A score of 70% is required.
- Return your customer information/ answer sheet, evaluation, and payment to InforMed by mail, phone, fax or complete online at course website under NETPASS.

## LEARNING OBJECTIVE

Completion of this course will better enable the course participant to:

1. Discuss the features of a clinical practice environment respectful of LGBTQ patients
2. Identify key sources of stress related to mental disorders in the lives of transgender patients
3. Describe best practices in managing LGBTQ patients
4. Apply screening and monitoring procedures that are key to providing optimal care for LGBTQ patients
5. Devise care plans based on best practices for adolescent and elderly LGBTQ individuals

## ACCREDITATION STATEMENT:

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## **DISCLOSURE OF INTEREST:**

In accordance with the ACCME Standards for Commercial Support of CME, Informed implemented mechanisms, prior to the planning and Implementation of this CME activity, to identify and resolve conflicts of Interest for all Individuals in a position to control content of this CME activity.

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- Elizabeth Thomas, MSN, WHNP-BC, NP-C
- Steve McGuire, MA
- Alicia Tucker, MD

The following faculty and/or planning committee members have indicated they have relationship(s) with industry to disclose:

- Ana E. Núñez, MD has disclosed that her spouse is a salaried employee of Gilead Pharmaceuticals

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## **COURSE SATISFIES**



### **SPECIAL DESIGNATION**

This course satisfies two (2) credit hours of instruction on LGBTQ Cultural Competency in accordance with DC law 21-95.

Unless exempted, D.C. Law 21-95 requires that any continuing education requirements for the practice of any health occupation licensed, registered, or certified by a Health Occupation Board include two (2) credits of instruction on cultural competency or specialized clinical training focusing on LGBTQ patients.

## LGBT-related Terminology and Definitions

### Concepts of Sex and Gender

To interact productively with LGBT patients, healthcare clinicians should learn to recognize the difference between sexual orientation and sexual behavior as well as the differences among sexual orientation, gender identity, and gender role.

**Sexual orientation** consists of 3 components: attraction, identity, and behavior. Attraction is the erotic and affectional attraction to another person, including erotic fantasy and erotic activity. Identity is how a person self-defines. Behavior is what people do. Identifying all 3 components of sexual orientation is essential to high-quality care. Heterosexuality is the attraction to persons of the opposite sex; homosexuality, to persons of the same sex; and bisexuality, to both sexes.

**Sexual behavior**, or sexual activity, differs from sexual orientation and does not define someone as an LGBT individual. Any person may be capable of sexual behavior with a person of the same or opposite sex, but an individual knows his or her longings—erotic and affectional—and which sex is more likely to satisfy those needs.

**Sexual identity** is the personal and unique way that a person perceives his or her own sexual desires and sexual expressions. Biological sex is the biological distinction between men and women.

**Gender and Gender Continuum.** Gender has been thought of as a concept of maleness and masculinity or femaleness and femininity—a binary choice. Now with the fluidity of gender expression, it is viewed as working on a continuum, neither male nor female. All individuals, in fact, manifest traits traditionally held as representing femaleness and maleness. Women can be assertive, men can be nurturing. Adopting the gender continuum, people can express on a spectrum of traditional femaleness and maleness or be gender-nonconforming (GNC). Individuals who are GNC often select aspects of either of these into their gender identity. Thus, a patient's gender can be female, male, and gender nonconforming. One's gender identity is the sense of one-self and does not refer to one's sexual attraction, behavior, or gender role.

**Gender role** refers to the behaviors and desires to act in certain ways that are most often viewed as masculine or feminine by a particular culture.

**Gender expression** is how people manifest their concept of gender. For example, men, based on a social role, may be stigmatized if they wear a skirt. In some cultures (eg, Scottish, Muslim), however, this attire is socially conforming.

Gender expression, similar to sexual identity, choose to present themselves based on their self-defined gender identity.

**Disorders of sexual development (DSD)** is the comprehensive term for any congenital condition that is associated with atypical development of gonadal, chromosomal, or anatomic sex. DSDs are rare and complex. This term replaces previously used terms such as intersex, hermaphrodite, or pseudohermaphrodite.

**Transgender individuals'** gender identity differs from their biologic sex or from what they were designated at birth. The prefixes "cis" and "trans" refer to synchronicity of biologic sex with identity. Therefore, a cis-woman is one born anatomically as a woman who identifies as such, whereas a trans-woman is born as a biologic man but identifies as a woman. In common usage, transgender usually refers to people in the transsexual group that may include people who are contemplating or preparing for sexual reassignment surgery—called preoperative—or who have undergone sexual assignment surgery—called postoperative. A transgender person may be sexually attracted to males, females, or both.

### Definitions of Terms and Acronyms

As with many other populations, there are terms and definitions that are specific to LGBT communities. Becoming aware of these terms is important in promoting cultural competence among healthcare clinicians. Although the following glossary is not exhaustive, it provides an overview of terms and definitions regarding sexual orientation, gender identity, gender expression, and other issues that people use to self-identify. When addressing LGBT individuals, clinicians should always ask clients how they identify or wish to be addressed. Of course, language is dynamic and evolves over time, and, therefore, terms and definitions can vary based on a number of factors, including geographic region, race/ethnicity, and socioeconomic status, among others.

**Asexual (adj.)**—Describes a person who experiences little or no sexual attraction to others. Asexuality is not the same as celibacy.

**Assigned sex at birth (noun)**—The sex (male or female) assigned to a child at birth, most often based on the child's external anatomy; also referred to as birth sex, natal sex, biological sex, or sex.

**Bisexual (adj.)**—A sexual orientation that describes a person who is emotionally and sexually attracted to people of the same gender and people of other genders.

**Cisgender (adj.)**—A person whose gender identity and assigned anatomic sex at birth correspond—ie, a person who is not transgender.

**Coming out (noun)**—The process by which one accepts and/or comes to identify one's own sexual orientation or gender identity (to come out to oneself); also the process by which one shares one's sexual orientation or gender identity with others, eg, family members, friends, and others.

**Drag (noun)**—a type of theatrical entertainment where a performance is delivered by someone, often of the opposite sex or gender-nonconforming, who presents as hyper-feminine or with features of exaggerated gender role or behavior. Although seen by artists of all sexualities, it most often appears with gay men. Performers are called drag queens or drag kings, based on gender role exaggeration.

**Gay (adj.)**—A sexual orientation that describes a person who is emotionally and sexually attracted to people of their own gender and/or identifies as such. It can be used regardless of gender identity but is more commonly used to describe men.

**Gender dysphoria (noun)**—Distress experienced by some individuals whose gender identity does not correspond with their assigned sex at birth. It manifests as clinically significant distress or impairment in social, occupational, or other important areas of functioning. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-5) includes gender dysphoria as a diagnosis.

**Gender fluid (adj.)**—Describes a person whose gender identity is not fixed. A person who is gender fluid may always feel like a mix of the 2 traditional genders, but may feel more one gender some days, and another gender other days.

**Gender nonconforming (adj.)**—Describes a gender expression that differs from a given society's norms for males and females.

**Genderqueer (adj.)**—Describes a person whose gender identity falls outside the traditional gender binary. Other terms for people whose gender identity falls outside the traditional gender binary include gender-nonconforming, gender-variant, gender expansive, and so forth; sometimes written as 2 words: gender queer.

**Homophobia (noun)**—a wide range of negative reactions and attitudes regarding lesbians or gay people (or those perceived to be such). These emotions include fear, aversion, or hatred and can result in discrimination, persecution, or hate crimes.

**Intersex (noun)**—Group of rare conditions in which the reproductive organs and genitals do not develop as expected. Some prefer to use the term disorders (or differences) of sex development. Intersex is also used as an identity term by some community members and advocacy groups.

**Lesbian (adj., noun)**—A sexual orientation that describes a woman who is emotionally and sexually attracted to other women. Orientation is different from behavior, and some women who identify as lesbians have or have had sex with men, which can affect their health risks.

**Men who have sex with men/women who have sex with women (MSM/WSW) (noun)**—A sex/gender behavioral term that is often used in research and public health settings to describe people who engage in same-sex behavior, regardless of attraction or self-identity. These terms are rarely used by individuals when they self-identify.

**Minority stress (noun)**—Chronic stress faced by members of stigmatized minority groups. Minority stress is caused by external, objective events and conditions, expectations of such events, the internalization of societal attitudes, or concealment of one's sexual orientation.

**Nonbinary (adj.)**—Describes a person whose gender identity falls outside the traditional gender binary structure.

**Personal pronouns.** Traditional personal pronouns are based on a binary she/he framework. An inclusive approach to addressing both gender-nonconforming and transgender patients is the use of personal pronouns that are not binary. An optimal approach is to first provide your own personal pronouns and then ask patients how they would like to be called. For transgender patients, this may include pronouns such as they or “ze,” which is often the preferred nongendered pronoun.

**Queer (adj.)** is both a category and a self-identification term. It is an umbrella term used by some to describe people who think of their sexual orientation or gender identity as outside societal

norms. Some people view the term queer as more fluid and inclusive than traditional categories for sexual orientation and gender identity. Due to its history as a derogatory term, the term queer is not embraced or used by all members of the LGBT community. Younger LGBT individuals may embrace this term when referencing themselves as a sign of advocacy and self-empowerment. It is not a term that should be used without a patient's prior endorsement.

**Questioning (adj.)**—Describes individuals who are unsure about or is exploring their own sexual orientation and/or gender identity. Many people go through a stage of questioning during their lives, sometimes several times. This can be because they learn new terms that fit them better, or it can be that their actual feelings of gender or attraction change over time.

**Sexual orientation (noun)**—Includes individuals' emotional and sexual attraction to others, their sexual and gender identity, and their behavior and gender expression. Clinicians need to be able to acquire this inform on a regular basis, as relationships can change. This information allows better understanding of patients, their social constructs, and support and health risk assessment.

**Top vs Bottom (nouns)**—These are often used casual terms that define a type of sexual behavior. Anal sex between insertive (ie, penis inserted into anus) or receptive (anus receives penis), Men who prefer insertive are referred to as “tops,” with those who prefer receptive referred to as “bottoms.” Receptive anal sex has the highest risk for HIV acquisition—13 times greater than insertive.

**Trans man/transgender man/female-to-male (FTM) (noun)**—Transgender persons whose gender identity is male, born biologically female, may use these terms to describe themselves; some will just use the term man.

**Trans woman/transgender woman/male-to-female (MTF) (noun)**—Transgender persons whose gender identity is female, born biologically male, may use these terms to describe themselves;

some will just use the term woman.

**Transgender (adj.)**—Describes a person whose gender identity and assigned (anatomic) sex at birth do not correspond. Sometimes abbreviated as trans.

**Transition (noun)**—For transgender people, this refers to the process of coming to recognize, accept, and express one's gender identity. Most often, this refers to the period when a person makes social, legal, and/or medical changes, such as changing their clothing, name, sex designation, and using medical interventions; sometimes referred to as gender affirmation process.

**Transphobia (noun)**—The fear of, discrimination against, or hatred of transgender or gender nonconforming people or those who are perceived as such.

**Transsexual (adj.)**—Sometimes used in medical literature or by some transgender people to describe those who have transitioned through medical interventions.

**Two-spirit (adj.)**—A contemporary term that connects today's experiences of LGBT Native American and American Indian people with the traditions of their cultures. The term refers to a tradition common to several tribes, in which some individuals manifested a balance of both feminine and masculine energies, making them inherently sacred people. (See Table 1)

**About Acronyms**

- Many acronyms are used in the LGBT community. The National LGBT Education Center uses LGBT: lesbian, gay, bisexual, transgender and LGBTQ (lesbian, gay, bisexual, transgender, queer) when discussing adolescents or youth.
- Other acronyms may use any combination of the following: LGBTQQIAAP2S: lesbian, gay, bisexual, transgender, queer, questioning, intersex, asexual, ally, pansexual, two-spirit.

Table 1. Outdated Terms to Avoid	
The following terms might have been used in the past but are now considered outdated and sometimes offensive.	
Preferred Term	Older Term
Sexual Orientation	Sexual preference
Two-siprit	Berdache
Disorders of sex development	Intersex/hermaphrodite
Gay or lesbian	Homosexual
Transgender	Transgendered/a transgender/tranny
Gender affirmation surgery	Sex change

- Some may choose to use the acronym LGBTQ+, with the plus sign representing the ever-growing list of terms people use to describe their sexual orientation or gender identity. There are many different variations of the LGBTQ+ acronym, and the + acknowledges that it is not possible to list every term people currently use.

### **LGBT Demographics**

The US Census Bureau does not specifically collect data on gay, lesbian, bisexual, or transgender (LGBT) persons. At this time, the most useful information about these populations is gathered by independent polling and survey organizations, which have conducted several activities to try to develop as accurate a picture as possible of LGBT demographics.

According to a 2017 Gallup report—based on interviews with a random sample of >1.6 million US adults—the portion of American adults identifying as LGBT increased to 4.1% in 2016 from 3.5% in 2012; these figures imply that more than an estimated 10 million adults now identify as LGBT. Key findings of the report include:

- Millennials—people born between 1980 and 1998—are more than twice as likely as any other generation to identify as LGBT and account for 58% of LGBT-identified adults.
- Racial/ethnic groups
  - LGBT identification among women was 4.4% compared with 3.7% among men.
  - LGBT: white, 3.6%; African American, 4.6%; Hispanic, 5.4%; Asian, 4.9%; other, 6.3%.
  - Of LGBT-identified adults, by race and ethnic group, 60% are non-Hispanic whites and 40% racial and ethnic minorities.

Self-identification as LGBT represents only one aspect of measuring sexual orientation and gender identity. For example, a paper issued by UCLA School of Law's Williams Institute showed that direct assessments of same-sex sexual behavior or attraction yield very different, and often larger, population estimates when compared with estimates of LGBT self-identification. A variety of factors can affect the willingness of adults to identify as LGBT—eg, how comfortable and confident survey respondents feel about the confidentiality and privacy of data collected.

The 2011 Williams Institute report, which analyzed the findings of 11 surveys that asked questions about sexual orientation or gender identity, provided the following key findings:

- An estimated 3.5% of adults in the United

States identify as lesbian, gay, or bisexual and an estimated 0.3% of adults are transgender.

- Among adults who identify as LGB, bisexuals comprise a slight majority (1.8% vs 1.7% who identify as lesbian or gay).
  - Women are substantially more likely than men to identify as bisexual. Bisexuals comprise more than half of the lesbian and bisexual population among women in 8 of the 9 surveys considered in the brief. Conversely, gay men comprise substantially more than half of gay and bisexual men in 7 of the 9 surveys.
- Estimates of persons who report any lifetime same-sex sexual behavior and any same-sex sexual attraction are substantially higher than estimates of those who identify as LGB. An estimated 19 million Americans (8.2%) report that they have engaged in same-sex sexual behavior, and nearly 25.6 million Americans (11%) acknowledge at least some same-sex sexual attraction.

The US National Institutes of Health has designated sexual and gender minorities as a health disparity population for NIH research. Understanding the underlying demographics of a population is critical to assessing health and well-being. Relatively rapid shifts in the composition of the LGBT-identified community underscore the importance of collecting data that measure sexual orientation and gender identity. Data collected only a few years ago may not accurately reflect key characteristics of the current LGBT population.

### **Clinicians' Experience and Knowledge in Treating LGBT Patients**

Although personal biases, limitations on access to healthcare coverage, and financial challenges undoubtedly play roles in the difficulties LGBT individuals face in receiving well-informed and appropriate care, insufficient knowledge of LGBT issues remains a core concern. In recent years, some researchers have sought to assess the state of healthcare providers' knowledge and attitudes regarding issues relevant to members of LGBT communities and their health needs.

A 2011 survey of 132 medical school deans in the United States and Canada found that students receive only 5 hours of LGBT-related training during 4 years of medical school. Nine medical schools reported 0 hours taught during preclinical years and 44 reported 0 hours taught during clinical years.

Based on an online survey of 4,262 students at 170 US and Canadian medical schools and focus groups with students at 5 schools, White and colleagues reported the following findings:

- Most medical students (67.3%) evaluated their LGBT-related curriculum as “fair” or worse.
- Students most often felt prepared to address HIV (78.5%) and non-HIV STIs (68.9%).
- They felt least prepared to discuss sex assignment surgery (26.1%) and gender transitioning (28.0%).
- Medical education helped 62.6% of students feel “more prepared” and 46.3% of students feel “more comfortable” to care for LGBT patients.

Analysis of the focus group transcripts found that students have significant concerns in addressing certain aspects of LGBT health, specifically with transgender patients. The authors concluded that medical students felt comfortable, but not fully prepared, to care for LGBT patients, and they advised that curricular coverage of LGBT-related topics should be increased, with emphasis on exposing students to LGBT patients in clinical settings.

### **MSM Issues**

A study by Petroll and colleagues assessed the importance of clinicians' awareness, or lack of it, regarding the sexual orientation of men who have sex with men (MSM). Although the healthcare needs of MSM are generally similar to those of other men, the higher prevalence of some infectious diseases—HIV, hepatitis A and B, certain sexually transmitted infections (STIs)—means that additional diagnostic and preventive measures are recommended for routine healthcare.

Recent studies have reported that 73% to 82% of physicians were comfortable treating gay patients, with variations by physician gender, specialty, and year of medical school graduation. However, a substantial minority indicate discomfort in treating gay patients, have reservations about discussing sexual orientation, and would like further training in this area.

One study reported only 17% of primary care providers (PCPs) identified “sexual preference” as one of the routine questions they ask while taking a sexual history. The researchers analyzed results of a survey of 271 MSM that asked whether their PCPs were aware of their sexual orientation and how the PCP acquired this knowledge.

Overall, 71.4% of the men reported that their PCPs were aware of their sexual orientation, whereas more than one-quarter (29%) reported that their PCPs were unaware of their sexual orientation. Of those with aware PCPs, 70.1% reported having disclosed their sexual orientation without being asked, 13.8% disclosed after the PCP asked, and 13.9% believed that their PCP had correctly assumed their sexual orientation.

A critical finding was that PCPs' knowledge of patients' sexual orientation was associated with a higher likelihood that they had recommended disease screening and preventive health measures: 59% vs 13% for HIV testing and 32% vs 16% for hepatitis A or B vaccination.

### Lesbian Issues

When a woman enters a clinician's office, unless questioned in a nonjudgmental fashion about sexual orientation or providing that information voluntarily, she will typically be treated as heterosexual. Physicians, especially obstetrician/gynecologists who believe that they do not see lesbian patients may not be asking the right questions. To assess the knowledge and attitudes of obstetrician-gynecologists toward lesbian health issues, Abdessamad and colleagues analyzed responses to a survey from 271 clinicians in Ontario, Canada. In addition to true-false questions, the participants also responded to the Homosexuality Attitudes Scale (HAS). The authors reported that the mean HAS score was 87.6, indicating an overall positive attitude. The mean knowledge score was 76%, indicating that respondents had adequate knowledge about lesbian health; 22% described their lesbian health knowledge-base as unaware. Most respondents reported lack of education on lesbian health in their residencies (81%) or medical school (78%). The majority reported a desire for formal education concerning lesbian health. The authors observed that, although the results indicate overall adequate knowledge about lesbian health issues, important knowledge gaps remain.

To compare the experiences of rural vs urban lesbians with their healthcare providers, Barefoot and colleagues analyzed the results of an online survey of 895 (31.1% rural and 68.9% urban) American lesbians. The investigators found that relatively fewer rural lesbians indicated that their current women's healthcare provider (WHCP) had discussed/recommended the human papillomavirus (HPV) vaccination compared with urban lesbians (27.5% vs 37.2%). With respect to preventive behavior, significantly fewer rural vs urban lesbians  $\geq 40$  years of age had received a mammogram in the past 3 years (63.2% vs 83.2%). The researchers concluded that rural, compared with urban, lesbians may experience greater health risks related to being less likely to be recommended the

HPV vaccination, and, for those  $\geq 40$  years of age, less likely to receive routine mammograms.

In order to best address the invisibility that many lesbian patients experience, clinicians need to ask all women about their sexual orientation and gender identity, rather than to assume.

### Transgender Issues

Healthcare providers have reported inadequate preparation to care for transgender patients, with patients often needing to teach their own clinicians about transgender care. Braun and colleagues sought to evaluate the impact of an elective 10-session course in transgender health for health-professions students. Participants completed pre-, immediately post-, and 3-month post-course questionnaires to determine the course's effect on knowledge, attitudes, and beliefs about transgender health. Forty-six students completed the pre- and immediately post-questionnaires (74% response rate). Compared with pre-elective surveys, the immediately post-course scores demonstrated increased knowledge of most topics and reduced transphobia. Specific knowledge domains with improvements included terminology, best practices for collecting gender identity, awareness of the Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5) gender dysphoria diagnosis, medications used for gender affirmation, and relevant federal policies.

To assess whether future internists will be prepared to manage transgender patients, Johnston and Shearer conducted a survey of 67 internal medicine residents at a large urban academic center to better understand their attitudes, prior education, comfort, and knowledge regarding transgender primary care. They found that nearly all (97%) participants felt that understanding transgender care is valuable to their practice as internal medicine physicians. However, fewer than half of them (45%) had received any previous education in this area.

When asked to rate their confidence in caring for a transgender patient on a 1 to 5 scale (1 = low confidence, 5 = high confidence), the median response was 2, and average was 2.4. Two residents (3%) indicated that they would feel uncomfortable treating a transgender patient for personal, moral, or religious reasons. Just 9% felt confident in prescribing hormone replacement therapy, and 27% knew where to refer a patient for hormone therapy. Regarding gender-affirming surgery, 15% of residents felt they could adequately describe the process of female-to-male sexual reassignment, and 19% could describe the male to female sexual reassignment to their patients, with only 9% indicating that they felt they knew where to refer patients for gender-affirming sexual reassignment.

Regarding primary care screenings, 91% and 93% did not feel up to date on screening guidelines for trans men and trans women, respectively.

### Young Persons

In a survey of 184 residents and attending physicians in pediatrics, internal medicine, obstetrics-gynecology, psychiatry, emergency medicine, and family practice, Kitts sought to identify barriers to optimal care between physicians and LGBTQ adolescents.

The author reported the following:

- The majority of physicians did not regularly discuss sexual orientation, sexual attraction, or gender identity while taking a sexual history from a sexually active adolescent.
- The majority of physicians did not ask patients about sexual orientation if an adolescent presented with depression or suicidal thoughts or had attempted suicide.
  - Only 57% felt that there is an association between being a LGBTQ adolescent and suicide.
- For adolescents who stated that they were not sexually active, 41% of physicians reported that they would not ask additional sexual health questions.
- The majority of physicians did not believe that they had all the skills needed to address issues of sexual orientation with adolescents, and that sexual orientation should be addressed more often with these patients and during training.

### Elder Care

By 2030, there will be an estimated 2 million to 6 million LGBT adults  $\geq 65$  of age in the United States (vs an estimated 1 million to 2.8 million in 2000), approximately 120,000 of whom are projected to be living in nursing homes. These individuals will have distinct healthcare needs and face well-documented healthcare disparities—eg, disability, poorer mental health, smoking, and increased alcohol consumption. In addition, older lesbians have a higher risk of developing metabolic syndromes and CVD, while older transgender adults are at significantly higher risk of poor physical health, disability, depression, and perceived stress compared with cisgender (nontransgender) patients.

To approach the challenges of treating this population, Cannon and colleagues urge that medical schools incorporate materials on older LGBT patient care into their curricula on caring for older patients. The authors recommend that students be presented with specific LGBT eldercare clinical cases that would emphasize understanding of "chosen families," complex end-of-life issues, and the development of solutions.

## **Best Practices in LGBT Healthcare**

Healthcare providers can help to promote the health of their LGBT patients by examining their practices, office environments, policies, and staff training to look for ways to improve access to quality care. This section will offer some ideas to update a practice's physical environment, to update intake and health history forms, to improve provider-patient discussions, and to increase staff knowledge about and sensitivity to LGBT patients.

Most of the suggestions and recommendations contained here fall under the broader topic of culturally and linguistically appropriate care. There is a host of resources available for further information and training in providing culturally competent care not only for LGBT patients but for patients who belong to many racial, ethnic, and socioeconomic populations. For an introduction to culturally competent care, along with numerous further resources, please visit the US Department of Health and Human Services' website, "Think Cultural Health," <https://www.thinkculturalhealth.hhs.gov/clas>. The American Medical Association offers recommendations for an LGBTQ-friendly environment at: <https://www.ama-assn.org/delivering-care/creating-lgbtq-friendly-practice>; the Gay & Lesbian Medical Association offers provider webinars on quality healthcare for LGBT people at: <http://www.glma.org/index.cfm?fuseaction=Page.viewPage&viewPage&pa-geld=1025&grandparentID=534&parentID=940&nodeID=1>.

### **Creating a Welcoming Environment**

- LGBT patients often assess a clinical practice for clues to help determine what information they feel comfortable sharing with a healthcare provider. The following are among the measures that can promote a more welcoming environment:
- Post a rainbow flag, pink triangle, unisex bathroom signs, or other LGBT-friendly symbols or stickers.
- Exhibit posters showing racially and ethnically diverse same-sex couples or transgender people or posters from nonprofit LGBT or HIV organizations.
- Display brochures (multilingual when appropriate) about LGBT health concerns.
- Distribute or visibly post a nondiscrimination statement stating that equal care will be provided to all patients, regardless of age, race, ethnicity, physical ability or attributes, religion, sexual orientation, or gender identity/expression.
- Display LGBT-specific media, including local or national magazines or newsletters about and for LGBT and HIV-positive individuals.

### **General Guidelines for Forms and Patient-Provider Discussions**

Filling out intake forms gives patients an important initial impression of a practice and helps to set the tone for how comfortable patients feel in being open about their sexual orientation or gender identity/expression. The following are topics for possible inclusion in health history forms or to help clinicians with in-person discussions with patients:

- Intake forms should include questions about sexual orientation and gender identity. They should also use the term "relationship status" instead of "marital status," including options like "partnered." When asking—on forms or in person—about a patient's significant other, use terms such as "partner," in addition to "spouse" and/or "husband/wife."
- Adding a "transgender" option to the male/female check boxes on intake forms can help capture better information about transgender patients and will offer an initial sign of acceptance. Also adding a body map for patients to identify anatomic elements of their bodies and identifying preferred pronouns.
- Clinicians can train front desk staff to ask for clarity in an inclusive way by anticipating that some transgender patients who are in the process of transitioning may have discordancy between their name and their insurance card and/or identification card.

### **LGBT Diversity**

- Prepare now to treat a transgender patient someday. Healthcare providers' ignorance or discomfort when treating transgender patients may alienate them and result in lower-quality or inappropriate care, as well as deter them from seeking future medical care.
  - Because transgender individuals might have had traumatic experiences with doctors that caused fear or mistrust, developing rapport and trust may take longer and require added sensitivity.
  - Ask questions that are necessary to assess the situation but avoid unrelated probing. Explaining why you need information can help avoid the perception of intrusion. For example: "To help assess your health risks, can you tell me about any history you have had with hormone use?"
- Be aware of additional barriers caused by differences in socioeconomic status, cultural norms, racial/ethnic discrimination, age, physical ability, and geography. Do not make assumptions about literacy, language capacity, and comfort with direct communication.
- When talking about sexual or relationship partners, use gender-neutral language such as "partner(s)" or "significant other(s)."

- Ask open-ended questions, and avoid making assumptions about the gender of a patient's partner(s) or about sexual behavior(s). For example, if a new female patient records that she is married, it is useful for clinicians not to assume that spouse is the opposite sex.
- Use the same language that a patient does to describe self, sexual partners, relationships, and identity.
- When discussing sexual history, it is key to reflect patients' language and terminology about their partners and behaviors. Many people do not define themselves through a sexual orientation label, yet may have sex with persons of their same sex or gender or with more than one sex. For example: some men who have sex with men (MSM), especially African American and Hispanic men, may identify as heterosexual but have both female and male partners.

### **Confidentiality**

Encourage openness by explaining that patient-provider discussions are confidential and that you need complete and accurate information to develop an understanding of the patient's life in order to provide appropriate care. Ensure that the conversation will remain confidential and specify what information will be retained in the individual's medical records. Developing and distributing a written confidentiality statement will encourage LGBT and other patients to disclose information pertinent to their health. Display the confidentiality statement prominently and provide it in writing to every patient. Consider having staff members agree to the statement in writing. Encourage patients to identify "chosen family" members on their HIPAA form.

### **Specific Issues to Discuss with LGBT Patients**

Homophobia, biphobia, transphobia, discrimination, harassment, stigma, and isolation related to sexual orientation or gender identity/expression can contribute to depression, stress, and anxiety. Clinicians should conduct depression and mental health screening, knowing that these can be sources of stress for LGBT patients.

**"Outness."** Explore the degree to which LGBT patients are "out" to their employers, family, and friends, and/or the extent of social support or community participation. An individual's level of identification with community often strongly correlates with decreased risk for STIs, including HIV, and improved mental health. Differences between national and state laws can affect how out a patient is. For example, although there is protection for same sex marriage nationally, state and county laws may not protect LGBT people.

In these states and counties, employers may still legally terminate employment if a worker reveals that she/he/they are LGBT.

**Behaviors.** Clinicians should understand that LGBT people are particularly vulnerable to social stresses that lead to increased tobacco and substance use, which occur at higher rates in LGBT populations. Be prepared to intervene, provide treatment options, and be aware of whether options are inclusive of LGBT patients. Likewise, explore whether LGBT patients are dealing with social stress through alcohol or drug use and be prepared to present treatment options. Social stress may also contribute to body image, exercise, and eating habits.

Discuss safer sex techniques and be prepared to answer questions about STIs and HIV transmission risk for various sexual activities relevant to LGBT people.

**Lesbian Issues.** If a female patient identifies as lesbian or indicates a female sexual partner, do not assume that she has never had a male sexual partner, has no children, has never been pregnant, or has little risk of STIs. If a male patient identifies as gay or bisexual or indicates a male sexual partner, do not assume that he has never had a female sexual partner or has no children. Do not make assumptions about past, current, and future sexual behavior.

**MSM Issues.** The CDC recommends annual screening of MSM for syphilis, gonorrhea, chlamydia, and HIV, and immunization against hepatitis A and B for MSM who are not already immune. If patients do not have coverage for vaccination, refer them to a community clinic or STI clinic offering free or low-cost vaccination.

**Transgender Issues.** Transgender people are sometimes subject to the most extreme levels of social exclusion, which can destabilize individuals and create a host of adverse health outcomes. Health interventions will need to consider the aggregate impact of health risks resulting from this stigma.

Risks and response behaviors to watch for include:

- Cycling in and out of employment (and therefore health insurance)
- A history of interrupted medical care
  - Avoiding medical care
  - Pursuing alternate gender confirmation therapies (like injecting silicone or taking black market hormones)
- Engaging in survival sex—ie, in exchange for money or shelter
- Interrupted education
- Incarceration

- Social isolation
- Trauma
- Extreme poverty

### Violence Screening

Assure patients of confidentiality to the extent possible, depending on state laws regarding mandatory reporting. Ask all patients—men and women—violence screening questions in a gender-neutral way:

- Have you ever been hurt (physically or sexually) by someone you are close to or involved with or by a stranger?
- Are you currently being hurt by someone you are close to or involved with?
- Have you ever experienced violence or abuse?
- Have you ever been sexually assaulted/raped?

Due to gender identity or expression, patients who are transgender may be victimized by violence and sexual assault. For these individuals, risk assessment should be much more in-depth. If a person reports frequent violence, be sure to explore health issues related to long-term and post-traumatic stress. Whether or not transgender persons are visibly gender-nonconforming, they may experience trauma, increased stress, and grief as a result of violence against other community members.

### Substance Use and Abuse

Members of the LGBTQ community have higher rates of substance use and abuse than heterosexual populations. This includes opioid addiction of prescription drugs, with 10% of LGBTQ people misusing opioids, compared with 4.5% of heterosexuals. Screening regarding substance use and abuse needs to occur at primary care visits.

### Language

Listen to how patients describe their sexual orientation, partner(s), and relationship(s), and reflect their choice of language. Although many LGBT people may use words like “queer,” “dyke,” or “fag” to describe themselves, these and other words have been used as derogatory terms for LGBT individuals. Although individuals might have reclaimed the terms for themselves, they are not appropriate for use by healthcare providers who have not yet established a trusting and respectful rapport with patients. If you are in doubt about how to refer to a patient, ask what word or phrase is preferable. (See Tables 2 and 3)

- Avoid using the term “gay” with patients even if they have indicated a same-sex or same-gender sexual partner. If patients themselves have not indicated a particular identity or have indicated a sexual orientation other than gay, using this term may cause alienation and mistrust that can interfere with information

gathering and appropriate care. The key is to follow the patient’s lead about self-description while exploring how this relates to their current and potential medical needs. Clinicians need to elicit all 3 aspects of sexual orientation: attraction, self-described identity, and behavior, as well as gender identity.

- Respect transgender patients by making sure all office staff are trained to use their preferred pronouns and names. Clearly indicate this information in their medical record for easy reference for future visits.

### Staff Sensitivity and Training

One of the many advantages of hiring a diverse and inclusive staff is the perspectives that employees provide regarding optimal population-based care. When possible, it is helpful to have openly lesbian, gay, bisexual, and transgender staff members, who can provide valuable knowledge and perspectives about serving LGBT patients, as well as help patients feel comfortable. Although one person can certainly not speak for an entire group, having diverse members in an intentionally inclusive environment can improve all staff members’ understanding of LGBT issues. It is especially important to train all front-line staff in office standards of respect toward transgender people, including using their chosen name and referring to them by their chosen pronouns.

Training for all staff is critical to creating and maintaining practice environments that are safe for LGBT patients. Training should occur regularly to address staff changes and to keep all staff up to date.

Topics to incorporate in staff trainings include:

- Use of appropriate language when addressing or referring to patients or their significant others
- Learning how to identify and challenge internalized discriminatory beliefs about LGBT people
- Basic familiarity with important LGBT health issues (eg, impacts of homophobia, discrimination, harassment, and violence; mental health and depression; substance abuse; safer sex; partner violence; HIV and STIs)
- Indications and mechanisms for referral to LGBT-identified or LGBT-friendly providers

All employees need to understand that discrimination against LGBT patients, whether overt or subtle, is as unethical and unacceptable—and in many states as illegal—as any other kind of discrimination. Employers should stress to employees that discrimination against LGBT patients is not tolerable. It is also important to monitor compliance and provide a mechanism for patients

to report disrespectful behaviors. Some employees may have longstanding prejudices or negative feelings about LGBT patients due to ignorance or lack of familiarity with LGBT issues, and some may feel that their religious beliefs require them to condemn LGBT people. Some employees may need individual training and counseling.

Clinicians can play a role in advocating for adoption of electronic medical records templates that include patient information sheets regarding body maps and sex and gender orientation. Body maps are images of the body in which patients are asked to identify anatomic parts that they have. Questions about sexual orientation and gender orientation allow for obtaining information about attraction, identity, behavior, expression, and personal pronouns.

**Resources**

Health Professionals Advancing LGBT Equality (previously known as the Gay & Lesbian Medical Association)  
 Guidelines for Care of Lesbian, Gay, Bisexual, and Transgender Patients  
[www.gilma.org](http://www.gilma.org)

World Professional Association for Transgender Health (formerly known as the Harry Benjamin International Gender Dysphoria Association)  
 Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People  
<https://www.wpath.org/>

National Coalition of Anti-Violence Programs (NCAVP)  
[www.avp.org](http://www.avp.org)

Gay, Lesbian, Bisexual, and Transgender Health Access Project  
 Community Standards of Practice for Provision of Quality Health Care Services for Gay, Lesbian, Bisexual and Transgendered Clients  
[www.glbthealth.org](http://www.glbthealth.org)

National Coalition for LGBT Health  
<https://healthlgbt.org/>

CenterLink; The Community of LGBT Centers  
 Directory of centers throughout the United States that have additional referrals for local LGBT-sensitive services—eg, counseling services, support groups, health education, and legal resources  
[www.lgbtcenters.org](http://www.lgbtcenters.org)

LGBT National Help Center  
 National nonprofit organization offering toll-free peer counseling, information, and local resources  
[www.glnh.org](http://www.glnh.org)

National LGBT Health Education Center: A Program of the Fenway Institute  
 Affirming Care for Transgender and Gender Non-Conforming People: Best Practices for Front-line Health Care Staff  
[http://www.lgbthealtheducation.org/wp-content/uploads/13-017\\_TransBestPracticesforFrontlineStaff\\_v6\\_02-19-13\\_FINAL.pdf](http://www.lgbthealtheducation.org/wp-content/uploads/13-017_TransBestPracticesforFrontlineStaff_v6_02-19-13_FINAL.pdf)

**Lesbian and Bisexual Women**

**Heart Disease**

Significantly higher rates of heart attack and stroke have been reported in lesbian and bisexual women, compared with heterosexual women. In the heterosexual population, women at highest risk are African Americans, followed by Hispanics, this elevated risk is likely similar among lesbian and bisexual women. The impact of some risk factors (eg, diabetes and hypertension) is larger in women vs men. Some risk factors are beyond an individual's control, such as age, family health history, and race. However, everyone can reduce certain cardiovascular disease (CVD) risk factors by not smoking, maintaining recommended blood pressure and cholesterol levels, exercising regularly, and eating well—measures can also help to prevent type 2 diabetes. Lesbians and bisexual women have been found to have higher rates of physical inactivity, obesity, smoking, and stress—all major CVD risk factors.

**Cancer**

Several factors contribute to increased risk for lesbian and bisexual women to develop certain cancers. Historically, lesbians have been less likely than heterosexual women to have had a full-term pregnancy, and the hormones released during pregnancy and breastfeeding are believed to protect against breast, endometrial, and ovarian cancers. For example, a survey of 423 patients at a federally qualified healthcare center reported that lesbian and bisexual women were more likely not to have given

<b>Table 2. Interacting with Bisexual Patients</b>
Nonjudgmental questions about sexual practices and behaviors are more important than asking about sexual orientation or gender identity/expression.
Bisexual individuals' sexual behaviors may not differ significantly from those of heterosexual or lesbian/gay persons.
They may be monogamous for long periods of time and still identify as bisexual; they may be in multiple relationships with the full knowledge and consent of their partners.
They might have been treated as confused, promiscuous, or even dangerous.
They may be wary of health care providers who assume that they are "sick" or indecisive simply because they have sexual relationships with more than one sex.
They may also lack comprehensive safer-sex information that reflects their sexual practices and attitudes and may benefit from thorough discussions about sexual safety.

<b>Table 3. The Transgender Encounter. When assessing the sexual history of transgender people, there are several special considerations</b>
Do not make assumptions about their behavior or bodies based on their presentation.
Ask if they have had any gender-confirmation surgeries to understand what risk behaviors may be possible.
Understand that discussion of genitals or sex acts may be complicated by a disassociation with their body, and this can make the conversation particularly sensitive or stressful to the patient.
Ask the patient to clarify any terms or behaviors with which you are unfamiliar, or repeat a patient's term with your own understanding of its meaning to make sure there is no miscommunication.
There are so few trained experts in transgender health that you will often have to become that expert. Likewise, providers who treat transgender patients often have to build the base of specialty care referrals by prescreening other providers for sensitivity or introducing them to educational resources. Do not be afraid to tell your patient of your inexperience. Your willingness to become educated will often stand out from their previous healthcare experiences.

birth (10.7% vs 8.9%) and had significantly higher scores on the Gail tool for assessment of breast cancer lifetime risk compared with heterosexual women (10.7% vs 8.9%). Changing behaviors among younger lesbian and bisexual women—eg, a higher interest in pregnancy—will likely influence this risk. Physicians should ask all patients about family planning expectations. In addition, lesbians and bisexual women are less likely to visit a clinician for routine screenings, such as Pap tests, mammograms, and clinical breast exams. This may be due to lesbians' and bisexual women's lack of awareness of gynecological and oncologic risks; lower rates of health insurance coverage, concern about discrimination, or negative experiences with clinicians.

### **Weight and Fitness**

In a 2007 analysis, Boehmer and colleagues reported that lesbians had more than twice the odds of being overweight or obese as heterosexual women. Some groups of lesbians have been found to have higher obesity rates vs other women—eg, those who are African-American; live in rural areas; have lower education levels; or are from households having lower socioeconomic status.

In a study of barriers among lesbians to engaging in regular physical activity, Brittain and colleagues identified both general barriers (ie, not specific to sexual orientation), such as fatigue and lack of an activity partner, and specific barriers, such as lack of lesbian-focused activity groups and lack of same-sex family memberships in fitness facilities. Another study, by Brittain and colleagues, found that obese individuals had 54.5% lower odds than healthy-weight ones of engaging in sufficient amounts of moderate and vigorous physical activity and that participants who reported excellent general health status vs those who reported poor health had 12.7 times greater odds of engaging in sufficient amounts of moderate and vigorous physical activity. Engaging younger, even adolescent age, women who are lesbians into a habit of regular exercise and older women regarding options that include bariatric surgery are important considerations for these patients.

### **Intimate Partner Violence**

The Centers for Disease Control and Prevention's National Intimate Partner and Sexual Violence Survey (NISVS) offers this definition of intimate partner violence (IPV) [formerly referred to as domestic violence]: "The term 'intimate partner violence' [IPV] describes physical violence, sexual violence, stalking and psychological aggression (including coercive acts) by a current or former intimate partner [ie, a person with whom one has a close personal relationship].

Examples of intimate partners include current or former spouses, boyfriends or girlfriends, dating partners, or sexual partners. IPV can occur between heterosexual or same-sex couples and does not require sexual intimacy." This newer term is preferred since cohabitation (ie, domestic status) is not a prerequisite for this unhealthy condition of power and control over another person.

One study has estimated that 3.6% of lesbians have experienced intimate partner sexual abuse in their lifetimes. Although the reported lifetime prevalence of IPV among lesbians is higher than among heterosexual women, the difference is not statistically significant.

According to the NISVS, bisexual women are 1.8 times more likely than heterosexual women to report ever having experienced IPV and 2.6 times more likely to report intimate partner sexual violence. Men and women both contribute to the prevalence of IPV among lesbians and bisexual women. For example, the CDC found that 89.5% of bisexual women reported only male perpetrators of intimate partner physical violence, rape, and/or stalking and that almost one-third of lesbians who have experienced such incidents have had  $\geq 1$  male perpetrators.

Lesbian victims are less likely to report IPV violence, for reasons such as:

- Fewer services available to help lesbians and bisexual women
- Fear of discrimination
- Fear of not being believed (eg, clinician unaware that IPV exists in lesbian relationships)
- Threats from the perpetrator to expose the victim's sexual orientation
- Fear of losing custody of children

### **Barriers and Aids to Assistance**

LGBT individuals may face unique barriers to accessing help for intimate partner violence concerns, including:

- Legal definitions of intimate partner violence that exclude same-sex couples
- Risks related to revealing sexual orientation when seeking help and to rejection and isolation from family, friends, and associates
- Lack, or unawareness, of LGBT-specific or LGBT-friendly sources for assistance
- Potential discrimination by staff of service providers or by heterosexual violence survivors with whom they may interact
- Lack of IPV shelters that accept LGBT patients
- Low confidence in the sensitivity and effectiveness of law enforcement officials and courts

### **Mental Health**

A range of factors affects lesbians' mental and emotional health. The Institute of Medicine report on LGBT health highlighted the impact of stigma, systemic discrimination, and access barriers on poor health outcomes. Mental health and wellness are clearly affected by these factors. Lesbians and bisexual women often feel that they may need to hide their sexual orientation from family, friends, and employers. Bisexual women may feel even more alone because they may feel less connected to either the heterosexual or the gay and lesbian community. A study by Ryan and colleagues found that lesbian, gay, and bisexual young adults who reported higher levels of adverse or punitive family reactions in response to their children's sexual orientation were 8.4 times more likely to report having attempted suicide, 5.9 times more likely to report high levels of depression, 3.4 times more likely to use illegal drugs, and 3.4 times more likely to report having engaged in unprotected sexual intercourse compared with peers from families who reported no or low levels of family rejection. Providers who serve this population should attempt to educate families about the impact of rejecting behaviors. Counseling families, providing anticipatory guidance, and referring families for counseling and support can help decrease risk and increase well-being for lesbian, gay, and bisexual youth.

A 2001 study by Gilman and colleagues that evaluated the risk of psychiatric disorders among individuals with same-sex partners found that during the previous 12 months women with same-sex partners experienced more mental health disorders—such as major depression, phobia, and post-traumatic stress disorder—than did women with opposite-sex partners. Lesbian and bisexual women tend to consult primary care clinicians for emotional reasons more often than heterosexuals if their primary care physician is aware of their sexual orientation. Building positive rapport with clients and creating a safe environment for sharing sensitive information, such as sexual orientation or sexual behaviors, could lead to more opportunities for screening and monitoring of critical behavioral health indicators such as smoking status, alcohol use, and mental health.

### **Suicidality**

The limited available studies have found that same-sex sexual orientation is not disproportionately represented among suicide victims. However, a relationship between sexual orientation and nonfatal suicidal behavior has been observed in numerous studies. A meta-analysis of 25 international population-based studies that measured suicidal behavior in lesbian, gay, and bisexual adolescents and/or adults found that the

lifetime prevalence of suicide attempts in gay/bisexual males was approximately 4 times that of comparable heterosexual males. The relatively small number of studies in this meta-analysis that included substantial numbers of women indicated that lesbian/bisexual women had lifetime suicide attempt rates almost twice those of heterosexual women.

**Risk Factors.** A wide range of factors contributes to such increased risks of suicidal ideation and attempts:

- Higher incidence of suicidal ideation among adolescents and young adults, particularly during the coming out process
- Increased incidence of mental disorders, especially depression, generalized anxiety disorder, conduct disorder, and substance use
- Social stigma, prejudice, and discrimination associated with minority sexual orientation

## **Resources**

Although lesbian-specific resources to mitigate suicidal ideation are lacking, several professional groups provide relevant LGBT-specific resources designed to address some of the underlying causes:

- The Association for Lesbian, Gay, Bisexual, and Transgender Issues in Counseling provides Competencies for Counseling Gay, Lesbian, Bisexual and Transgender Clients, which offers guidelines for ethical, culturally competent care of sexual minority clients, although it does not touch specifically on heightened risk for suicidal behavior:  
<http://www.algbtic.org/>.
- The American Psychiatric Association has developed guidelines, Assessment and Treatment of Patients with Suicidal Behaviors, that identify sexual orientation as a potential suicide risk factor, but provide limited information about factors associated with suicidal behavior among LGBT persons:  
[https://psychiatryonline.org/pb/assets/raw/sitewide/practice\\_guidelines/guidelines/suicide.pdf](https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/suicide.pdf).
- The Trevor Project (<https://www.thetrevorproject.org/>) operates the only national crisis and suicide prevention lifeline for LGBT youth, provides in-school workshops, educational materials, and online educational resources for youth, and advocates for public policies to reduce LGBT stigma.

## **Smoking**

In 2013, cigarette smoking prevalence was higher among lesbian, gay, or bisexual adults (26.6%) than heterosexual adults (17.6%); rates among lesbians/bisexual women were slightly higher than

among gay men (26.4% and 26.7%, respectively). The group of women most likely to smoke is bisexual women, and lesbians are also more likely to smoke than heterosexual women. Among lesbians, younger women are more likely to smoke than older women. In the underground, working class 1950s LGBT scene, “butch” and “femme” became a way for lesbians to identify one another, and those who were “butch” became seen as how lesbians lived and behaved. This practice receded in the 1970s but has had some resurgence due to a more expansive definition of gender and sex-role identities.

Women who are lesbians who self-define as “butch” (often adopting more masculine behaviors, gender roles, and expression) are much more likely to smoke than younger lesbians who might identify as “femme.” Self-defined “femme” lesbians adopt more feminine behaviors, gender roles, and expression. Not all women who are lesbians adhere to these rigid sex-role identities, so clinicians should not assume that a woman is a “butch” or “femme” based on appearance. Many women appear like heterosexual women, which contributes to their invisibility.

A number of smoking cessation interventions aimed at sexual minority populations have been developed. Mathews and colleagues evaluated the efficacy of a community-based, culturally tailored smoking cessation program in 198 gay, bisexual, and transgender individuals. Higher educational attainment and use of nicotine replacement therapy were associated with treatment completion. Self-reported quit rates were 32.3% at post-treatment assessment. Treatment attendance, use of nicotine replacement therapy, and lower nicotine dependency were positively associated with quitting smoking. The researchers concluded that these results suggest the benefits of offering LGBT smokers culturally tailored smoking cessation treatments.

In a focus group survey involving 204 young LGBT participants, Baskerville and colleagues found that effective smoking cessation and prevention interventions should include the following key attributes:

- Be specific to LGBTQ+ communities
- Be accessible in terms of location, time, availability, and cost
- Incorporate LGBTQ+ peer support and counseling services
- Integrate other activities beyond smoking
- Be positive, motivational, uplifting, and empowering
- Provide concrete coping mechanisms
- Integrate rewards and incentives

## **Alcohol Use**

Excessive alcohol consumption and drug abuse appear to be more common among lesbians (especially young women) compared with heterosexual women. Lesbian and bisexual women are also more likely to drink alcohol and smoke marijuana in moderation than other women.

Dermody and colleagues reported that sexual minority young people appear to start drinking alcohol at an earlier age and demonstrate greater escalations of drinking during adolescence compared with heterosexual youth.

These distinctions were especially pronounced among sexual minority women—ie, lesbians and bisexual women. These investigators observed that sexual minority youth, particularly females, are at heightened risk for hazardous drinking, such as binge drinking and drunkenness, and they suggest that this is consistent with the “minority stress hypothesis” that predicts higher substance use among sexual minority individuals due to discrimination and victimization. In general, hazardous drinking increased during adolescence and began to level-off and decrease during young adulthood, but gay and lesbian youth had the fastest growth over time, resulting in transitioning from normative levels of hazardous drinking during adolescence to reporting the highest levels of binge drinking and drunkenness during young adulthood. The levels of hazardous drinking among lesbian and bisexual women escalated into adulthood and neared or equaled levels among heterosexual males for binge drinking and drunkenness, respectively. It is important to recognize that all women handle alcohol differently than men. Alcohol harms all women more and is more toxic at lower doses due to gender-specific lower gastric alcohol dehydrogenase activity. This results in lower amounts of alcohol doing more damage, including earlier end-stage alcoholic liver disease, with the absence of the typical clinical presentation seen in men. Women with severe liver disease, for example, merely present with increased abdominal girth (often confused with adipose tissue), sallow complexion, and malnutrition. Men, however, have caput medusa, tremors, and a more pathognomonic appearance. Clinicians need to obtain data of intake and generate the gender-impact difference to assess harm—especially for lesbian and bisexual women.

The authors conclude that the findings of the study suggest that early prevention efforts for sexual minority females are needed to ameliorate heavy drinking disparities—eg, by providing mechanisms for adolescents to discuss sexual orientation safely with healthcare providers. The authors further suggest that improved ways of integrating sexual

minority youth into the lesbian/gay community would be valuable in helping to reduce hazardous drinking among sexual minority individuals as they transition into adulthood.

### **Substance Abuse**

According to a 2016 Substance Abuse and Mental Health Services Administration (SAMHSA) report, sexual minority men (36.3%) and women (41.1%) were more likely than sexual majority men (20.4%) and women (13.9%) to have used illicit drugs during the past year. For sexual minority females, 33.2% used marijuana in the past year and 11.6% misused prescription pain relievers in that period. Lesbians and bisexual women were also more likely to be past-year users of cocaine, heroin, hallucinogens, LSD, Ecstasy, inhalants, and methamphetamines and to have misused prescription tranquilizers, stimulants, and sedatives. (Much of the discussion in this section is also applicable to gay and bisexual males and will not be repeated in that section of this program.)

Substance use disorders (SUDs) are clinically significant impairments due to use of alcohol, other drugs, or both (marijuana; cocaine; heroin; hallucinogens; inhalants; methamphetamine; prescription pain relievers, tranquilizers, stimulants, and sedatives). Impairment can include health problems, disability, and failure to meet major responsibilities at work, school, or home. Sexual minority adults were more likely than sexual majority adults to have had SUDs in the past year. In 2015, an estimated 15.1% of sexual minority adults had an alcohol or illicit drug use disorder in the past year vs 7.8% of sexual majority adults.

Sexual minority males and females were also more likely than sexual majority males and females to have had an illicit drug use disorder in the past year (9.6% and 6.6 %, respectively, vs 3.7% and 1.6% for sexual majority males and females). An estimated 4.5% of sexual minority males and 3.5% of sexual minority females had a marijuana use disorder in the past year, vs 1.9% of sexual majority males and 0.7% of sexual majority females had a marijuana use disorder. Similarly, the 2.5% of sexual minority males and 1.7% of sexual minority females who had a pain reliever use disorder in the past year were higher than the percentages for sexual majority males and females (1.0% and 0.5%, respectively). In addition, sexual minority males and females were more likely than their sexual majority counterparts to have both an alcohol use disorder and an illicit drug use disorder in the past year—3.7% and 3.4%, respectively (vs 1.4% and 0.4%, respectively).

### **Recommendations for Clinicians**

Substance abuse treatment providers, counselors, and therapists need to be aware of the issues relevant to their LGBT clients so that they can design treatment programs that provide effective, ethical, and informed care. Clinicians who treat LGBT individuals can help their patients recover from substance abuse and addiction by being sympathetic, supportive, and nonjudgmental and by helping them become more self-accepting and recovering from shame due to stigma, internalized homophobia, and substance abuse.

Clinicians should refer recovering LGBT individuals to a program that will help them heal (such as 12-step or other self-help groups), other LGBT individuals in recovery, and the patient's own close friends and family. Counselors should remember that patients may also have concurrent health concerns such as other mental disorders, HIV, STIs, liver disease, hormone-related issues, or hepatitis B or C and should screen for these as well as for intimate partner violence.

Providing services that are appropriate, accessible, cost-effective, and effective can be challenging. The following are selected recommendations for achieving this goal:

- Counselors and treatment providers need to examine their treatment approaches and take appropriate measures to incorporate LGBT-sensitive and supportive approaches.
- Internalized homophobia, anti-LGBT bias, and heterosexism may contribute to the use of alcohol and drugs by LGBT individuals. Clinicians should learn the effects of these negative biases on the individual and the community and how to help patients affirm themselves and address negative feelings. Many clinicians need a better understanding of the interplay between sexual orientation and the sociocultural context related to substance use, abuse, and treatment.
- Treatment providers should learn about substance abuse in the LGBT community, where substance use, especially alcohol, can be an integral part of social life and is often connected to sexual identity formation, coming out, and self-acceptance.
- Clinicians should take into consideration the individual patient's comfort level regarding his or her sexual orientation issues and how that can affect the patient's recovery.

### **Training Recommendations**

A limited number of facilities offer LGBT-sensitive recovery programs. Training professional and support staff to serve LGBT individuals in their own communities is critical to improving treatment outcomes. Considerations for training include:

- Provide training to staff members in cultural diversity and sexual orientation sensitivity. Topics should be diverse and applicable to all LGBT populations and include topics of sexual orientation, sexual identity, gender, and sexual behaviors.
- Use LGBT-specific training and educational programs to provide optimal care.
- Provide sensitivity training in which LGBT clients and heterosexual clients attend the same group therapy sessions. Counselors should prevent any homophobic behaviors. LGBT clients should not be forced to discuss sexual orientation or behaviors if they are not comfortable doing so. If the facility provides LGBT-only groups, attendance should be voluntary and confidentiality should be respected.
- Assess staff comfort, experience, and competence in serving LGBT individuals before developing a training program, during training, and after providing training.

The National Survey of Substance Abuse Treatment Services reported that in 2008, 777 of 13,688 (6%) of surveyed facilities offered specialized programs for LGBT clients. Facilities whose primary focus is a mix of substance abuse and mental health were more likely than other types of facilities to offer special groups for LGBT clients. Similarly, facilities operated by private for-profit entities were more likely to offer such programs.

### **Sexually Transmitted Infections (STIs)**

This program will not cover STI symptomatology, diagnosis, or treatment; for detailed information on those topics, please consult the CDC's 2015 Sexually Transmitted Diseases Treatment Guidelines (<https://www.cdc.gov/std/tg2015/default.htm>). This resource is available as a download, and the content is updated approximately every 2 years.

Women who have sex with women can transmit STIs to each other through:

- Skin-to-skin contact
- Mucosal contact (eg, mouth to vagina)
- Vaginal fluids
- Menstrual blood
- Sharing sex toys

Some STIs are more common among lesbians and bisexual women and may be passed easily from woman to woman, such as bacterial vaginosis, while others, such as HIV, are much less likely to be sexually transmitted between women. Bisexual women may be more likely to acquire STIs that are less common for lesbians who have sex only with women, due to having had sex with men in the past or present. Common STIs that can be transmitted between women include:

**Bacterial vaginosis (BV).** BV is more common in lesbian and bisexual women than in other women and often occurs in both members of lesbian couples. It fulfills the definition of sexually transmitted in these populations but, to date, is not recognized as such, since it is not sexually transmitted in heterosexual woman.

**Chlamydia.** Chlamydia, which is spread through vaginal, oral, or anal sex, can damage the uterus, ovaries, and fallopian tubes. Because the symptoms are often mild, chlamydia can be transmitted by an individual who does not know that she has it.

Chlamydia can be treated with antibiotics, but untreated infections can lead to:

- Lower abdominal pain
- Lower back pain
- Nausea
- Fever
- Pain during sex
- Bleeding between periods

**Genital herpes.** Genital herpes infection is caused by the herpes simplex viruses type 1 (HSV-1) or type 2 (HSV-2), with most genital herpes being caused by the latter. Although HSV-1 can also cause genital herpes, it more commonly causes infections of the mouth and lips, ie, fever blisters or cold sores. Oral herpes can be transmitted to the genitals through oral sex. Although there is no cure for herpes, medications can shorten and prevent outbreaks or reduce transmission of the virus to others.

**Human papillomavirus (HPV).** HPV can cause genital warts, cervical, vulvar, vaginal, anal, and oropharyngeal cancer. Most people are unaware that they have been infected with HPV because they are asymptomatic. Depending on age and immunological factors, HPV may have limited effect and appear on examination to have resolved.

In other patients, it will result in genital warts and potentially years later progress to cancer. The Pap test checks for abnormal precancerous cervical cell growths caused by HPV. All girls and boys should be vaccinated against HPV to prevent future genital warts and/or cancer. Since women who are lesbian and bisexual may access healthcare less, their risk for missed immunization is higher. Lesbians and bisexual women can transmit HPV through direct genital skin-to-skin contact, touching, or shared sex toys. Lesbians who have had sex with men are also at risk of HPV infection. Therefore, increased efforts to immunize all girls and boys—to result in vaccination coverage of LGBT youth—coupled with regular Pap tests are as important for lesbian and bisexual women as for heterosexual women.

**Trichomoniasis.** Trichomoniasis is caused by a parasite that can be transmitted during sex as well

as by contact with damp objects, such as towels or wet clothes.

## Gay and Bisexual Men

Gay and bisexual men's healthcare needs are similar to those of all men, although they may experience additional risk factors and barriers to care that can affect their health. Although gay men have increasingly revealed their sexual orientation to their primary care providers, a significant percentage still have not done so.

If healthcare providers know that a male patient is gay, bisexual, or has sex with men, they can properly screen for risk factors and provide more comprehensive care. As a reminder, a patient may be sexually intimate with a man (behavior) but not identify as gay or bisexual. Therefore, it is vital that healthcare providers create a safe and welcoming environment for gay and bisexual men to self-identify and discuss their sexual histories and behaviors and other health-related issues. The risk factors that gay and bisexual men experience are disproportionately sexual, social, and behavioral. Clinicians must consider social and cultural variables, mental health, and substance abuse, in addition to specific risk behaviors when discussing health issues or recommending prevention messages to gay and bisexual men.

### **Heart Disease**

Heart disease has long been a significant health concern for men of all sexual orientations. Major risk factors for heart disease among men include tobacco use and alcohol use—behaviors that are common among gay men. In an analysis of CVD biomarkers in 520 persons identified as gay, lesbian, or bisexual, Hatzenbuehler and colleagues found that gay and bisexual men had significant elevations in C-reactive protein, diastolic blood pressure, and pulse rate, compared with heterosexual men. CVD risk may be even greater for men who are HIV-positive. In an analysis of approximately 1,000 participants in the Multicenter AIDS Cohort Study, Post and colleagues reported that HIV-infected men had a greater prevalence of coronary artery calcium and plaque than uninfected men. Associations between HIV infection and plaque remained significant after coronary artery disease (CAD) risk factor adjustment.

### **Cancer**

In some cases, gay men are at increased risk for several types of cancer—including prostate and testicular cancers. In addition, gay men—as well as anyone who has receptive anal sex—are at higher risk for anal cancer due to an increased risk of becoming infected with human papillomavirus (HPV), the virus that causes genital and anal warts.

Some clinicians recommend routine screening with anal Pap smears, similar to the test done for women to detect early cancers. This reinforces the role of prevention with HPV vaccination. All boys should be vaccinated at ages 11 to 12 or before sexual debut. Gay and bisexual men who might have missed vaccination up until the age of 26 years should also be vaccinated. In heterosexual men, the upper age limit is 21 years.

### **Prostate Cancer**

Most prostate cancers occur in men  $\geq 50$  years of age, and African American men are more likely to develop it than men of other ethnicities. Having  $\geq 1$  close relatives with prostate cancer also increases risk.

Men in same-sex relationships have a greater likelihood of contending with prostate problems—theirs, their partner's, or both; very little research has been done in this area. Using focus groups, Asencio and colleagues explored gay men's knowledge of and responses to the potential sexual consequences associated with prostate cancer and treatments. They reported that gay men have limited understanding of their prostate and the range of sexual challenges associated with prostate cancer and its treatment. Of note, use of prostate-specific antigen testing by gay/bisexual African Americans was 12% to 14% lower than that of heterosexual African Americans and 15% to 28% lower than that of gay/bisexual whites.

### **Testicular Cancer**

About half of testicular cancers occur in men between the ages of 20 and 34 years. White men have a higher risk than men of other races. One of the main risk factors for testicular cancer is a condition called cryptorchidism, or undescended testicle(s). A family history of testicular cancer also increases risk. Some evidence suggests that men with HIV, especially those with AIDS, are at greater risk.

### **Anal Cancer**

To assess the prevalence, genotypes, and determinants of the anal HPV infection in urban HIV-1 negative MSM, Donà and colleagues screened 258 MSM (median age 32 years) at an STI clinic for the presence of HPV. They found that overall, 74.8% of participants were HPV-positive, with 56.2% being infected by high-risk types of virus. HPV-16 and HPV-52 are associated with high risk of progression to anal lesions. A multiple infection was detected in 65.3% of the HPV-positive men. Lifetime and recent number of sexual partners as well as having receptive anal sex were significantly associated with anal HPV infection. The researchers stressed that these findings highlight the need to create greater awareness about the risk of

anal HPV infection among HIV-negative MSM and warrant investigation of possible anal intraepithelial lesions, particularly given the increasing anal cancer incidence in high-risk populations. Men who are “bottoms” (receptive anal sex) are at highest risk.

### **Injury and Violence**

Data shows that gay men generally experience 2 types of violence: criminal violence based on their sexual minority status, and violence from an intimate male partner (ie, domestic partner violence). Therefore, clinicians should routinely assess their MSM clients for a history of intimate partner violence or criminal violence due to victimization.

### **Criminal Violence**

An online survey of 662 gay, lesbian, and bisexual adults found that approximately 20% of respondents had experienced a person or property crime based on their sexual orientation; approximately half had experienced verbal harassment, and more than 1 in 10 reported having experienced employment or housing discrimination. Gay men were significantly more likely than lesbians or bisexuals to experience violence and property crimes.

### **Intimate Partner Violence**

Gay and bisexual men can experience intimate partner violence, but clinicians rarely screen for it. When IPV is identified in MSM patients, clinicians should be prepared to refer patients to intimate partner violence services in their area that serve gay and bisexual men. In a survey of a group of 817 MSM, Houston and McKirnan reported that 32.4% of participants reported any form of relationship abuse in a past or current relationship; 20.6% reported a history of verbal abuse, 19.2% reported physical violence and 18.5% reported unwanted sexual activity. Age and ethnic group were not related to reports of abuse, although depression and substance abuse were among the strongest correlates of intimate partner abuse. Men reporting recent unprotected anal sex were more likely to report abuse.

### **Fitness, Diet, and Exercise**

Problems with body image are more common among gay men than among heterosexual men. In addition, gay men are more likely to experience an eating disorder such as bulimia or anorexia nervosa. On the opposite end of the spectrum, overweight and obesity also affect a significant segment of the gay community. Clinicians should be prepared to discuss their MSM patients' fitness and diet regimen and provide appropriate counseling and referrals as needed.

## **Behavioral Health Issues**

### **Depression and Anxiety**

Depression and anxiety appear to affect gay men at a higher rate than members of the general population, especially if they continue to conceal their sexual orientation from friends and family and lack significant social support. Data from the National Epidemiologic Survey on Alcohol and Related Conditions indicated that gay men had a higher prevalence than heterosexual men of any lifetime mood disorder, eg, depression or dysthymia, (42.3% vs 19.8%) and of any lifetime anxiety disorder (41.2% vs 18.6%). Adolescents and young adults may be at particularly high risk of suicide because of these concerns. Factors such as verbal and physical harassment, negative experiences related to “coming out” (including level of family acceptance), substance use, and isolation all contribute to higher rates of suicidal thoughts, attempts, and completions among gay men and youth than among other populations. Clinicians should have available a list of culturally sensitive mental health services to which gay and bisexual clients can be referred.

### **Substance Abuse**

#### Illicit Drugs

In 2015 SAMHSA reported the following data regarding illicit drug use among MSM in the past year:

- Marijuana: 27.1% vs 16.2% among heterosexual males
- Prescription pain reliever misuse: 8.6% vs 5.4%
- Inhalants (primarily amyl nitrates): 7.5% vs 0.3%

MSM were also more likely to be users of cocaine, hallucinogens, LSD, Ecstasy, inhalants, and methamphetamines and to have misused prescription tranquilizers in the past year. The data for the use of inhalants in the past year among MSM are noteworthy because inhalant use in the general population is more likely to occur among adolescents. Estimates of heroin use and the misuse of prescription stimulants and sedatives in the past year were similar for MSM and heterosexual males. For some gay and bisexual men, alcohol and illegal drug use, especially methamphetamines (meth), amyl nitrates (poppers), and drugs used to treat erectile dysfunction also contribute to an increased chance of acquiring HIV and other STIs. Use of drugs or alcohol may also increase chances of acquiring or transmitting HIV by becoming involved in more risky sexual practices and behaviors or through sharing needles or other drug injection equipment.

### Alcohol

When Stall and colleagues assessed the prevalence and independent associations of heavy and problematic use of alcohol among 2,172 MSM in 4 large US cities, they found that alcohol use was highly prevalent (85%) and that  $\geq 3$  alcohol-related problems (12%) and heavy-frequent alcohol use (8%) were not uncommon. Demographics, adverse early life circumstances, current mental health status, social and sexual practices, and connection to gay male culture comprised the complex associations with heavy and/or problematic alcohol use. Among a group of 526 MSM 18 to 24 years of age 91% reported alcohol use, with 21% reporting binge drinking ( $\geq 5$  drinks during a single sitting); 40% of the latter group reported frequent binge drinking. Another study of drinking frequency among MSM identified these correlates of heavy drinking: younger age, white race, lower educational attainment, depressive symptoms, and stimulant use; heavier drinkers also often experienced a history of childhood sexual abuse, and there were significantly greater depressive symptoms among very frequent heavy drinkers.

### Tobacco

Not only is tobacco the leading cause of mortality among the general population, but studies have shown that gay males are among the groups disproportionately affected by tobacco use. Emphasis on other health issues (eg, HIV, illicit drug use) has often eclipsed the impact of tobacco on MSM, leaving individuals less educated about the need to discontinue smoking or the resources to assist in the process. For all gay male patients, clinicians need to be prepared to assess tobacco use, advise discontinuation, discuss medication options, and refer patients to local culturally competent cessation services.

It is important for providers to understand that alcohol and illicit drug use among gay men is significantly affected by factors such as age, affiliation with gay culture, level of stress, and how “out” an individual is, among others.

Therefore, culturally sensitive and accessible prevention and treatment programs are critical for addressing substance use among gay men.

### **Sexually Transmitted Infections**

This program will not cover STI symptomatology, diagnosis, or treatment; for detailed information on those topics, please consult the CDC's 2015 Sexually Transmitted Diseases Treatment Guidelines (<https://www.cdc.gov/std/tg2015/default.htm>). Since behavior is an important component of risk, data include MSM but also MSM/MSW (men who have sex with men and women). MSM/MSW have 30% more female than male partners.

MSM/MSW rates vary by ethnicity, with the highest number being black MSM (34%), Hispanic MSM (26%) and non-Hispanic white men (13%). The following data focus on MSM exclusively.

### **Syphilis**

The most recent CDC STI surveillance report (2016) states that MSM accounted for 80.6% of male primary and secondary syphilis cases; 36.8% were white, 29.1% were African American, and 24.0% were Hispanic. Compared to the percentage of the US population that is white (62.3%), African American (12.3%), and Hispanic (17.1%), these figures represent a significant inequality in the burden of disease for non-white MSM. Estimated rates of primary and secondary syphilis cases in MSM ranged from 0 per 100,000 in Wyoming to 861 per 100,000 in Mississippi. Cases among MSM increased 16.4% during 2015-2016 and 63.7% during 2012-2016.

### **Gonorrhea**

Nearly 400,000 cases of gonorrhea are reported per year, but CDC estimates that the actual number of new infections may be 820,000. Thirty percent of new gonorrhea infections are resistant to  $\geq 1$  drug. This growth in antibiotic resistance underlines the seriousness of the increasing incidence of gonorrhea among MSM. The STD Surveillance Network (SSuN) is a collaboration of 9 selected state, county, and city health departments, with 29 clinics, that are federally funded to address STI surveillance problems. Estimated gonorrhea incidence among MSM increased 151.0% across the 2010-2015 period from 1,368.6 cases per 100,000 MSM in 2010 to 3,434.7 cases per 100,000 MSM in 2015.

### **Human Papilloma Virus (HPV)**

HPV infections are the most common STI in the United States, and anyone who has ever been sexually active can acquire HPV; acquisition is more likely in persons who have had many sex partners or have had sex with someone who has had many partners. Because it is so common, most people get HPV infections shortly after becoming sexually active. Gay and bisexual men are estimated to be 17 times more likely to develop anal cancer than heterosexual men. Certain populations (people with weakened immune systems and people with HIV) are at higher risk for HPV-related health conditions. There are 2 categories of sexually-transmitted HPV. Low-risk HPV can cause genital warts. High-risk HPV can cause various cancers:

- Cervical cancer
- Anal cancer
- Some types of oral and throat cancer
- Vulvar cancer
- Vaginal cancer
- Penile cancer

The 9-valent HPV vaccine is recommended routinely for MSM through 26 years of age; the vaccine's efficacy in preventing HPV-associated diseases in men aged  $>26$  years is unknown. Data is insufficient to recommend routine anal-cancer screening with anal cytology in persons with HIV infection or HIV-negative MSM. However, some clinical centers perform anal cytology to screen for anal cancer among high-risk populations (eg, HIV-positive individuals and MSM).

### **Hepatitis**

Gay, bisexual, and other MSM are at increased risk of acquiring viral hepatitis, including hepatitis A, B, and C. Approximately 10% of new hepatitis A and 20% of new hepatitis B infections in the United States are among gay and bisexual men. Moreover, MSM who are involved in high-risk behaviors, such as injection drug use and other activities that result in blood sharing also are at increased risk of getting HCV. Although there is no vaccine for HCV, there are highly effective treatments.

#### **Hepatitis A Virus (HAV)**

HAV is transmitted primarily by the fecal-oral route, through either person-to-person contact—ie, sexual activity or contact with fingers or objects having the virus on them—or through contact with objects, food, or drinks contaminated by the stool of an HAV-infected person.

#### **Hepatitis B Virus (HBV)**

HBV is transmitted through percutaneous or mucosal contact when body fluids—such as semen or blood—from an infected individual enter the body of an uninfected individual. HBV is highly infectious and is easily transmitted during sexual activity. It also can be transmitted through sharing needles, syringes, or other equipment used to inject drugs. HBV can cause acute illness and/or lead to chronic infection, cirrhosis of the liver, hepatocellular carcinoma, liver failure, and death.

#### **Hepatitis C Virus (HCV)**

HCV is transmitted through contact with the blood of an HCV-infected person, primarily through sharing needles, syringes, or other injection drug equipment. HCV can also be transmitted when getting tattoos and body piercings in casual settings or when nonsterile instruments are used. Although sexual transmission of HCV is uncommon, it can occur. Having an STI or HIV, sex with multiple partners, or rough sex can increase a person's risk of acquiring HCV. HCV can sometimes result in acute illness, but more often HCV becomes a chronic infection that can lead to cirrhosis, liver failure, hepatocellular carcinoma, and death. National recommendations include screening anyone born between 1945 and 1965, anyone with injection drug use, anyone with chronic medical conditions

(eg, dialysis, HIV), anyone who has received a transfusion, and healthcare workers.

Universal immunization for HAV and HBV is recommended for all MSM. In addition, studies have shown that safer sex is effective at reducing the risk of acquiring viral hepatitis and is currently the only means of preventing HCV infection. Several treatments are available that can significantly improve health and delay or reverse the effects of liver disease for HBV patients, and newer treatments for HCV can cure the infection in the majority of cases. For detailed guidance on HCV treatment, clinicians should refer to <http://www.hcvguidelines.org/>, published by the American Association for the Study of Liver Diseases (AASLD), and guidance on management of chronic HBV infection can be found at: [https://www.aasld.org/sites/default/files/Terrault\\_et\\_al-2016-Hepatology.pdf](https://www.aasld.org/sites/default/files/Terrault_et_al-2016-Hepatology.pdf).

### **Human Immunodeficiency Virus (HIV)**

In 2014, gay, bisexual, and other men who have sex with men (MSM) were at the highest risk for HIV infection, accounting for 70% of all new infections, whereas individuals infected through heterosexual sexual activity comprised 23% of new infections. In 2015:

- Gay and bisexual men accounted for 82% (26,376) of new HIV diagnoses among males  $\geq 13$  years of age and 67% of all new diagnoses in the United States.
- Gay and bisexual men 13 to 24 years of age accounted for 92% of new HIV diagnoses among all men in their age group and 27% of new diagnoses among all gay and bisexual men.
- Gay and bisexual men accounted for 55% (10,047) of people who received an AIDS diagnosis. Of those men, 39% were African American, 31% were white, and 24% were Hispanic.

As these figures show, African American males continue to bear the largest burden of the US HIV epidemic. In addition, African-American and Hispanic MSM are more likely to become infected with HIV at a younger age (13 to 29 years), whereas white MSM are more likely to become infected when they are older (30 to 39 years).

HIV screening, diagnosis, and treatment are critical for the health of individual MSM patients, as well for public health, since numerous studies have demonstrated that effective HIV treatment reduces the risk of HIV transmission from an HIV-positive person to sex partners to an extremely low level. Clinicians who treat gay and bisexual male patients should be prepared to offer HIV testing services as well as referral for medical treatment and other HIV services for those who test HIV-positive.

## **Transgender Persons**

There is increased effort to identify best practices for transgender health. One example of guidelines is available at: <http://transhealth.ucsf.edu/trans?page=guidelines-home>. Available research related to physical health issues among transgender people is extremely limited and mainly conducted abroad. Furthermore, studies of how medical interventions, such as hormone therapy and/or sexual reassignment surgeries, affect overall physical health and well-being remain extremely limited. There is limited evidence to suggest an association between feminizing hormone therapies, such as estrogen-progestin combinations, and an elevated risk for venous thromboembolic disease and increased prolactin levels. Some research also suggests an association between masculinizing hormone therapies, such as testosterone, and elevated liver enzymes, loss of bone mineral density, and increased risk for ovarian cancer.

### **Injury and Violence**

Violence against transgender individuals, especially transgender women of color, represents a serious concern among the transgender community in the United States. Determining precise figures is a complex challenge, but a wide range of studies have suggested that between 16% and 60% of transgender persons have been victims of physical assault or abuse, and between 13% and 66% have been victims of sexual assault. Intimate partner violence has also been found to be a serious issue for transgender individuals. Social stigmatization and other factors may lead to under-reporting.

Findings from several studies illustrate the seriousness of criminal and interpersonal violence in transgender communities:

- A 2009 Massachusetts study found that among 1,600 persons surveyed transgender respondents reported lifetime physical abuse rates by a partner of 34.6%, vs 14.0% for gay or lesbian individuals.
- According to a report issued by the Human Rights Campaign in November 2017, at least 102 transgender persons have been victims of fatal violence, approximately 87 of whom were persons of color (African American, Hispanic).
- In 2016, the National Coalition of Anti-violence Programs received information on 1,036 incidents of hate violence from 12 antiviolence organizations across the United States, 21% self-identified as transgender women and 5% as transgender men.

## **Behavioral Health**

### ***Suicidality***

Studies have suggested high rates of suicidal ideation among transgender individuals, with some reports reporting a range of 38% to 65%. Even more disturbing are the studies that have found suicide attempts among transgender people ranging from 16% to 32%. Rood and colleagues evaluated the results of a survey among 350 transgender individuals (229 male to female [MTF] and 121 female to male [FTM]). The authors found that violence, discrimination, and the person's transition status (ie, whether an individual is living or planning to live full-time as a transman or transwoman) significantly predicted the probability of suicidal ideation. Compared with individuals with no plans to transition, individuals who planned to live or who were living as their identified gender reported greater odds of lifetime suicidal ideation. They also found that FTM participants were significantly more likely to report experiences of victimization and lifetime suicidal ideation than MTF participants. Identifying such contributing factors is key to improving these individuals' psychological health. Equipped with such knowledge, clinicians will be better able to develop individual treatment approaches to help patients minimize the emergence of suicidal ideation.

### ***Mental Health***

Although data about mental disorders among transgender people have long been challenging to develop, studies done in recent years have increasingly shed light on the serious prevalence of disorders such as depression and anxiety. Transgender individuals often are at greater risk for mental health problems compared with cisgender individuals, including low self-esteem, depression, anxiety, and suicidal ideation and suicide attempts. A 2013 survey of 226 transgender women found that nearly half met the criteria for depression and anxiety (51.4% and 40.4%, respectively).

A 2015 study of a diverse sample of 191 adult transgender women in the San Francisco Bay area reported that greater exposure to transgender-related stigma—eg, physical threats or harassment, incorrect gender terminology, or discomfort/disapproval of a person's transgender identity—was associated with higher levels of depression and anxiety, with no differences found in relation to participants' age, race, or ethnicity.

A literature review identified the following variables related to depression among transgender women:

- Social support—the availability of people who provide emotional and mental resources for coping—appears to reduce the risk of depression in transgender women.

- Violence—physical violence, sexual violence, and verbal harassment are associated with and may be a predictor of depression.
- Sex work, which is common among transgender women, may also contribute to depressive symptoms.
- Fear about how transgender identity may affect their lives has been associated with depression and anxiety.
- Sociodemographic variables that are associated with depression include younger age, lower education level, and lack of employment.

Although the overall findings of mental health problems in the transgender population are distressing, some studies have identified ameliorative variables—eg, parental and peer support that significantly alleviated psychological distress.

### **Substance Abuse**

Studies have found that alcohol and substance abuse is a major concern among transgender people in the United States, with marijuana, crack cocaine, and alcohol reportedly the most commonly used drugs. One study noted that transgender men's (FTM) use of marijuana, alcohol, or cocaine was 4 times greater than that of heterosexual and LGB individuals. There are also substance use differences within the transgender community—eg, a reported 34% incidence rate of intravenous (IV) drug use among male-to-female (MTF) transgender individuals, whereas FTM individuals had an incidence rate of 18%. The higher rates of risky behavior found in the MTF population may explain this higher incidence of IV drug use. Investigators have reported that high rates of substance use disorders among transgender persons are associated with experiences of stigma, discrimination, bullying, family conflict, and abuse.

From a study of 292 MTF youth (16 to 24 years of age) in San Francisco, Rowe and colleagues reported these rates of substance use:

- Most (69%) reported using any drugs in the last 6 months.
- The most commonly used drugs were marijuana (63%), “club drugs” such as ecstasy, GHB (gamma-hydroxybutyrate), or ketamine (20%), nonprescribed prescription drugs (20%), crack/cocaine (16%), and methamphetamine (13%).
- Most (81%) drank alcohol in the last 6 months, while 51% engaged in binge drinking.
- Approximately one-third (33%) of participants reported using drugs before or during sex in the last 6 months.
- More than half of drug users (52%, or 36% of all participants) used  $\geq 1$  drug.

Another study from California reported that the prevalence of substance use was 2.5 to 4 times higher among transgender youth compared with nontransgender youth (depending on the substance). Transgender youth were also more likely both to have begun substance use at an early age and to have used recently.

In a study of 155 transgender adults from the mid-Atlantic region, Benotsch and colleagues found that nonmedical use of prescription drugs was relatively common and was strongly associated with emotional distress. Twenty-six percent of participants reported lifetime prescription drug misuse, with the most commonly reported medications being prescription analgesics (23.9%), anxiolytics (17.4%), stimulants (13.5%), and sedatives (8.4%).

There was also frequent (30.3%) nonmedical use of hormones. Moreover, participants who reported misuse of prescription drugs were also more likely to report use of illicit drugs.

### **Tobacco Use**

Information on cigarette smoking prevalence, or other tobacco use, among transgender people is limited. However, in a recent national survey, Buchting and colleagues reported that cigarette smoking prevalence among transgender adults was higher than among the general adult population. Healthcare providers must be aware that, in transgender women who take estrogen, smoking greatly increases the risk of blood clots. These risks are similar to those faced by nontransgender women who smoke and take oral contraception or undergo hormone replacement therapy. In addition, transgender men who take testosterone are at increased risk of heart disease, and smoking further increases that risk.

### **Alcohol Use**

To assess the differences in alcohol use and alcohol-related problems between transgender and nontransgender-identified young adults, Coulter and colleagues conducted a survey among 175 transgender-identified students, 50,465 nontransgender-identified female students, and 24,552 nontransgender-identified male students aged 18 to 29 years.

Key findings included:

- Lifetime alcohol use:
  - 79.9% of transgender-identified persons
  - 75.8% of nontransgender-identified females
  - 74.8% of nontransgender-identified males
- Past-month drinking:
  - 60.3% of transgender-identified
  - 62.1% of nontransgender-identified females

- 63.1% of nontransgender-identified males

Transgender individuals and nontransgender-identified males and females had similar risk of lifetime and past-month drinking, but transgender individuals drank on significantly more days in the past month vs nontransgender-identified females.

Although heavy episodic drinking (HED)—ie,  $\geq 5$  drinks of alcohol at a sitting—in the past 2 weeks was reported by a somewhat smaller proportion of transgender individuals, they also reported HED on significantly more days vs nontransgender persons. HED has been associated with acute problems like blackouts, suicides, and sexual assaults. The researchers suggested that, because the number HED days was associated with verbal threats and sexual assaults, eliminating—or at least reducing—the victimization of transgender-identified people may mitigate their heavy episodic drinking and that a cost-effective way to reduce such drinking disparities may be to incorporate transgender issues into existing drinking and violence intervention prevention programs.

### **Sexual Health**

#### **HIV**

Although all transgender people are vulnerable to HIV infection, available evidence suggests that, in relation to their population size, transgender women are among the most heavily affected populations. An analysis of data from CDC-funded HIV testing sites found that transgender women had the highest rates of HIV diagnoses (2.7%), followed by men (0.9%), transgender men (0.5%), and women (0.2%). A 2013 meta-analysis of available research estimated that 22% of transgender women were HIV-positive in 5 high-income countries, including the United States.

A previous review of studies in the United States estimated that, based on laboratory testing, 28% of transgender women were living with HIV, whereas only 12% self-reported their HIV-positive status. Although these estimates come from different studies, they suggest that many HIV-positive transgender women are not aware of their infection. Even fewer data are available for transgender men, but the limited available evidence indicates that HIV prevalence among transgender men is relatively low (0% to 3%). A 2011 study suggested that transgender MSM are at substantial risk of acquiring HIV.

Transgender women of color are especially vulnerable to HIV infection. For example, data from New York City show that between 2010 and 2014, 234 transgender individuals received a diagnosis of HIV infection—nearly all (99%) of them transgender women, of whom 93% were African

American or Hispanic, and sexual contact with a male was the predominant transmission category.

### **Sexually Transmitted Infections (STIs)**

Systematic surveillance data of sexually transmitted infections (STIs) among transgender people are sparse, and the relatively few studies suggest a wide range of incidence rates for STIs like syphilis, gonorrhea, chlamydia, herpes, and HPV.

In a retrospective review of medical records from 145 transgender patients 12 to 29 years of age (both MTF and FTM) at a community health center in Boston, researchers reported the following prevalence of STIs: 4.8% HIV, 2.8% herpes simplex virus, 2.8% syphilis, 2.1% chlamydia, 2.1% gonorrhea, 2.8% hepatitis C, 1.4% HPV. Only gonorrhea prevalence significantly differed by gender identity (MTF 2.1% vs 0.0% FTM). Syphilis was 1.4% among the whites compared to 21.6% and 14.7% among the Hispanics and African Americans. Hepatitis B was 6.5% among the whites compared to 36.0% and 35.5% among the Hispanics and African Americans. Hepatitis C was 3.6% among whites compared to 15.7% and 7.4% among the Hispanics and African Americans.

In a survey among 517 transgender women between 19 and 59 years of age in the New York City Area, Nuttbrock and colleagues identified the following rates of STIs:

- HIV
  - Whites, 3.5%
  - Hispanics, 49.6%
  - African Americans, 48.1%
- Syphilis
  - Whites, 1.4%
  - Hispanics, 21.6%
  - African Americans, 14.7%
- Hepatitis B
  - Whites, 6.5%
  - Hispanics, 36%
  - African Americans, 35.5%
- Hepatitis C
  - Whites, 3.6%
  - Hispanics, 15.7%
  - African Americans, 7.4%

Clinicians caring for transgender women should be knowledgeable of their patients' current anatomy and sexual behavior before counseling them about STI and HIV prevention. Most transgender women have not undergone genital affirmation surgery and may retain a functional penis; therefore, they may engage in insertive oral, vaginal, or anal sex with men and women.

Clinicians should also consider the anatomic diversity among transgender men, because many still have a vagina and cervix and are at risk for bacterial STIs, cervical HPV, and cervical cancer.

## Health Concerns in LGBT Youth

Compared with the general population, LGBT youth are at a higher risk for a wide variety of health concerns: substance use, STIs, cancers, CVD, obesity, bullying, isolation, rejection, anxiety, depression, and suicide. They also often receive lower quality of care due to stigma, lack of awareness among healthcare providers, and insensitivity to their unique needs.

A complex combination of factors can affect youth health outcomes. LGBT youth are at greater risk for depression, suicide, substance use, and sexual behaviors that can increase their risk for HIV and other STIs. Nearly one-third (29%) of LGBT youth had attempted suicide at least once in the previous year vs 6% of heterosexual youth. In 2014, young gay and bisexual men accounted for 8 out of 10 HIV diagnoses among youth.

### Violence

Compared with other students, negative attitudes toward LGBT persons may put these youth at increased risk for violence, which can include bullying, teasing, harassment, and physical assault.

According to data from the CDC's 2015 national Youth Risk Behavior Survey (YRBS), of surveyed LGBT students:

- 10% were threatened or injured with a weapon on school property
- 34% were bullied on school property
- 28% were bullied electronically
- 23% who had dated or gone out with someone during the 12 months before the survey had experienced sexual dating violence in the prior year

- 18% had experienced physical dating violence
- 18% had been forced to have sexual intercourse at some point in their lives.

### Weight Issues

Hadland and colleagues analyzed data concerning perceived weight status and weight control behaviors from 12,984 Massachusetts youth in the ninth through twelfth grades. They reported the following:

- Compared with exclusively heterosexual males, males with prior same-sex partners and bisexual males were more likely to self-perceive as overweight, despite being either healthy weight or underweight.
- Compared with exclusively heterosexual females, lesbians and bisexual females were more likely to self-perceive as being of healthy weight or underweight, despite being overweight or obese.
- Unhealthy weight control behaviors—eg, fasting >24 hours, using diet pills, and vomiting/using laxatives—were significantly more prevalent among sexual minority males (32.5%) and females (34.7%) vs exclusively heterosexual males (9.7%) and females (18.8%).

Similarly, when Laska and colleagues assessed disparities in weight and weight-related behaviors among 33,907 students at 40 colleges and universities by sexual orientation and gender, they reported that:

- Bisexual and lesbian women were more likely to be obese than heterosexual women.
- Bisexual women were at high risk for unhealthy weight, diet, physical activity, and weight control behaviors.

- Gay and bisexual men exhibited poor activity patterns, although gay men consumed significantly less regular soda, and significantly more diet soda, than heterosexual men.

### Substance Use

Some LGBT youth turn to substance abuse as a coping strategy for the stress, victimization, and stigma/discrimination they may experience in their daily lives. The findings of a 2016 study are sobering (Table 4).

### Mental Health

LGBT youth experience increased rates of mental disorders, particularly depression, anxiety, and suicidal ideation. Mustanski and colleagues interviewed a racially diverse group of 246 Chicago-area LGBT youths 16 to 20 years of age. They found that one-third of participants met the criteria for any mental disorder, 17% for conduct disorder (eg, disobedience, violence), 15% for major depression, and 9% for posttraumatic stress disorder. Lifetime suicide attempts were frequent (31%) but less so in the previous 12 months (7%). Bisexual youths had lower prevalence of every diagnosis.

Marshal and colleagues, in a meta-analysis of 32 studies of young people ≤18 years of age, reported that LGBT individuals were twice as likely to have suicidal ideation, and 4 times as likely to have made suicide attempts requiring medical attention and that 29% attempted suicide in the last year vs 6% of their heterosexual counterparts.

**Table 4. Substance Use among Young Persons (Grades 9-12)**

Substance	Gay, Lesbian, Bisexual(%)	Heterosexual (%)
<b>Alcohol</b>		
Currently drink alcohol	40.5	32.1
Have had ≥5 drinks in a row	21.8	17.3
<b>Tobacco</b>		
Currently smoke cigarettes	19.2	9.8
<b>Illicit drugs</b>		
Ever used methamphetamine	8.2	2.1
Currently use marijuana	32.0	20.7
Ever used hallucinogens	11.5	5.5
Ever used ecstasy	10.1	4.1
Ever used cocaine	10.6	4.2
Ever used heroin	6.0	1.3
<b>Prescription drugs</b>		
Ever taken steroids w/o prescription	9.7	2.6
Ever taken any prescription drug w/o prescription (eg, opiates, codeine, /Emethylphenidate, or alprazolam)	27.5	15.5

## Sexual Health

The CDC's 2015 survey on sexual identity and health behaviors found that a greater proportion of gay, lesbian, and bisexual (GLB) vs heterosexual youth (grades 9 through 12) reported having first had sexual intercourse before 13 years of age (7.3% vs 3.4%) and were somewhat more likely to be currently sexually active (35.1% vs 30.1%). It is noteworthy that fewer than half of GLB youth (47.5%, vs 57.8% of heterosexuals) reported using a condom the last time they had sexual intercourse, although GLB were almost twice as likely to have ever been tested for HIV (18.2% vs 9.3%). Because several common STIs are not reportable conditions, exact infection rates for young LGBT individuals are not available.

The CDC, however, does provide estimates of STIs that underline the importance of encouraging healthy sexual behaviors in young persons, particularly in light of the finding that LGBT youth tend to become sexually active at younger ages.

**Gonorrhea.** In its 2016 STIs surveillance report the CDC stated that across all the jurisdictions in its surveillance network, 44.7% of gonorrhea cases were estimated to be among MSM-only or MSMW. Among all males, the prevalence rates were highest among those aged 20 to 24 years and 25 to 29 years (616.8 and 545.1 cases per 100,000 males, respectively).

**Chlamydia.** There were 522,870 cases of chlamydia reported among males in 2016, for a rate of 330.5 cases per 100,000 males. However, rates among MSM cannot be determined, since most jurisdictions do not routinely report the sex of sex partners. Rates among males were highest in those aged 20 to 24 years (1,558.6 cases per 100,000 males compared with 657.3 cases per 100,000 females).

**Syphilis.** In 2016, the CDC estimated that MSM accounted for 68.6% of male primary and secondary syphilis cases. The highest rates were observed among men aged 25 to 29 years, 20 to 24 years, and 30 to 34 years (48.5, 37.9, and 35.0 cases per 100,000 males, respectively). The highest rates among women were among those aged 20 to 24 years and those aged 25 to 29 years (6.7 and 5.6 cases per 100,000 females, respectively).

**Human papillomavirus (HPV).** The prevalence of HPV infection is high among young sexually active MSM, with the anal canal being the most common site of infection. Some studies have found rates of approximately 90% in HIV-positive MSM.

## HIV Epidemic

HIV disproportionately affects young MSM. Among young people (aged 13 to 24) diagnosed with HIV in 2015, 81% were gay and bisexual males:

- In 2011, among adolescent males aged 13 to 19 years, approximately 93% of all diagnosed HIV infections were from male-to-male sexual contact.
- From 2008 to 2011, young MSM aged 13 to 24 years had the greatest percentage increase (26%) in diagnosed HIV infections.
- Young African American and Hispanic males bear an especially disproportionate burden
  - In 2011, among all young MSM aged 13 to 24 years with HIV infection, an estimated 58% were African American; 20% were Hispanic.
  - Young African American MSM experienced the largest increase among all racial/ethnic groups in diagnosed HIV infections—from 3,762 diagnoses in 2008 to 4,619 diagnoses in 2011.

## Health Concerns of Older LGBT Persons

An estimated 2.4 million people in the United States  $\geq 65$  years of age identify as lesbian, gay, bisexual, or transgender (LGBT). For all aging adults, access and receipt of proper healthcare is critical, but for LGBT older individuals this can be especially challenging. Supported by funding from the US National Institutes of Health and the National Institute on Aging, 11 LGBT community-based aging agencies collaborated to create The Aging and Health Report: Disparities and Resilience among Lesbian, Gay, Bisexual, and Transgender Older Adults. The findings of this report shed light on the vital issues faced by older adults in these communities, in addition to providing valuable guidance for healthcare providers who treat aging LGBT patients. The following paragraphs summarize the core findings of the report, grouped into 5 categories.

### Health Disparities

- Higher rates of disability among lesbian, gay, and bisexual older adults (47%), compared with heterosexuals of similar age
- Higher rates of mental distress—eg, depression (31%), loneliness (53%), suicidal ideation (nearly 40%)
- More likely to smoke and engage in excessive drinking than heterosexuals
- Higher risk of CVD and obesity among lesbians and bisexual women vs heterosexual women
- Greater social risks
  - LGB older adults less likely to be partnered or married, potentially resulting in less social support and financial security as they age

- Gay and bisexual older adult men significantly less likely to have children in the household and significantly more likely to live alone than heterosexual older adult men

## HIV

People  $\geq 50$  years of age account for an estimated 45% of Americans living with diagnosed HIV. Key features of the HIV epidemic in this population include:

- Annual HIV infections among gay and bisexual men  $\geq 55$  years of age increased 18% from 2010 to 2014.
- People  $\geq 50$  years of age accounted for 17% of the 39,513 HIV diagnoses in 2015 in the United States.
- Among people  $\geq 50$  years of age, 49% of new HIV diagnoses in 2015 were among gay and bisexual men, 15% among heterosexual men, 23% among heterosexual women, and 12% among persons who inject drugs.
- In 2014, 40% of people  $\geq 55$  years of age had late-stage infection (AIDS) at the time of HIV diagnosis (ie, diagnosed late in the course of the infection).

## Health Risks

Over their lifetimes, most LGBT older adults have faced serious adversity: 82% have been victimized at least once because of their perceived sexual orientation or gender identity, and 64% have been victimized  $\geq 3$  times. Many have encountered discrimination in employment and housing, which affects economic security. Experiences of discrimination have been linked with poorer health outcomes, such as depression among both chronically ill LGBT older adults and their informal caregivers.

In contrast to LGB older adults, many transgender older adults do not have the option to conceal their gender history to healthcare providers, as their body may reveal scars and other evidence that contradict their gender appearance when dressed. Because of this, transgender individuals may be more susceptible to discrimination and abuse by healthcare professionals, particularly for transgender older adults who may seek more frequent and intimate healthcare due to age-related physical conditions and disabilities. Incidents of overt homophobia or transphobia from healthcare providers toward older LGBT patients are reportedly common.

## Healthcare Access

Challenges in receiving appropriate healthcare that the report uncovered include:

- More than one-tenth of LGBT older adults (13%) have been denied healthcare or have been provided inferior care.
- Nearly one-quarter of transgender older adults have needed to see a doctor but could not because of cost.
- 15% of LGBT older adults fear accessing healthcare outside the LGBT community, and 8% fear accessing healthcare inside the community.
- 21% have not revealed their sexual orientation or gender identity to their primary care provider.
  - Bisexual women and men are less likely to disclose than lesbian and gay older adults.
  - According to the American Medical Association, this can lead to failure to diagnose serious medical problems and prevents discussion of sexual health, risk of breast or prostate cancer, hepatitis, HIV risk, hormone therapy, and other risk factors.
- LGBT older adults often lack legal protections for their loved ones, with 30% having no will and 36% no durable power of attorney for healthcare.

## Critical Needs

The consensus among LGBT older adults is that the services most needed in their communities are senior housing, transportation, legal services, social events, and support groups. Among LGBT care givers, supportive long-term care facilities are seen as one of the most critical needs. Distinctions within the overall population of LGBT older adults, and the unique needs that come with them, are also worth noting: Both bisexual and transgender older adults are critically underserved populations who are at heightened risk of physical and mental health disparities, often exacerbated by fewer sources of social and community support.

## Resources

National Resource Center on LGBT Aging  
c/o Services & Advocacy for GLBT Elders (SAGE)  
305 Seventh Avenue, 6th Floor  
New York, NY 10001  
212-741-2247  
<https://www.lgbtagingcenter.org/>

SAGE (Services and Advocacy for GLBT Elders)  
305 Seventh Ave, 15th Floor  
New York, NY 10001  
212-741-2247  
<https://www.sageusa.org/>

LGBT Aging Resources Clearinghouse  
[http://asaging.org/lgbt\\_aging\\_resources\\_clearinghouse](http://asaging.org/lgbt_aging_resources_clearinghouse)

FORGE Trans Aging  
PO Box 1272  
Milwaukee, WI 53201  
414-559-2123

<http://forge-forward.org/aging/>

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# LGBTQ CULTURAL COMPETENCY

## Self-Assessment

Choose the best possible answer for each question and mark your answers on the Self-Assessment answer sheet at the end of this book. There is a required score of 70% or better to receive a Certificate of completion.

**16. Regarding the survey of resident future internists' knowledge of transgender healthcare, which of the following statements is True?**

- A. A majority expressed confidence in prescribing hormone therapy.
- B. Fewer than half had received any education in transgender healthcare.
- C. Nearly all had received some education in transgender healthcare.
- D. Approximately half were familiar with where patients could be referred for hormone therapy.

**17. Which of the following group(s) of men who have sex with men is more likely to still identify as heterosexual?**

- A. Native American
- B. White
- C. African American
- D. Asian American

**18. Which of the following best describes the risk of being overweight or obese among lesbians?**

- A. Twice as likely to be overweight or obese as heterosexual women
- B. Equally likely to be overweight or obese as heterosexual women
- C. Less likely to be overweight or obese than heterosexual women
- D. Somewhat more likely to be overweight or obese than heterosexual women

**19. According to a 2016 Substance Abuse and Mental Health Services Administration report, which group had the highest rate of illicit drug use during the past year?**

- A. Sexual minority men
- B. Sexual minority women
- C. Sexual majority men
- D. Sexual majority women

**20. Which of the following STIs has a low risk of being transmitted between women?**

- A. Chlamydia
- B. HIV
- C. Herpes simplex virus
- D. Bacterial vaginosis

**21. Is the following statement True or False?**

According to the National Epidemiologic Survey on Alcohol and Related Conditions, gay men have a 50% higher lifetime prevalence of any mood disorder.

- A. True
- B. False

**22. For which of the following groups of men who have sex with men (MSM) is the quadrivalent human papillomavirus (HPV) vaccine recommended?**

- A. HPV vaccination is recommended for MSM through 26 years of age.
- B. HPV vaccination is not recommended for any MSM.
- C. HPV vaccination is recommended for MSM older than 26 years of age.
- D. HPV vaccination is recommended for MSM 12 to 18 years of age.

**23. According to a 2015 study, exposure to which of the following was associated with higher levels of depression and anxiety in adult transgender women?**

- A. Transgender-related stigma
- B. Tobacco use
- C. Sexually transmitted infections
- D. Poverty

**24. In which group of young people was the highest prevalence of unhealthy weight control behaviors (diet pills, using laxatives, fasting >24 hours) identified?**

- A. Sexual minority females
- B. Heterosexual females
- C. Sexual minority males
- D. Heterosexual males

**25. What is the rate of disability among lesbian, gay, and bisexual older adults compared with heterosexuals of similar age?**

- A. 10%
- B. 23%
- C. 47%
- D. 70%

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## MANDATORY CME ON HIV/AIDS AND CULTURAL COMPETENCY FOR LGBTQ PATIENTS

All licensed physicians (MD/DO) and physician assistants are required to complete three (3) credit hours on HIV/AIDS. Recently enacted regulations now require all physicians (MD/DO), physician assistants, and other healthcare providers to complete two (2) credit hours in Cultural Competency for LGBTQ patients.

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## MARK ONE ANSWER PER QUESTION

**HIV/AIDS UPDATE FOR HEALTHCARE PROFESSIONALS (p 36-37)**

1. (A) (B) (C) (D)      9. (A) (B) (C) (D)  
 2. (A) (B) (C) (D)      10. (A) (B) (C) (D)  
 3. (A) (B) (C) (D)      11. (A) (B) (C) (D)  
 4. (A) (B) (C) (D)      12. (A) (B) (C) (D)  
 5. (A) (B) (C) (D)      13. (A) (B) (C) (D)  
 6. (A) (B) (C) (D)      14. (A) (B) (C) (D)  
 7. (A) (B) (C) (D)      15. (A) (B) (C) (D)  
 8. (A) (B) (C) (D)

**LGBTQ CULTURAL COMPETENCY (p 62)**

16. (A) (B) (C) (D)      23. (A) (B) (C) (D)  
 17. (A) (B) (C) (D)      24. (A) (B) (C) (D)  
 18. (A) (B) (C) (D)      25. (A) (B) (C) (D)  
 19. (A) (B) (C) (D)  
 20. (A) (B) (C) (D)  
 21. (A) (B)  
 22. (A) (B) (C) (D)

**PROGRAM CODE**  
**DC5CME**

# ACTIVITY EVALUATION(S)

For each of the objectives determine if the activity increased your: **A** Competence **B** Performance **C** Outcome **D** No Change

## HIV/AIDS UPDATE FOR HEALTHCARE PROFESSIONALS:

- |   | A                     | B                     | C                     | D                     |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. Identify the key steps in the process of HIV infection and pathogenesis . . . . .  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. Describe the USPSTF recommendations for routine screening for HIV infection. . . . .   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Discuss the role of ART and the application of guidelines to the management of treatment-naive HIV-infected patients . . . . . | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Describe the preferred ART regimens for first-line use in antiretroviral-naive HIV-infected patients. . . . .                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. Describe current recommendations for PEP . . . . .   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. Explain the appropriate use of PrEP for prevention of HIV infection . . . . .  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. Discuss the goals of the CLAS standards in the provision of healthcare services . . . . .                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8. Identify key considerations in the management of unique populations of HIV-infected individuals . . . . .                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9. Please identify a specific change, if any, you will make in your practice related to HIV/AIDS. _____                           |                       |                       |                       |                       |
| _____   |                       |                       |                       |                       |
| 10. Describe with one word or short phrase any barrier to making that change. _____   |                       |                       |                       |                       |
| _____   |                       |                       |                       |                       |

## LGBTQ CULTURAL COMPETENCY:

- |  | A                     | B                     | C                     | D                     |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| 11. Discuss the features of a clinical practice environment respectful of LGBTQ patients. . . . .                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 12. Identify key sources of stress related to mental disorders in the lives of transgender patients . . . . .                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 13. Describe best practices in managing LGBTQ patients . . . . .   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 14. Apply screening and monitoring procedures that are key to providing optimal care for LGBTQ patients. . . . .                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 15. Devise care plans based on best practices for adolescent and elderly LGBTQ individual . . . . .                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16. Please identify a specific change, if any, you will make in your practice related to cultural competency for LGBTQ patients. _____ |                       |                       |                       |                       |
| _____  |                       |                       |                       |                       |
| 17. What do you see as a barrier to making these changes? _____  |                       |                       |                       |                       |
| _____  |                       |                       |                       |                       |

## PROGRAM EVALUATION:

- |  | Yes                   | No                    | If no, please explain: |
|--|-----------------------|-----------------------|------------------------|
| 18. The program was balanced, objective & scientifically valid. . . . .  | <input type="radio"/> | <input type="radio"/> | _____                  |
| 19. Do you feel the program was scientifically sound & free of commercial bias or influence? . . . . .             | <input type="radio"/> | <input type="radio"/> | _____                  |
| 20. How can this program be improved? _____  |                       |                       |                        |
| _____  |                       |                       |                        |
| 21. Based on your educational needs, please provide us with suggestions for future program topics & formats. _____ |                       |                       |                        |
| _____  |                       |                       |                        |

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• **2 HOURS LGBTQ (NEW)**

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