Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014

Summary for Clinical Providers

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration

NIH National Institutes of Health

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Centers for Disease Control and Prevention

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American Academy of HIV Medicine

Association of Nurses in AIDS Care

International Association of Providers of AIDS Care

National Minority AIDS Council

Urban Coalition for HIV/AIDS Prevention Services

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Disclaimer: The document describes use of certain drugs, tests, and procedures for some indications that do not reflect labeling approved by the U.S. Food and Drug Administration.

What's New in the Recommendations?
The December 11, 2014, version of *Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014*, and its companion summaries have been amended in December 2016 to correct errata, outdated or broken hyperlinks, and missing references or footnotes.

For Questions or Comments about this Document: Send email to **dhapguideline@cdc.gov**

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Navigation tip: To advance to a specific topic, click its link below. In addition, this document contains hyperlinks to related topics in other sections of the document. To navigate to the related topic, click the hyperlink. To return from the topic back to the hyperlink location, press the ALT+left arrow keys on your keyboard.

Section 1. Introduction

This *Summary for Clinical Providers* contains the subset of recommendations for clinical providers who work in health care facilities from the 2014 guideline, *Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014*.[*]

The guideline includes new and longstanding federal guidance on biomedical, behavioral, and structural interventions that can decrease HIV transmission from persons with HIV by reducing their infectiousness and their risk of exposing others to HIV. The guideline updates and expands earlier federal guidance for health care providers in the 2003 *Recommendations for Incorporating HIV Prevention into the Medical Care of Persons Living with HIV*.[†]

The 2014 guideline and this *Summary* were developed by the Centers for Disease Control and Prevention, the Health Resources and Services Administration, the National Institutes of Health, the American Academy of HIV Medicine, the Association of Nurses in AIDS Care, the International Association of Providers of AIDS Care, the National Minority AIDS Council, and the Urban Coalition for HIV/AIDS Prevention Services.

A *Summary for Nonclinical Providers* is directed to professionals who provide individual-level services for persons with HIV in community-based organizations or health departments operating outside of health care facilities.[‡]

A *Summary for Health Departments and HIV Planning Groups* is directed to professionals who provide population-level services to communities affected by HIV.[§]

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[*] Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, American Academy of HIV Medicine, Association of Nurses in AIDS Care, International Association of Providers of AIDS Care, the National Minority AIDS Council, and Urban Coalition for HIV/AIDS Prevention Services. *Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014.* 2014. http://stacks.cdc.gov/view/cdc/26062. Accessed December 11, 2014.

[†] Centers for Disease Control and Prevention, Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. Incorporating HIV prevention into the medical care of persons living with HIV: Recommendations of CDC, the Health Resources and Services Administration, the National Institutes of Health, and the HIV Medicine Association of the Infectious Diseases Society of America. MMWR 2003;52(RR-12):1-24. Accessed July 6, 2014.

[‡] Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, American Academy of HIV Medicine, Association of Nurses in AIDS Care, International Association of Providers of AIDS Care, National Minority AIDS Council, and Urban Coalition for HIV/AIDS Prevention Services. Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014: Summary for Nonclinical Providers. 2014. http://stacks.cdc.gov/view/cdc/26064. Accessed December 11, 2014.

[§] Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, American Academy of HIV Medicine, Association of Nurses in AIDS Care, International Association of Providers of AIDS Care, National Minority AIDS Council, and Urban Coalition for HIV/AIDS Prevention Services. Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States, 2014: Summary for Health Departments and HIV Planning Groups. 2014. http://stacks.cdc.gov/view/cdc/26065. Accessed December 11, 2014.

Section 2. About the Summary

Who is this Summary for?

This Summary is for clinical providers who serve persons with HIV in health care facilities. These providers offer risk assessments, health education, counseling, screening, diagnosis, treatment, and other health-related services. They include physicians, registered nurses, advance practice nurses, physician assistants, dentists, mental health providers, pharmacists, health educators, case managers, social workers, and counselors. Some may be employees or contractors of health departments.

What does this Summary include?

- Recommendations related to 11 domains of interventions that can decrease HIV transmission by reducing the infectiousness of persons with HIV or by reducing their risk of exposing others to HIV
- Examples of practical strategies to support implementation of these recommendations
- A list of links to federal guidance that supports these recommendations (Appendix A).
- A link to an online Resource Library of practical materials to help implement these recommendations

How to use the Summary?

Clinical providers can use this *Summary*[**] to

- Learn how they and their health care facilities can promote HIV prevention with their patients with HIV
- Select interventions that may be well-suited to their patients with HIV
- Train staff on best practices in HIV prevention with persons with HIV

Additional information about the 2014 Recommendations for HIV Prevention with Adults and Adolescents with HIV in the United States

The complete guideline is available at http://stacks.cdc.gov/view/cdc/26062. It is directed to professionals who serve individuals or populations with HIV: clinical providers,

[**] Some of the federal guidelines cited in the Recommendation boxes may have been updated as of June 2016. Check the following Web site for the most recent version: http://www.cdc.gov/hiv/guidelines/.

nonclinical providers, and staff and contractors of health departments and HIV planning groups. It includes:

- Executive summary
- Rationale for an updated and expanded guideline
- Methods used to develop the recommendations
- List of recommendations for the three different professional audiences
- How the recommendations differ from past federal recommendations on this topic
- Evidence supporting the recommendations drawn from federal guidance, studies, program evaluations, and expert opinion, including citations
- Progress, challenges, and opportunities in implementing these recommendations
- Logic model that illustrates the impact of recommended interventions
- Glossary that defines technical terms (see page 226 of the complete guideline)
- List of contributors

IMPORTANT NOTE: The sequential box and table numbers in the complete guideline (which is directed to *several different audiences*) are not identical to the sequential box and table numbers in this *Summary* that only lists information for *clinical providers*).

Additional materials to help implement these recommendations

An online Resource Library (available at http://www.cdc.gov/hiv/guidelines/implementationresources.html) contains dozens of links to decision-support tools, training aids, fact sheets, and other materials to help implement the guideline's recommendations. It will be periodically updated as new materials become available.

Section 3. The Context of Prevention with Persons with HIV

Background

Individual, social, structural, ethical, legal, and policy issues shape the lives of persons with HIV and their ability to use HIV prevention and care services and adopt HIV prevention strategies. This section makes general recommendations about these contextual issues.

Clinical providers who understand these issues are better prepared to create a sense of shared responsibility and decision making with their patients with HIV. This may include

- motivating patients with HIV to adopt prevention strategies and obtain essential services
- endorsing the strategy of “treatment as prevention” to contribute to community well-being
- communicating in a sensitive, respectful, and culturally competent manner
- promoting the development of community resources to support prevention and care services

Other sections of this *Summary* address contextual issues related to specific interventions (Sections 4–12) and quality improvement and program evaluation (Section 13).

Recommendations

Box 3. Recommendations—The Context of Prevention with Persons with HIV

Become familiar with

- Social and structural determinants of health that influence use of HIV prevention and care services (see Appendix B)
- Federal, state, and local laws and policies that regulate the following issues:
  - rights, responsibilities, and protections of persons with HIV regarding disclosure of their HIV-infection status and the unintentional or intentional exposure of others to HIV
  - provider responsibilities regarding HIV case reporting, protecting confidentiality, obtaining informed consent for HIV services, avoiding discrimination, and any requirements to inform persons about possible HIV exposure
- Governmental and nongovernmental agencies that serve persons with HIV with various insurance and income characteristics and coverage and reimbursement policies, including:
  - Federal programs (e.g., Medicaid, Medicare, Ryan White HIV/AIDS Program, Department of Veterans Affairs, Centers for Disease Control and Prevention, Substance Abuse and Mental Health Services Administration, Federal Bureau of Prisons, Office of Population Affairs, Department of Housing and Urban Development)
  - State and local programs
  - Nongovernmental organizations

Support

- Partnerships between persons with HIV and their service providers that foster collaboration, communication, and a spirit of shared responsibility for HIV prevention and care that benefits individuals and the community
- Enrollment of persons with HIV in long-term health care coverage to hasten access to HIV treatment and prevention services and to reduce health disparities
- The development of a skilled workforce and organization infrastructure to deliver, coordinate, and finance HIV prevention and care services (see Box 3-A)
- Strategies that reduce HIV health disparities and improve access to HIV prevention and care services (see Box 3-A)
- Protection of confidential health information (see Box 3-B)

Box 3. Recommendations—The Context of Prevention with Persons with HIV *(cont)*

Encourage

- Communication that does not stigmatize or negatively judge persons with HIV or their gender identity, sexual orientation, sexual and drug-use behaviors, and medical or social characteristics
- Provision of information about rights and responsibilities of persons with HIV regarding confidentiality, privacy, protection from discrimination, and partner notification
- Planning by persons with HIV to notify exposed sex and drug-injection partners through partner notification assistance or self-disclosure that reflects an understanding of the benefits and risks of HIV disclosure in the jurisdiction
- Access to services and devices that improve the knowledge, ability, and motivation of persons with HIV to improve their health, protect the health of partners, and reduce transmission of HIV

Box 3-A. Recommended Strategies to Improve Service Delivery Infrastructure

- Periodically assess staff and organizational capacity to deliver services, to create a “medical home” in clinical settings, and to provide linkage or referral to other providers
- Build organizational capacity to deliver HIV services through staff recruitment, training, retention, and task sharing
- Participate in comprehensive networks of providers, organizations, and health departments that serve persons with HIV
- Collaborate with HIV service providers and community organizations to support adequate coverage for HIV prevention and care services

Box 3-B. Recommended Strategies to Protect Patient Confidentiality and Security of Personal Health Information

- Adhere to federal, state, and local laws and regulations related to informed consent, privacy, confidentiality, and security of health information when
  - providing HIV and STD testing, prevention, and care services
  - reporting HIV and STD cases to public health authorities
  - exchanging a person's health information with other providers
  - serving special populations (e.g., minors, pregnant women, persons with mental illness, prisoners, and undocumented immigrants)
- Inform persons with HIV about measures that have been taken to protect confidential health information

Section 4. Linkage to and Retention in HIV Medical Care

Background

HIV medical care provides opportunities to offer antiretroviral treatment (ART), ART adherence support, risk-reduction interventions, partner services, sexually transmitted disease services, and other services that can improve health outcomes and reduce the risk of HIV transmission. Helping persons to start HIV medical care shortly after diagnosis (linkage to care), to attend scheduled HIV medical visits (retention in care), and to resume HIV medical care after a lapse (reengagement in care) can speed the delivery of these important services.

Clinical providers can use various proactive methods to support linkage to, retention in, and reengagement in care for patients with HIV. These methods can operate at the patient, facility, or system level. They often require coordination and collaboration with other clinical providers, health facilities, or HIV testing sites. For example, primary care providers can help newly diagnosed patients schedule appointments with HIV medicine specialists and HIV clinics can expedite scheduling of initial visits for persons diagnosed with HIV in nonclinical testing sites. Compared with traditional referral strategies, linkage and retention assistance often requires more intense effort, such as patient reminders and verifying that scheduled HIV medical care visits are completed.

Other sections of this *Summary* describe other opportunities to link or refer persons with HIV to clinical providers, nonclinical providers or health department services (Sections 5–12) and how to evaluate these interventions (Section 13).

Recommendations

Box 4. Recommendations—Linkage to and Retention in HIV Medical Care

Organizational-level interventions

- Establish infrastructure to support starting HIV care (within 3 months after diagnosis), long-term retention in care, and resuming care after a lapse (see Box 4-A)
- Collaborate with other health care providers, case managers, navigation assistants, nonclinical community-based organizations, and health departments to provide services that promote prompt linkage to and retention in care (see Box 4-A)

Individual-level services

- Inform persons about the benefits of starting HIV care and antiretroviral treatment (ART) early (even when feeling well) and staying in care for personal health and to prevent HIV transmission, before HIV testing is offered and when providing preliminary or confirmatory HIV positive test results
- Assess possible facilitators and barriers to linkage and retention and provide or make referrals for other medical and social services that may improve linkage and retention (see Box 4-B)
- Help persons enroll in health insurance or medical assistance programs that provide HIV care or cover costs of care
- Provide immediate, active, and, if necessary, repeated, linkage services to persons with a preliminary positive HIV test result or a confirmed HIV diagnosis, striving to start care within 3 months after diagnosis (see Box 4-C)
- Track outcomes of linkage and retention services and provide follow-up assistance, if allowed by jurisdiction, to persons who have not started HIV medical care within 3 months after diagnosis or who have lapses in care (see Box 4-C)

Box 4-A. Examples of Strategies to Establish Infrastructure that Supports Linkage to, Retention in, and Reengagement in HIV Medical Care

- Establish procedures to promptly provide confirmatory HIV testing to all persons with preliminary positive HIV test results
- Develop written agreements between HIV testing providers and HIV health care providers that define roles and responsibilities for linking persons to HIV care and for supporting retention in care
- Train staff to
  - provide linkage, retention, and reengagement services or engage other professionals, community organizations, or health departments that provide these services (see Box 4-C)
  - comply with laws, policies, and procedures to protect patient confidentiality when exchanging personal, health, or financial information used for linkage, retention, and reengagement services
- Establish protocols to monitor individual-level outcomes of linkage, retention, and reengagement services (see Box 4-C)
- Train clinical providers about the most recent U.S. Department of Health and Human Services guidelines that advise offering ART to all persons (regardless of CD4 cell count) for health benefits and preventing HIV transmission.
- Develop protocols to update patient contact information at each visit (e.g., residence, phone number(s), payment method)
- Develop procedures to routinely assess factors that enable or hinder attending visits (see Box 4-B)
- Establish procedures to identify patients at risk for lapses in care or services that support their continued care
- Establish methods to monitor timing and completion of each patient's scheduled medical visits
- Provide staff training and tools to increase competence in serving patients with differing ages, sexes, gender identities, sexual orientations, cultural backgrounds, education levels, and health literacy levels

Box 4-B. Barriers to Linkage to, Retention in, and Reengagement in HIV Medical Care and Components of Multifaceted Interventions that May Overcome Barriers

Linkage to care

- Barriers for persons with HIV
  - Feeling well
  - Feeling stigmatized
  - Lack of health insurance and/or misperception that HIV care requires health insurance
  - Negative perceptions of the health care system
  - Discomfort with clinical providers
  - Competing priorities (e.g., job, child care)
  - Substance use
  - Mental illness
  - Limited social support to engage in HIV medical care
  - Unstable housing
- Barriers related to community infrastructure
  - Limited health insurance or medical assistance options
  - Few trained HIV health care providers
  - Lack of health facilities with convenient locations and/or hours
  - Limited transportation or child care services
  - Limited sources of affordable, stable housing that enable consistent contact information and proximity to health care facilities
- Barriers for health care facilities
  - Inability to schedule visits promptly or at convenient times
  - Lack of staff or resources to engage new patients

Box 4-B. Barriers to Linkage to, Retention in, and Reengagement in HIV Medical Care and Components of Multifaceted Interventions that May Overcome Barriers *(cont)*

- Components of multifaceted interventions that may overcome barriers
  - Providing assistance at HIV testing sites
  - Linking persons tested in clinical sites to HIV medical care in the same health system
  - Multiple case management sessions
  - Motivational counseling
  - Navigation assistance, specifically
    - help enrolling in health insurance or medical assistance programs
    - transportation services to the health care facility
  - Providing or linking to other medical or social services (e.g., substance abuse treatment, mental health services, child care)
  - Maintaining relationship with a consistent care team

Retention and reengagement in care

- Barriers for persons with HIV
  - Same as linkage noted previously, plus barriers associated with
    - Younger age
    - Female gender
    - Being a member of a sexual, racial, or ethnic minority group
- Barriers related to community infrastructure
  - Same as linkage noted previously, plus
    - Fragmented HIV prevention and care services
- Barriers for health care facilities
  - Inability to schedule visits at appropriate intervals or convenient times
  - Lack of routine monitoring of past and future visits
  - Visit times too short to build rapport or trust or to answer patients' questions
  - Health care providers have limited expertise in HIV medical care
  - Health care providers have limited experience with patients with diverse sexual, linguistic, or cultural characteristics

Box 4-B. Barriers to Linkage to, Retention in, and Reengagement in HIV Medical Care and Components of Multifaceted Interventions that May Overcome Barriers *(cont)*

- Components of multifaceted interventions that may overcome barriers
  - Providing assistance at HIV clinical sites
  - Multiple case management sessions
  - Motivational counseling
  - Navigation assistance, specifically
    - reminders for follow-up visits
    - help enrolling in health insurance or medical assistance programs
    - transportation services to the health care facility
  - Providing or linking to other medical or social services (e.g., substance abuse treatment, mental health services, child care)
  - Maintaining relationship with a consistent care team
  - Experience in serving culturally diverse patients

Box 4-C. Selected Steps and Strategies to Support Early Linkage to and Retention and Reengagement in HIV Medical Care in Clinical Settings

Linkage to care

- For clinical providers who provide HIV testing and education but not HIV medical care
  - Assess the person's readiness to start care, and barriers and facilitators to starting care (see Box 4-B)
  - Help schedule the first HIV medical visit, seeking same-day or priority appointments when possible, especially for newly diagnosed persons
  - Provide transportation assistance to the first visit, when possible
  - Verify attendance at first visit by contacting the person or the HIV health care provider
  - If the first visit was not completed, provide additional linkage assistance until visit is completed or no longer required

Box 4-C. Selected Steps and Strategies to Support Early Linkage to and Retention and Reengagement in HIV Medical Care in Clinical Settings *(cont)*

- For HIV medical care providers
  - Assess the person's readiness to start care, and barriers and facilitators to starting care (see Box 4-B)
  - Offer convenient scheduling whenever possible (e.g., same-day or priority appointments, extended hours)
  - Maintain a patient-friendly environment that welcomes and respects new patients
  - Provide reminder for first appointment, using the patient's preferred contact method
- Offer navigation assistance and support to encourage attendance (e.g., directions, transportation advice)

Retention in care

- For clinical providers who provide HIV testing and education but not HIV medical care
  - Help schedule follow-up HIV medical care visits
  - Provide reminders for all visits, using the person's preferred method of contact
  - Offer navigation assistance and encourage person to complete the visit
  - Reinforce the benefits of regular HIV care for improving health and preventing HIV transmission to others during in-person encounters or outreach by phone, email, or other methods
  - Periodically assess facilitators and barriers to retention and motivate the person to overcome the barriers (see Box 4-B)
  - Verify if the person attended follow-up visits, even when the patient was seen in another clinical setting
- For HIV medical care providers (in addition to above strategies)
  - Offer convenient scheduling of follow-up visits (e.g., evening or extended hours), when possible
  - Implement clinical decision-support tools or systems that alert providers about patients with suboptimal follow-up, increasing viral load, or decreasing CD4 cell counts

Reengagement in care

- Same as retention in care but provided to persons who have had a lapse in care (e.g., 6 or more months)

Section 5. Antiretroviral Treatment for Care and Prevention

Background

Current U.S. HIV treatment guidelines recommend antiretroviral treatment (ART) for all persons with HIV, regardless of CD4 cell count, to improve their health, prolong their lives, and reduce their risk of transmitting HIV to others.

Clinical providers play a crucial role in describing the benefits of early initiation of ART, offering and prescribing ART, managing long-term ART use, and providing information on other interventions that can reduce the risk of HIV transmission. Clinical providers can also inform their patients with HIV about the availability of prophylactic medications for uninfected partners that can reduce their risk of HIV acquisition.

Other sections of this *Summary* address adherence to ART (Section 6); use of ART and prophylaxis by women using hormonal contraceptives and persons seeking conception (Section 10); use of ART and prophylaxis during pregnancy and the postpartum period (Section 11); and quality improvement and program evaluation (Section 13).

Recommendations

Box 5. Recommendations—Antiretroviral Treatment for Care and Prevention

Initiating or resuming antiretroviral treatment (ART)

- Inform all persons with HIV about the following issues regarding antiretroviral treatment (ART) (i.e., treatment with highly effective combinations of antiretroviral drugs to suppress HIV replication) (see Box 5-A):
  - The health benefits of early initiation of ART, including
    - improving or maintaining health when compared with later initiation of ART
    - prolonging lifespan
    - reducing risk of HIV transmission to others[a]
  - The limitations of ART, including
    - the need for lifelong treatment
    - the need for high adherence
    - potential medication side effects
    - the use of ART substantially reduces, but may not eliminate, the risk of HIV transmission
- Offer ART (according to U.S. Department of Health and Human Services [HHS] recommendations), regardless of patient's CD4 cell count, for the following purposes:
  - To treat and prevent HIV-related disease
  - To reduce the risk of transmitting HIV
- When prescribing ART, provide information to ensure that patients understand the following:
  - Expected benefits and risks to personal health
  - Expected reduction in HIV transmission risk
  - Need for sustained high adherence to ART, long-term follow-up, and retention in care
  - Importance of committing to initiating or resuming lifelong, uninterrupted ART
  - Hazards of sharing their ART with others (e.g., HIV-uninfected partners seeking antiretroviral medication for prophylaxis)
  - Use of ART is voluntary and patients can decline ART without risk of being denied medical and social services
- For patients who choose to postpone or discontinue treatment, periodically reoffer ART after informing them of the benefits and risk of currently recommended regimens based on experiences of other patients with similar viral load and immune status

Box 5. Recommendations—Antiretroviral Treatment for Care and Prevention *(cont)*

The availability of HIV prophylaxis for uninfected partners when clinically indicated to reduce risk of HIV acquisition

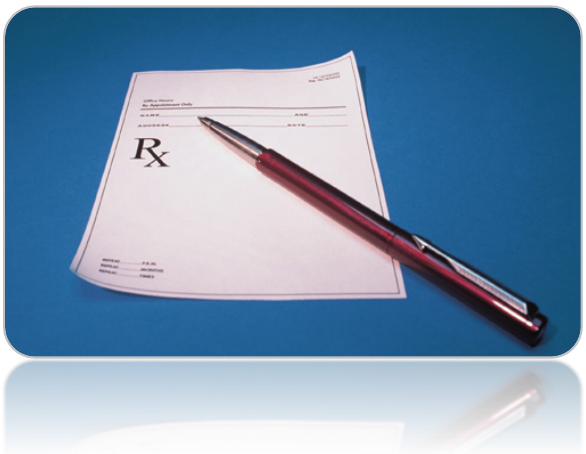
- Inform all persons with HIV (and any of their HIV-uninfected partners referred for evaluation) about the following HIV prophylaxis issues[b,c] (see Box 5-B):
  - The availability of preexposure prophylaxis (PrEP) and nonoccupational postexposure prophylaxis (nPEP) for HIV-uninfected partners when clinically indicated to reduce their risk of HIV acquisition
  - Names and locations of health care facilities where HIV-uninfected partners can be evaluated for prophylaxis indications, and assisting with accessing these services, when feasible
  - Use of these regimens may reduce, but may not eliminate, the risk of HIV acquisition

Notes:

[a] The U.S. Food and Drug Administration (FDA) had approved the use of antiretroviral medication for treating HIV-infected persons. The first federal guidance in Appendix A, Section 5, that is the basis for this recommendation advises use of ART for HIV treatment and for reducing the risk of HIV transmission.

[b] FDA has approved one PrEP regimen for preventing sexual transmission. HHS recommendations (see Appendix A, Section 5, fourth federal guidance) advise use of this same regimen for persons who inject drugs, but the product label only addresses use for preventing sexual transmission. Use of antiretroviral medication for nPEP (see third guidance in Appendix A, Section 5) does not reflect labeling approved by FDA.

[c] The federal recommendations that are the basis for these recommendations (see third and further guidance in Appendix A, Section 5, third and fourth federal guidance) advise health care providers to inform HIV-uninfected persons about these interventions, but do not address informing HIV-infected persons about the use of PrEP or nPEP by their uninfected partners.



Box 5-A. Important Counseling Points about Initiating or Resuming ART[a]

- Counsel persons when initiating or resuming ART and regularly thereafter about the importance of:
  - long-term monitoring and follow-up visits
  - adhering to the regimen as prescribed
  - seeking resources for adherence support
  - continuing other HIV prevention measures
- Review options to obtain ART and cover and minimize ART costs on a short-term and long-term basis and during any lapses in coverage by insurance or medical assistance programs
- Remind persons to tell their health care providers about any current or planned use of prescription, nonprescription, or recreational drugs, alcohol, or dietary supplements because these may impair ART effectiveness or cause toxicity that could impair adherence

Note:
[a] The U.S. Food and Drug Administration (FDA) had approved the use of antiretroviral medication for treating HIV-infected persons. The first federal guidance in Appendix A, Section 5, that is the basis for these recommendations advises use of ART for HIV treatment and for reducing the risk of HIV transmission.

Box 5-B. Important Points when Informing Persons with HIV that Some HIV-uninfected Partners May Have Clinical Indications for Prophylaxis to Reduce Their Risk of HIV Acquisition

- PrEP use may be clinically indicated as one method to reduce the risk of HIV acquisition in some HIV-uninfected gay, bisexual, and other men who have sex with men (MSM), heterosexual persons, or persons who inject drugs (PWID) who are at substantial risk of acquiring HIV
- nPEP use may be clinically indicated for HIV-uninfected persons who have had isolated, inadvertent exposures within the previous 72 hours to body fluids that may contain HIV
- Use of PrEP and nPEP may reduce, but may not eliminate, the partner's risk of HIV acquisition; partners should therefore use other effective measures to reduce the risk of HIV acquisition, including safer sexual and drug-injection behaviors
- Antiretroviral prophylaxis (PrEP or nPEP) regimens must be prescribed by a health care provider who can assess clinical indications for use and who is licensed to prescribe medications
- Persons considering PrEP or nPEP need an initial clinical and laboratory evaluation to test for established or recent HIV infection
- Person using PrEP or nPEP need regular follow-up evaluations to assess the following:
  - HIV infection status through retesting
  - Possible side effects or other reasons to discontinue prophylaxis
  - Adherence to the prescribed regimen
  - Adherence to behaviors that may decrease risk of HIV infection, such as consistent, correct use of latex or polyurethane condoms

Section 6. Antiretroviral Treatment Adherence

Background

Sustained high adherence to antiretroviral therapy (ART) is essential to improve clinical outcomes and quality of life of patients with HIV and decrease their risk of HIV transmission. The success of ART depends on the extent to which a patient takes ART according to the prescribed doses, dosing intervals, and other medication instructions.

Clinical providers can help their patients achieve high ART adherence by regularly assessing adherence, tracking clinical measures such as HIV viral load that are influenced by adherence, and offering adherence support services.

Other sections of this *Summary* address retention in HIV medical care (Section 4), prescribing ART (Section 5); antiretroviral medication use by women using hormonal contraceptives and persons seeking conception (Section 10); use of ART and prophylaxis during pregnancy and the postpartum period (Section 11); and quality improvement and program evaluation (Section 13).

Recommendations

Box 6. Recommendations—Antiretroviral Treatment Adherence

Education, assessment, management, and support

- Participate in multidisciplinary teams with health educators, service linkage facilitators, community health workers, case managers, nurses, pharmacists, and physicians to assess and support adherence to ART[a,b]
- Inform patients with HIV about the benefits of sustained high adherence, even if they are feeling well, and the risks of low adherence (e.g., illness, drug resistance, transmitting HIV to others)[c]
- Before prescribing ART, assess patient readiness to start ART, sources of pharmacy coverage, and possible barriers to sustained high adherence (e.g., anticipated changes in health insurance, disruptive life events, mental illness)
- Offer highly effective ART regimens, preferably those that minimize pill burden, dosing frequency, and dietary restrictions
- Involve patient in decisions about treatment regimens
- Advise patients to take ART as prescribed; provide information about the regimen, and check for understanding in the following areas:
  - Details of the regimen, including dosing method and schedule, dietary restrictions, and what to do when drinking alcohol or when missing doses
  - Consequences of missing doses, such as increased risk of HIV-related illness, developing drug resistance, and transmitting HIV
  - Potential side effects and what to do if side effects occur
  - Potential interactions with other prescription, nonprescription, and recreational drugs; alcohol; and dietary supplements that may impair ART effectiveness or cause toxicity that could impair adherence
  - The possibility of HIV transmission even when virus is not detectable in the blood because blood measurements may not reflect viral load in genital and anal fluids or may have increased since last measurement
- Routinely assess patient's questions, concerns, or challenges regarding ART use to identify potential problems before virologic failure occurs
- Remind patients to report current or planned use of prescription, nonprescription, or recreational drugs; alcohol; and dietary supplements because these may impair ART effectiveness or cause toxicity that could impair ART adherence
- Offer advice on how to obtain sustained coverage or subsidies for ART through private- or public-sector sources
- Provide adherence support tailored to each patient's regimen and characteristics, according to provider role and authority (see Box 6-A)
- Provide or make referrals for services to address factors that may impair adherence (e.g., demographic, comorbidity, psychosocial, and structural issues) (see Table 6-1)

Box 6. Recommendations—Antiretroviral Treatment Adherence *(cont)*

Monitoring adherence

- Assess self-reported adherence at each visit using a nonjudgmental manner[d]
- Assess and manage side effects of ART at each visit
- Routinely use HIV viral load to monitor ART effectiveness that may be affected by adherence
- Consider assessing ART prescription refills or pill counts, if feasible, when needed to supplement routine assessment of self-reported adherence (e.g., when treatment response is not consistent with self-reported adherence)
- Do not directly administer ART to patients on a routine basis, except in settings where other medications are directly administered on a routine basis (e.g., young adolescents living with parents, prisons, residential substance use treatment centers, opioid replacement programs, mental health hospital)

Notes:

[a] Community health workers might include community-based HIV prevention specialists contracted by health care facilities or employees of community-based HIV service organizations.

[b] In some jurisdictions, collaboration may involve communicating with HIV surveillance programs that monitor HIV viral load levels of reported HIV cases to identify persons with suboptimal treatment response that may be due to low adherence.

[c] The first federal guidance in Appendix A, Section 6, that is the basis for this recommendation only addresses the personal health benefits of high adherence, not the benefits of high adherence in reducing the risk of transmitting HIV to others.

[d] Some experts recommend asking patients to answer the question, “In the last 30 days, how good a job did you do at taking HIV medicines in the way you were supposed to?” using a multistep scale ranging from very poor to excellent.

Box 6-A. Recommended Adherence Support Strategies (if Allowed by Professional Authority)

- Address misinformation, misconceptions, negative beliefs, or other concerns about ART regimen or adherence
- Acknowledge the challenges of maintaining high adherence over a lifetime and offer long-term adherence support, especially when health coverage, insurance, or other life circumstances change
- Encourage disclosure of challenges to adherence in a nonjudgmental manner
- Apply motivational interviewing techniques during routine adherence assessment. These include
  - asking about methods persons have successfully used or could use to increase adherence
  - asking about recent challenges to adherence and how they could be overcome
- Offer advice, tools, and training tailored to individual strengths, challenges, and circumstances to support adherence. Examples of advice include
  - linking dosing to daily events, such as meals or brushing teeth
  - using pill boxes, dose-reminder alarms, or diaries as reminders
  - carrying extra pills when away from home
  - actions to take if pill supply is depleted or nearly depleted
  - avoiding treatment interruptions when changing routines (e.g., travel, legal detention)
  - consulting HIV care providers before surgery or when experiencing a new health condition or a change in life circumstance that might impair ART use (e.g., change in prescription, nonprescription, and other drug use)
- Encourage persons to seek adherence support from family members, partners, or friends who are aware of their infection

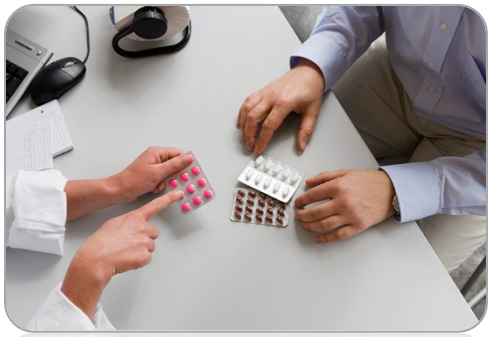


Table 6-1. Factors Associated with Low Adherence to ART

Patient-level factors

- Comorbidity and psychosocial factors
  - Current substance use, including alcohol
  - Mental and physical health problems, such as depression, anxiety, cognitive impairment, and poor vision
  - Low perceived quality of life or life satisfaction
  - Lack of social support
  - Negative attitudes and beliefs about HIV disease that may be associated with denial, nondisclosure, or fear of stigma
- Knowledge and competence regarding adherence
  - Low literacy level regarding health information and regimen-related instructions
  - Lack of knowledge or understanding about 1) treatment benefits, 2) the importance of sustained high adherence for health or viral suppression, or 3) regimen instructions
  - Negative attitudes and beliefs about treatment (e.g., mistrust, misconceptions, doubts about treatment effectiveness)
  - Low confidence in ability to follow regimen or limited self-management skills
- Chaotic lifestyle or lack of daily routine
- Lack of attendance at HIV care visits in which ART can be prescribed
- Younger age

Treatment regimen factors

- Regimen complexity (e.g., high pill burden, frequent or inconvenient dosing schedule, dietary restrictions, interactions with other drugs) and difficulty swallowing pills
- Frequency and severity of side effects
- Treatment fatigue (i.e., adherence wanes over time)

Patient-provider and other interpersonal factors

- Poor patient-provider relationship, such as limited provider adherence support, insufficient shared decision making, or changes in health care providers over time

Structural factors

- Inability to afford or obtain a continuous supply of ART due to lack of health insurance or enrollment in medical assistance programs
- Unstable housing, incarceration, and recent release from imprisonment

Section 7. Risk Screening and Risk-reduction Interventions

Background

Risk screening is a brief evaluation of behavioral factors that may affect the risk of exposing others to HIV (e.g., unprotected sex or sharing drug-injection equipment) and biomedical or biologic factors that influence HIV viral load, viral shedding, and infectiousness (e.g., antiretroviral treatment [ART] use, ART adherence, sexually transmitted diseases [STDs], and pregnancy).

Based on the results of risk screenings, clinical providers can provide risk-reduction information, materials, and interventions onsite or link patients to risk-reduction interventions provided by other providers or organizations. These interventions can promote safer sexual and drug-injection behaviors and minimize the risk of biologic factors such as STDs that may facilitate HIV transmission.

Other sections of this *Summary* address behavioral and biomedical strategies to reduce the risk of HIV transmission: linkage to and retention in care (Section 4), antiretroviral treatment (Section 5), ART adherence (Section 6), partner services (Section 8), STD services (Section 9), reproductive health care (Section 10), pregnancy services (Section 11), and services for other medical conditions and social factors that influence HIV transmission (Section 12). Section 13 describes how to improve and evaluate these interventions.

Recommendations

Box 7. Recommendations—Risk Screening and Risk-reduction Interventions

Organizational-level interventions

- Establish infrastructure to support routine risk screening and brief risk-reduction interventions (see Box 7-A)
- Train staff to create a trusting, supportive and nonjudgmental atmosphere that encourages persons with HIV to be honest, to voluntarily disclose sex and drug-use behaviors and health information, and to ask questions

Box 7. Recommendations—Risk Screening and Risk-reduction Interventions *(cont)*

Individual-level risk screening services

- Screen persons with HIV at initial and later visits (at least yearly or more frequently as needed) for these risk factors: (see Box 7-B)
  - Behavioral characteristics that affect their risk of exposing others to HIV (e.g., unprotected sex, sharing drug-injection equipment)
  - Biologic or biomedical characteristics that affect their level of infectiousness, (e.g., use of and adherence to antiretroviral treatment (ART), viral load level, sexually transmitted disease (STD) diagnoses, pregnancy)
  - Characteristics of partners that affect the partner's risk of acquiring HIV or STD, when information available (e.g., use of condoms, preexposure prophylaxis [PrEP] or nonoccupational postexposure prophylaxis [nPEP])
- Offer positive reinforcement to persons who report safer behaviors and use of biomedical strategies that reduce their level of infectiousness to motivate their continued use

Individual-level risk-reduction services

- Use information collected during risk screening to identify risk-reduction messages and interventions that address the person's risk of exposing others to HIV, level of infectiousness, and partners' risks of acquiring HIV
- Offer risk-reduction information and interventions that are tailored to risks of the person with HIV (and of partners they refer) specifically:
  - Information about
    - behavioral interventions that can reduce the risk of exposing others to HIV (e.g., brief or intensive risk-reduction strategies that encourage safer sex and use of sterile drug-injection equipment, substance use treatment) (see Box 7-C)
    - biomedical interventions that can reduce viral load or HIV shedding (e.g., HIV medical care, ART use, STD services, special reproductive and pregnancy services) (see Box 7-C)
    - strategies for uninfected partners to reduce their risk of acquiring HIV (e.g., partner notification, PrEP, nPEP) (see Box 7-C)
  - Correcting misconceptions[a] regarding HIV transmission, acquisition, or prevention methods (see Box 7-C)
  - Providing or making referrals for specialized behavioral counseling and psychosocial support to members of HIV-discordant couples, if available
  - Offering latex or polyurethane male and/or female condoms
  - Providing or making referrals for new, sterile syringes through syringe services programs, pharmacists, physicians, or other legal methods to persons who lack consistent access to sterile drug-injection equipment

Box 7. Recommendations—Risk Screening and Risk-reduction Interventions *(cont)*

Notes: Persons with HIV may include members of HIV-discordant or HIV-concordant couples.

[a] Common misconceptions relate to perceptions of the relative, per-act risk of HIV transmission for various types of sexual contact; how behavioral, biologic, and viral factors influence transmission risk; whether ART use can reduce the risk of HIV transmission; and whether use of PrEP or nPEP with antiretroviral medications can reduce the risk of HIV acquisition by HIV-uninfected partners.

Box 7-A. Examples of Strategies to Improve Infrastructure for Risk Screening and Risk-reduction Interventions

- Develop written procedures about staff members' responsibilities for providing risk screening and risk-reduction interventions
- Provide staff training and tools that describe
  - methods to assess both behavioral and biologic risk information (e.g., condom use, viral load, concurrent STDs)
  - characteristics that influence risk screening and risk-reduction services, such as age, sexual orientation, health literacy, and cultural attitudes about health care
  - methods to offer risk-reduction interventions that emphasize healthy sexuality, avoiding substance abuse, and sustained high adherence to ART
  - state laws and regulations about confidentiality protections, HIV disclosure and possible consequences of exposing others to HIV, minors' access to risk-reduction services, and ways to access legal, sterile drug-injection equipment
  - how to increase skills in serving persons with various ages, gender identities, sexual orientations, cultural backgrounds, education levels, and health literacy levels
- In clinical settings that can monitor persons with HIV receiving risk-reduction interventions over time
  - establish monitoring systems that incorporate behavioral and medical information (e.g., viral load, recent STD diagnosis) to allow for more accurate risk assessment and more tailored risk-reduction interventions
  - provide reminders about risk screening at least annually (and more often as needed) and track delivery of risk screening and risk-reduction interventions
- Establish agreements or contracts to link persons with HIV to risk-reduction interventions that are not provided onsite

Box 7-B. Recommended Topics to Cover During Risk Screening

Sexual behaviors

- Sexual practices (e.g., vaginal, penile, anal, or oral sex; insertive vs. receptive sex, including recent condom use)
- Sex partners (e.g., number, age, gender, HIV status, drug-use history, and recent STD diagnoses of partners; whether a partner is new or committed; where partners met; intimate partner violence)
- Sexual activity that may expose others to blood (e.g., sexual abuse, sex during menses, or use of sexual aids, devices, or toys that cause anal or genital trauma, inflammation, or irritation)
- Use of serosorting and seropositioning

Alcohol and drug-use behaviors

- Recent and ever use of substances for health or recreational purposes (e.g., alcohol, methamphetamine, ecstasy, ketamine, nitrites, marijuana, cocaine)
- Use of these substances before, during, or after sexual activity
- Sharing drug-injection equipment (e.g., needles, syringes, cotton, cooker, water)
- Drug-injection partners (e.g., number of partners, partners' HIV infection status)
- Use of new, sterile syringes and other drug-injection equipment, including sources of equipment

Biomedical and biologic factors that may influence infectiousness or the risk of HIV transmission

- Recent diagnosis of acute HIV infection based on HIV test results or clinical evaluation
- Recent use of ART
- Recent diagnosis of STD and STD treatment
- Recent condom use
- Contraceptive use
- Current or planned pregnancy
- Use of special conception methods

Biomedical and biologic factors that may influence the risk of acquiring HIV by partners or the fetus or infant of a woman with HIV

- Recent condom use
- Recent diagnoses of STD
- Current or planned pregnancy
- Contraceptive use
- Male circumcision
- Inconsistent use of sterile drug-injection equipment
- Use of PrEP or nPEP with antiretroviral medications

Box 7-C. Important Topics when Informing Persons with HIV about How to Prevent Transmission of HIV to Others

General topics

- How HIV is spread (e.g., exchange of body fluid) and not spread (e.g., handshake)
- How sustained high adherence to ART suppresses viral load and reduces the risk of transmitting HIV
- How preventing or treating symptomatic and asymptomatic STDs can improve health and decrease the risk of transmitting HIV
- How avoiding drugs and alcohol can improve health and may promote safer drug-use or sexual behaviors
- Benefits of support from family, friends, or partners to encourage safer behaviors
- Benefits and risks of selectively disclosing HIV infection to others (e.g., those at a heightened risk of HIV exposure, health care providers) and methods that minimize the risk of negative consequences of disclosure
- Benefits of knowing the HIV-infection status of sex and drug-injection partners
- How serosorting may result in HIV transmission if assumptions about partners' HIV status are incorrect or may result in acquiring STDs and, more rarely, new HIV strains from infected partners
- Characteristics of HIV-uninfected sex and drug-injection partners that increase their risk of HIV acquisition (e.g., sharing nonsterile drug-injection equipment, STDs)
- Availability of PrEP and nPEP for HIV-uninfected partners when clinically indicated to prevent HIV acquisition
- Availability of voluntary, confidential, and usually free health department services to notify sex or drug-injection partners of possible HIV exposure

Box 7-C. Important Topics when Informing Persons with HIV about How to Prevent Transmission of HIV to Others *(cont)*

Sexual or perinatal transmission

- Communicating with partners to foster healthy sexuality (e.g., noncoercive sexual contact, negotiating safer behaviors)
- Methods that HIV-discordant couples can use to reduce the risk of sexual HIV transmission, including the following:
  - Using latex and polyurethane male and female condoms: negotiating with partner to use; reminders to use; correct and consistent use
  - Using dental dams or other physical barriers while having oral-vaginal or oral-rectal sex
  - Using sexual positioning that lowers a partner's risk of acquiring HIV (order from lowest to highest risk: insertive fellatio, receptive fellatio, insertive penile-vaginal sex, receptive penile-vaginal sex, insertive anal sex, receptive anal sex)
  - Practicing mutual masturbation and digital penetration and using clean sex toys that do not cause anal or genital bleeding or trauma
  - Avoiding exposing partner to blood, semen, vaginal secretions, and other body fluids that are visibly contaminated with blood
  - Avoiding sexual intercourse with HIV-infected persons after invasive anal or genital procedures until healing is complete, or when anal or genital bleeding, inflammation, or trauma may be present (e.g., if infected with STD or when using irritating sexual aids)[a]
  - Using only water-based spermicides and lubricants that do not contain nonoxynol-9
  - Avoiding contact with body fluids of HIV-infected persons after invasive oral or dental procedures
  - Reducing the number of sex partners
- Risk of acquiring STDs in genital and nongenital sites if having genital, anal, or oral sexual contact
- Presence of symptomatic or asymptomatic STD in persons with HIV
- Presence of symptomatic or asymptomatic STD in HIV-uninfected partners, which may increase their risk of acquiring HIV and may indicate a substantial risk for HIV that is a clinical indication for PrEP
- Methods to prevent unintended pregnancy
- Conception options that reduce the risk of HIV transmission
- Interventions to reduce the risk of perinatal transmission
- Evidence that male circumcision may reduce a man's risk of acquiring HIV from a female partner with HIV

Box 7-C. Important Topics when Informing Persons with HIV about How to Prevent Transmission of HIV to Others *(cont)*

Substance use

- Health benefits of abstaining from or reducing substance use
- The relation between use of some recreational drugs and higher risk sexual practices (e.g., methamphetamines)
- Risk of transmitting HIV when sharing drug-injection equipment
- Benefits of completing substance use treatment (that may include relapse prevention and opioid substitution programs)
- Methods to reduce the risk of transmitting HIV if drug injection continues, including the following:
  - Reducing the number of drug-injection partners
  - Using new, sterile equipment from reliable sources (pharmacies, SSPs)
  - Using sterile needles, syringes, fluids, cookers, and cotton each time to prepare and inject drugs
  - Using sterile water (preferable) or fresh tap water when preparing drugs
  - Never sharing or reusing drug-injection or preparation equipment
  - Cleaning injection sites with alcohol swabs before injection
  - Disposing needles and syringes in safe places after each use

Notes: Providers can address topics relevant to each person with HIV using print, audiovisual materials, or discussion over one or more encounters.

[a] Examples of invasive anal or genital procedures include tubal ligation; vasectomy; dilatation and curettage; and removal of vaginal, cervical, and penile warts, polyps, and precancerous lesions.

Section 8. HIV Partner Services

Background

HIV partner services comprise a variety of interventions for persons with HIV and their sex and drug-injection partners that can reduce risk of HIV transmission. The core components include interviewing persons with HIV about partners who are not aware of possible HIV exposure; obtaining information to contact these partners; notifying partners of possible HIV exposure; offering partners testing for HIV, sexually transmitted disease (STD) and other infections; providing condoms, prevention information, and counseling; and helping partners obtain risk-reduction services, HIV medical care, and other medical and social services. Partner services can hasten the diagnosis and treatment of HIV and other infections among partners, prevent HIV transmission, and reduce the burden and cost of HIV in communities.

Clinical providers can directly refer patients to health department specialists who offer voluntary, confidential services or notify patients that reporting of cases of newly diagnosed HIV to the health department may activate offering of voluntary partner services. In most jurisdictions, physicians are authorized to provide some partner services directly to patients diagnosed with HIV and to partners that these patients refer. In some clinical settings, other types of providers are trained and authorized to provide selected partner services, such as eliciting partner contact information from persons with HIV.

Other sections of this *Summary* address STD services for index patients and their partners (Section 9); use of nonoccupational postexposure prophylaxis (nPEP) and preexposure prophylaxis (PrEP) by HIV-uninfected partners (Section 5); and quality improvement and program evaluation (Section 13).

Recommendations

Box 8. Recommendations—HIV Partner Services

Establish the infrastructure for partner services in clinical settings

- Develop infrastructure, policies, and procedures that enable persons who warrant HIV partner services *(index patients)* to obtain services through the health department or other authorized providers (see Box 8-A and Box 8-B-1)
- Collaborate with health department staff to reinforce knowledge and skills about the following topics:
  - Methods to ensure that partner services are voluntary and confidential
  - Elements of partner services
  - Roles, responsibilities, and legal authority of nonclinical providers, clinical providers, and health department staff to provide partner services to index patients and inform their partners of possible HIV exposure
  - Laws, regulations, requirements, procedures, and guidelines in the jurisdiction (e.g., data confidentiality and security, index patient's and provider's duty to inform exposed partners, laws regarding prosecution for intentional HIV exposure)

Provide individual-level services

- Identify index patients with HIV who warrant partner services and offer expedited interviews to those with the following characteristics:
  - Acute HIV infection based on laboratory tests (e.g., positive result on HIV p24 antigen test, HIV nucleic acid amplification test, or HIV viral load test; or HIV antibody results indicative of recent seroconversion), or clinical evaluation (i.e., symptoms or signs of acute retroviral syndrome) that is associated with a high risk of HIV transmission
  - High HIV viral load that is associated with a high risk of HIV transmission
  - Newly reported or newly diagnosed HIV infection (based on preliminary and/or confirmatory HIV test results, as allowed by the jurisdiction)
  - Newly diagnosed sexually transmitted diseases (STDs) that indicate recent unprotected sex (i.e., sexual activity without using a physical barrier) and facilitate HIV transmission—primary and secondary syphilis; gonorrhea and chlamydial infection (including rectal infection); herpes simplex virus type 2 (HSV-2); and trichomoniasis (in women)
  - Increased risk of HIV transmission due to pregnancy
  - Behaviors that pose a high risk of exposing others to HIV (e.g., multiple, anonymous partners; having unprotected sex with persons with negative or unknown HIV-infection status; sharing drug-injection equipment)
  - A specific request for partner services

Box 8. Recommendations—HIV Partner Services *(cont)*

- Ask index patients if they have disclosed their HIV infection to all sex and drug-injection partners and if self-notification would pose any risks
- Promptly refer index patients to health department partner services directly or through HIV case reporting according to the methods of the jurisdiction (see Box 8-B-2)
- If the index patient declines referral for health department assistance, offer partner services as appropriate to the legal authority and skills and the index patient's preferences (see Box 8-B-2)
- Offer services to partners who are referred by index patients as appropriate to provider's legal authority and skills (see Box 8-B-3)

Box 8-A. Recommended Strategies to Establish Partner Services Infrastructure in Clinical Settings

- Establish clear policies and procedures that are consistent with laws and regulations in the jurisdiction and that relate to the following topics:
  - Strategies to notify the health department about index patients who warrant partner services, including those with acute HIV infection or other characteristics who should be offered expedited interviews (see Box 8)
  - Methods to protect and transfer confidential information about index patients and partners to health departments
  - Methods to help index patients notify partners
  - Methods to elicit partner information, notify partners, and provide testing and presumptive STD treatment to partners
  - Informing index patients and partners about the availability of preexposure prophylaxis (PrEP) and nonoccupational postexposure prophylaxis (nPEP) when clinically indicated for HIV-uninfected persons to reduce their risk of HIV acquisition
- Routinely provide verbal, print, or audiovisual materials to index patients that describe partner services' benefits, potential risks, procedures, and the availability of voluntary, confidential health department assistance
- Periodically assess partner services to guide quality improvement

Box 8-B-1. General Principles of HIV Partner Services Relevant to Clinical Settings

- Inform index patients and partners referred by index patients that partner services
  - have potential benefits and risks
  - are voluntary and confidential
  - can be provided in several ways, including through health department specialists
- Consider various methods to notify partners based on the preferences of index patients and their partners' characteristics (e.g., found through the Internet, risk of adverse reaction), including self-notification and assistance from health departments and clinical providers
- Protect the confidentiality of the index patient and partners and the privacy of their health information
- Communicate in a nonjudgmental, culturally appropriate, and sensitive manner
- Monitor and adhere to changes in jurisdiction regulations that may affect partner services, especially these issues:
  - Any duty of index patients or providers to inform spouses or other persons of possible HIV exposure
  - Intimate partner violence, sexual assault, or child or elder abuse when index patients or partners report abuse or when abuse is suspected
  - Rights of minors

Box 8-B-2. Essential Elements of HIV Partner Services for Index Patients in Clinical Settings

- **Offer voluntary, confidential partner notification assistance through health department partner services specialists and explain the notification process, the role of health department specialists, and confidentiality protections**

- **If the index patient declines referral to health department partner services:**
  - Help the index patient develop a plan to notify partners directly or with provider assistance as allowed by the jurisdiction
  - Offer assistance in testing partners for HIV, STDs, and viral hepatitis[a]

Box 8-B-2. Essential Elements of HIV Partner Services for Index Patients in Clinical Settings *(cont)*

- **If the index patient seeks partner notification assistance from a clinical provider who is trained and authorized to provide partner services:**
  - Explain the rationale for notifying partners of possible HIV exposure (i.e., partners who had contact with the index patient in the 12 months before HIV diagnoses), with priority given to partners who had contact during the 3 months before HIV diagnosis or during the previous month if the index patient has acute HIV infection or high viral load
  - Ask the index patient which sex and drug-injection partners have already been notified of possible HIV exposure
  - Collect contact and other information, using CDC-recommended methods, about sex and drug-injection partners who have not been notified[b]
  - Assess barriers and risks to partner notification for each named partner (e.g., physical or verbal abuse), offer advice and services to reduce this risk (e.g., describe measures to prevent partner violence), and defer notification if a risk is apparent
  - Notify the index patient's partners using CDC-recommended methods[b]
  - Recognize that some index patients prefer to self-notify some partners but request assistance to notify other partners

- **If the index patient chooses to self-notify any partner without assistance, describe:**
  - Possible challenges of self-notification, such as partner violence, and discourage self-notification if a risk is apparent
  - Self-notification methods for known partners (e.g., in person) and anonymous partners (e.g., established Internet notification programs)
  - Methods to improve the effectiveness of self-notification (e.g., focus on partners over the previous 3 months or, if diagnosed with acute HIV infection or high viral load, focus on partners over the previous month; use a private, safe setting; anticipate and respond to negative partner reactions; seek provider assistance if questions arise)
  - Key messages for partners (e.g., how to obtain HIV, STD, and viral hepatitis testing and evaluation in facilities that link partners with positive tests to health care providers or to home HIV testing if the partners decline other testing options)[a]

- **If the index patient declines any partner services through the health department, provider, or self-notification:**
  - re-offer partner services at the next visit and/or
  - notify the index patient's HIV medical care provider that partner services should be offered at the next HIV care visit, when appropriate

Box 8-B-2. Essential Elements of HIV Partner Services for Index Patients in Clinical Settings *(cont)*

- **Regardless of the partner notification method, promptly offer index patients the following prevention and care services onsite or through linkage to other clinical providers, if not recently provided:**
  - HIV medical care
  - STD and viral hepatitis testing, evaluation, treatment, vaccination, and counseling[a]
  - Risk-reduction services and devices (e.g., behavioral information, counseling, risk-reduction interventions, latex or polyurethane condoms)
  - Information about the availability of PrEP and nPEP for HIV-uninfected partners when clinically indicated to reduce their risk of HIV acquisition
  - Other medical or social services that influence HIV transmission (e.g., substance use treatment, mental health services)

Notes:
[a] Viral hepatitis testing (and treatment of infected persons) has not been shown to influence HIV transmission but is included here because it is often offered in combination with HIV and STD testing for individual and public health benefits.
[b] The first federal guidance in Appendix A, Section 8, describes CDC-recommended methods.

Box 8-B-3. Essential Elements of HIV Partner Services for Sex and Drug-injection Partners Referred by Index Patients with HIV

- Notify the partner about possible HIV exposure (and STD exposure if the index patient is coinfected with STD) without disclosing the identity of the index patient, using CDC-recommended methods
- Provide information about HIV, STD, and viral hepatitis infections[a]
- Promptly offer the following services onsite or through linkage to another clinical provider:
  - HIV testing if the partner is not known to be HIV-infected (followed by verification of test results)[b]
  - HIV care, treatment, and partner services if a preliminary or confirmatory HIV test is positive
  - Screening for STD and viral hepatitis if partner is asymptomatic, using tests recommended by CDC[a]
  - Presumptive STD treatment (while awaiting results of STD testing or clinical evaluation) if the partner was exposed to STD
  - Testing and clinical evaluation for STD and viral hepatitis if partner has relevant symptoms[a]
  - STD and viral hepatitis care and treatment if the partner is diagnosed with these conditions[a]
  - Risk-reduction services and devices (e.g., behavioral information, counseling, risk-reduction interventions, latex or polyurethane condoms)
  - Information about the availability of PrEP and nPEP for HIV-uninfected persons when clinically indicated to reduce the risk of HIV acquisition and referrals to clinical providers who offer prophylaxis
  - Other medical and social services that influence HIV transmission (e.g., substance use treatment, mental health services)
- Collect information about members of the partners' social network (including physical and virtual venues frequented), using CDC-recommended methods, if trained and authorized in this approach[c]

Notes:

[a] Viral hepatitis testing (and treatment of infected persons) has not been shown to influence HIV transmission but is included here because it is often offered in combination with HIV and STD testing for individual and public health benefits.

[b] Partners who are unlikely to obtain prompt HIV testing in clinical settings should be linked to HIV testing at community-based organizations or home.

[c] The first federal guidance in Appendix A, Section 8, describes CDC-recommended methods.

Section 9. Sexually Transmitted Disease (STD) Preventive Services

Background

S*exually transmitted diseases* (STDs) are common in persons with HIV and many do not cause obvious symptoms or signs. Five STDs may increase the risk of transmitting HIV: syphilis, gonorrhea, chlamydial infection, and HSV-2 in men and women and trichomoniasis in women. STD preventive services are an essential component of HIV prevention because the diagnosis of an STD is an objective marker of unprotected sexual activity that may result in HIV transmission; certain STDs may increase plasma HIV viral load and genital HIV shedding; and STD treatment may reduce STD-related morbidity and lower the risk of HIV transmission.

Clinicians play a crucial role in STD preventive services. These include assessment of behavioral and biological factors that may increase the risk of transmitting HIV or STD; sexual risk-reduction interventions; screening asymptomatic persons for STD pathogens; physical examination, diagnostic testing of persons with STD signs or symptoms; treatment; and partner services.

Other sections of this *Summary* address confidentiality and reporting of HIV and STD information and the duty to warn partners of possible HIV exposure (Section 3); screening for sexual behavior, condom use, and STD symptoms and signs (Section 7); partner services for persons with HIV and their sex partners (Section 8); and quality improvement and program evaluation (Section 13).

Recommendations

Box 9. Recommendations—STD Preventive Services

At the initial HIV-related encounter and thereafter at a frequency appropriate to setting and risk assessment results:

- Inform persons with HIV about:
  - methods to reduce the risk of HIV and STD transmission
  - STDs that can increase HIV viral load and may facilitate HIV transmission
  - the benefits of screening for STDs (that are often asymptomatic) and STD treatment

Box 9. Recommendations—STD Preventive Services *(cont)*

- Assess these behavioral and biologic risk factors for HIV and STD transmission:[a,b]
  - Sexual, alcohol, and drug-use behaviors that may lead to HIV or STD transmission
  - Recent sex partners who were treated for STD
  - Past and recent STD diagnosis, screening, and symptoms
  - Concurrent STD infection by providing STD screening tests onsite (if allowed by professional authority) or linking to a health care facility that provides STD screening tests (see Box 9-A-1 and Box 9-A-2)[c,d]
- Offer latex or polyurethane male and/or female condoms
- **For persons with HIV who report sexual risk behaviors**
  - Provide or refer for brief or intensive behavioral risk-reduction interventions
  - Refer to voluntary health department HIV partner services or other trained partner services provider if persons are newly diagnosed with HIV or report new sex partners
- **For persons with HIV who report symptoms suggestive of an STD or recent sex partners who were treated for syphilis, gonorrhea, chlamydial infection or trichomoniasis:**
  - Provide access to presumptive STD treatment according to the latest Centers for Disease Control and Prevention (CDC) STD Treatment Guidelines through[e]
    - onsite clinical evaluation (including physical examination and diagnostic testing) followed by immediate presumptive treatment, if allowed by professional authority, or
    - immediate linkage to another health care facility that offers onsite presumptive STD treatment
- **For persons with HIV who have positive STD screening tests, provide the following services:**
  - Provide access to treatment according to the latest CDC STD Treatment Guidelines through onsite treatment or linkage within 24 hours to a health care facility that offers onsite STD treatment (including recommended injectable medications) as allowed by professional authority
  - Refer to voluntary health department HIV/STD partner services or other trained partner services provider
  - Provide or refer to brief or intensive behavioral risk-reduction interventions
  - Report cases of STD according to jurisdiction requirements and inform persons diagnosed with STD that case reporting may prompt health departments to offer voluntary, confidential partner services in some jurisdictions

Box 9. Recommendations—STD Preventive Services *(cont)*

At initiation of HIV medical care, provide all persons the following services:

- Detailed sexual history, including number and gender of sex partners; types of sexual practices; anatomic sites of sexual contact; condom use; previous STD screening, testing, diagnoses, and treatment; and recent sex partners who have had STD symptoms or treatment
- Detailed history of alcohol and substance use
- Detailed history of recent STD-related symptoms (e.g., urethral, vaginal, or anal discharge; dysuria; abnormal vaginal or rectal pain or bleeding; genital, perianal, or oropharyngeal exudate, sores, or bumps; skin rash)
- STD screening tests (see Box 9-A-1 and Box 9-A-2)[c,d]
- Physical examination for signs of STDs, including skin, oral, anal, genital, and gynecologic examinations for women and skin, oral, anal, and genital examinations for men
- Diagnostic testing for STD if persons have STD signs or symptoms[c]
- **For persons with HIV who report sexual or drug-injection risk behaviors, provide the following services:**
  - Provide or refer to brief or intensive behavioral risk-reduction interventions
  - Refer to voluntary health department HIV partner services or other trained partner services provider if persons are newly diagnosed with HIV; have evidence of acute HIV infection or high HIV viral load; or report new sex partners
- **For persons with HIV who have a clinical evaluation indicative of STD or positive screening or diagnostic STD tests, or recent sex partners who have had STD symptoms or treatment for syphilis, gonorrhea, or chlamydial infection, provide the following services:**
  - Provide oral or injectable STD treatment onsite, including presumptive treatment (while awaiting STD test results) when indicated, according to the latest CDC STD Treatment Guidelines[e]
  - Advise to return 3 months after treatment for gonorrhea, chlamydial infection, or trichomoniasis to obtain retesting for the relevant infection at the anatomic site of infection[f] (see Box 9-A-1 and Box 9-A-2)
  - Advise persons diagnosed with syphilis to return for follow up serologic testing according to the latest CDC recommendations[f] (see Box 9-A-1 and Box 9-A-2)
  - Provide or refer for brief or intensive behavioral risk-reduction interventions
  - Refer to voluntary health department HIV/STD partner services or other trained partner services provider
  - Report cases of STD according to jurisdiction requirements and inform persons diagnosed with STD that case reporting may prompt health departments to offer voluntary, confidential partner services in some jurisdictions

Box 9. Recommendations—STD Preventive Services *(cont)*

At follow-up HIV care visits, provide all persons with HIV the following services:

- Review of sexual, alcohol, and substance use histories since last visit to determine if behavioral risk-reduction interventions are warranted
- Review of STD symptoms since last visit and recent sex partners who have had STD symptoms or treatment to determine if STD testing, physical examination, or treatment is warranted (as described above at initiation of HIV care)
- STD screening at least annually or more often if indicated by sexual risk behaviors[c,d] (see Box 9-A-1 and Box 9-A-2)
- Review of sex partners who were not notified of possible HIV or STD exposure to determine if offering HIV partner services is warranted
- **For persons with a positive STD test; STD symptoms or signs; or recent sex partners who have had STD symptoms or treatment for syphilis, gonorrhea, chlamydial infection, or trichomoniasis or experiencing STD symptoms, provide the following services:**
  - Provide oral or injectable treatment onsite according to the latest CDC STD Treatment Guidelines (including presumptive treatment (while awaiting STD test results) if indicated because of STD symptoms, or recent sex partners who have had STD symptoms or treatment)[e]
  - Advise to return 3 months after treatment for gonorrhea, chlamydial infection, or trichomoniasis to obtain retesting for the relevant infection at the anatomic site of infection[f] (see Box 9-A-1 and Box 9-A-2)
  - Advise persons diagnosed with syphilis to return for follow up serologic testing according to the latest CDC recommendations[f] (see Box 9-A-1 and Box 9-A-2)
  - Provide or refer to brief or intensive behavioral risk-reduction interventions
  - Refer to voluntary HIV/STD partner services at health department or other trained partner services provider
  - Report cases of STD according to jurisdiction requirements and inform persons diagnosed with STD that case reporting may prompt health departments to offer voluntary, confidential partner services in some jurisdictions

Box 9. Recommendations—STD Preventive Services *(cont)*

Notes:

[a] Assessment of behavioral and biologic risks factors is recommended at initial and subsequent visits in clinical settings providing continuing care. In clinical settings that provide one-time or episodic STD services, assessment is recommended at initial encounter and when patients seek follow-up services; recalling patients specifically for risk assessment may not be feasible.

[b] In this section, "assess" means eliciting information about behavioral and biologic risk factors for HIV transmission, including history of STD and STD symptoms, and "screen" means testing for STD pathogens in persons without symptoms. In other sections, "screen" means a *brief* assessment of behavioral and biologic risk factors for HIV, including history of STD, and STD symptoms that differs from an *intensive*, individually tailored assessment; and "STD screening tests" means testing to assess the presence of infection;

[c] The first two federal guidance documents in Appendix A, Section 9, list types of tests recommended by CDC.

[d] This section does not address screening persons with HIV for other conditions that have not been shown to facilitate HIV transmission to others, such as viral hepatitis and human papillomavirus infection.

[e] The latest CDC STD Treatment Guidelines recommend immediate presumptive treatment (or immediate linkage to such treatment) is recommended for persons who report sexual contact with partners treated for syphilis, gonorrhea, chlamydial infection, or trichomoniasis or have STD syndromes in order to reduce the risk of onward STD transmission.

[f] The first federal guidance document in Appendix A, Section 9, lists follow up tests recommended by CDC.

Box 9-A-1. Recommended STD Screening Tests for Sexually Active Male Adolescents and Adults with HIV

For all males

- Provide the following tests at initial HIV care visit (or encounters in nonclinical settings that offer STD screening tests) and at least annually thereafter*:
  - Urogenital *N. gonorrhoeae* (using nucleic acid amplification tests [NAATs] on urine specimen)[a,b]
  - Urogenital *C. trachomatis* (using NAAT on urine specimen)[a,b]
  - Syphilis serology[c]

For gay, bisexual and other males who have sex with other males (MSM), regardless of condom use

- Provide these additional screening tests at initial visit (or encounters in nonclinical settings that offer STD screening tests) and at least annually* thereafter[a,d]
  - Rectal *N. gonorrhoeae* (using NAAT) if person reports receptive anal sex
  - Rectal *C. trachomatis* (using NAAT) if person reports receptive anal sex
  - Oropharyngeal *N. gonorrhoeae* (using NAAT) if person reports receptive oral sex

* More frequent screening at anatomic sites of exposure (i.e., every 3–6 months) is indicated for MSM whose risk behaviors persist or have multiple or anonymous sex partners.

For males diagnosed with syphilis or treated for gonorrhea or chlamydial infection

- Retest persons diagnosed with syphilis using serologic tests recommended by CDC[c]
- Retest persons treated for gonorrhea or chlamydia for the relevant infection at the anatomic site of infection 3 months after treatment[a,b,d]

Notes: The first federal guidance in Appendix A, Section 9 that supports these recommendations also indicates that type-specific serologic testing for herpes simplex virus type 2 (HSV-2) infection can be considered in persons with HIV with unknown herpes infection status. This section does not address screening for other conditions that may affect persons with HIV but have not been shown to facilitate HIV transmission to others, such as viral hepatitis and human papillomavirus infection.

[a] Using tests recommended by CDC for laboratory detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.

[b] For gonorrhea and chlamydia screening, optimal specimen types for NAATs are first-catch urine from men collected in clinical settings. Commercially available NAATs for *C. trachomatis* and *N. gonorrhoeae* are not cleared by the U.S. Food and Drug Administration (FDA) for urine or rectal specimens collected outside clinical settings. However, some laboratories have established performance specifications for testing specimens collected outside clinical settings to meet requirements of the Clinical Laboratory Improvement Act for reporting test results for clinical management.

[c] Using tests recommended by the most recent CDC STD Treatment Guidelines.

[d] The FDA has not cleared commercially available NAATs to test rectal specimens for gonorrhea and chlamydial infection or oropharyngeal specimens for gonorrhea. However, some laboratories have established performance specifications for testing these types of specimens to meet requirements of the Clinical Laboratory Improvement Act for reporting test results for clinical management.

Box 9-A-2. Recommended STD Screening Tests for Sexually Active Female Adolescents and Adults with HIV

For all females

- Provide the following tests at initial visit (or encounters in nonclinical settings that offer STD screening tests) and at least annually thereafter:
  - Urogenital *N. gonorrhoeae* (using NAAT)[a,b]
  - Urogenital *C. trachomatis* (using NAAT)[a,b]
  - Syphilis serology[c]
  - Vaginal trichomoniasis test[d,e]

For all pregnant females[e]

- Provide the following tests at the first prenatal visit:
  - Urogenital *C. trachomatis* (using NAAT)[a,b]
  - Urogenital *N. gonorrhoeae* (using NAAT)[a,b]
  - Syphilis serology[c]
- Provide the following tests at beginning of third trimester for women at risk for STD[f]:
  - Urogenital *C. trachomatis* (preferably using NAAT)[a,b]
  - Urogenital *N. gonorrhoeae* (preferably using NAAT)[a,b]
  - Syphilis serology[c]

For females treated for gonorrhea, chlamydial infection, or trichomoniasis

- Retest persons diagnosed with syphilis using serologic tests recommended by CDC[c]
- Retest persons treated for gonorrhea or chlamydial infection for the relevant infection at the anatomic site of infection 3 months after treatment[a,b,d]

Notes: The first federal guidance in Appendix A, Section 9, that supports these recommendations also indicates that type-specific serologic testing for herpes simplex virus type 2 (HSV-2) infection can be considered in persons with HIV with unknown herpes infection status. This section does not address screening for other conditions that may affect persons with HIV but have not been shown to facilitate HIV transmission to others, such as viral hepatitis, bacterial vaginosis, and human papillomavirus infection.

[a] Using tests recommended by CDC for laboratory detection of *Chlamydia trachomatis* and *Neisseria gonorrhoeae*.

[b] For gonorrhea and chlamydia screening, optimal specimen types for NAATs are vaginal swabs from women that are collected in clinical settings. In women with cervicitis, endocervical specimens and vaginal specimens yield comparable results when tested with NAATs. Commercially available NAATs for *C. trachomatis* and *N. gonorrhoeae* are not cleared by the U.S. Food and Drug Administration (FDA) for urine or vaginal specimens collected outside clinical settings. However, some laboratories have established performance specifications for testing specimens collected outside clinical settings to meet requirements of the Clinical Laboratory Improvement Act for reporting test results for clinical management.

[c] Using tests recommended by the most recent CDC STD Treatment Guidelines.

[d] NAATs are the most sensitive and specific tests to detect *Trichomonas vaginalis*.

[e] Pregnant women should be screened for vaginal trichomoniasis at the same frequency as nonpregnant women (i.e., at their initial HIV care visit and annually thereafter).

[f] Characteristics of women at high risk are defined by the most recent CDC STD Treatment Guidelines.

Section 10. Reproductive Health Care for Women and Men

Background

Reproductive health care involves several essential services for adolescents and adults with HIV who are of reproductive age and wish to prevent unplanned pregnancies or reduce the risk of sexual HIV transmission when attempting conception.

Clinical providers may provide these services to individuals, HIV-concordant couples (in which both members are HIV-infected), or HIV-discordant couples (in which only one member is infected). For example, they can offer reproductive health counseling, contraceptive services, and information on special conception methods that can reduce risk of HIV transmission.

Other sections of this *Summary* address methods—including use of ART—to prevent sexual or perinatal transmission of HIV during recognized pregnancies of HIV-infected women or HIV-uninfected women who have partners with HIV (Section 11); linkage to HIV medical care (Section 4), general aspects of use of ART and antiretroviral prophylaxis by HIV-uninfected partners (Section 5); ART adherence (Section 6); methods to reduce sexual transmission of HIV (Section 7); services for sex partners of persons with HIV (Section 8); and quality improvement and program evaluation (Section 13).

Recommendations

Box 10. Recommendations—Reproductive Health Care for Women and Men

Inform and educate

All persons with HIV who are of reproductive age

- Become familiar with state and local laws and regulations in the jurisdiction that affect access to contraceptive services, pregnancy termination, and other reproductive health services, including access for minors without parental consent
- Advise women and men with HIV (and HIV-uninfected partners referred by them) to use latex or polyurethane male or female condoms to reduce the risk of HIV transmission and unintended pregnancy even if using medical or surgical contraception
- Inform persons with HIV (and HIV-uninfected partners referred by them) about
  - the availability of preexposure prophylaxis (PrEP) for HIV-uninfected partners when clinically indicated to reduce the risk of HIV acquisition when attempting conception using penile-vaginal intercourse without a condom
  - the availability of nonoccupational postexposure prophylaxis (nPEP) for HIV-uninfected partners when clinically indicated on a one-time or infrequent basis to reduce the risk of HIV acquisition in the event of inadvertent sexual HIV exposure within the past 72 hours (e.g., unprotected intercourse, condom breakage, shared drug-injection equipment)

Persons who wish to conceive

- Provide (in consultation with HIV care experts) or make referral for[a] (see Box 10-A)
  - additional preconception information and counseling for persons with HIV who are considering conception (preferably with their partner's participation)
  - information about conception methods for members of HIV-discordant couples that reduce the risk of sexual transmission of HIV or, should pregnancy occur, perinatal HIV transmission
- Inform persons with HIV about the role of antiretroviral treatment (ART) in reducing sexual HIV transmission and in preventing perinatal HIV transmission (see Box 10-A)
- Refer persons with HIV who wish to conceive to health care providers skilled in reproductive health counseling for persons with HIV

Box 10. Recommendations—Reproductive Health Care for Women and Men *(cont)*

Persons who do not wish to conceive

- Provide education, reproductive health counseling, or make referral for contraceptive services as appropriate to provider role and setting, to women and men who wish to prevent future pregnancy
- Assist persons with HIV who do not wish to conceive in making informed decisions about contraception that consider
  - the benefits of dual contraceptive methods (condoms plus other contraception)
  - the high efficacy and safety profile of hormonal contraception and IUDs for women with HIV
  - the benefits of using water-based spermicides and condom lubricants that do not contain nonoxynol-9
- Inform women with HIV who are considering medically attended pregnancy termination that available evidence indicates that HIV infection does not increase the risk of complications after the procedure
- Inform women with HIV who are using or considering using ART and hormonal contraception at the same time about possible drug interactions that might influence the efficacy of the ART or the hormonal contraception

Provide services

- Assess pregnancy status of HIV-infected women and reproductive plans of women and men with HIV, with methods and frequency as appropriate to provider role and setting (e.g., self-reported pregnancy status and/or pregnancy testing)
- Offer periodic HIV testing to HIV-uninfected members of HIV-discordant couples, particularly those who are attempting conception or who report unprotected intercourse
- Offer ART and adherence support according to U.S. Department of Health and Human Services (HHS) treatment guidelines to prevent sexual transmission of HIV and, should pregnancy occur, to prevent perinatal HIV transmission
- Offer PrEP or nPEP to HIV-uninfected partners referred by persons with HIV when clinically indicated after considering factors specific to women who may be or intend to become pregnant

Note:
[a] These experts may include local reproductive health care providers with HIV-related experience or the Clinician Consultation Center (1-888-448-8765 or http://nccc.ucsf.edu/clinician-consultation/perinatal-hiv-aids/).

Box 10-A. Specific Topics for Clinical Providers Counseling Adults and Adolescents with HIV Who Are Considering Conception

Information about rights, responsibilities, and decision-making

- Rights of persons with HIV to be sexually active, to prevent and attempt conception, and to have children
- Benefits of using contraception to prevent or delay pregnancy
- Importance of notifying partners about HIV infection status
- Benefits of engaging partners in decisions about reproduction
- Benefits of screening and treatment for STDs and other genital tract infections for couples before attempting conception
- Unique needs of HIV-exposed infants, including medical assessment, postexposure prophylaxis, avoidance of breastfeeding and premasticated food, and disclosure of the infant's status to all care providers

Information about benefits, risks and how to reduce risks

- Sexual practices and interventions that reduce risk of sexual transmission when attempting conception
- Factors affecting the risk of HIV transmission or acquisition should pregnancy occur, including
  - the physiologic state of pregnancy, which may increase the risk of sexual HIV transmission and acquisition
  - the use of maternal ART during pregnancy and after delivery, which can reduce the risk of sexual and perinatal transmission of HIV
  - the use of postnatal infant prophylaxis with antiretroviral medications, which can reduce the infant's risk of acquiring HIV
  - delivery methods that reduce perinatal transmission risk
- Benefits of initiating ART before attempting conception to maximally suppress viral load
- Availability of PrEP for HIV-uninfected persons who are attempting conception using unprotected intercourse with an HIV-infected partner
- Availability of nPEP for HIV-uninfected persons to reduce the risk of HIV acquisition through unprotected intercourse within the past 72 hours with an HIV-infected partner
- Special conception methods that lower, but do not eliminate, HIV transmission risk (compared with unprotected penile-vaginal intercourse), including
  - specifically timed, periovulatory unprotected intercourse
  - intravaginal or intrauterine artificial insemination, *in vitro* fertilization, or intracytoplasmic sperm injection using semen of an HIV-uninfected donor or specially processed ("washed") sperm of an HIV-infected man

Section 11. HIV Prevention Related to Pregnancy

Background

Pregnant women with HIV can transmit HIV to their fetuses and newborns if they do not use effective prevention strategies. The physiologic state of pregnancy can also increase the risk of sexual HIV transmission from HIV-infected pregnant women to uninfected male partners as well as from HIV-infected male partners to uninfected pregnant women.

Clinical providers can offer a wide variety of prevention and care services that can prevent HIV transmission from HIV-infected women with recognized pregnancies and can prevent HIV transmission to pregnant HIV-uninfected women who have HIV-infected sex or drug injection partners.

Other sections of this *Summary* address linking pregnant women to HIV medical care (Section 4); general aspects of antiretroviral treatment (ART) for persons with HIV and prophylaxis for HIV-uninfected partners (Section 5); general aspects of ART adherence (Section 6); behavioral risk-reduction interventions suited to HIV-infected partners of pregnant women (Section 7); notification of sex and drug-injection partners of pregnant women with HIV or of HIV-uninfected pregnant women (Section 8); screening pregnant women for sexually transmitted disease (STD) services (Section 9); contraception services and reproductive health counseling that can be offered after delivery (Section 10); and quality improvement and program evaluation (Section 13).

Recommendations

Box 11. Recommendations—HIV Prevention Related to Pregnancy

These recommendations apply to

- HIV-infected pregnant women (see Box 11-A and Box 11-D)
- HIV-infected women who have delivered live-born infants (see Box 11-B)
- HIV-uninfected pregnant women with HIV-infected partners (see Box 11-C and Box 11-D)

Box 11-A. Recommended Prenatal Services for Pregnant Women with HIV

Information and education

- Inform women (and their sex partners who are aware of the woman's infection status) about risks of perinatal and sexual HIV transmission (see Box 11-D)
- Inform women and HIV-uninfected partners they refer about
  - the availability of preexposure prophylaxis (PrEP) for HIV-uninfected partners when clinically indicated to reduce risk of HIV acquisition during unprotected sexual intercourse
  - the availability of nonoccupational postexposure prophylaxis (nPEP) for HIV-uninfected partners to reduce the risk of HIV acquisition in the event of inadvertent sexual or parenteral HIV exposure within the past 72 hours (e.g., unprotected intercourse, condom breakage, shared drug-injection equipment)
- Advise women to urge sex partners and drug-injection partners to get HIV testing and to use condoms to prevent HIV acquisition
- Provide education, counseling, and/or referral for postpartum contraception services to all women who wish to prevent or delay future pregnancy, as appropriate to the setting
- Inform women about options for free or subsidized ART, such as AIDS Drug Assistance Program or pharmaceutical drug assistance programs to help address financial concerns that may deter ART use
- Inform women of delivery options that can reduce risk of perinatal transmission
- Discuss risks and benefits of cesarean delivery and recommend scheduled cesarean delivery at 38 weeks gestation for women with suboptimal viral suppression near the time of delivery (i.e., HIV RNA levels >1000 copies/mL)
- Inform women and their partners that breastfeeding by HIV-infected women is not recommended in the United States and that formula feeding is recommended for the infants of these women.

Box 11-A. Recommended Prenatal Services for Pregnant Women with HIV *(cont)*

Specific prenatal services

- Promptly link women to HIV medical care, preferably to settings where providers have expertise in managing pregnancy in women with HIV
- Support adherence to antiretroviral treatment (ART) during the prenatal and postnatal periods for optimal maternal health and prevention of perinatal and sexual transmission
- Offer latex or polyurethane male and/or female condoms
- Offer women support, information, and assistance to notify their sex and drug-injection partners about their HIV status
- Offer an ART regimen during the prenatal, intra-partum, and postpartum periods, regardless of maternal CD4 count, to prevent perinatal transmission and thereafter for the woman's health and to prevent HIV transmission to others, according to U.S. Department of Health and Human Services (HHS) recommendations (see Box 11-D)
- Screen and treat women for STDs that may increase risk of HIV transmission during pregnancy
- Do not use invasive prenatal and intrapartum procedures (e.g., amniocentesis, chorionic villous sampling, amniotomy, and transvaginal instrumentation) unless women have initiated an effective ART regimen and are, ideally, virally suppressed at the time of the procedure as these procedures may increase fetal exposure to maternal blood thereby increasing the risk of perinatal transmission
- Notify infant health care providers of impending birth of HIV-exposed infant and any anticipated complications

Note: A woman with HIV must explicitly grant her provider permission to discuss her HIV infection status with her partners.

Box 11-B. Recommended Postnatal Services for Women with HIV and Their Infants

- Assist women to obtain regular HIV care and adhering to their prescribed ART regimen to maximize their health
- Provide education, counseling, and/or referral for postpartum contraceptive services to women who wish to prevent or delay future pregnancy, as appropriate to setting
- Advise women with HIV not to breastfeed (even if taking ART) and provide information about how to obtain formula
- Advise women with HIV not to donate their breast milk to breast milk banks
- Advise caregivers with HIV not to prechew food for infants and children
- Offer a 6-week, postnatal infant prophylaxis with antiretroviral medications according to HHS guidelines within 12 hours of birth to all HIV-exposed infants
- Provide infant caregivers information about the importance of adherence to postnatal infant prophylaxis and about services to support adherence
- Consider virologic testing[a] of HIV-exposed infants within 24 hours at birth to monitor infant's infection status, especially when maternal virologic control during pregnancy was poor or if adequate follow-up of the infant may not be assured
- Offer repeated virologic tests to the infant at ages 14 to 21 days, 1 to 2 months, and 4 to 6 months to assess the presence of HIV infection before 18 months of age
- Assist parent or guardian in obtaining health care for the HIV-exposed newborn to monitor newborn's infection status
- Report cases of perinatally exposed or HIV-infected infants to health departments according to local requirements for HIV disclosure, confidentiality, and case reporting[b]

Notes:

[a] Such as nucleic acid amplification test for HIV RNA or DNA

[b] For state and territorial case reporting requirements, see the eighth guidance in Appendix A, Section 11, and Council of State and Territorial Epidemiologists. Increased emphasis on perinatal HIV surveillance and prevention (Position Statement 10-ID-02). 2010. http://c.ymcdn.com/sites/www.cste.org/resource/resmgr/PS/10-ID-02updated.pdf. Accessed July 13, 2014.

Box 11-C. Recommended Services for Pregnant Women Who Are HIV-uninfected or Have Unknown Infection Status and Have Sex or Drug-injection Partners with HIV

Prenatal services

Inform and counsel women and their partners

- Inform women and their partners about risks of sexual acquisition of HIV and, should infection occur, the risk of perinatal transmission, including transmission during breastfeeding (see Box 11-D)
- Offer latex or polyurethane male and/or female condoms
- Encourage consistent, correct condom use throughout pregnancy and breastfeeding to prevent sexual and/or perinatal transmission
- Inform HIV-uninfected women who are considering starting or continuing use of PrEP during pregnancy or breastfeeding that pregnancy is not a contraindication for PrEP and provide information about known benefits and risks of PrEP to the woman and fetus to enable informed decision making
- Inform women about the availability of nPEP to reduce the risk of HIV acquisition in the event of inadvertent sexual or parenteral HIV exposure within the past 72 hours (e.g., unprotected intercourse, condom breakage, shared drug-injection equipment)

Offer HIV and STD testing to women

- Inform women that HIV testing is recommended for all pregnant women and provide information about the test
- Conduct HIV testing using consent procedures consistent with state laws (e.g., inform women in states that allow opt-out testing that testing is done as part of the routine panel of prenatal tests unless they decline; obtain prior written consent if required by state law)[a]
- Include HIV testing early in pregnancy as part of routine prenatal screening panel; use opt-out approaches when allowed in the jurisdiction
- Inform women about the symptoms of acute retroviral syndrome and offer testing for acute HIV infection if these symptoms occur or if a woman suspects recent HIV exposure
- Conduct repeat testing during the third trimester (using a test that detects recent HIV infection[b]) for women whose earlier HIV test was negative. When a woman reports a possible, recent HIV exposure that might result in a new infection that would not be detected by antibody test alone (i.e., during the window period) or has signs or symptoms of acute HIV infection, use both an HIV antibody test and a plasma RNA test to enable diagnosis of acute HIV infection
- Screen and treat for STDs that may increase risk of HIV acquisition during pregnancy or thereafter

Box 11-D. Important Messages Regarding HIV Prevention and Pregnancy

For pregnant women with HIV who have HIV uninfected partners

- Approximately 25% of HIV-infected women who are not treated with ART during pregnancy will transmit the virus to their infant during pregnancy, labor, or delivery, in nonbreastfeeding populations
- HIV can be transmitted through breast milk of a woman with HIV
- Use of ART by pregnant women with HIV is highly effective in protecting the infant from HIV infection and may improve the mother's health and prevent HIV transmission to their uninfected partners
- Other interventions that may further reduce the risk of transmission from HIV-infected women to their infant, including
  - nonemergent cesarean delivery at 38 weeks gestation that is initiated within 4 hours after the start of labor for women who do not have suppressed viral load (<1000 copies/mL) at 34 to 36 weeks gestation
  - use of infant formula instead of breast milk from a woman with HIV to prevent HIV transmission through breast milk
  - not feeding infants food that has been prechewed by a person with HIV

For pregnant women who are HIV-uninfected or have unknown HIV status and have partners with HIV

- HIV testing is recommended for all pregnant women; repeated testing during pregnancy is indicated for sexually active women who are using PrEP or have HIV-infected partners who are not virally suppressed and do not consistently use condoms
- Women can decline HIV testing
- A person can be HIV infected and not know it
- HIV can be sexually transmitted throughout pregnancy, especially if condoms are not used correctly and consistently
- The physiologic state of pregnancy may increase the risk of sexual HIV transmission and acquisition
- Women who are exposed to HIV during pregnancy may benefit from
  - voluntary, confidential partner services provided by the health department
  - PrEP use
  - nPEP, if they have experienced a possible inadvertent HIV exposure within the past 72 hours
  - risk-reduction interventions

Section 12. Services for Other Medical Conditions and Social Factors that Influence HIV Transmission

Background

A variety of special medical and social services can support persons with HIV who experience significant personal, social, and structural challenges, such as poverty, mental illness, substance use, and unstable housing. These specialty services can improve health outcomes and quality of life, reduce the risk of HIV transmission, and enable the use of HIV prevention and care services (See Appendix B). Specialty services can hasten initiation of antiretroviral treatment (ART); support retention in HIV care and adherence to ART; and encourage persons with HIV to engage in risk-reduction interventions, partner services, sexually transmitted disease services, and reproductive health services that prevent HIV transmission.

Some clinical providers have the resources and expertise to offer these specialty services onsite. Other providers can link or refer persons with HIV to other specialty providers or agencies and follow up to check if the services were accessed.

Section 3 of this *Summary* describes factors that influence the delivery of HIV prevention and care services for special populations with HIV. Section 13 describes methods to improve or evaluate specialty services for persons with HIV.

Recommendations

Box 12. Recommendations—Services for Other Medical Conditions and Social Factors that Influence HIV Transmission

- Establish an infrastructure for providing specialty services onsite or through referrals to other agencies or providers (see Box 12-A)
- After helping persons with HIV to start or resume HIV medical care, offer or provide referrals to specialty services according to the person's unique needs (see Box 12-B)

Box 12-A. Examples of Strategies to Improve Infrastructure for Specialty Services for Persons with HIV

- Assess current infrastructure for providing specialty services directly or through referrals and identify gaps in service capacity
- Make available online directories of providers, agencies, telemedicine agencies, and professional advice hotlines that offer specialty services
- Develop and participate in provider networks that offer specialty services for persons with HIV, especially persons who are uninsured or underinsured or who live in underserved areas
- Develop written protocols, memoranda of understanding, contracts, or other agreements that define financial arrangements, staff and agency responsibilities for making referrals, and the tracking of referral completion and satisfaction
- Establish policies and procedures to safeguard the confidentiality of personal and health information exchanged during the referral process
- Train staff and any specialty service providers who are posted at clinical or nonclinical sites in the following topics:
  - Identifying specialty service providers who serve the community
  - Tailoring of services to personal characteristics (e.g., language, location, and insurance status)
  - Inter- and intra-agency referral procedures
  - Maintaining confidentiality of collected personal information
  - Advocating for persons who need specialty services
- Engage case managers, navigation assistants, or other staff to provide service coordination for persons with HIV who have complex needs
- Routinely provide print or audiovisual materials that describe specialty services provided onsite or through referrals
- Monitor the quality of referrals for specialty services to inform quality improvement strategies (e.g., proportion of referred persons who obtained specialty services, patient satisfaction, and barriers and facilitators to obtaining specialty services)

Box 12-B. Examples of Strategies to Provide Specialty Services for Persons with HIV

- Avoid stigmatizing, discriminating, or behaving judgmentally in relation to HIV infection, sexual orientation, gender identity, sex and drug-use behaviors, and medical or social characteristics
- Routinely assess persons with HIV—using tools and procedures suited to their language, gender, sexual orientation, and age—for special medical and social needs
- Identify highest priority specialty services, particularly those that influence HIV transmission risk or pose barriers to HIV medical care, ART use, and sustained high adherence to ART
- Identify the appropriate specialty provider (available onsite or through referral) and help the person with HIV contact the provider
- Provide persons with HIV the following information for each specialty service:
  - Informed consent procedures
  - Types of information shared with external agencies or providers
  - Measures to protect confidentiality
  - Cost, reimbursement, and other financial issues
  - Practical information, such as directions, transportation options, hours, and languages spoken
- Document specialty services offered, accepted, and received by persons with HIV

Section 13. Quality Improvement and Program Monitoring and Evaluation

Background

Quality improvement (QI) and program monitoring and evaluation (M&E) methods can be used to determine if interventions are implemented as intended, yield the expected outcomes, or warrant changes in delivery methods. QI usually involves small, incremental changes in practice and rapid feedback of results. It is often an iterative process of repeated cycles of change and feedback that can be integrated into practices and programs as a continuous, routine performance improvement strategy and can be led by internal staff (see Table 13-1).

Program monitoring involves the ongoing, repeated collection and review of information about the activities and operation of a program. Program evaluation involves periodic collection of information about program activities, characteristics, and outcomes in order to assess causal attribution, improve effectiveness, or identify lessons learned. M&E efforts usually address questions of program design, implementation, effectiveness, acceptability, coverage, and cost. Recent federal M&E efforts have focused on monitoring linkage to (and retention in) HIV medical care, antiretroviral treatment (ART) use, and viral suppression, and the collected data and performance measurements are now used by several federal agencies (see Table 13-2).

Clinical providers can use QI and M&E methods to meet new or higher standards of care, more efficient clinical operations, better clinical outcomes, and greater patient satisfaction. For example, they may attempt to increase the proportions of patients who attend all of their scheduled HIV medical care visits, have suppressed viral load levels, or are satisfied with referrals to mental health services.

QI and M&E methods can be applied to interventions described in Sections 3–12 of this *Summary*.

Recommendations

Box 13. Recommendations—Quality Improvement and Program Monitoring and Evaluation

- Engage in quality improvement (QI) activities that focus on improving the delivery and quality of HIV care and prevention services to persons with HIV (see Box 13-A)

Box 13-A. Examples of Strategies to Support Quality Improvement (QI) in HIV Care and Prevention Services and Programs

- Create QI infrastructure, including trained, dedicated staff who represent a variety of positions and perspectives
- Examine clinical and administrative data and solicit stakeholder input about the strengths, weaknesses, opportunities, and challenges of the service or program and priorities for improvement
- Develop a program improvement plan that describes the service or program purpose, defines QI goals and strategies, establishes accountability for the plan, and describes resources for QI activities
- Develop a "conceptual map" that depicts the relation between program inputs, outputs, and outcomes to pinpoint where to target improvement activities
- Design QI intervention cycles after reviewing past experience from literature, colleagues, technical assistance providers, and stakeholders
- Establish benchmarks, baseline measures, and performance goals based on national or local standards, clinical guidance, or accreditation standards
- Develop data collection methods that adhere to confidentiality and data security regulations
- Identify, test, refine, and use new or existing indicators to track service delivery, quality, satisfaction, and outcomes (see Table 13-2)
- Implement interventions by testing feasibility and evaluating results (e.g., "Plan-Do-Study-Act" approach) (see Table 13-1)
- Develop and execute a plan to interpret and communicate data after consulting with stakeholders
- Scale up successful, feasible interventions and identify lessons from interventions that did or did not result in desired change
- Repeat QI cycles to determine if interventions achieve desired outcomes

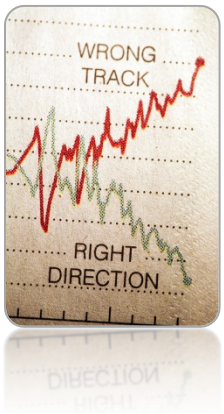


Table 13-1. Example of Quality Improvement (QI) Activities to Reduce the Infectiousness of Persons with HIV in an HIV Medical Clinic Using the Plan-Do-Study-Act Model

Step in QI Model	Activities to increase the proportion of patients who are virologically suppressed
Plan	Planned the change and collected baseline data. Conducted medical record review that revealed ■ only 10% of patients were virologically suppressed ■ only 40% had a plan to support viral suppression in medical record ■ only 20% had evidence that the plan was executed Set goals to ■ increase the proportion of patients with a documented plan for viral suppression from 40% to 90% ■ increase the proportion of patients with evidence of execution of the plan from 20% to 75%
Do	Initiated system changes: ■ Informed clinical providers and support staff about quality improvement plan ■ Developed decision-support tools, including algorithm for antiretroviral treatment (ART) decision points, prompts in clinic database and visit forms, and patient reminder systems ■ Introduced several small tests of change over 6 months; after each change, measured charting and execution of plans
Study	After 6 months, 100% of patients had a plan in their medical record and 71% had the plan executed.
Act	■ Added fields for plan and execution of the plan to medical record system ■ Added automatic prompts for clinician action when viral load changed

Source: Adapted from the second federal guidance in Appendix A, Section 13.

Table 13-2. Selected Common Core Indicators for Monitoring HIV Prevention, Treatment, and Care Services for Programs Supported by the U.S. Department of Health and Human Services (HHS)

Measure	Numerator	Denominator
Linkage to HIV medical care	Number of persons who attended a routine HIV medical care visit within 3 months of HIV diagnosis	Number of persons with an HIV diagnosis in the 12-month measurement period
Retention in HIV medical care	Number of persons with an HIV diagnosis who had at least one HIV medical care visit in each 6-month period of the 24-month measurement period, with a minimum of 60 days between the first medical visit in the prior 6-month period and the last medical visit in the subsequent 6-month period	Number of persons with an HIV diagnosis with at least one HIV medical care visit in the first 6 months of the 24-month measurement period
Antiretroviral treatment (ART) among persons in HIV medical care	Number of persons with an HIV diagnosis who are prescribed ART in the 12-month measurement period	Number of persons with an HIV diagnosis who had at least one HIV medical care visit in the 12-month measurement period
Viral load suppression among persons in HIV medical care	Number of persons with an HIV diagnosis with a viral load <200 copies/mL at last test in the 12-month measurement period	Number of persons with an HIV diagnosis who had at least one HIV medical care visit in the 12-month measurement period
Housing status	Number of persons with an HIV diagnosis who were homeless or unstably housed in the 12-month measurement period	Number of persons with an HIV diagnosis receiving HIV services in the 12-month measurement period

Source: Adapted from Forsyth A, et al. *Secretary Sebelius approves indicators for monitoring HHS-funded HIV services*. http://blog.aids.gov/2012/08/secretary-sebelius-approves-indicators-for-monitoring-hhs-funded-hiv-services.html. August 3, 2012.

Note: Many programs use additional, program-specific indicators.

Appendix A. Federal Guidance that Served as the Basis for These Recommendations

Section 3. The Context of Prevention with Persons with HIV

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‡‡‡ For the current version of Sexually Transmitted Diseases Treatment Guidelines and any updated resources and support materials, please visit http://www.cdc.gov/std/treatment/.

Appendix B. Factors that Influence Health, HIV Transmission, and Use of Services

Factors that can influence health, quality of life, risk of HIV transmission, and use of HIV services among persons with HIV; and specialty services that address these factors

Factor(s)	Possible effect on health, quality of life, HIV transmission, and use of services	Examples of specialty services
Real or perceived alienation, discrimination, or stigma due to HIV infection, sexual orientation, sexual practices, drug use, race, ethnicity, age, gender, or other factors	Factors may ■ impair access to medical care, housing, or employment that can promote use of HIV prevention and care services ■ cause physical and mental health problems, which can increase risk behaviors, substance use, or immunosuppression ■ limit social support that can foster retention in HIV medical care, adherence to ART, transportation, housing, and use of other medical and social services that influence HIV transmission ■ cause gay, lesbian, or transgender persons to defer HIV testing, prevention, or care services	■ Legal services ■ Psychosocial services ■ Mental health services ■ Substance abuse treatment and counseling ■ Supportive housing services
Poverty, unemployment, food insecurity, and unstable housing	Factors may ■ lead to behaviors that can increase the risk of HIV transmission (e.g., exchanging sex for housing and money, sharing drug-injection equipment) ■ hinder access to health insurance, medical care, ART, support for adherence to ART, risk-reduction interventions (e.g., condoms and sterile drug-injection equipment), and other medical and social services Malnutrition and inconsistent access to food may also ■ weaken immune function and impair adherence to and absorption of ART, which may influence viral load and infectiousness Unstable housing or reliance on temporary shelter may also ■ hinder the security and storage of ART and prevention devices (e.g., sterile drug-injection equipment and condoms) ■ complicate adherence to ART	■ Public income assistance ■ Job training and employment support ■ Nutrition services, counseling, food stamps, food banks, and soup kitchens ■ Housing services: rental assistance, community shelters, supportive housing ■ Case management and navigation services to assist with enrollment in services

Factors that can influence health, quality of life, risk of HIV transmission, and use of HIV services among persons with HIV; and specialty services that address these factors *(cont)*

Factor(s)	Possible effect on health, quality of life, HIV transmission, and use of services	Examples of specialty services
Inadequate health insurance or access to affordable health care services	Factors may ■ impair access to HIV medical care, ART, support for adherence to ART, risk-reduction interventions, condoms, sterile drug-injection equipment, and other medical and social services	■ Private health insurance and medical assistance programs ■ Case management and navigation services to assist with enrollment and managing copayments and coinsurance
Limited education and health literacy	Factors may ■ impair understanding of the biologic or social basis for HIV transmission, prevention, and care ■ impair understanding of educational materials about HIV prevention, care, and medications ■ impair navigation of complex health systems and social service providers	■ Health literacy and peer education services ■ Job training and employment support services ■ Case management and navigation services to assist with understanding information about medical and social services
Recreational substance and alcohol use and dependence, including drug injection	Substance use may ■ impair judgment, cause disinhibition, and increase sexual and drug-injection risk behaviors ■ contribute to unstable and unstructured lifestyles, which can complicate regular HIV care and adherence to ART ■ lead to social isolation, which can hinder recruiting of family and friends to support safe behaviors and adherence to ART ■ cause mental illness and immunosuppression Sharing nonsterile drug-injection equipment may ■ transmit HIV and other bloodborne infections	■ Substance abuse treatment and counseling, including opioid replacement programs ■ Legal syringe services programs ■ Legal physician and pharmacist syringe prescriptions or distribution ■ Risk-reduction interventions for substance abusers and persons who inject drugs

Factor(s)	Possible effect on health, quality of life, HIV transmission, and use of services	Examples of specialty services
Fear or risk of physical or verbal abuse, including domestic and intimate partner violence	Factors may ■ impair ability to negotiate safer sexual and drug-use behaviors ■ impair ability to retain stable housing and financial resources that foster retention in HIV care and adherence to ART	■ Domestic violence/abuse counseling ■ Mental health services that address abuse ■ Legal services, including child protection ■ Housing services: rental assistance, community shelters, supportive housing ■ Job training and employment support
Commercial sex work, sexual coercion, and sexual assault	Factors may ■ result in inability to negotiate consistent condom use ■ result in trauma that may result in bloodborne HIV exposure	■ Sexual assault services ■ Mental health services ■ Behavioral risk-reduction interventions ■ Psychosocial support services (e.g., group or peer support) ■ Condom provision ■ Sex worker unions or advocacy organizations ■ Legal services if charged with sex-related violence or offense
Mental illness and psychological conditions, including depression, emotional distress, anxiety, and social isolation	Factors may ■ coexist with substance use ■ impede willingness or ability to seek prevention services or use prevention strategies ■ impair judgment and increase sexual and drug-injection risk behaviors that can expose others to HIV ■ lead to unstable and unstructured lifestyles, which can hinder regular HIV care and adherence to ART ■ lead to social isolation, which can hinder recruitment of family and friends to support safe behaviors and adherence to ART	■ Mental health services ■ Substance abuse treatment and counseling ■ Psychosocial support services (e.g., group or peer support) ■ Specialized support for ART adherence (e.g., directly observed therapy) ■ Risk-reduction interventions for substance users

Factor(s)	Possible effect on health, quality of life, HIV transmission, and use of services	Examples of specialty services
Legal issues, including incarceration and laws criminalizing sex work, drug possession, and intentional HIV exposure	Criminalization laws may ■ deter possession or use of condoms and sterile syringes ■ deter voluntary HIV disclosure and use of HIV care and other services that promote ART use and safe behaviors Incarceration may ■ result in exposure to sexual violence ■ lead to sharing of drug-injection equipment ■ interrupt HIV care, ART use, substance use treatment, and other HIV-related services during incarceration or after release	■ Legal services ■ Sex worker unions or advocacy organizations ■ Mental health services ■ Substance abuse treatment and counseling in correctional facilities and the community ■ Case management and navigation services to assist with service linkage and coordination before and after detention
Immigration status	Factor may ■ deter HIV disclosure or prompt fear of arrest, detainment, or deportation that may deter or delay HIV services ■ prohibit HIV care, ART use, and prevention services if person cannot provide documentation to confirm eligibility for services	■ Clinics and community-based organizations that serve immigrants ■ Translation services ■ Legal services
Cultural and linguistic background, gender identification, and sexual orientation	Factors may ■ cause stigma or discrimination ■ impair ability to find service providers who have common language skills, understand cultural norms about HIV prevention and care, or have experience in health care for gay, lesbian, and transgender persons ■ hinder ability to access and understand HIV prevention information or to communicate with some service providers ■ reduce willingness to consider unfamiliar HIV treatment or prevention strategies, including ART	■ Clinics and community-based organizations that serve relevant populations ■ Translation services ■ Psychosocial counseling and support services (e.g., group counseling, peer support) ■ Legal services that address discrimination
Lack of transportation or childcare	Factors may ■ hinder access to regular HIV medical care that enables use of ART and reinforces safer behaviors ■ caused missed appointments for HIV prevention and care services	■ Transportation assistance ■ Public transit vouchers ■ Onsite childcare ■ Vouchers for childcare

Factor(s)	Possible effect on health, quality of life, HIV transmission, and use of services	Examples of specialty services
Residence in rural or urban areas with limited medical and social services	Factors may ■ require traveling long distances to skilled service providers ■ cause reliance on local providers who may not have experience in HIV prevention and care ■ increase risk for confidentiality violations and may hinder HIV disclosure to supportive providers, partners, family, and friends	■ Transportation services ■ Telemedicine services ■ Case management and navigation assistance to assist with service linkage and coordination
Adolescence and legal minor status	Factors may ■ hinder access to HIV services because of lack of awareness about ability to access services without parental consent and concern about confidentiality of medical records ■ preclude having an established health care provider, having experience navigating HIV services, or having documents to confirm eligibility for HIV services (e.g., family income records needed for medical assistance programs) ■ hinder access to age-appropriate specialty services (youth-friendly services) ■ hinder HIV disclosure because of fear of parental abuse, loss of financial support or housing, or stigma about sexual or drug activity	■ Youth-friendly services ■ Health literacy and peer education services ■ Psychosocial counseling and support services (e.g., group counseling, peer support) ■ Housing services for homeless youth ■ Case management and navigation assistance to assist with care coordination
Advanced age	Factor may lead to ■ cognitive decline, comorbid health conditions, and social isolation that may impair adherence to ART ■ loss of longstanding sex partners or sexual function that may lead to new or casual partners ■ use of sexual performance devices that may cause genital trauma ■ use of erectile dysfunction medication that may increase sexual behavior that may increase the risk of HIV transmission	■ Mental health services ■ Health literacy and peer education services ■ Psychosocial counseling and support services (e.g., group counseling, peer support) ■ Case management and navigation assistance to assist with care coordination