

HIV and Substance Use



OBJECTIVES

At the end of this unit, participants will be able to:

- Have awareness of epidemiology data about people with HIV who are challenged with substance use
- Have an understanding of the intersection of HIV and substance use
- Understand strategies to support people with HIV and management of substance use



INSTRUCTIONS

1. Welcome participants.
2. Review the unit objectives.
3. Ask the questions presented on slides 4–9 to determine how much participants know about HIV and substance use. Review the correct answers.
4. Present slides 10–21 covering definitions, US data of people with HIV and substance use, stigma, effects of drugs and alcohol, and medication assisted treatment.
5. Present slides 22–27 covering strategies for working with clients. Emphasize the importance of the CHW/client relationship in addressing health disparities and opportunities to impact substance use disorder on a system level.
6. Poll participants again on the questions presented at the beginning of the session. Present correct answers.
7. Ask participants to briefly discuss their experiences with linking clients to care.
8. Wrap up. To close, encourage CHWs to continue their education in substance use disorder and to develop partnerships with treatment facilities in the community that support coordination of services for clients.



Related C3 Roles

Providing coaching and social support, implementing individual and community assessments, providing culturally appropriate health education and information, building individual and community capacity

Related C3 Skills

Capacity building skills, advocacy skills, knowledge base, individual and community assessment skills



Method(s) of Instruction

Large group discussion, polling questions



Estimated time

60 minutes



Key Concepts

Substance use, substance abuse, opioid addiction, substance use and HIV



Materials

- Computer with internet access and projector
- Power Point slides

Handout

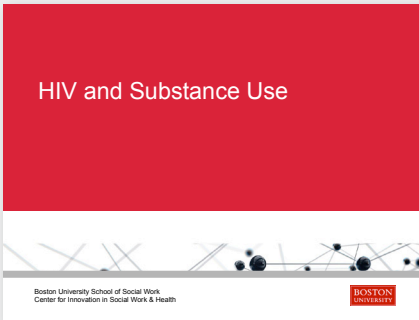
- Fact Sheet on Recreational Drugs and HIV: Drug Interactions



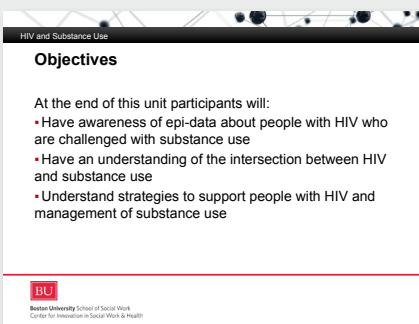
Resources

Toolkit for Screen, Brief Intervention, Referral to Treatment (SBIRT): <https://www.integration.samhsa.gov/clinical-practice/sbirt>

HIV and Substance Use

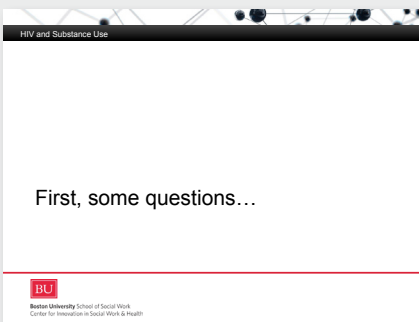


SLIDE 1



SLIDE 2

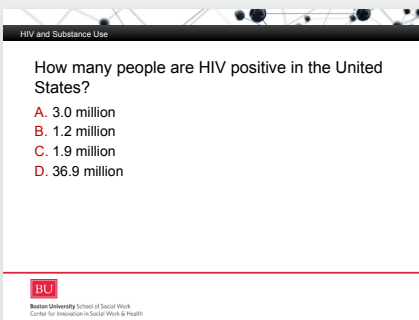
Review the objectives.



SLIDE 3

Guide participants through the series of questions on the following slides.

Say, "First let's take a poll to determine what you currently know about HIV and substance use."



SLIDE 4

Read the question and potential answers. Ask for a show of hands.


Provide the correct answer: **B. 1.2 million**

HIV and Substance Use

HIV and Substance Use

What percentage of people with HIV are struggling with substance use disorders (SUD) and in need of treatment?

- A. 24%
- B. 7%
- C. 44%
- D. 52%

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SLIDE 5


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **A. 24%**

HIV and Substance Use

Which of the following are challenges people with HIV and diagnosed with a SUD experience?

- A. Poor medication adherence
- B. Missed appointments
- C. Resistance to HIV medications
- D. All of the above

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SLIDE 6


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **D. All of the above**

HIV and Substance Use

Are opiates and opioids are the same?

- A. Yes
- B. No

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SLIDE 7


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **B. No**

HIV and Substance Use

Do Assisted Drug Assistance Programs (ADAP) pay for Medication Assistance Treatment for Opioid Addiction

- A. Yes
- B. No
- C. Sometimes

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SLIDE 8

Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **C. Sometimes**

HIV and Substance Use

HIV and Substance Use

Which of the following is a strategy to help clients with HIV and SUDs?

- A. Reduce stigma
- B. Use of language
- C. Harm reduction plan
- D. Effective interventions to promote change
- E. All of the above

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SLIDE 9

Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **E. All of the above**

Thanks for answering these questions. As we go through the slides the answers will be explained.

HIV and Substance Use

Definitions

- **Substance Use:** Taking or consuming low doses of a substance, like alcohol or prescription drugs, so that negative effects are rare or minor.
- **Substance misuse/abuse:** The excessive use of a substance, such as drugs or alcohol, which results in clinical and functional impairments.
- **Substance Use Disorder (SUD):** A diagnostic term referring to recurrent use of alcohol or other drugs (AOD) that causes "clinically and functionally significant" impairment (e.g., work, school, home, health).

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SLIDE 10

Lets begin by first defining terms that may frequently be used interchangeably. Review the definitions.

HIV and Substance Use

Epi-Data
1.2 million people with HIV in the U.S.

AIDSvii
Rates of Persons Living with Diagnosed HIV, 2014

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SLIDE 11

One of our polling questions asked about the number of people with HIV in the US. There are 1.2 million as documented by the Centers for Disease Control. The darker colors indicate areas with the highest HIV incidence, which are in the East, South, and Western states of the United States.

HIV and Substance Use

**DRUG and ALCOHOL USE—
A SIGNIFICANT RISK FACTOR FOR HIV**

1.2 MILLION PEOPLE
IN THE U.S. ARE LIVING WITH HIV.

FROM 2005 TO 2009, 1 IN 3 PERSONS
WITH HIV ALSO USED DRUGS OR ALCOHOL
(OR BOTH) ON A REGULAR BASIS.

HIV INCIDENCE BY
TRANSMISSION, 2010*

24%
OF ALL PERSONS WITH HIV ARE ON
TREATMENT

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SLIDE 12

While this data is from 2009, the National Institutes of Health state that 1 in 3 people with HIV are using drugs or alcohol.

24% of people with this dual diagnosis could benefit from substance use treatment and more current data suggests that 16% of HIV transmission was from injection drug use.

HIV and Substance Use

Substances

- Alcohol
- Smoking
- Illicit Drugs
- Opioids and Opiates

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SLIDE 13

For this purpose of this unit, we will focus on the following substances.

HIV and Substance Use

Alcohol and HIV

- Weakens the immune system
- Excessive drinking can impair judgement and lead to increased sexual risk behavior
- Diminishes how effective antiretroviral therapy can be
- Opportunity for viral replication to occur
- Poor adherence to medications
- Increased virus
- Missed medical appointments
- Liver damage
- Hepatitis C
- Determines whether to treat HIV or treat liver



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SLIDE 14

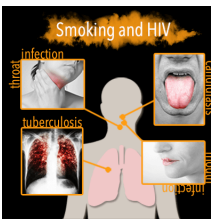
The combination of alcohol and HIV:

- Weakens the immune system.
- Excessive drinking can impair judgement and lead to increased sexual risk behavior.
- Diminishes how effective antiretroviral therapy can be in managing viral suppression.
- When our immune system is weakened, there is opportunity for viral replication to occur.
- Research indicates that excessing drinking can lead to poor adherence to medications, leading to increased virus and liver damage.
- We know that alcohol affects judgement and potential for missed medical appointments.
- A diagnosis of Hepatitis C is dependent on lab results of how functional a client's kidneys are. With alcohol, it complicates the picture—need to determine whether to treat HIV or treat the liver.

HIV and Substance Use

Smoking and HIV

- Rate of smoking is 2 to 3 times greater in a person with HIV
- Heart disease
- Osteoporosis
- Stroke
- Cancer
- Smoking cessation can save the life of a person with HIV



Source: americanaddictionscenter.org

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SLIDE 15

Research conducted by the American Addictions Center indicates that the rate of smoking is 2 to 3 times greater in a person with HIV. This combination can lead to heart disease, osteoporosis, stroke, and cancer, as well as throat, mouth and lung infections, pneumonia, and COPD. One major change that can improve a person's health is if they stop smoking.


HIV and Substance Use

Illicit Drugs and HIV

- Methamphetamines
- Cocaine
- Marijuana (in some states)

Negative impact

- Adherence to medications and medical appointments
- Poor viral outcomes
- Lack of social supports
- Risky behavioral choices
- Potential side effects to medications
 - Illicit drugs stay longer in the blood and are more toxic

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SLIDE 16

Next, we will look at illicit or illegal Drugs and HIV.

Methamphetamines or meth are a stimulant drug that is a white powder or pill.

Crystal meth is also known as chalk, crank, crystal, ice, meth, and speed. The drug looks like glass fragments or shiny, bluish-white rocks. It is chemically similar to amphetamine [a drug used to treat attention-deficit hyperactivity disorder (ADHD) and narcolepsy, a sleep disorder.


Cocaine, also known as coke, is a strong stimulant, mostly used as a recreational drug. It is commonly snorted, inhaled as smoke, or dissolved and injected into a vein. Mental effects may include loss of contact with reality, an intense feeling of happiness, or agitation. Crack cocaine, also known simply as crack, is a free base form of cocaine that can be smoked. Crack offers a short but intense high to smokers.

Cannabis, also known as marijuana, among other names, is a psychoactive drug from the cannabis plant used for medical or recreational purposes. From this map you can see there are many states that have legalized marijuana for medicinal purposes and recreational use.

HIV and Substance Use

What are Opioids?

- Opiate: derivative of opium poppy
 - Morphine
 - Codeine
- Opioid: any compound that binds to opioid receptors
 - Semisynthetic (i.e. hydrocodone, oxycodone, heroin, buprenorphine)
 - Synthetic (i.e. fentanyl (30-50x as potent as heroin), methadone)
 - Oral, transdermal and intravenous formulations
- Narcotic: legal designation

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SLIDE 17

Opiates are direct derivatives of the opium poppy plant. Examples of opiates are opium itself, morphine, and codeine.


Opioids are any compound that binds to opioid receptors in the brain and body. There are semi-synthetic compounds-hydrocodone, oxycodone, heroin, and buprenorphine. We know that many times people are prescribed these pain medications which become addictive. There also are synthetic opioids such as fentanyl and methadone which are prescribed for pain management and are addictive. Many deaths are caused by fentanyl overdose as well as fentanyl being mixed with other drugs that unfortunately can lead to death. The term "narcotic" is more of a legal designation for drugs that is used less and less in drug treatment settings because of its negative connotation.

Reference: Galanter, M., Kleber, H.D., & Brady, K.T. (2015). *Textbook of Substance Abuse Treatment, 5th Ed.* Arlington, VA: American Psychiatric Publishing.

HIV and Substance Use

Effects of Opioids

- Opioids are highly addictive.
- Brain cells can become dependent to the extent that users need it in order to function in their daily routine (without necessarily getting "high").
- Opioids initially cause a rush of pleasure.
- Opioids reduce cognitive processing, slow down reaction time, and impair memory, all of which affects behavior and impairs decision-making abilities.

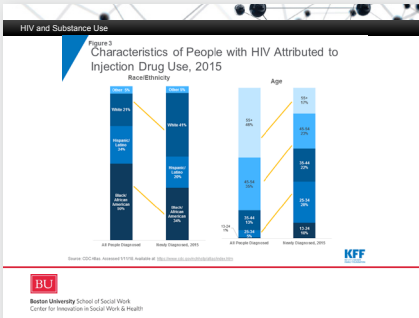
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SLIDE 18

Make the point that opioids are highly addictive and people can become physiologically dependent on them very quickly. It is important to understand that individuals who are physiologically dependent on opioids can need drugs just to be able to function normally, without even necessarily getting high.

There are Medically Assisted Treatment programs that we will discuss next that are given to people who are dependent on opioids, with the support of a treatment team.

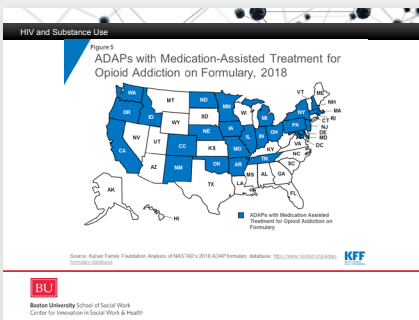
Reference: Galanter, M., Kleber, H.D., & Brady, K.T. (2015). *Textbook of Substance Abuse Treatment, 5th Ed.* Arlington, VA: American Psychiatric Publishing.



SLIDE 19

As the graph shows, in 2015, fewer of the new injection drug use (IDU) related HIV diagnoses were among African-Americans and more were among Whites. This likely reflects the movement of the opioid epidemic into largely white, poor, rural areas. Additionally, new diagnoses in 2015 tended to be much younger than the overall population of IDU-related HIV cases (60% were under the age of 45 vs. 80% 45 and older in the broader population). The increase was especially large among ages 13–24 and ages 25–34.

Reference: Kaiser Family Foundation (2018). *Characteristics of people with HIV attributed to injection drug use, 2015*. Retrieved from: <https://www.kff.org/hiv/aids/issue-brief/hiv-and-the-opioid-epidemic-5-key-points/>.



SLIDE 20

This is a map showing AIDS Drug Assistance Programs (ADAP) in states that include medication-assisted treatment (MAT) for opioid addiction in their formulary. HIV care recipients on ADAP who have an opioid addiction have access to MAT if they live in one of the highlighted states.

Reference: Kaiser Family Foundation (2018). *Analysis of NASTAD's 2018 ADAP formulary database*. Retrieved from: <https://www.kff.org/hiv/aids/issue-brief/hiv-and-the-opioid-epidemic-5-key-points/>.

Medication Assisted Treatment (MAT) for Opioid Treatment

- Methadone
- Buprenorphine Treatment (Buprenorphine [Subutex], Naloxone, Suboxone)
 - Transdermal patch
 - Sublingual tablet or film
 - Extended release monthly injection (Naltrexone/Vivitrol)
- Naloxone (Narcan)

Source: SAMSHA

SLIDE 21

A common misconception associated with MAT is that it substitutes one drug for another. Instead, MAT helps withdrawal symptoms and psychological cravings that cause chemical imbalances in the body. MAT programs provide a safe and controlled level of medication to overcome the use of an abused opioid.

- Methadone, buprenorphine, and naltrexone are used to treat opioid dependence and addiction to short-acting opioids such as heroin, morphine, and codeine, as well as semi-synthetic opioids like oxycodone and hydrocodone. People may safely take medications used in MAT for months, years, several years, or even a lifetime. Plans to stop a medication must always be discussed with a doctor.
- Like methadone, buprenorphine suppresses and reduces cravings for the abused drug. It can come in a pill form or sublingual tablet that is placed under the tongue (Suboxone) or as an injection (Sublocade).
- Naltrexone works differently than methadone and buprenorphine in the treatment of opioid dependency. If a person using naltrexone relapses and uses the abused drug, naltrexone blocks the euphoric and sedative effects of the abused drug and prevents feelings of euphoria.
- Opioid overdose prevention medication-FDA approved naloxone, or Narcan, an injectable drug used to prevent an opioid overdose. There is also a mist form which can be easier to administer. You can be trained to carry Narcan an use as needed.

HIV and Substance Use

Strategies for Consideration

- Reduce stigma
- Use of language
- Harm reduction plan
- Effective interventions to promote change
 - SBIRT (Screen, Brief Intervention, Referral to Treatment)
 - Cognitive behavioral therapy (CBT)
 - 12 Step Programs
- For people who may be suffering with addiction, find out about medication assisted therapy programs and encourage people to talk with providers.

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SLIDE 22

Next we will review strategies to consider as a CHW.

HIV and Substance Use


The Real Stigma of Substance Use Disorders

In a study by the Recovery Research Institute, participants were asked how they felt about two people "actively using drugs and alcohol."

One person was referred to as a "substance abuser"



The other person as "having a substance use disorder"



No further information was given about these hypothetical individuals.

THE STUDY DISCOVERED THAT PARTICIPANTS FELT THE "SUBSTANCE ABUSER" WAS:

- less likely to benefit from treatment
- more likely to benefit from punishment
- more likely to be socially threatening
- more likely to be blamed for their substance-related difficulties and less likely that their problem was the result of an innate dysfunction over which they had no control
- they were more able to control their substance use without help

Facing Addiction with the National Council on Alcoholism and Drug Dependence

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SLIDE 23

We know that stigma has many negative impacts, from discouraging people from getting tested for HIV and engaging in healthcare to making people feel judged. While it makes sense that providers should use person-centered language in talking with individuals, research has actually demonstrated the negative impact of not using person-centered language.

In a study, one individual was referred to as a "substance abuser" while the other was referred to as "having a substance use disorder." In gathering feedback about the two individuals, participants demonstrated biases based on these descriptors alone. The "substance abuser" was viewed as being less likely to benefit from treatment, more likely to benefit from punishment, more likely to be threatening, more likely to be blamed for substance-related difficulties, and more able to control their substance use without help. If each of these biases were held (consciously or unconsciously by a provider), they could impact treatment and engagement in significant ways.

Source: Facing Addiction with the National Council on Alcoholism and Drug Dependence, 2018.

HIV and Substance Use

Correcting Language to be Less Stigmatizing

Shifting from stigmatized to corrected, less judgmental terms is beneficial for engagement.

STIGMATIZING	CORRECTED
Abuser, addict, alcoholic	A person with a substance use disorder
Clean	A person in recovery
Substance abuse	Substance use disorder
Relapse	A recurrence of symptoms
Dirty	A person not yet in recovery, positive urine screen

Source: Centers for Disease Control and Prevention. (2014). *Using Addictive Language: Rethinking How We Talk About Our Clients*. <https://www.cdc.gov/od/oc/media/press/rel/140414a.htm>

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SLIDE 24


Using people first language is less stigmatizing. Let's look at some examples of how we can make an intentional shift to use less judgmental language when talking with and about our clients.

HIV and Substance Use

Examples of a Harm Reduction Plan

People who use drugs can take small steps to reduce harm to themselves and others:

- Knowing the source of their drugs may increase their knowledge of the drug's strength and toxicity
- Reduce the amount of drugs consumed
- Avoid using drugs alone
- Needle exchange programs
- Get support for physical and mental health concerns, housing, or necessities

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SLIDE 25

Let's look an example of a harm reduction strategies we could talk about with our clients.

HIV and Substance Use

Effective Interventions to Promote Change

- SBIRT (Screen, Brief Intervention, Referral to Treatment)
 - SBIRT focuses on the large numbers of people who may use alcohol or drugs in unhealthy ways but who do not have a substance use disorder (i.e., abuse, dependence). Research shows that they can and do successfully change their use with feedback and early intervention. SBIRT also gives positive feedback to those who make healthy decisions.
 - 10 questions
 - https://www.integration.samhsa.gov/clinical_practice/sbirt
- Cognitive Behavioral Therapy (CBT)
 - Talk Therapy
- 12 Step Group

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SLIDE 26

There are many effective interventions that have been proven to promote change in clients who have a SUD.


SBIRT is one such intervention. It stands for Screen, Brief Intervention, Referral, and Treatment. Based on the results of the assessment, a client would receive a brief intervention and be referred to treatment. If you click on the link, it would take you to a toolkit and places to receive training.

Cognitive behavioral therapy is talk therapy, provided by a therapist, substance abuse counselor, or clinical social worker.

12 Step groups or programs include Alcoholics Anonymous (AA) and Narcotics Anonymous (NA).

HIV and Substance Use

Client Healthcare Disparities	System Opportunities
<ul style="list-style-type: none">• Reduced entry into and retention in HIV care• Delayed initiation of ART• Inferior HIV treatment outcomes• Lower health literacy• Socioeconomic status• Lack of healthcare insurance• Unstable housing• Disjointed healthcare systems	<ul style="list-style-type: none">• Clinical, pharmacological, behavioral, and social services• Cost-effective and convenient services• Screening for and treatment of underlying SUDS• Treating underlying SUDS could have positive impact on HIV adherence• Offer secondary HIV prevention services to reduce transmission of HIV• Shift the economics of war on drugs to war on getting substance use services to people

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SLIDE 27


We have an opportunity to form relationships with our clients that can ultimately support the choices they make, which we hope can include accessing substance use treatment.

Let's take a moment to empathize with some of our clients, who may struggle with substance use.

Review disparities and opportunities on the slide.

HIV and Substance Use

Let's complete those questions again to see how much we have learned...

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SLIDE 28


Read the slide.

HIV and Substance Use

HIV and Substance Use

How many people are HIV positive in the United States?

- A. 3.0 million
- B. 1.2 million
- C. 1.9 million
- D. 36.9 million

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SLIDE 29


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **B. 1.2 million**

HIV and Substance Use

What percentage of people with HIV are struggling with substance use disorders (SUD) and in need of treatment?

- A. 24%
- B. 7%
- C. 44%
- D. 52%

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SLIDE 30


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **A. 24%**

HIV and Substance Use

Which of the following are challenges people with HIV and diagnosed with a SUD experience?

- A. Poor medication adherence
- B. Missed appointments
- C. Resistance to HIV medications
- D. All of the above

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SLIDE 31


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **D. All of the above**

HIV and Substance Use

Are opiates and opioids are the same?

- A. Yes
- B. No

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SLIDE 32


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **B. No**

HIV and Substance Use

Do Assisted Drug Assistance Programs (ADAP) pay for Medication Assistance Treatment for Opioid Addiction?

A. Yes
B. No
C. Sometimes

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SLIDE 33


Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **C. Sometimes**

HIV and Substance Use

Which of the following is a strategy to help clients with HIV and SUDs?

A. Reduce stigma
B. Use of language
C. Harm reduction plan
D. Effective interventions to promote change
E. All of the above

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SLIDE 34

Read the question and potential answers. Ask for a show of hands.

Provide the correct answer: **E. All of the above**

Thanks for answering these questions!

Next, ask participants to briefly discuss their experiences with linking clients to care.

HIV and Substance Use

Resources

- Recreational Drugs and HIV: http://www.aidsinfonet.org/fact_sheets/view/494#DRUG_INTERACTIONS
- Substance Abuse and HIV/AIDS: <https://americanaddictioncenters.org/health-complications-addiction/substance-abuse-hiv-aids>
- Jaimie P. Meyer, Amy L. Althoff, and Frederick L. Altice. Optimizing Care for HIV-Infected People Who Use Drugs: Evidence-Based Approaches to Overcoming Healthcare Disparities. *Clinical Infectious Diseases*, Volume 57, Issue 9, 1 November 2013, Pages 1309–1317, <https://doi.org/10.1093/cid/cit427>

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SLIDE 35

Here are some additional resources.

Fact Sheet on Recreational Drugs and HIV: Drug Interactions

HOW DOES RECREATIONAL DRUG USE AFFECT HIV?

Recreational drug use can increase the risk of HIV infection. Also, for people taking antiretroviral medications (ARVs) to fight HIV, there can be some serious interactions between drugs and ARVs. These interactions can lead to under- or overdoses of ARVs or recreational drugs. Some of these may be fatal.

DRUGS AND CONTRACTING HIV

Drug and alcohol use increases the likelihood of a sexual encounter, and using alcohol or drugs before or during sexual activity greatly increases the chances of not following safer sex guidelines (see fact sheet 151, (<http://www.aidsinfonet.org>) and thus HIV/STI infection. This risk is further increased for people who exchange drugs for sex.

If recreational drugs are injected using shared needles, there is increased risk of infection with blood-borne diseases, including HIV and viral hepatitis (fact sheet 506, <http://www.aidsinfonet.org>). See fact sheet 155 on ways to reduce this risk.

People who use drugs should be tested regularly for HIV. The long-term symptoms of persistent drug use may be similar to those of HIV or AIDS. Be sure to tell your medical provider about any recreational drugs you use.

DRUG USE AND HIV PROGRESSION

There is little research on drug use and HIV disease progression. We do know that heavy drug use may negatively impact a person's sleep schedule, appetite and overall health. Drug use can cause the immune system to weaken and exacerbate the side effects of ARVs. In turn, this can provide a pathway for opportunistic infections to develop (see fact sheet 500, <http://www.aidsinfonet.org>).

Another risk of drug use is missing ARV doses and poor adherence. This can lead to HIV resistance (see fact sheet 126, <http://www.aidsinfonet.org>) or treatment failure. For more information on adherence, see fact sheet 405 on <http://www.aidsinfonet.org>.



DRUG INTERACTIONS

Recreational drugs will likely interact or interfere with ARV therapy, increasing or decreasing ARV drug levels. This can lead to ARV treatment failure. Also, drug interactions can cause a serious, possibly fatal increase in the level of recreational drugs. The liver metabolizes most ARVs and all protease inhibitors. Recreational drugs metabolized in the liver can cause serious drug interactions.

There is little research on the effects of interactions between ARVs and recreational drugs on the human body. This is because the use of recreational drugs is illegal and they cannot be provided to people with HIV, even to study the effects.

Alcohol

Excessive alcohol use may weaken immune system function and threatens the long-term benefits of ARV therapy. Alcohol can increase blood levels of abacavir (Ziagen, fact sheet 416, <http://www.aidsinfonet.org>). Chronic alcohol use affects treatment adherence by interfering with a person's ability to stick to a regular ARV regimen. Alcohol use may increase the risk of pancreatitis when used with didanosine (Videx, factsheet 413, <http://www.aidsinfonet.org>)

Cocaine

Although interactions between cocaine and ARVs are unlikely to increase cocaine toxicity, the cocaine use may decrease ARV effectiveness by diminishing adherence.

Crystal meth, methamphetamine, crank, glass, Tina, others

A recent study found that gay men who use crystal meth have five times the risk of HIV infection as non-users. Serious and dangerous drug interactions are highly likely. When methamphetamine is used with ritonavir (Norvir, fact sheet 442, <http://www.aidsinfonet.org>), including when used for boosting other ARVs, amphetamine levels can double or triple.



Ecstasy/MDMA

Ecstasy uses the same liver pathway as protease inhibitors. This can cause very high levels of ecstasy in the body of people taking protease inhibitors. There is one documented case report of a death due to an interaction between ecstasy and ritonavir. Ecstasy can also increase the risk of kidney stones when used with indinavir (Crixivan, fact sheet 441, <http://www.aidsinfonet.org>) due to dehydration.

GHB (Xyrem, “date rape drug”)

This drug is primarily metabolized by the liver. There are no known interactions between GHB and ARVs. Protease inhibitors may increase GHB levels. Protease inhibitors may increase GHB levels.

Ketamine (K, Special K)

This drug is primarily metabolized by the liver. All protease inhibitors may cause high levels of ketamine. This could cause hepatitis. To date, there are no case reports or studies of interactions between ketamine and ARVs.

LSD

The metabolism of LSD is not understood. Interactions with ARVs are possible but unknown.

Marijuana

There are no known interactions between marijuana and ARVs. Interactions may be greater if marijuana is eaten rather than smoked. Use with protease inhibitors may increase effect of marijuana.

THE BOTTOM LINE

Some recreational drugs may interact with some ARVs. The information on these interactions is incomplete, but interactions can be dangerous or fatal. People who use drugs should be tested regularly for HIV. Be sure to tell your medical provider about any of the recreational drugs you use.

Acknowledgments

This curricula draws from and is adapted from other training curricula for peer educators and community health workers, such as the Building Blocks to Peer Success (<https://ciswh.org/resources/HIV-peer-training-toolkit>) and the Community Capacitation Center, Multnomah County Health Department (<https://multco.us/health/community-health/community-capacitation-center>)

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This project is/was supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U69HA30462 "Improving Access to Care: Using Community Health Workers to Improve Linkage and Retention in HIV Care" (\$2,000,000 for federal funding). This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

Suggested Citation:

Boston University Center for Innovation in Social Work & Health. (2019). A Training Curriculum for Using Community Health Workers to Improve Linkage and Retention in HIV Care. Retrieved from: <http://ciswh.org/chw-curriculum>

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