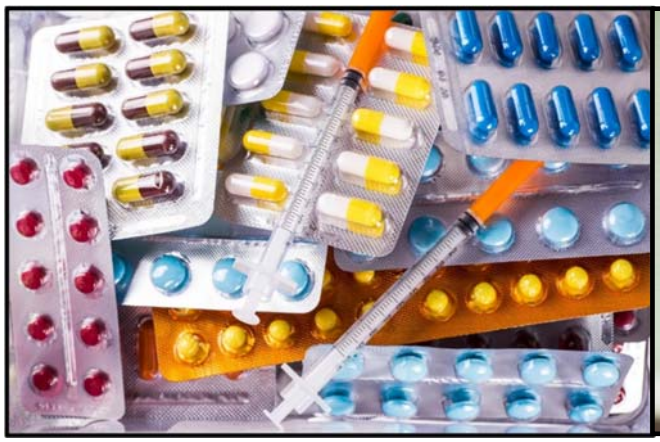



Never Mix, Never Worry: What Clinicians Need to Know about HIV and Psychotropics

Trainer Guide

Never Mix, Never Worry: What Clinicians Need to Know about HIV and Psychotropics

Table of Contents

Never Mix, Never Worry: What Clinicians Need to Know about HIV Psychotropics

Background Information

The purpose of this introductory training is to provide HIV clinicians (including, but not limited to physicians, dentists, nurses, and other allied medical staff, therapists and social workers, and counselors, specialists, and case managers) with an overview of psychotropic medications and their interaction with HIV, antiretroviral medications, and illicit drugs. The duration of the training is approximately 180 minutes (3 hours)**.** Pre- and post-test questions have been inserted at the beginning and end of the presentation to assess a change in the audience's level of knowledge after the information has been presented. An answer key is provided in the Trainer's notes for slides 4-8 and slides 155-159.

Audience Response System can be utilized, if available, when facilitating the pre- and post-test questions.

What Does the Training Package Contain?

- PowerPoint Training Slides (with notes)
- Trainer's Guide with detailed instructions for how to convey the information and conduct the interactive exercises
- Two-page fact sheet entitled, "Tips for HIV Clinicians Working with Patients Taking Psychotropic Medications"

What Does This Trainer's Guide Contain?

- Slide-by-slide notes designed to help the trainer effectively convey the content of the slides themselves
- Supplemental information for select content to enhance the quality of instruction
- Suggestions for facilitating the "Test Your Knowledge" questions and group discussions/case studies

How is This Trainer's Guide Organized?

For this guide, text that is shown in bold italics is a "***Note to the Trainer.***" Text that is shown in normal font relates to the "Trainer's Script" for the slide.

It is important to note that several slides throughout the PowerPoint presentation contain animation, some of which is complicated to navigate. Animations are used to call attention to particular aspects of the information or to present the information in a stepwise fashion to facilitate both the presentation of information and participant understanding. Getting acquainted with the slides, and practicing delivering the content of the presentation are essential steps for ensuring a successful, live training experience.

General Information about Conducting the Training

The training is designed to be conducted in medium-sized groups (30-50 people). It is possible to use these materials with larger groups, but the trainer may have to adapt the small group exercises/case studies and discussions to ensure that there is adequate time to cover all of the content.

Materials Needed to Conduct the Training

- Computer with PowerPoint software installed (2010 or higher version) and LCD projector to show the PowerPoint training slides.
- When making photocopies of the PowerPoint presentation to provide as a handout to training participants, it is recommended that you print the slides three slides per page with lines for notes. Select "pure black and white" as the color option. This will ensure that all text, graphs, tables, and images print clearly.
- Flip chart paper and easel/white board, and markers/pens to write down relevant information, including key case study discussion points.

Overall Trainer Notes

It is critical that, prior to conducting the actual training, the trainer practice using this guide while showing the slide presentation in Slideshow Mode in order to be prepared to use the slides in the most effective manner.

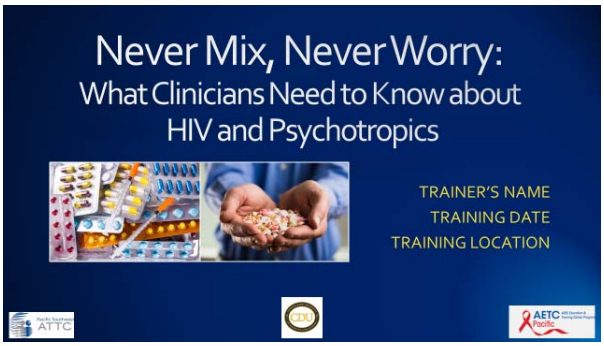
Icon Key

	Note to Trainer		Activity
	References		Audience Response System (ARS)-Compatible Slide
	Image Credit		Video Source

Never Mix, Never Worry: What Clinicians Need to Know about HIV and Psychotropics

Slide-By-Slide Trainer Notes

The notes below contain information that can be presented with each slide. This information is designed as a guidepost and can be adapted to meet the needs of the local training situation. Information can be added or deleted at the discretion of the trainer(s).



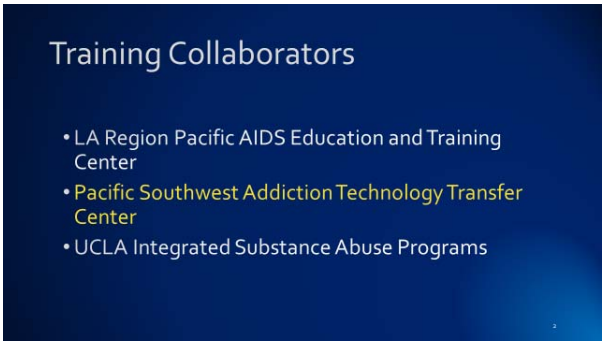
Slide 1: [Title Slide]

Before you begin, welcome participants and take care of housekeeping announcements, such as location of restrooms, turning off cell phones, participating actively, etc.

The purpose of this introductory training is to provide HIV treatment providers (including, but not limited to physicians, dentists, nurses, and other allied medical staff, therapists and social workers, and counselors, specialists, and case managers) with an overview of psychotropic medications and their interaction with HIV, antiretroviral medications, and illicit drugs. The duration of the training is approximately 180 minutes (3 hours).

Pre- and post-test "Test Your Knowledge" questions have been inserted at the beginning and end of the presentation to assess a change in the audience's level knowledge after the key content has been presented. An answer key is provided in the Trainer's notes for slides 4-8 and slides 155-159.

(Notes for Slide 1, continued)



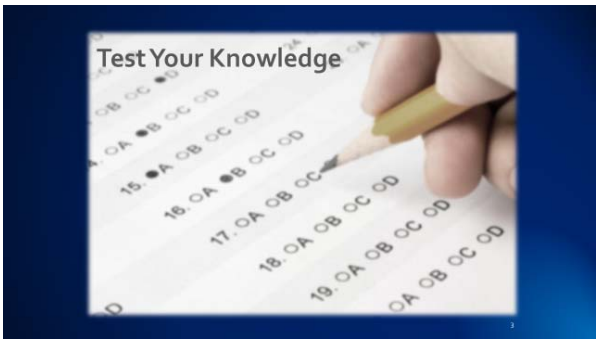
Slide 1: [Title Slide]

Audience Response System can be utilized, if available, when facilitating the pre- and post-test question sessions.

IMAGE CREDITS (Left to Right):
Fotolia, purchased images, 2017.

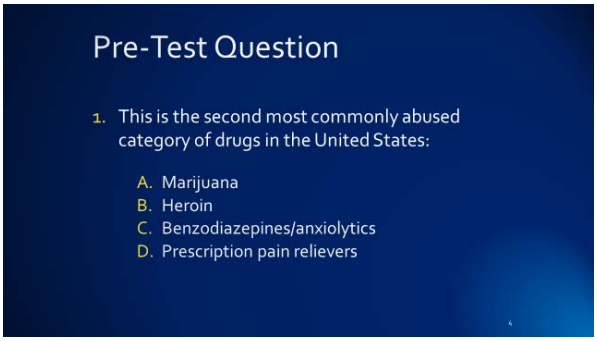
Slide 2: Training Collaborators

This PowerPoint presentation, Trainer Guide, and companion fact sheet were developed by Andrew Kurtz, MA, LMFT, James Peck, Psy.D., Beth Rutkowski, MPH (Associate Director of Training of UCLA ISAP) and Thomas E. Freese, PhD (Director of Training of UCLA ISAP and Director of the Pacific Southwest ATTC) through supplemental funding provided by the Pacific AIDS Education and Training Center, based at Charles R. Drew University of Medicine and Science. We wish to acknowledge Phil Meyer, LCSW, Kevin-Paul Johnson, Maya Gil Cantu, MPH, and Thomas Donohoe, MBA, from the LA Region PAETC.



Slide 3: Test Your Knowledge

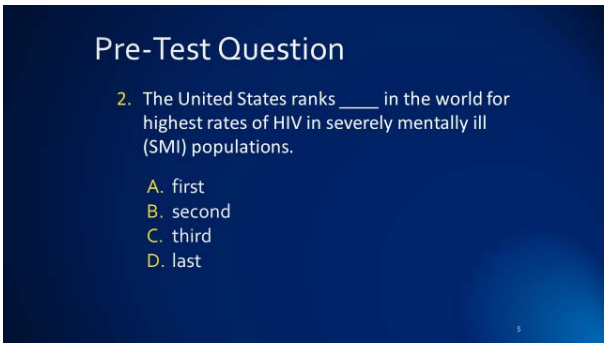
The purpose of the following five (5) questions is to test the pre-training level of HIV and psychotropic medication knowledge among the training participants. The questions are formatted as either multiple choice or true/false questions. Read each question and the possible responses aloud, and give training participants time to jot down their response before moving on to the next question. <u>Do not</u> reveal the answers to the questions until the end of the training session (when you re-administer the questions that appear on slides 155-159).



Slide 4: Pre-Test Question #1

Read the question and answer choices, and review audience responses out loud.

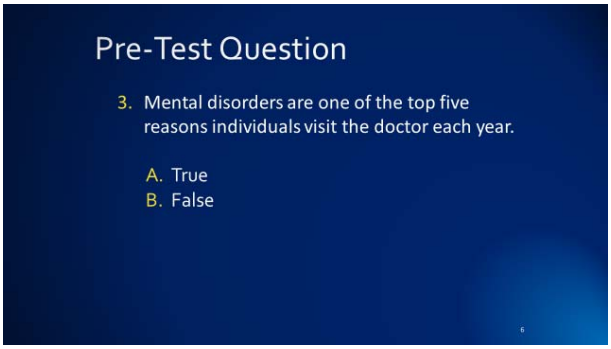
**Audience Response System (ARS)-compatible slide



Slide 5: Pre-Test Question #2

Read the question and answer choices, and review audience responses out loud.

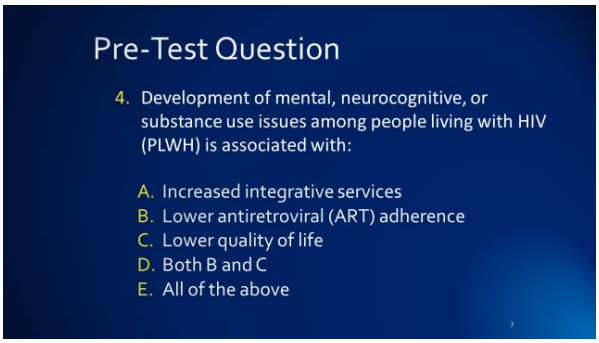
**Audience Response System (ARS)-compatible slide



Slide 6: Pre-Test Question #3

Read the question and answer choices, and review audience responses out loud.

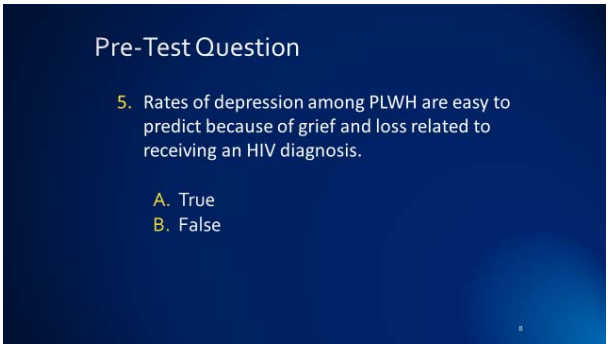
**Audience Response System (ARS)-compatible slide



Slide 7: Pre-Test Question #4

Read the question and answer choices, and review audience responses out loud.

**Audience Response System (ARS)-compatible slide



Slide 8: Pre-Test Question #5

Read the question and answer choices, and review audience responses out loud.

**Audience Response System (ARS)-compatible slide

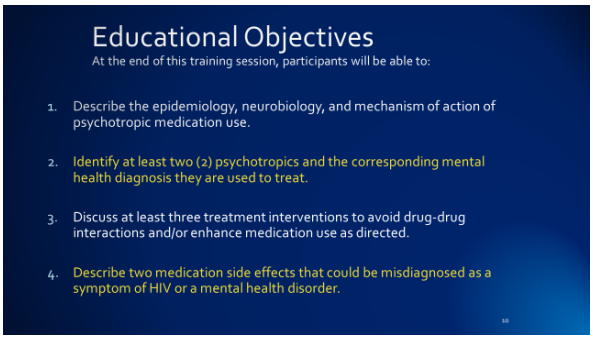
Slide 9: Introductions

In an effort to break the ice and encourage group interaction, take a few minutes to ask training participants to briefly share the answers to these four questions. You can ask for several volunteers to share their responses, if the size of your audience prevents all participants from sharing.

If the group is too large for formal introductions, the trainer can quickly ask participants the following two questions to gauge their work setting and professional training:

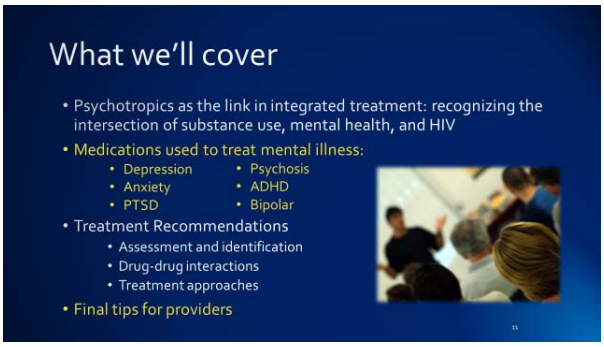
1. How many [case managers, LMFTs or LCSWs, counselors, administrators, physicians, PAs, nurse practitioners, nurses, medical assistants, dentists, etc.] are in the room? Did I miss anyone? {elicit responses}

2. How many people work in a [substance use disorder, mental health, primary care, infectious disease] setting? Did I miss any settings? {elicit responses}



Slide 10: Educational Objectives

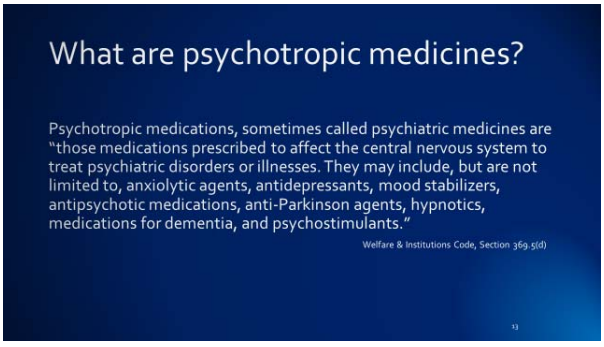
Briefly review each of the educational objectives with the audience.



Slide 11: What We'll Cover

The purpose of this slide is to serve as a "road map" for the trainer to describe to participants the different sections of the training and the focus at each point. The training starts with an overview of the way substance use, mental health, and HIV play a role in the use and prescribing of psychotropic medications while providing some general prevalence statistics and epidemiology. From there, participants will learn about different medications used to treat specific mental illnesses and the training will conclude with a description of different treatment recommendations and considerations.

(Notes for Slide 11, continued)



Slide 11: What We'll Cover

IMAGE CREDIT:

Fotolia, purchased image, 2016

Slide 12: The Link of Psychotropics in Integrated Treatment

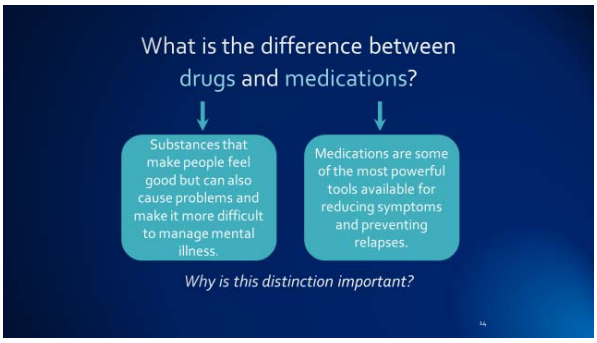
Introduce this section as establishing a foundational understanding of the way in which mental health, substance use, and physical health, including HIV, play a role in the prescribing and adherence to psychotropic medications.

Slide 13: What are psychotropic medicines?

Read the definition of psychotropic medications to the audience.

It is important to define psychotropic medications and have a common definition for the remainder of the training. This definition of "psychotropic medication" is defined per the California Welfare & Institutions Codes, Section

(Notes for Slide 13, continued)



Slide 13: What are psychotropic medicines?

369.5(d) and describes psychotropic medicines as any medications in the treatment of psychiatric disorders or illness that affect the central nervous system. Some general categories of medications are then listed.

Slide 14: What is the difference between drugs and medications?

Present the information in the two boxes, distinguishing between the term drugs (substances that make people feel good but can also make it difficult to manage mental health) and medications (useful and effective tools for reducing symptoms and preventing relapse). Ask the audience why this distinction is important.

Slide 15: Common Classes of Psychiatric Medications

These are the major classes of psychotropic medications. Connect this information with the double-sided handout provided participants that provides a crosswalk from the brand name of a medication to the generic and vice versa. The reverse side provides a list of categories of medications, listing the generic name first and its corresponding brand name.

This allows participants to become familiar with both terms during the training and serves as a reference tool following training. Generic names are listed first and recommended for use throughout the training in order to avoid conflict of interests.

IMAGE CREDIT:

Fotolia, purchased image, 2017

Slide 16: Determining Range of Use

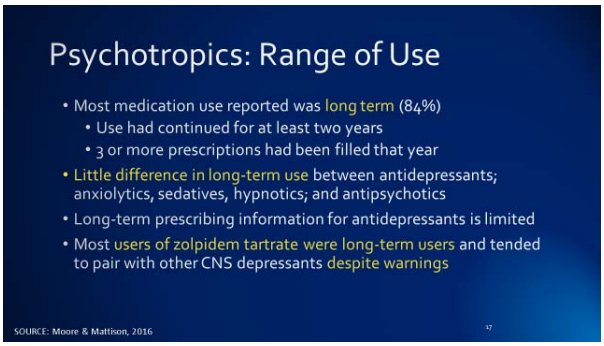
Review the information on the slide, highlighting that there is limited public information available about the extent of psychiatric medication use in the United States due to the fact that most information is cross-sectional rather than providing a longitudinal perspective of on-going medication use. This is one area in which an understanding of the impact of longer-term use would be beneficial.

Ask the audience: why do you think there is such limited information on prescription drug use?

REFERENCE:

Moore, T.J. & Mattison, D.R. (2016). Adult utilization of psychiatric drugs by sex, age, and race. *JAMA Internal Medicine, 177*(2), 274-275.

(based on 2013 Medical Expenditure Panel Survey)



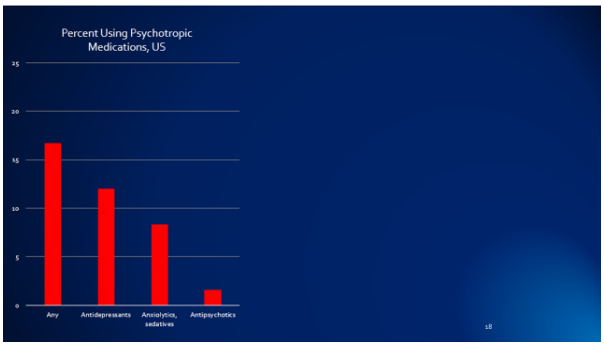
Slide 17: Psychotropics: Range of Use

While longitudinal data on the impact of the psychotropic medication use is limited, there is some information regarding how long individuals tend to use medications and the implications for health of on-going use of psychotropic medications. Most individuals use medication "long term" – meaning they have used a prescribed medication for at least two years or have had 3 or more prescriptions of that medication filled within a year.

While there was little difference in long-term use of major categories of medications, many users of zolpidem (brand name Ambien used to aid in sleep) report pairing the sedative with other CNS depressant substances such as alcohol or benzodiazepines.

Zolpidem users are warned that it should not be combined with other CNS depressants due to risk of respiratory impact, impairment to alertness and motor coordination.

Additional information for trainers: benzodiazepines include specific labels and warning about potential dependence, tolerance, and withdrawal effects of long-term use.



Slide 18: Percent Using Psychotropic Medications, US

Among all Americans, 16.7% currently use any psychotropic medication. 12% use antidepressants, 8.3% use anxiolytics/sedatives, and 1.6% use antipsychotics.

****ANIMATION INSTRUCTIONS****

This slide is animated upon clicking.

The first click reveals the graph "Percent Using Medications by Gender, US;" red lines will animate across the screen, connecting the overall "Percent Using" category to its corresponding category on the right-hand graph.

Among males, 11.9% are using any psychotropic, 7.7% are using antidepressants, 6.1% are using anxiolytics/sedatives, and 1.5% are using antipsychotics; among females, 21.2% are using any psychotropic, 15.9% are using antidepressants, 10.3% are using anxiolytics/sedatives, and 1.7% are using antipsychotics.

Click to animate out the previous graph and click to reveal the next graph, "Percent Using Psychotropic Medications by Age, US."

(Notes for Slide 18, continued)

Slide 18: Percent Using Psychotropics Medications, US

Among 18-39 year-olds, 9% are using any psychotropics, 6.6% are using antidepressants, 4% are taking anxiolytics/sedatives, and 1.3% are using antipsychotics; among 40-59 year-olds, 18.8% are using any psychotropics, 13.7% are using antidepressants, 9.2% are taking anxiolytics/sedatives, and 2.1% are using antipsychotics; among 60-85 year-olds, 25.1% are using any psychotropics, 17.3% are using antidepressants, 13.2% are taking anxiolytics/sedatives, and 1.4% are using antipsychotics.

Click to animate out the previous graph and click to reveal the next graph, "Percent Using Psychotropic Medications by Race/Ethnicity, US."

(Notes for Slide 18, continued)

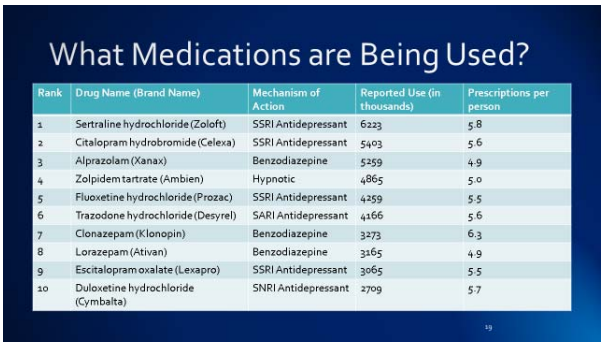
Slide 18: Percent Using Psychotropics Medications, US

Among white individuals, 20.8% are using any psychotropics, 15% are using antidepressants, 10.1% are taking anxiolytics/sedatives, and 1.7% are using antipsychotics; among black individuals, 9.7% are using any psychotropics, 6.2% are using antidepressants, 4.7% are taking anxiolytics/sedatives, and 1.9% are using antipsychotics; among Hispanic individuals, 8.7% are using any psychotropics, 5.7% are using antidepressants, 5% are taking anxiolytics/sedatives, and 1.3% are using antipsychotics; among Asian individuals, 4.8% are using any psychotropics, 3.1% are using antidepressants, 2.3% are taking anxiolytics/sedatives, and 0.7% are using antipsychotics.

REFERENCE:

Moore, T.J. & Mattison, D.R. (2016). Adult utilization of psychiatric drugs by sex, age, and race. *JAMA Internal Medicine, 177(2),* 274-275.

(based on 2013 Medical Expenditure Panel Survey)



Slide 19: What Medications are Being Used?

This table presents the top ten prescribed psychiatric medications from the 2013 Medical Expenditures Survey, aged 18 to 85 years old. The table also notes the number of prescriptions filled by individuals for a particular medication during that period of time, noting that most users of psychiatric medications are long-term users (classified as 3 or more prescriptions filled in one year).

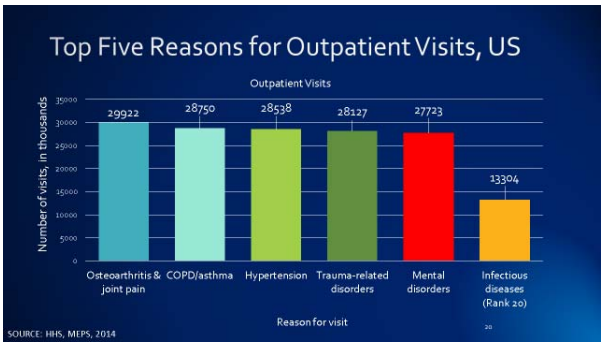
Additional information for trainers:

SSRI – selective serotonin reuptake inhibitor

SNRI – serotonin norepinephrine reuptake inhibitor

SARI – serotonin antagonist reuptake inhibitor

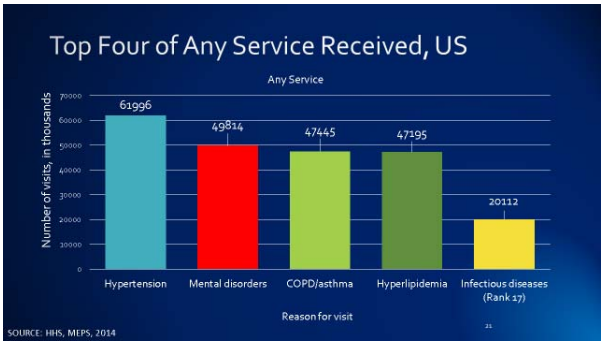
The top 2 medications listed are antidepressants, 4 of the top 6 are antidepressants.



Slide 20: Top Five Reasons for Outpatient Visits, US

This slide presents information from the Health and Human Services 2014 Medical Expenditure Panel Survey. In connection with the previous slide, in which information related to the number and types of medications individuals are prescribed is presented, this and the next three slides begin to expand participants' understanding of who is going to the doctor and for what. To highlight in this slide: among the reasons for outpatient visits in the United States, mental disorders ranks fifth. This is useful in beginning to understand that the more people who go to the doctor for mental disorder treatment, the more individuals are likely to be prescribed psychiatric medications. The narrative of conceptualizing why people are going to the doctor continues on the next slide.

(Notes for Slide 20, continued)



Slide 20: Top Five Reasons for Outpatient Visits, US

Additional information for trainers:

HIV is included in infectious diseases for the purposes of this study; that data point is included for participant's reference. Infectious disease visits rank 20th, with approximately 13,304,000 outpatient visits occurring in 2014.

REFERENCE:

Medical Expenditure Panel Survey (MEPS). Content last reviewed April 2015. Agency for Healthcare Research and Quality, Rockville, MD. Downloaded from: http://www.ahrq.gov/research/data/meps/index.html

Slide 21: Top Four of Any Service Received, US

This slide is a continuation from the previous slide and presents information from the Health and Human Services 2014 Medical Expenditure Panel Survey. This slide illustrates the top four reasons for any service in the United States during 2014.

(Notes for Slide 21, continued)

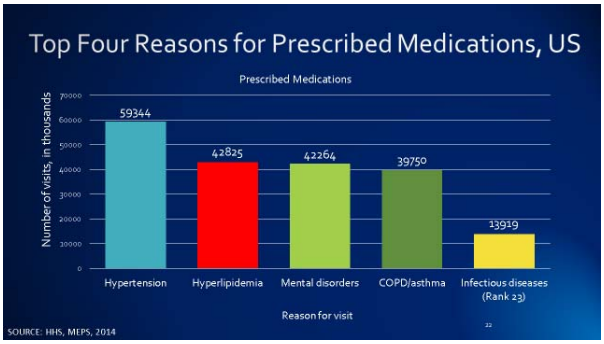
Slide 21: Top Four of Any Service Received, US

Whereas mental disorders ranked fifth among outpatient visits, mental disorders ranks second among any visit. This indicates that while individuals may be going to the doctor for outpatient treatment of mental disorders, they are utilizing more services more frequently than only outpatient interventions, indicating a significant healthcare need among the general population.

Additional information for trainers:

HIV is included in infectious diseases for the purposes of this study; that data point is included for participant's reference. Infectious disease visits rank 17th among all services provided, with approximately 20,112,000 outpatient visits occurring in 2014.

(Notes for Slide 21, continued)



Slide 21: Top Four of Any Service Received, US

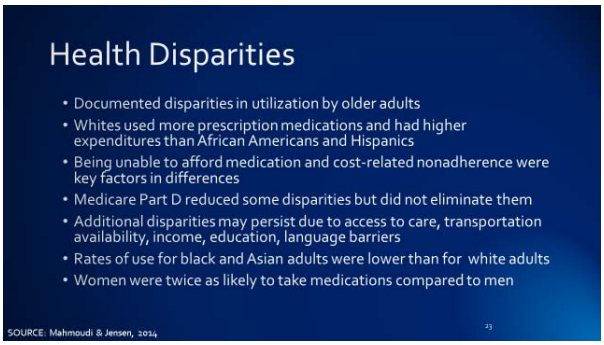
REFERENCE:

Medical Expenditure Panel Survey (MEPS). Content last reviewed April 2015. Agency for Healthcare Research and Quality, Rockville, MD. Downloaded from: http://www.ahrq.gov/research/data/meps/index.html

Slide 22: Top Four Reasons for Prescribed Medications, US

This slide is a continuation from the previous slide and presents information from the Health and Human Services 2014 Medical Expenditure Panel Survey. This slide illustrates the top four reasons for prescribed medications in the United States during 2014. Mental disorders ranks third as the most common reasons for prescribing medications. This indicates that a significant portion of the population is accessing services for mental health needs, as indicated on the previous slide of “any services,” specifically, obtaining prescriptions to address mental health needs.

(Notes for Slide 22, continued)



Slide 22: Top Four Reasons for Prescribed Medications, US

Additional information for trainers:

HIV is included in infectious diseases for the purposes of this study; that data point is included for participant's reference. Infectious disease visits rank 23rd among all services provided, with approximately 13,919,000 outpatient visits occurring in 2014.

REFERENCE:

Medical Expenditure Panel Survey (MEPS). Content last reviewed April 2015. Agency for Healthcare Research and Quality, Rockville, MD. Downloaded from: http://www.ahrq.gov/research/data/meps/index.html

Slide 23: Health Disparities

The previous slides indicated the reasons that individuals are going to the doctor with mental disorders and obtaining medications to treat mental disorders ranking within the top five of all reasons individuals go to the doctor.

(Notes for Slide 23, continued)

Slide 23: Health Disparities

While there have been efforts to reduce disparities in access to services and the way in which medications are prescribed and utilized, they have not been completely eliminated.

Substantial documentation exists regarding disparities that exist in utilization of medications and medication services for mental disorders by older adults, including whites using more prescription medications thank African-American and Hispanic counterparts. This highlights a potential barrier to treatment in that non-White patients were routinely unable to afford their medication which increased cost-related non-adherence and could potentially result in exacerbation of existing symptoms. Medicare regulation Part D was developed to reduce these disparities but have not completely eliminate them, indicating that recognizing these disparities and reducing barriers to access would be a useful component of treatment.

There are additional disparities that may exist between groups due to access to care, transportation availability, income, education and language barriers.

(Notes for Slide 23, continued)

Slide 23: Health Disparities

In general, the rates of use of psychotropic medications for black and Asian adults is lower than white adults, and women are twice as likely to take medications as compared to men. This serves as a summary for the graph on Slide 18 that indicated differences in use by gender, age, and race/ethnicity.

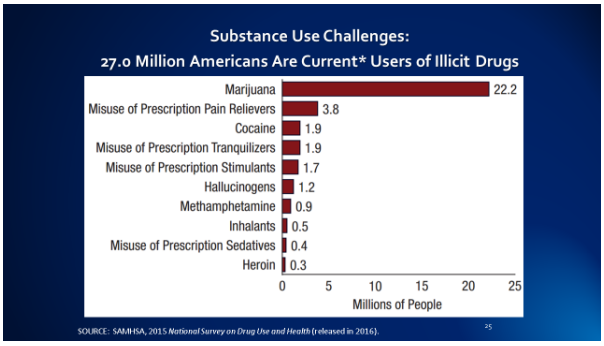
REFERENCE:

Mahmoudi, E., & Jensen, G. A. (2014). Has Medicare Part D Reduced Racial/Ethnic Disparities in Prescription Drug Use and Spending? *Health Services Research*, *49*(2), 502–525.

Slide 24: The Challenge of Illicit Use

This slide serves to transition from understanding the extent of prescribing and use of psychotropics to emphasizing the prevalence of substance use and mental health disorders that may complicate treatment or cause diversion of prescribed medications.

(Notes for Slide 24, continued)



Slide 24: The Challenge of Illicit Use

IMAGE CREDITS:

Fotolia, purchased images, 2017

Slide 25: Substance Use Challenges: 27.0 Million Americans are Current Users of Illicit Drugs

This slide indicates that nearly 30 million people reported past-month use of an illicit drug. “Current use” is defined as use within the past 30 days. Marijuana ranked first in past-month use; non-medical use of prescription drugs ranked second. For the past two years, similar numbers of people initiated use of marijuana and non-medical use of prescription drugs.

This graph also breaks out the use of illicit drugs from use of prescription medications not as intended by a physician, providing a useful picture of the extent to which people are currently abusing medications. Among the psychotropics, tranquilizers (including benzodiazepines and anxiolytics) and stimulants rank the highest.

(Notes for Slide 25, continued)

Slide 25: Substance Use Challenges: 27.0 Million Americans are Current Users of Illicit Drugs

REFERENCE:

Center for Behavioral Health Statistics and Quality. (2016). *2015 National Survey on Drug Use and Health: Methodological summary and definitions*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

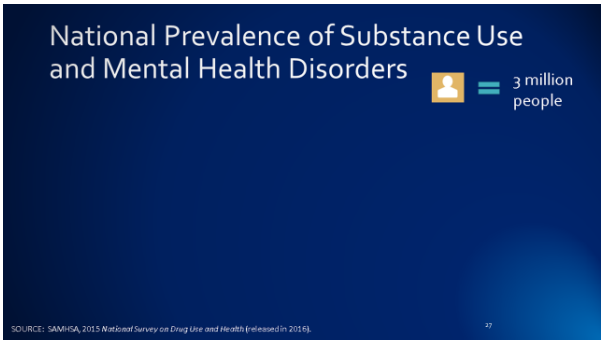
Slide 26: Substance Use Disorders

Prolonged and heavy marijuana use can eventually lead to substance abuse and dependence, which together are known as **substance use disorders.** Substance use disorders fall on a continuum of problematic alcohol and drug use. Highly problematic levels of substance use—called substance abuse and substance dependence—are defined as "disorders," instead of just "problematic" substance use. A substance use disorder is a state in which an individual compulsively uses alcohol or drugs even when faced with negative consequences. This behavior is reinforcing, or rewarding.

(Notes for Slide 26, continued)

Slide 26: Substance Use Disorders

A major feature of a substance use disorder is the loss of control in limiting intake of the addictive substance. When working with patients who use alcohol or drugs, it is important to figure out where patients fall on this spectrum; some may have serious problems and need to abstain from alcohol and drugs, while others may not need to stop all together, but reduce use to prevent adverse effects.



Slide 27: National Prevalence of Substance Use and Mental Health Disorders

Considering the prevalence of substance use disorders allows us to better understand the extent to which individuals may be using medications not as prescribed or intended. Additionally, considering occurrences of severe mental illness and substance use disorder is important in understanding the potential for individuals who may be more likely to be prescribed psychotropic medications (individuals with severe mental illness) to abuse substances. The data presented here are from the National Survey on Drug Use and Health(NSDUH), which defines severe mental illness(SMI) as:

(Notes for Slide 27, continued)

Slide 27: National Prevalence of Substance Use and Mental Health Disorders

- a mental, behavioral, or emotional disorder (excluding developmental and substance use disorders)
- diagnosable currently or within the past year
- of sufficient duration to meet diagnostic criteria specified within the 5th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5)
- resulting in serious functional impairment, which substantially interferes with or limits one or more major life activities

****ANIMATION INSTRUCTIONS****

This slide is animated upon clicking.

Each of the individual boxes presented in the animations represent 3 million people, as indicated in the key in the top right of the slide.

(Notes for Slide 27, continued)

Slide 27: National Prevalence of Substance Use and Mental Health Disorders

The first animation is automatic and reveals the "Current Users of Illicit Drugs." The representation of the number of current users will animate from left to right.

National prevalence data of substance use disorders indicates 27.1 million were current users of illicit drugs.

Click to advance the animation and reveal the next set of data: "Individuals with a Substance Use Disorder." The representation of the number of current users will fill in on the existing bar from bottom to top, representing a subset of the Current Users bar.

National prevalence data of substance use disorders indicates 20.8 million individuals has a substance use disorder.

Click to advance the animation and reveal the next set of data: "Current Users of Alcohol."

National prevalence data of substance use disorders indicates 138.3 million individuals currently use alcohol. This representation serves to contrast the high number of alcohol users as compared to any illicit substance use.

(Notes for Slide 27, continued)

Slide 27: National Prevalence of Substance Use and Mental Health Disorders

Click to reveal the "Individuals with a Mental Health Disorder." The representation of the number of individuals will animate from left to right.

National prevalence data of mental health disorders indicates 43.4 million currently have a mental health disorder.

Click to advance the animation and reveal the next set of data: "Individuals with a Mental Health Disorder and Substance Use Disorder." The representation of the number of individuals will fill in on the existing bar from bottom to top, representing a subset of the Individuals with a Mental Health Disorder bar.

National prevalence data of mental health disorders indicates 8.1 million individuals have a co-occurring substance use disorder.

(Notes for Slide 27, continued)

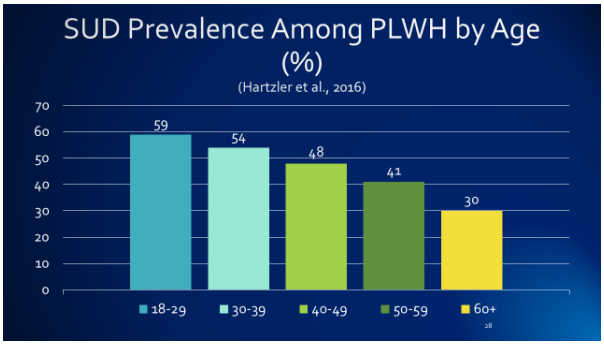
Slide 27: National Prevalence of Substance Use and Mental Health Disorders

Click to advance the animation and reveal the next set of data: "Individuals with a Severe Mental Health Disorder and Substance Use Disorder." The representation of the number of individuals will fill in on the existing bar from bottom to top, representing a subset of the Individuals with a Mental Health Disorder bar.

National prevalence data of mental health disorders indicates 2.3 million individuals have a co-occurring substance use disorder and severe mental illness.

REFERENCE:

Center for Behavioral Health Statistics and Quality. (2016). *2015 National Survey on Drug Use and Health: Methodological summary and definitions*. Rockville, MD: Substance Abuse and Mental Health Services Administration.

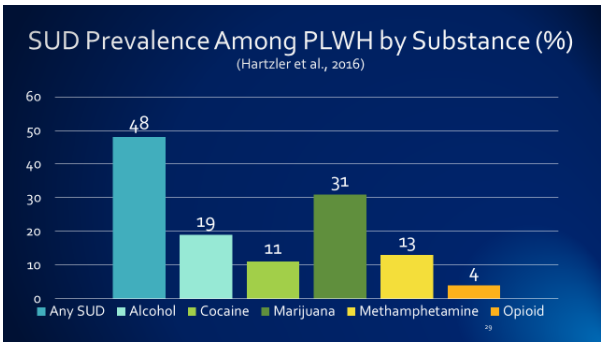


Slide 28: SUD Prevalence Among PLWH by Age (%)

This slide presents information related to SUD prevalence among people living with HIV in consideration of the way in which individuals diagnosed with HIV are affected by substance abuse and substance use disorders. The information in this study is based on a sample of over 10,000 HIV-positive adults in care at 7 sites around the country. Substance use disorder prevalence is highest among individuals aged 18-29, with decreasing prevalence the older an individual is.

REFERENCE:

Hartzler, B., Dombrowski, J.C., Crane, H.M., Eron, J.J., Geng, E.H., et al. (2016). Prevalence and predictors of substance use disorders among HIV care enrollees in the United States. *AIDS & Behavior*, 1-11.

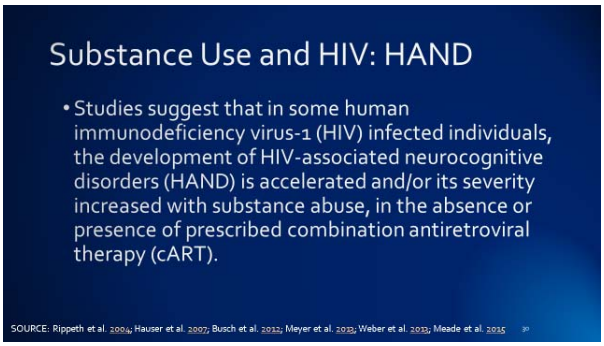


Slide 29: SUD Prevalence Among PLWH by Substance (%)

This slide continues the information from the previous slide, identifying the prevalence of substance use disorders among people living with HIV, grouped by type of substance. Among all people living with HIV, 48% report any substance use disorder. Marijuana is the most common substance of abuse (31%). Alcohol (19%) and methamphetamine (13%) are the next most common, followed by cocaine (11%) and opioids (4%).

REFERENCE:

Hartzler, B., Dombrowski, J.C., Crane, H.M., Eron, J.J., Geng, E.H., et al. (2016). Prevalence and predictors of substance use disorders among HIV care enrollees in the United States. *AIDS & Behavior*, 1-11.



Slide 30: Substance Use and HIV: HAND

The interaction between HIV and the development of HIV-associated neurocognitive disorders is complex and dependent upon multiple factors. Once of which is the administration of illicit substances. Substance abuse has been shown to have a detrimental impact on cognitive functioning among PLWH, regardless of whether or not the individual was adhering to combination antiretroviral therapies.

REFERENCES:

Busch, K.E., Laurent, P., Soltesz, Z., Murphy, R.J., Faivre, O., et al. (2012). Tonic signaling from O_2 sensors sets neural circuit activity and behavioral state. *Nature Neuroscience*, *15*, 581-591.

Calderon, T.M., Williams, D.W., Lopez, L., Eugenin, E.A., Cheney, L. et al. (2017). Dopamine Increases CD14+C16+ Monocyte Transmigration across the Blood Brain Barrier: Implications for Substance Abuse and HIV Neuropathogensis. *Journal of Neuroimmune Pharmacology, 12(2),* 353-370.

(Notes for Slide 30, continued)

Slide 30: Substance Use and HIV: HAND

Hauser, K.F., El-Hage, N., Stiene-Martin, A., Maragos, W.F., Nath, A. et al. (2007). HIV-1 neuropathogensis: glial mechanisms revealed through substance abuse. *Journal of Neurochemistry, 100(3),* 567-586.

Meade, C.S., Towe, S.L., Skalski, L.M., & Robertson, K.R. (2015). Independent effects of HIV infection and cocaine dependence on neurocognitive impairment in a community sample living in the southern United States. *Drug and Alcohol Dependence, 149(1),* 128-135.

Meyer, A.L., Boscardin, W.J., Kwasa, J.K., & Price, R.W. (2013). Is It Time To Rethink How Neuropsychological Tests Are Used to Diagnose Mild Forms of HIV-Associated Neurocognitive Disorders? Impact of False-Positive Rates on Prevalence and Power. *Neuroepidemiology, 41*, 208-216.

Weber, E., Blackstone, K., & Woods, S.P. (2013). Cognitive Neurorehabilitation of HIV-associated Neurocognitive Disorders; A Qualitative Review and Call to Action. *Neuropsychology Review, 23(1),* 81-98.

(Notes for Slide 30, continued)

Slide 30: Substance Use and HIV: HAND

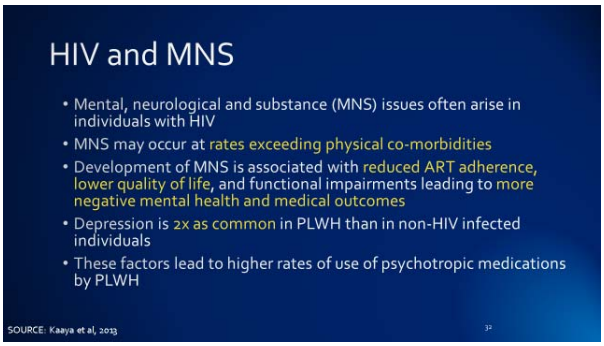
Rippeth, J., Heaton, R., Carey, C., Marcotte, T., Moore, D., et al. (2004). Methamphetamine dependence increases risk of neuropsychological impairment in HIV infected persons. *Journal of the International Neuropsychological Society, 10*(1), 1-14.

Slide 31: Psychotropic Factors and HIV

This slide serves to transition from examining prevalence of substance use disorders and mental health disorders to expanding upon additional risk factors among people living with HIV who may be at risk of additional health related consequences due to a combination of physical health status, mental health impairment, and ongoing substance use issues.

IMAGE CREDITS:

Fotolia, purchased images, 2017

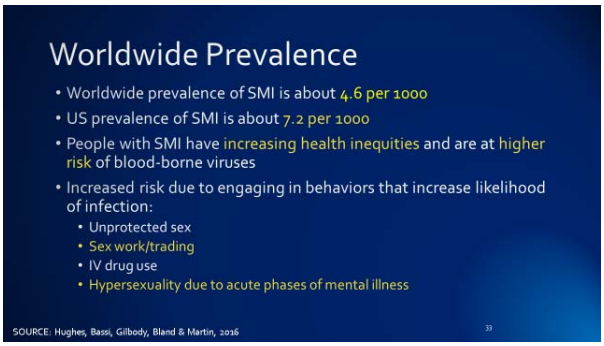


Slide 32: HIV and MNS

Recognizing the possibility of co-occurring mental, neurological, or substance use issues among individual with HIV helps to understand treatment needs. "Exceeding physical co-morbidities" includes a cluster of physical issues under the following organ systems: vascular disease (myocardial infarction, coronary artery disease, stroke, peripheral vascular disease; pulmonary diseases (COPD, pulmonary hypertension, asthma, bronchiectasis, pneumoconiosis; liver disease (hepatitis B and C).

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.

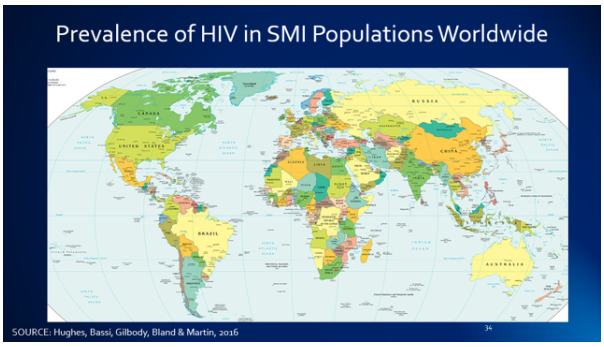


Slide 33: Worldwide Prevalence

Among individuals with severe mental illness, there is an increased risk of HIV infection due to health behaviors and inequities that can contribute to contracting blood-borne viruses. Behaviors and symptomatology associated with severe mental illness that may play a role in increasing the risk of blood-borne virus contraction include engaging in unprotected sex, trading sex or engaging in sex work for money, intravenous drug use, and hypersexuality that may result from an acute phase of a mental illness episode. Of particular note as well is that the prevalence of SMI in the US is nearly twice as high as the worldwide prevalence.

REFERENCE:

Hughes, E., Bassi, S., Gilbody, S., Bland, M., & Martin, F. (2016). Prevalence of HIV, hepatitis B, and hepatitis C in people with severe mental illness: a systematic review and meta-analysis. *Lancet Psychiatry, 3,* 40-48.



Slide 34: Prevalence of HIV in SMI Populations Worldwide

This slide has representations of the prevalence of HIV among SMI populations. As the graph animates in, the red lines will note the percent of SMI individuals within a particular region/continent who have been diagnosed with HIV. Note that among the various population in the world, the US experiences a higher rate of HIV among the SMI population than any other region except for Africa. This indicates that, as reference on the previous slide, not only are there higher rates of severe mental illness in the United States but those individuals with SMI are disproportionately affected by HIV compared to non-SMI individuals in the US and SMI individuals across the world (with the exception of Africa). Specify that while we have general rates of diagnosis among certain regions, the study did not report rates for specific countries in some regions.

****ANIMATION****

This slide is animated upon clicking.

(Notes for Slide 34, continued)

Slide 34: Prevalence of HIV in SMI Populations Worldwide

The first click reveals the blue bar over the United States that represents the percent of individuals in the general population who have HIV.

0.4% of individuals in the United States are identified as having been infected with HIV.

Click to animate the next bar.

The red bar over the United States represents the percent of SMI individuals who have been diagnosed with HIV. Among SMI populations, 6% have been diagnosed with HIV.

Click to animate the next bar.

The red bar over Europe represents the percent of SMI individuals in Europe who have been diagnosed with HIV. Among SMI populations in Europe, 1.9% have been diagnosed with HIV.

Click to animate the next bar.

The red bar over China represents the percent of SMI individuals in Asia who have been diagnosed with HIV. Among SMI populations in Asia, 1.5% have been diagnosed with HIV.

(Notes for Slide 34, continued)

Slide 34: Prevalence of HIV in SMI Populations Worldwide

Click to animate the next bar.

The red bar over Brazil represents the percent of SMI individuals in South America who have been diagnosed with HIV. Among SMI populations in South America, 2.7% have been diagnosed with HIV.

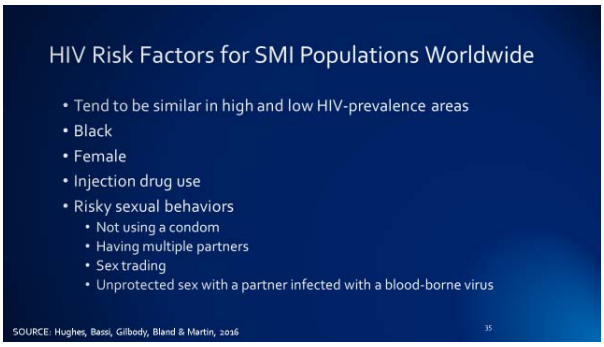
Click to animate the last next bar.

The red bar over Africa represents the percent of SMI individuals in Africa who have been diagnosed with HIV. Among SMI populations in Africa, 19.2% have been diagnosed with HIV.

REFERENCE:

Hughes, E., Bassi, S., Gilbody, S., Bland, M., & Martin, F. (2016). Prevalence of HIV, hepatitis B, and hepatitis C in people with severe mental illness: a systematic review and meta-analysis. *Lancet Psychiatry, 3,* 40-48.

(Notes for Slide 34, continued)



Slide 34: Prevalence of HIV in SMI Populations Worldwide

IMAGE CREDIT:

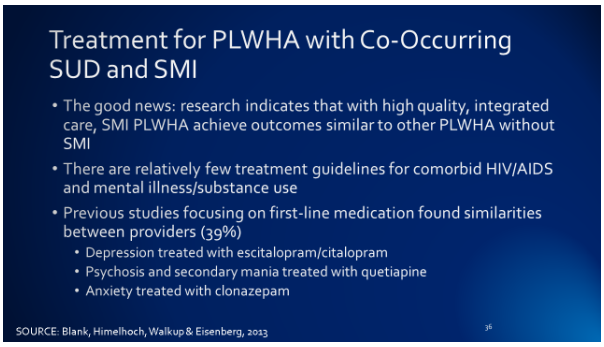
Shelf, R.I. University of Texas Libraries. Downloaded from: https://www.lib.utexas.edu/maps/world_maps/world_pol_2013.pdf.

Slide 35: HIV Risk Factors for SMI Populations Worldwide

Review the bulleted risk factors on the slide that describe the global risk factors for HIV among SMI populations.

Additional information for trainers:
Additional HIV risk factors exist for severely mentally ill populations worldwide. One theory regarding higher prevalence among women is due to SMI making individuals vulnerable to exploitation or sexual assault; as well as cultural power differentials that may have reduced refusal or condom negotiation during sexual activity.

(Notes for Slide 35, continued)



Slide 35: HIV Risk Factors for SMI Populations Worldwide

REFERENCE:

Hughes, E., Bassi, S., Gilbody, S., Bland, M., & Martin, F. (2016). Prevalence of HIV, hepatitis B, and hepatitis C in people with severe mental illness: a systematic review and meta-analysis. *Lancet Psychiatry, 3,* 40-48.

Slide 36: Treatment for PLWHA with Co-Occurring SUD and SMI

Despite the fact that significant risk of HIV infection is present for individuals with severe mental illness, and impacts of substance use can exacerbate risks, as well as existing physical and mental health impairments, there are treatment recommendations for individuals with HIV and co-occurring substance use and severe mental illness. Additionally, research indicates that individuals living with HIV and severe mental illness can achieve outcomes in treatment that are similar to non-severely mentally ill counterparts. The key is efforts to engage individuals in high quality, integrated services.

(Notes for Slide 36, continued)

Slide 36: Treatment for PLWHA with Co-Occurring SUD and SMI

There also exists some consensus among providers as to first-line medications for treatment of depression, psychosis, secondary mania, and anxiety among PLWHA.

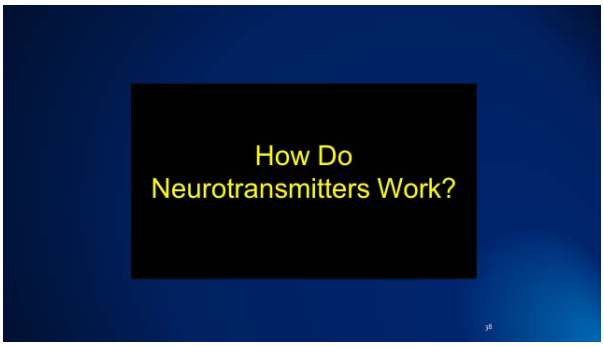
REFERENCE:

Blank, M. B., Himelhoch, S., Walkup, J., & Eisenberg, M. M. (2013). Treatment Considerations for HIV-Infected Individuals with Severe Mental Illness. *Current HIV/AIDS Reports*, *10(4).*

Slide 37: Neurotransmitters

Now that participants understand the interactions between substance use, mental health, HIV and psychotropic prescribing, transition into understanding the mechanism of action for various psychotropic medicines and how they affect key neurotransmitters in the brain.

(Notes for Slide 37, continued)



Slide 37: Neurotransmitters

IMAGE CREDITS:

Fotolia, purchased images, 2017

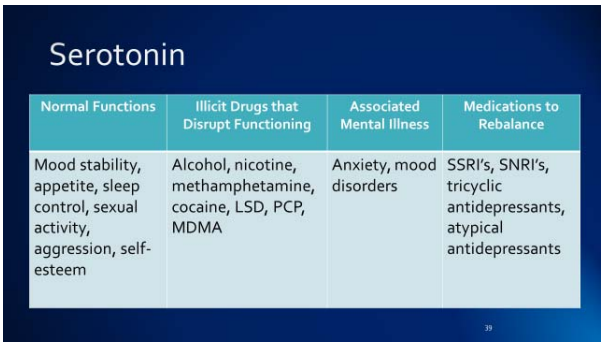
Slide 38: How Do Neurotransmitters Work?

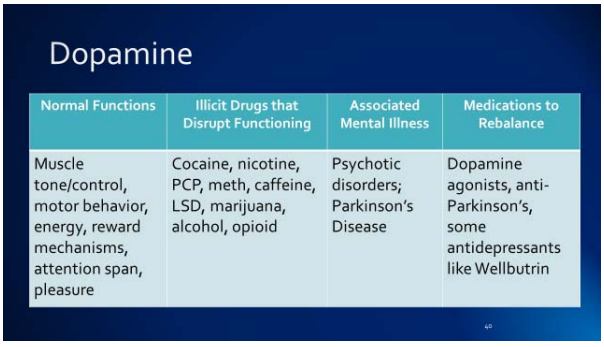
Click to play the video. Upon click, the title will animate out and the video will start in full screen automatically. When moving the PowerPoint file to another location on your computer or to another computer, make sure to always move the video file along with it.

If the link becomes broken, the video will need to be reinserted. From the insert menu in PowerPoint, select "movie." Select the video file that was included for this training. When asked, indicate that the movie should play automatically. It will appear as a black box on the screen. Move the black box behind the Slide Title text box and it should play when the slide show is being viewed when the trainer clicks advance.

The video demonstrates how neurotransmitters work in the brain.

(Notes for Slide 38, continued)





Slide 38: How do Neurotransmitters Work?

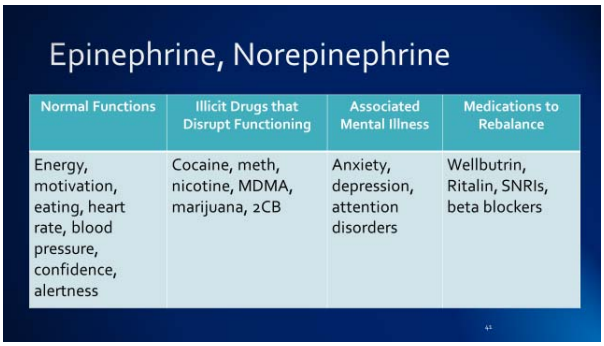
VIDEO SOURCE:
Meth Inside Out,
http://www.methinsideout.com/.

Slide 39: Serotonin

The next 4 slides present a type of neurotransmitter, i.e. serotonin, along with its normal functions, examples of illicit drugs that can disrupt its functioning, the type of mental illness the neurotransmitter is associated with, and the types of medications used to address imbalances of the neurotransmitter.

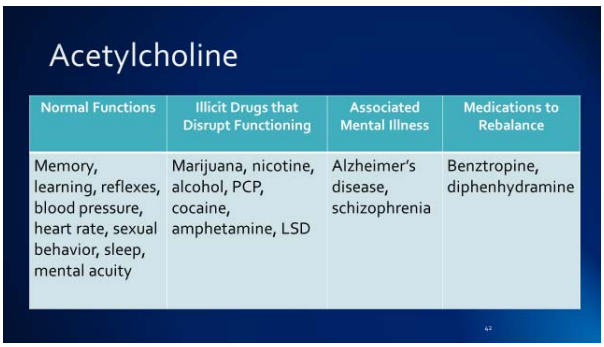
Slide 40: Dopamine

This slide presents a type of neurotransmitter, dopamine (the "feel good" neurotransmitter), along with its normal functions, examples of illicit drugs that can disrupt its functioning, the type of mental illness the neurotransmitter is associated with, and the types of medications used to address imbalances of the neurotransmitter.



Slide 41: Epinephrine, Norepinephrine

This slide presents a type of neurotransmitter (epinephrine and norepinephrine – "fight or flight" neurotransmitters), along with its normal functions, examples of illicit drugs that can disrupt its functioning, the type of mental illness the neurotransmitter is associated with, and the types of medications used to address imbalances of the neurotransmitter.

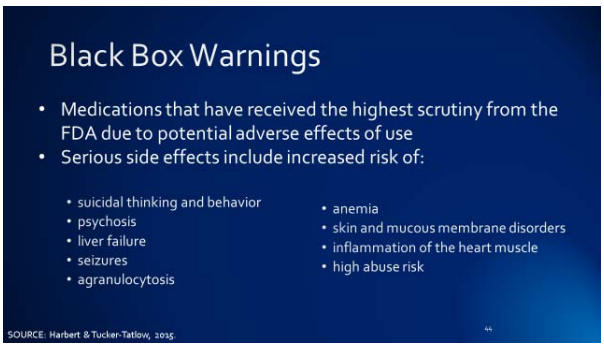


Slide 42: Acetylcholine

This slide presents a type of neurotransmitter (acetylcholine), along with its normal functions, examples of illicit drugs that can disrupt its functioning, the type of mental illness the neurotransmitter is associated with, and the types of medications used to address imbalances of the neurotransmitter.

Slide 43: A Review of Medications by Disorder

This section will present categories of disorders and discuss the prevalence of those disorders (among PLWHA, when available) and then associated medications used to treat that particular mental health disorder.



Slide 44: Black Box Warnings

Before reviewing the different medications, it is essential to note for training participants that many psychotropic medications contain "Black Box" warnings of dangers of use that can include significant effects on health as well as an increase in suicidal thinking and behavior. Of particular concern are antidepressants, all of which contain a black box warning for a potential increase in suicidal thinking and behavior.

agranulocytosis – a decrease in white blood cells, a type of infection-fighting blood cell; can result from medication use, substance abuse, HIV

(Notes for Slide 44, continued)

Slide 44: Black Box Warnings

REFERENCE:

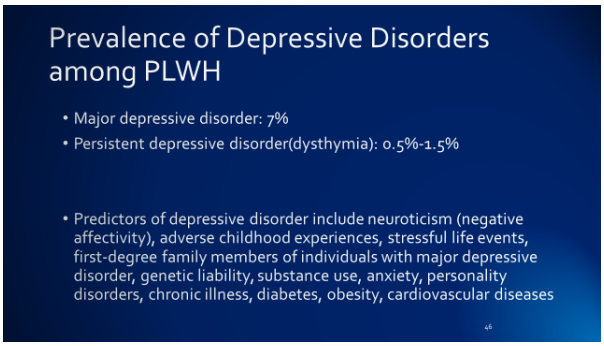
Harbert, A. & Tucker-Tatlow, J. (2015). *Literature Review: Psychotropic Medication and Foster Youth*. Southern Area Consortium of Human Services, San Diego State University. Downloaded from: https://pdfs.semanticscholar.org/785e/c5a72a864ad80505f2680121ebdefb8839aa.pdf.

Slide 45: Depression

This section will detail depression prevalence, mechanisms of depression and medications used to treat depression.

IMAGE CREDITS:

Fotolia, purchased images, 2017



Slide 46: Prevalence of Depressive Disorders in the General Population

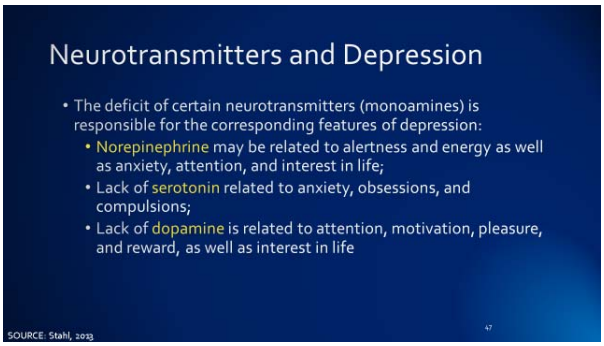
The prevalence of different diagnostic subtypes of depression can vary. Major depressive disorder among the PLWH is approximately 7% while dysthymia is between 0.5% and 1.5%. There are a number of predictors of depressive disorder including early childhood experiences and developmental trauma, as well as on-going life stressors and changes in physical health status.

Additional information for trainers:

The 12-month prevalence of major depressive disorder among the general population of the United States is approximately 3.8%.

REFERENCE:

Chaudhury, S, Bakhla, A, & Saini, R. (2016). Prevalence, impact, and management of depression and anxiety in patients with HIV: a review. *Neurobehavioral HIV Medicine*, *7*, 15-30.



Slide 47: Neurotransmitters and Depression

Note that, as discussed on the previous slide, there are many factors that many contribute to depression, including abnormalities in the circadian rhythm, or biological clock. However, the current hypothesis of the development of depression from a neurochemical framework identifies a deficit in certain groups of neurotransmitters called monoamines. The lack of these monoamines results in an upregulation process in the brain in which additional receptors are created to try to counterbalance the lack of the available neurotransmitters. The neurotransmitters that are responsible for this shift in balance are: norepinephrine, serotonin, and dopamine.

Additional information for trainers:
An additional offshoot of the monoamine hypothesis is the monoamine oxidase-A hypothesis, which states that monoamine oxidase-A, which metabolizes the monoamine neurotransmitters, is overly active in people with depression, leading to lower levels of those neurotransmitters.

(Notes for Slide 47, continued)

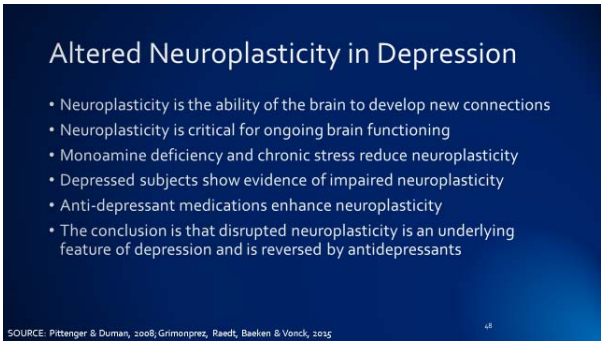
Slide 47: Neurotransmitters and Depression

REFERENCES:

Carlson, N. (2005). Foundations of Physiological Psychology, 6th Ed. Boston, MA: Allyn and Bacon

Castrén, E. (2005). Is mood chemistry? *Nature Reviews Neuroscience, 6(3),* 241-246.

Stahl, S. (2013). Stahl's Essential Psychopharmacology: Neuroscientific Basis and Practical Applications. United Kingdom: Cambridge University Press.



Slide 48: Altered Neuroplasticity in Depression

Neuroplasticity is an important concept in understanding how and why counseling and therapy work. Neuroplasticity is the brain's ability to develop, grow, conform, and adapt to different situations by developing new connections between neurons. Structure and consistency, as well as the development and reinforcement of new skills, in treatment promote neuroplasticity in regions of the brain useful for attention, concentration, judgement, and impulse control.

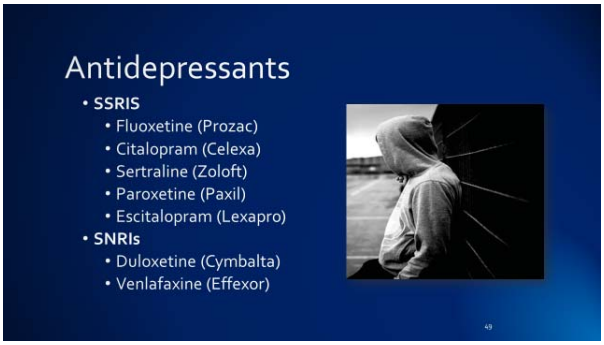
(Notes for Slide 48, continued)

Slide 48: Altered Neuroplasticity in Depression

Studies show that neuroplasticity is impaired in depression, and that antidepressants can increase neuroplasticity.

REFERENCE:

Pittenger, C. & Duman, R.S. (2008). Stress, Depression, and Neuroplasticity: A Convergence of Mechanisms. *Neuropsychopharmacology, 33(1),* 88-109.



Slide 49: Antidepressants

Read the categories and examples of antidepressants on this and the next slide. It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

IMAGE CREDITS:

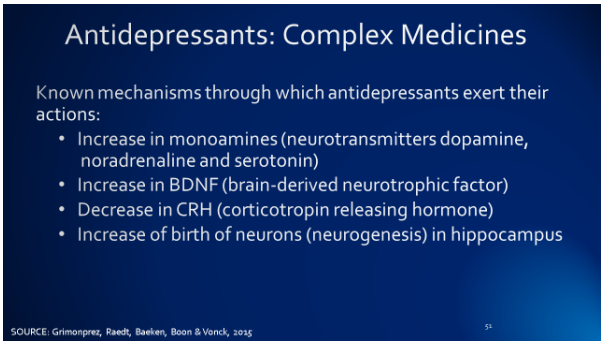
Fotolia, purchased images, 2016

Slide 50: Antidepressants Cont'd

Read the categories and examples of antidepressants on this and the next slide. It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

IMAGE CREDITS:

Fotolia, purchased image, 2017



Slide 51: Antidepressants: Complex Medicines

Antidepressants are complex medications and exert effects in a number of ways. They increase the monoamine neurotransmitters. They also increase BDNF (BDNF acts on neurons in the Central Nervous System and helps to encouraged differentiation and growth of new neurons in areas important to learning, memory, and thinking).

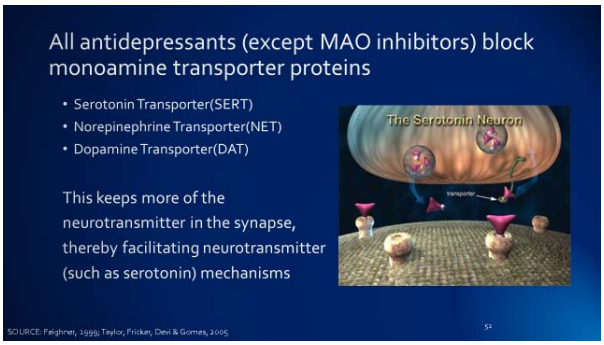
(Notes for Slide 51, continued)

Slide 51: Antidepressants: Complex Medicines

They also reduce corticotropin releasing hormone, which is involved in the stress response, and increase the generation of new neurons in the hippocampus (regulates emotion and memory).

REFERENCE:

Grimonprez, A., Raedt, R., Baeken, C., Boon, P., & Vonck, K. (2015). The antidepressant mechanism of action of vagus nerve stimulation: Evidence from preclinical studies. *Neuroscience & Biobehavioral Reviews, 56,* 26-34.



Slide 52: All antidepressants (except MAO inhibitors) block monoamine transporter proteins

Blocking monoamine transporter proteins reduces the "recycling" of the neurotransmitters by the sending neuron, which keeps more of them in the synapse, effectively increasing the amount of the neurotransmitter.

(Notes for Slide 52, continued)

Slide 52: All antidepressants (except MAO inhibitors) block monoamine transporter proteins

REFERENCES:

Feighner, J.P. (1999) Mechanism of action of antidepressant medications. *The Journal of Clinical Psychiatry, 60(4),* 4-13.

Taylor, C., Fricker, A.D., Devi, L.A., & Gomes, I. (2005). Mechanism of action of antidepressants: from neurotransmitter systems to signaling pathways. *Cellular Signaling, 17(5),* 549-557.

IMAGE CREDITS:

National Institute on Drug Abuse, retrieved from: https://d14rmgtrwzf5a.cloudfront.net/sites/default/files/eslide9.gif, 2007

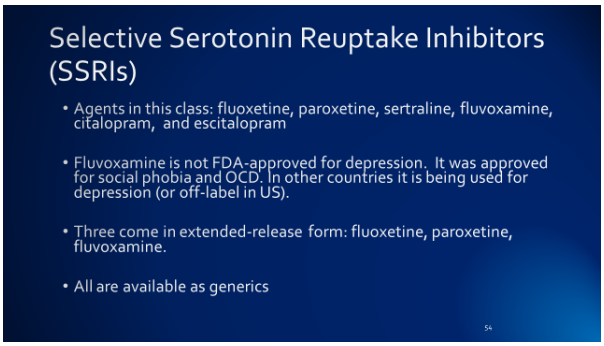
Slide 53: Antidepressant Use

Pharmaceutical companies have tested antidepressants for a variety of disorders such as OCD, bulimia nervosa, panic disorder, social phobia, premenstrual dysphoric disorder, PTSD, gen anxiety, etc. These will be detailed on the slides that follow.

REFERENCES:

Calderone, J. (2014). The rise of all-purpose antidepressants. Scientific American online: https://www.scientificamerican.com/article/the-rise-of-all-purpose-antidepressants/, accessed on 2/14/17.

Pratt, L.A., Brody, D.J., Gu, Q. (2011) Antidepressant use in persons aged 12 and over: United States, 2005–2008. NCHS data brief, no 76. Hyattsville, MD: National Center for Health Statistics.



Slide 54: Selective Serotonin Reuptake Inhibitors (SSRIs)

The medications listed are considered SSRI (Selective Serotonin Reuptake Inhibitors) and are FDA-approved for treatment of depression; the exception is fluvoxamine which is approved for social phobia and OCD. Three of the medications come in extended-release forms requiring reduced frequency of dosing; all are available as generics which are typically more cost-effective for patients.

Additional information for trainers:

Use the included handout to encourage participants to cross-reference the generic names as presented with their brand names if that is the name they're more familiar with in their work.

Fluoxetine → Prozac

Paroxetine → Paxil

Sertraline → Zoloft

Fluvoxamine → Luvox

Citalopram → Celexa

Escitalopram → Lexapro

Slide 55: SSRIs Overview

SSRI's are FDA-approved for the listed conditions. The side effects presented are some of the potential Black Box warnings included for these medications, suicide in particular. Serotonin syndrome symptoms include high body temperature, nausea, vomiting, diarrhea, shaking and can result from administration of a serotonin medication.

IMAGE CREDIT:

Fotolia, purchased image, 2017

Slide 56: Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)

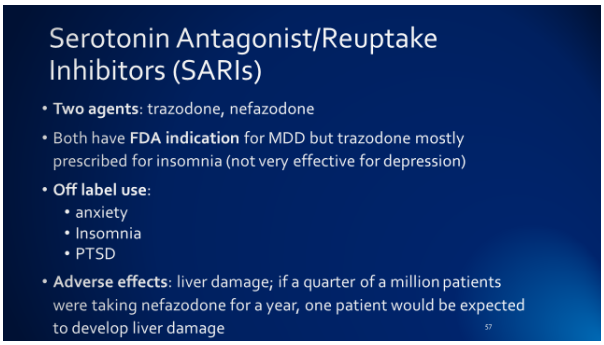
SNRI's increase both serotonin and norepinephrine and are FDA-approved for the listed conditions. "Off-label use" means that the medication is not FDA-approved to treat a condition, but that physicians sometimes use it for that condition anyway (usually if the standard treatments have been ineffective).

Additional information for trainers:

MDD-Major Depressive Disorder

GAD-Generalized Anxiety Disorder

(Notes for Slide 56, continued)



Slide 56: Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)

Use the included handout to encourage participants to cross-reference the generic names as presented with their brand names if that is the name they're more familiar with in their work.

Venlafaxine → Effexor

Desvenlafaxine → Pristiq

Duloxetine → Cymbalta

Milnacipran → Savella

IMAGE CREDIT:

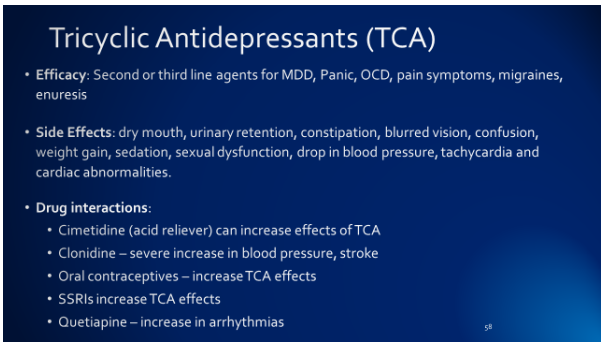
Fotolia, purchased image, 2017

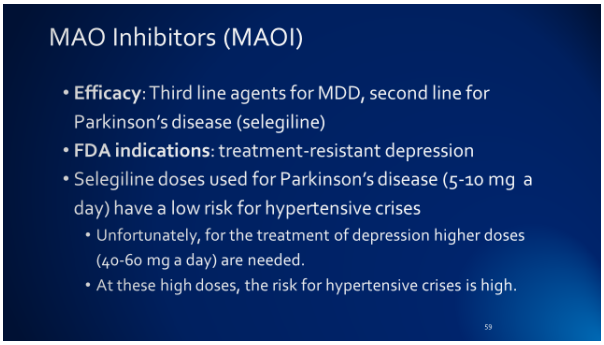
Slide 57: Serotonin Antagonist/ Reuptake Inhibitors (SARIs)

SARI's reduces one type of serotonin and increases another. Trazadone was originally approved for major depression, but is today primarily prescribed for insomnia related to depression.

Additional information for trainers:
There are different categories of the endogenous serotonin neurotransmitter; the two that are implicated in the mechanism of action for SARIs are:

(Notes for Slide 57, continued)





Slide 57: Serotonin Antagonist/ Reuptake Inhibitors (SARIs)

5HT1A – receptor that binds endogenous serotonin

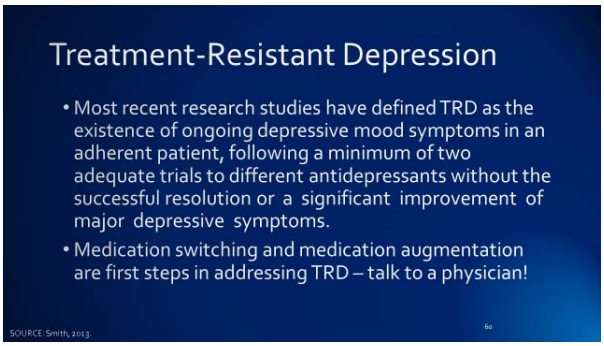
5HT2A – main excitatory subtype for serotonin (may also play an inhibitory role in orbitofrontal cortex and visual cortex)

Slide 58: Tricyclic Antidepressants (TCA)

The tricyclic antidepressants (TCA's) were the original antidepressants, but are not considered "first line" treatments for depression today, mainly because of their many side effects and drug interactions. Usually SSRI's are tried first, and if several SSRI's are ineffective for a particular patient then a TCA might be tried.

Slide 59: MAO Inhibitors (MAOI)

Monoamine Oxidase Inhibitors (MAOI's) are older antidepressants, and like the TCA's are no longer considered first-line medications for depression, again due to some of their side effects. At the doses required to treat depression, they often cause issues with high blood pressure.



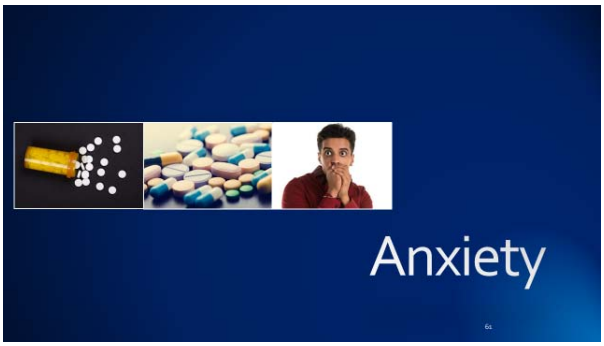
Slide 60: Treatment-Resistant Depression

Read the explanation of treatment-resistant depression. Different people respond to medications differently and adjustments are often needed – this is part of the treatment process. Always consult with the prescriber when it appears a patient/client has treatment-resistant depression.

Additional information for trainers:
Another identified treatment recommendations for treatment resistant depression is electroconvulsive therapy under general anesthesia in which electric currents are administered through the brain, changing brain chemistry in a way that relieves symptoms of severe depression.

REFERENCE:

Smith, D.F. (2013). Quest for Biomarkers of Treatment-Resistant Depression: Shifting the Paradigm Toward Risk. *Frontiers in Psychiatry, 4,* 57.

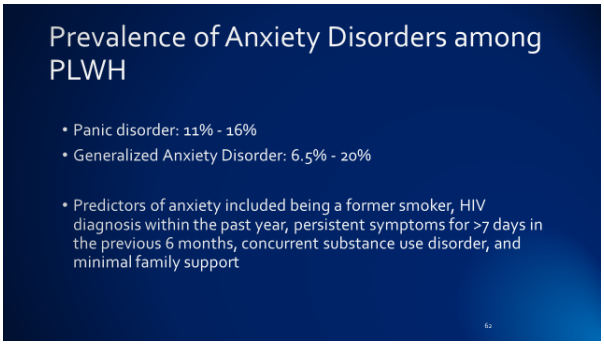


Slide 61: Anxiety

This section will detail anxiety prevalence, mechanisms of anxiety and medications used to treat anxiety.

IMAGE CREDIT:

Fotolia, purchased images, 2017



Slide 62: Prevalence of Anxiety Disorders among PLWH

The prevalence of different diagnostic subtypes of anxiety can vary. Panic disorder among PLWH is approximately 11-16% while generalized anxiety disorder is between 6.5% and 20%. Prevalence of anxiety disorders in PLWH are several times higher than they are among non-HIV infected individuals.

Additional information for trainers: The 12-month prevalence of panic disorder among the general population of the United States is approximately 2.7%; the 12-month prevalence of generalized anxiety disorder among the general population in the United States is 3.1%.

(Notes for Slide 62, continued)

Slide 62: Prevalence of Anxiety Disorders among PLWH

The prevalence of anxiety disorders among PLWH is significantly higher than the general population, indicating that PLWH are disproportionately affected by symptoms of anxiety and anxiety disorders.

REFERENCE:

Chaudhury, S, Bakhla, A, & Saini, R. (2016). Prevalence, impact, and management of depression and anxiety in patients with HIV: a review. *Neurobehavioral HIV Medicine*, *7*, 15-30.

Slide 63: Medications to Treat Anxiety: Antidepressants

Antidepressants are often considered first-line treatments for anxiety disorders.

Additional information for trainers:

OCD → Obsessive-Compulsive Disorder

PTSD → Post-Traumatic Stress Disorder

Bupropion → Wellbutrin

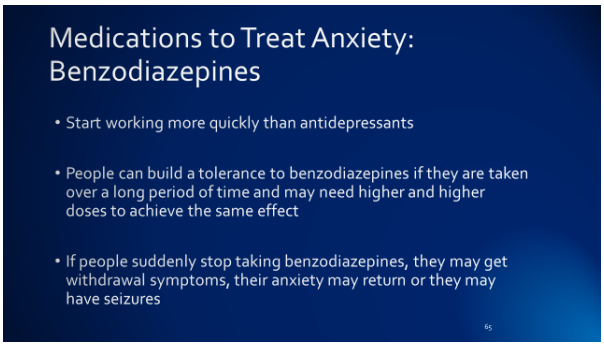
Slide 64: Benzodiazepines

Read the categories and examples of benzodiazepines on this slide. It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

Additional information for trainers:
Benzodiazepines are often used as short-term anxiety treatments. Long-term use is discouraged because of the potential for dependence and abuse.

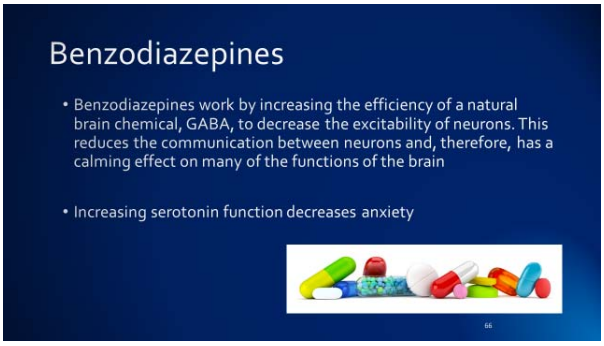
IMAGE CREDIT:

Fotolia, purchased image, 2017



Slide 65: Medications to Treat Anxiety: Benzodiazepines

Read the bullet points on the slide. Emphasize that tolerance to benzodiazepines can result from on-going use if taken in higher doses or over a longer period of time than recommended or intended. This tolerance can result in severe withdrawal symptoms such as seizures that may present critical risk to an individual's health.



Slide 66: Benzodiazepines

Benzodiazepines influence a naturally occurring brain chemical to reduce the excitability of neurons. While this decreases anxiety and has a calming effect, side effects (such as sedation or impacts to short-term memory) may result. GABA – gamma amino butyric acid – the main inhibitory neurotransmitter.

(Notes for Slide 66, continued)

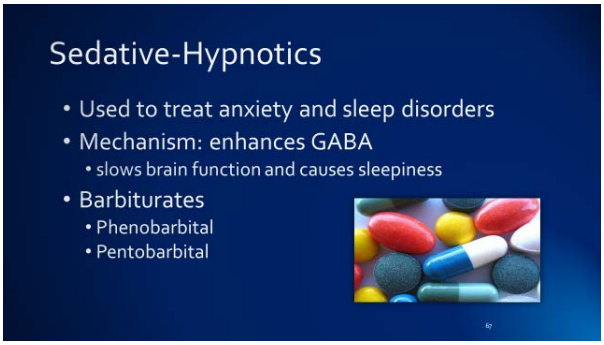
Slide 66: Benzodiazepines

Additional information for trainers:
Benzodiazepines may produce an anxiolytic effect which will inhibit the activation of the amygdala to reduce feelings of anxiety and physiological responses related to fear and anxiety.

Benzodiazepines also have a hypnotic effect in which drowsiness can occur.

IMAGE CREDIT:

Fotolia, purchased image, 2017

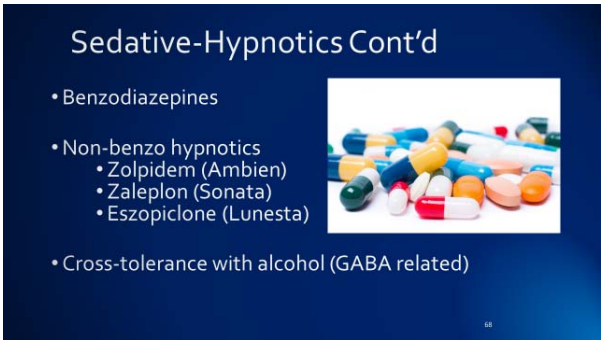


Slide 67: Sedative-Hypnotics

The class of medications called sedative-hypnotics are used in the treatment of anxiety as well as sleep disorders by enhancing the functioning of GABA in the brain. This will cause drowsiness and a general slowing of some brain functions

Additional information for trainers:
Barbiturates are rarely used due to the dosage that can result in overdose being very close in amount to the dosage required for a therapeutic effect. Overdose symptoms include difficulty thinking, drowsiness or coma, impaired judgment, loss of coordination, slurred speech, respiratory sedation.

(Notes for Slide 67, continued)



Slide 67: Sedative-Hypnotics

IMAGE CREDIT:

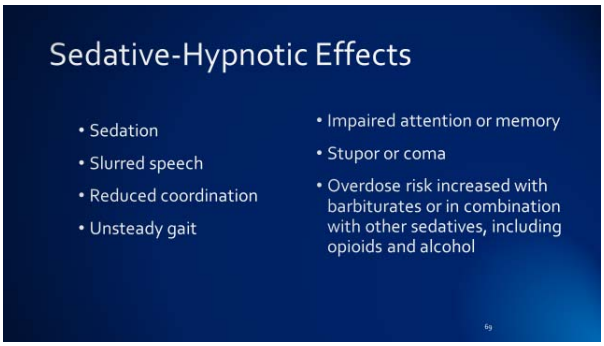
Fotolia, purchased image, 2016

Slide 68: Sedative-Hypnotics Cont'd

Non-benzodiazepine sedative-hypnotics include zolpidem, zaleplon, and eszopiclone. The sedative-hypnotics have cross-tolerance with alcohol, meaning that if you have a high tolerance for alcohol, you will also have a high tolerance for sedative-hypnotics (you will need higher doses in order for it to be effective). However this also makes it easier to overdose if you combine them.

IMAGE CREDIT:

Fotolia, purchased image, 2017



Slide 69: Sedative-Hypnotic Effects

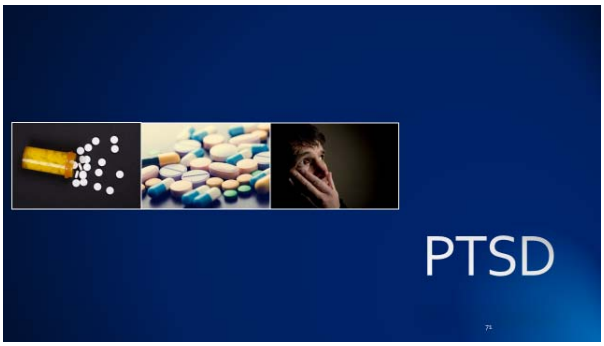
Emphasize that significant health risk is present in overdose. Toxicity/overdose may result in unsteady gait, impaired gag reflex, and blurry vision, obtundation (altered level of consciousness). Patients should be cautioned to never combine sedative-hypnotics with opioids or alcohol.

Slide 70: Other Sedative-Hypnotic Risks

There is no indicator that there is any long-term risk to individuals' physical health with on-going use of sedative-hypnotics, however, there can be impacts on an individual's memory including impairments in short-term or recent memories. This can cause difficulty in cognitive functioning or mental health functioning. It is also important to stress that patients/clients can develop tolerance, physical dependence, and addiction to sedative-hypnotics which makes long-term use risky.

IMAGE CREDIT:

Fotolia, purchased image, 2017

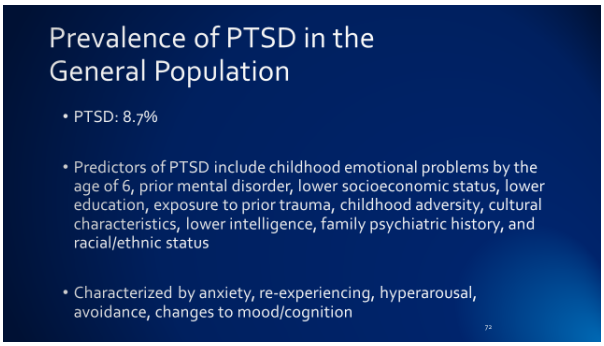


Slide 71: PTSD

This section will detail PTSD/trauma prevalence, mechanisms of PTSD/trauma and medications used to treat PTSD.

IMAGE CREDIT:

Fotolia, purchased images, 2017



Slide 72: Prevalence of PTSD in the General Population

The prevalence PTSD in the general population is 8.7%. There are a number of additional predictors of PTSD that can include childhood exposure to adverse experiences, emotional problems before the age of 6, previous mental disorder, lower socioeconomic status, and a family history of psychiatric disorders.

Additional information for trainers:
Trauma-related disorders are summarized by PTSD on this particular slide, but there is a range of possible types of traumatic experiences across the lifespan with varying effects on the individual who experienced that particular event.

(Notes for Slide 72, continued)

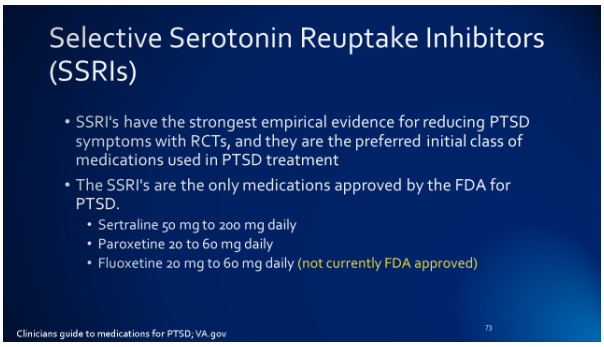
Slide 72: Prevalence of PTSD in the General Population

Adverse childhood experiences early in life (before the age of 18) can have developmental, mental and behavioral impacts across the lifespan. While the impact of these events (such as household dysfunction, sexual/emotional/physical abuse, and parental substance use) on the individual's on-going functioning is well-documented, the resulting symptoms of these experiences is often diagnosed as ADHD or other mood disorders due to the sub-threshold diagnostic features of these types of stressors. Recognize as well that traumatic experiences may not be the traditionally conceptualized "accident, combat, natural disaster" traumas. While only 9% of individuals experience symptoms meeting the criteria for PTSD, research places the amount of individuals who may have experienced a traumatic event at some point in their lives as high as 90%.

REFERENCES:

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, D.C: American Psychiatric Association.

(Notes for Slide 72, continued)



Slide 72: Prevalence of PTSD in the General Population

Kilpatrick, D.G., Resnick, H.S., Milanak, M.E., Miller, M.W., Keyes, K.M., & Friedman, M.J. (2013). National Estimates of Exposure to Traumatic Events and PTSD Prevalence Using *DSM-IV and DSM-5* Criteria. *Journal of Traumatic Stress, 26(5),* 537-547.

Slide 73: Selective Serotonin Reuptake Inhibitors (SSRIs)

SSRI's have the most data from randomized clinical trials (RCT's) to support the treatment of PTSD. The recommended dosages are from the VA's clinician's guide to medications for PTSD. Currently, SSRI's are the only medications that are approved for the treatment of PTSD by the Food and Drug Administration.

REFERENCE:

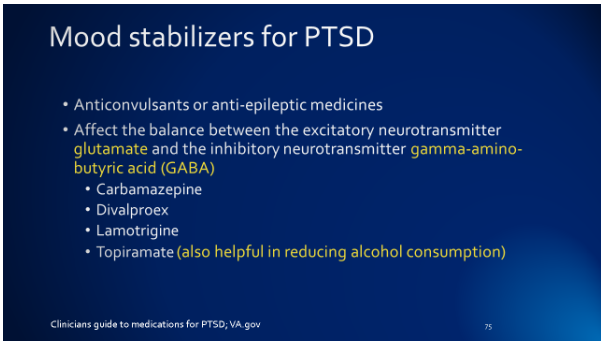
Jeffreys, M. (2017, March 30). Clinician's Guide to Medications for PTSD. Retrieved from https://www.ptsd.va.gov/professional/treatment/overview/clinicians-guide-to-medications-for-ptsd.asp.

Slide 74: Other antidepressants for PTSD

Venlafaxine, nefazodone, and trazodone either alter the transmission of serotonin or affect the balance between serotonin and norepinephrine.

IMAGE CREDIT:

Fotolia, purchased image, 2017

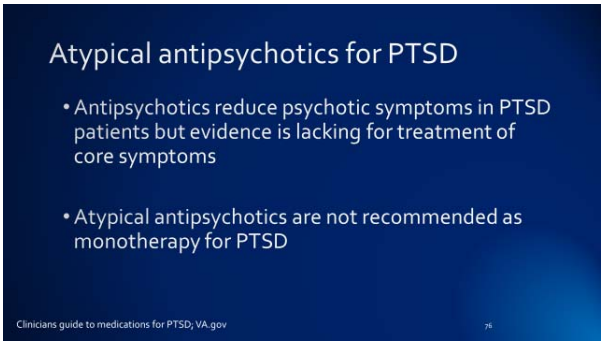


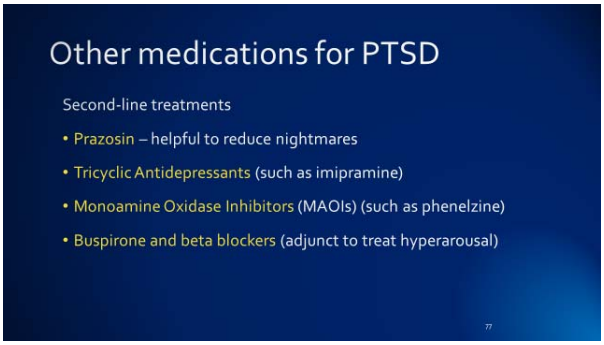
Slide 75: Mood stabilizers for PTSD

While SSRI's are currently the only medications that are approved by the FDA for PTSD treatment, there is evidence that other medications such as antidepressants and mood stabilizers can be used for the purpose of reducing some of the symptoms related to PTSD. Anticonvulsants or anti-epileptic medicines are also used in the treatment of PTSD. Mood stabilizers are also used to treat PTSD.

Additional information for trainers:
"Off-label" use of a medication means use for a purpose other than approved by the FDA for an identified condition; this is a common, legal, and safe practice in most cases.

(Notes for Slide 75, continued)





Slide 75: Mood stabilizers for PTSD

Carbamazepine → Tegretol

Divalproex → Depakote

Lamotrigine → Lamictal

Topiramate → Topimax

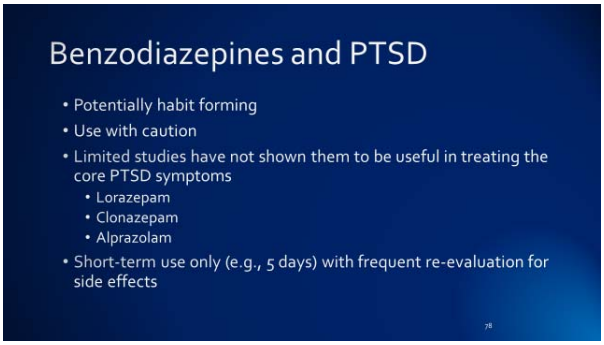
Slide 76: Atypical antipsychotics for PTSD

Antipsychotic medications are used to treat PTSD patients with psychotic symptoms, but there is little evidence that antipsychotics treat the core symptoms of PTSD. It is not recommended that a patient with PTSD be treated ONLY with an antipsychotic medication.

Slide 77: Other medications for PTSD

These are considered to be "second-line" treatments for PTSD, meaning they should be considered only once the "first line" medications are determined to be unsuccessful or if there is a reason (substance use, physical health concerns) that a frontline medication should not be administered to an individual. This determination should be made by the prescribing physician.

(Notes for Slide 77, continued)



Slide 77: Other medications for PTSD

Additional information for trainers:

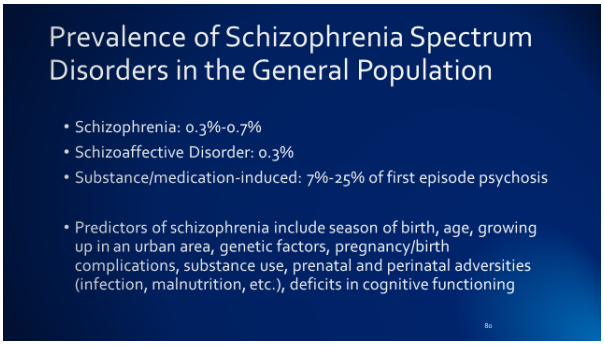
Prazosin → Minipress

Buspirone → Buspar

Slide 78: Benzodiazepines and PTSD

Benzodiazepines can provide an opportunity to stabilize an individual short-term and transition them to longer-term treatment approaches. There are warnings and cautions that providers must be aware of when a patient is taking benzodiazepines. Much like in the treatment of anxiety disorders, benzodiazepines in the treatment of PTSD can be habit-forming and should be used with caution and continuous monitoring and oversight by members of the treatment team. While stabilization of symptoms can result, benzodiazepines have been shown to not have any significant impact in the treatment of core PTSD symptoms, meaning that providers should be cognizant of the need for continuing PTSD-focused interventions if benzodiazepine use allows for stabilization of some symptoms.

(Notes for Slide 78, continued)



Slide 78: Benzodiazepines and PTSD

Additional information for trainers:

Lorazepam → Ativan

Clonazepam → Klonopin

Alprazolam → Xanax

Slide 79: Psychosis

This section will detail psychosis prevalence, mechanisms of psychosis and medications used to treat psychosis.

IMAGE CREDIT:

Fotolia, purchased images, 2017

Slide 80: Prevalence of Schizophrenia Spectrum Disorders in the General Population

The prevalence of different diagnostic subtypes of psychotic spectrum disorders can vary. Schizophrenia among the general population is approximately 0.3-0.7% while schizoaffective disorder is between approximately 0.3%.

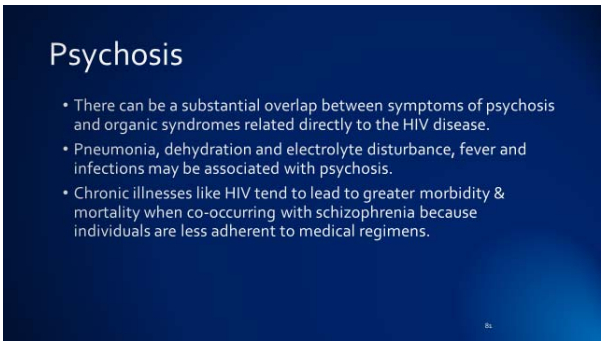
(Notes for Slide 80, continued)

Slide 80: Prevalence of Schizophrenia Spectrum Disorders in the General Population

The incidence of substance or medication-induced first episode psychosis is approximately 7-25%, indicating that it is more likely that an individual will experience their first episode of psychosis as a result of medication or substance use.

REFERENCE:

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, D.C: American Psychiatric Association.



Slide 81: Psychosis

In consideration of a diagnosis of schizophrenia or other psychotic disorder, providers should recognize how rare a diagnosis of schizophrenia is among the general population, and, depending on the organization and individual works in, differential diagnoses of other mental health disorders or even organic causes of symptoms should be ruled out.

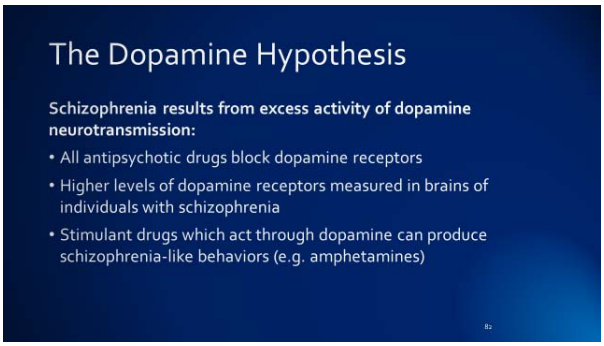
(Notes for Slide 81, continued)

Slide 81: Psychosis

Symptoms of psychosis can be mimicked by some of the organic disturbances of HIV. Physical symptoms of pneumonia, dehydration, electrolyte disturbance, fever and infections can be associated with HIV or may be a result of lack of proper diet and self-care that can be a symptom of the cognitive decline associated with psychotic symptoms. Individuals diagnosed with HIV and psychosis can be at greater risk of morbidity and mortality due to difficulty maintaining adherence to regular medication regimens.

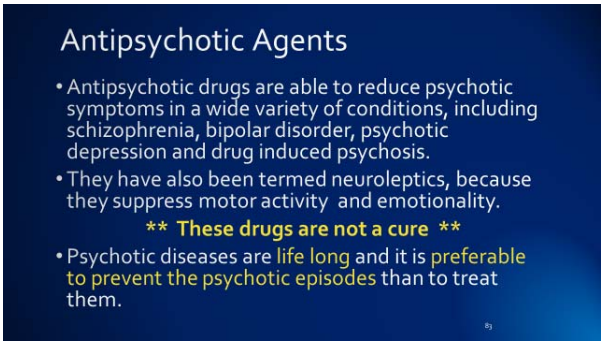
REFERENCE:

A.P.A. H.O.P.E. (2010) Training Module 3. American Psychological Association, p. 48.



Slide 82: The Dopamine Hypothesis

The dopamine hypothesis of schizophrenia states that schizophrenia is caused by excessive dopamine activity in the brain. Measurements of the amount of dopamine in the brains of individuals with schizophrenia has shown higher amounts that in individuals who do not have schizophrenia. This seems to be related to the way in which stimulant drugs (which affect the dopaminergic system of the brain) can produce schizophrenia-like symptoms such as hallucinations or delusions. Antipsychotic medications block dopamine receptors in an attempt to reduce this activity.



Slide 83: Antipsychotic Agents

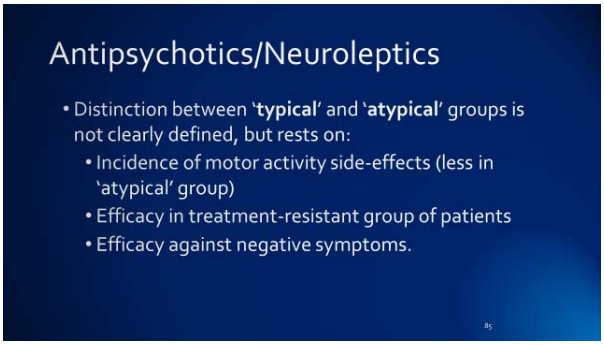
While antipsychotic medications reduce psychotic symptoms, they are not considered to be a cure for psychosis. One of the difficulties in treating individuals with psychosis is that they often discontinue their medication when they feel “normal”, but then they eventually have another psychotic episode because they aren’t taking medication.

Slide 84: Antipsychotics/Neuroleptics

Read the categories and examples of antipsychotics/neuroleptics on this slide. It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

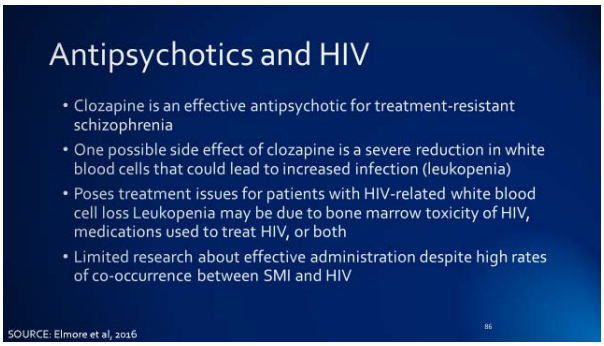
IMAGE CREDIT:

Fotolia, purchased image, 2017



Slide 85: Antipsychotic/Neuroleptics

The "atypical" antipsychotics generally have fewer side effects than the older, "typical" antipsychotics. They are also generally more effective with treatment-resistant individuals (patients who have tried one or more "typical" medications with limited or no success) and against negative symptoms such as flat affect, anhedonia (loss of the ability to experience pleasure), alogia (poverty of speech-brief, empty replies to questions), and avolition (inability to initiate and persist in goal-directed activities).



Slide 86: Antipsychotics and HIV

Another medication useful for treatment-resistant psychosis is clozapine. However, a side effect is agranulocytosis (a severe lack of one type of infection-fighting white blood cells), which is especially problematic for people with compromised immune functioning. While clozapine is recognized as an effective antipsychotic for the treatment of schizophrenia, there is limited research about the way in which it can be effectively administered to individuals with co-occurring SMI and HIV, despite high rates of the combination of impairments.

REFERENCE:

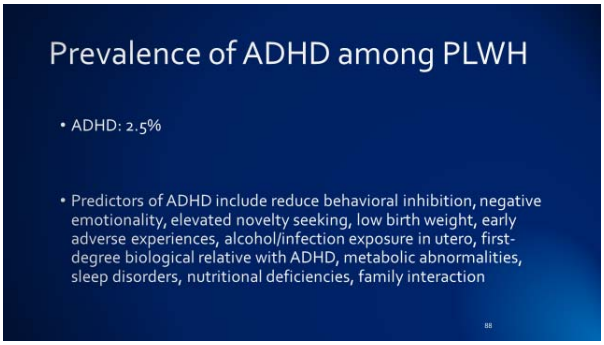
Elmore, H., Lewin, J., Bradley, M., & Sinkman, A. (2016). Use of Granulocyte Colony-Stimulating Factor in a Neutropenic HIV-Infected Patient on Clozapine. *Psychosomatics*, *57,* 651-654.

Slide 87: ADHD

This section will detail ADHD prevalence, mechanisms of ADHD and medications used to treat ADHD.

IMAGE CREDIT:

Fotolia, purchased images, 2017



Slide 88: Prevalence of ADHD among PLWH

The prevalence of ADHD among individuals with HIV is 2.5%. The listed factors are correlated with ADHD. One indicator of risk of ADHD is exposure in utero to alcohol or infection.

Additional information for trainers:

The 12-month prevalence of ADHD among adults in the general population of the United States is approximately 4.1%.

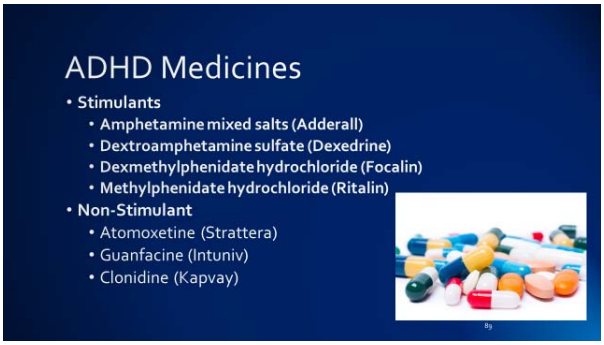
(Notes for Slide 88, continued)

Slide 88: Prevalence of ADHD among PLWH

REFERENCES:

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, D.C: American Psychiatric Association.

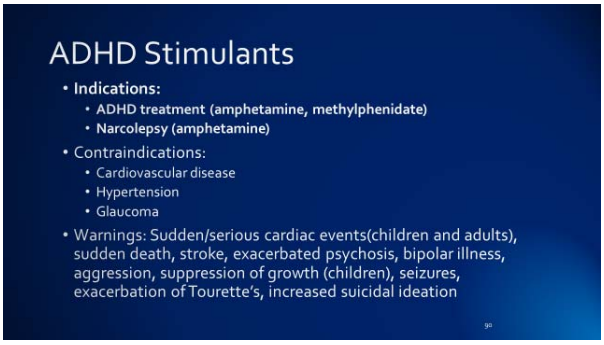
Chaudhury, S, Bakhla, A, & Saini, R. (2016). Prevalence, impact, and management of depression and anxiety in patients with HIV: a review. *Neurobehavioral HIV Medicine*, *7*, 15-30.



Slide 89: ADHD Medicines

Read the two categories of ADHD medicines and examples of stimulants and non-stimulant medicines on this slide. It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

(Notes for Slide 89, continued)



Slide 89: ADHD Medicines

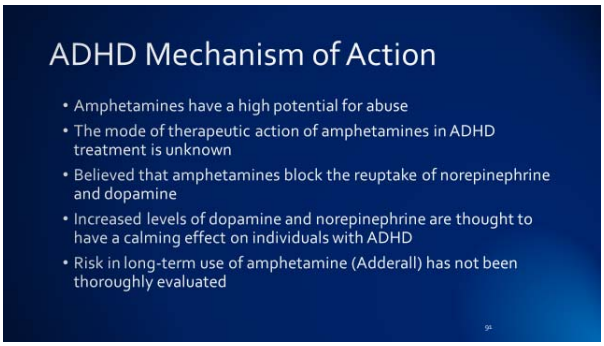
IMAGE CREDIT:

Fotolia, purchased image, 2017

Slide 90: ADHD Stimulants

Stimulant medications are FDA-approved to treat ADHD and narcolepsy. They are not advised to be used in patients who have cardiovascular disease, hypertension, or glaucoma. The warnings from the medication labels are listed.

Additional information for trainers:
Related to the suppression of growth in children – published data are currently inadequate to determine whether chronic use of amphetamines may cause a suppression of growth; however, based on existing research, it is likely that this may be one of the side effects of ADHD stimulant use.



Slide 91: ADHD Mechanism of Action

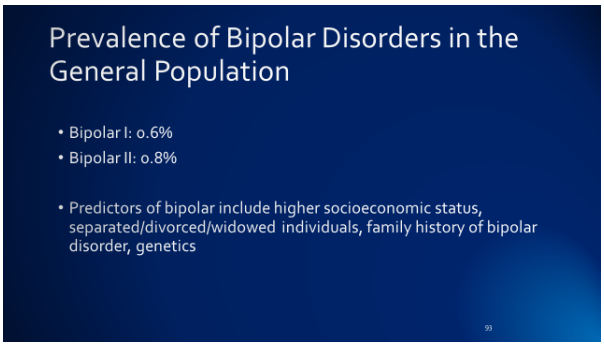
The exact mechanism by which stimulant medications treat ADHD is unknown; however, it is believed that they increase levels of dopamine and norepinephrine. In people without ADHD, this produces high energy and euphoria, but in people with ADHD it has the opposite, a calming effect.

Slide 92: Bipolar Disorder

This section will detail bipolar disorder prevalence, mechanisms of bipolar disorder and medications used to treat bipolar disorder.

IMAGE CREDIT:

Fotolia, purchased images, 2017



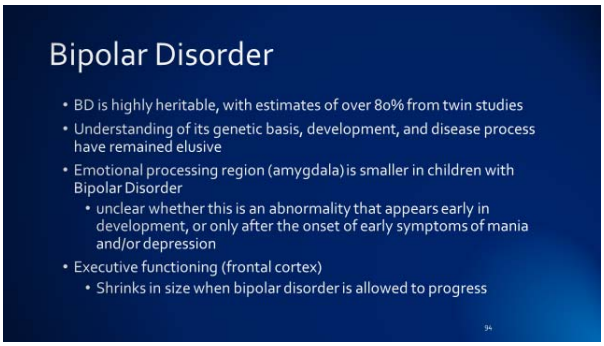
Slide 93: Prevalence of Bipolar Disorders in the General Population

The prevalence of bipolar I disorder in the general population is 0.6%. The prevalence of bipolar II disorder is slightly higher at 0.8%. The listed factors are correlated with bipolar disorder. One of the main indicators of risk for development of bipolar disorder is genetic.

Additional information for trainers:
The difference between Bipolar I and Bipolar II diagnoses is based on symptom severity and duration. In order to meet the criteria for Bipolar I, practitioners should consider whether the criteria of a manic episode is met. This criteria is required for a diagnosis of Bipolar I. Manic episodes are characterized by elevated mood or irritability, similar to a hypomanic episode, but with increased severity lasting at least 1 week that may result in hospitalization.

REFERENCE:

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, D.C: American Psychiatric Association.



Slide 94: Bipolar Disorder

There is a strong genetic component to bipolar disorder. The amygdala, which plays a role in emotion regulation and learning, has been found to be smaller in children with bipolar disorder, but it is unclear if it actually causes bipolar or results from it. The frontal cortex has been found to be smaller in people with bipolar disorder. This has implications for executive functioning, reasoning, decision-making, and judgment.

Additional information for trainers:
Executive functioning and the frontal cortex are responsible for planning, focusing, managing tasks, inhibitory control – all skills that clients attempt to learn or develop in treatment. In bipolar disorder, difficulty with emotional processing and lack of inhibitory control/planning resulting from changes to the frontal cortex are similar to neurological changes that result from on-going substance use.

(Notes for Slide 94, continued)

Slide 94: Bipolar Disorder

REFERENCES:

Garrett, A. & Chang, K. (2008). The role of the amygdala in bipolar disorder development. *Development and Psychopathology, 20(4),* 1285-1296.

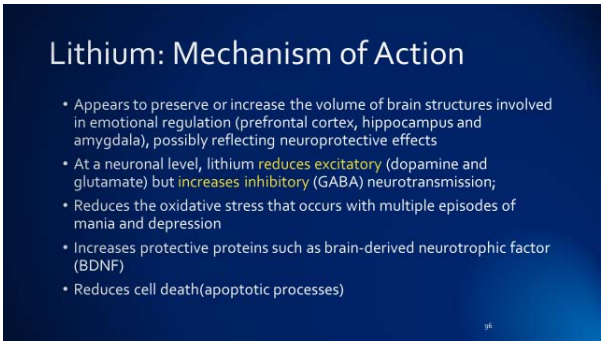
Harrison, P.J., (2016). Molecular neurobiological clues to the pathogenesis of bipolar disorder. *Current Opinion in Neurobiology, 36,* 1-6.

Slide 95: Mood stabilizers

Read the categories of mood stabilizers used in the treatment of bipolar disorder It may be useful to reference the handout and note that this slide lists generic names first, followed by brand names.

Additional information for trainers:
Mood stabilizers such as lithium and valproic acid are generally the first-line treatments for bipolar disorder, but atypical antipsychotic medications are also used.

(Notes for Slide 95, continued)



Slide 95: Mood stabilizers

IMAGE CREDIT:

Fotolia, purchased image, 2017

Slide 96: Lithium: Mechanism of Action

Lithium is one of the first-line treatments for bipolar disorder and works by changing brain structure and functioning. Lithium seems to be able to preserve or increase the volume of brain structures involved in emotional processing and regulation such as the amygdala and prefrontal cortex (discussed on Slide 94) which may indicate that there are neuroprotective effects of the medication. The mechanism of action of lithium is a reduction of excitatory neurotransmitters dopamine and glutamate and an increase in inhibitory neurotransmitters. Stress that creates imbalances chemically may also be reduced neurologically. Protective proteins that increase neuroplasticity and neuronal growth in the brain are increased by lithium while protecting the brain against further cell death (apoptosis).

(Notes for Slide 96, continued)

Slide 96: Lithium: Mechanism of Action

Additional information for trainers:
Oxidative stress is an imbalance between the production of free radicals and the ability of the body to counteract or detoxify their harmful effects through neutralization by antioxidants. This stress can contribute to the apoptotic process (cell death) in the brain.

REFERENCE:

Malhi, G.S., Tanious, P., Das, P., Coulston, C.M., & Berk, M. (2013). Potential mechanisms of action of lithium in bipolar disorder. Current understanding. *CNS Drugs, 27(2),* 135-153.

Slide 97: Bipolar Disorder: Alternative Therapies

While some clients may report the use of a combination of herbal/vitamin/ alternative therapies as having been useful in the treatment of bipolar disorder (i.e., the consumption of antioxidant-rich foods in order to combat oxidation in the brain), there has been limited research conducted on natural/herbal supplements as treatments for bipolar disorder.

(Notes for Slide 97, continued)

Slide 97: Bipolar Disorder: Alternative Therapies

Studies examining the effects of omega-3 fatty acids typically found in fish oil and salmon are one of the supplements that have been evaluated to determine whether or not they might be a viable alternative treatment for bipolar disorder. The results have been mixed.

REFERENCE:

The National Institute of Mental Health. (2016, April). Bipolar Disorder. Retrieved from: http://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml#part_145406.

IMAGE CREDIT:

Fotolia, purchased image, 2017

Slide 98: Integrated Treatment Recommendations

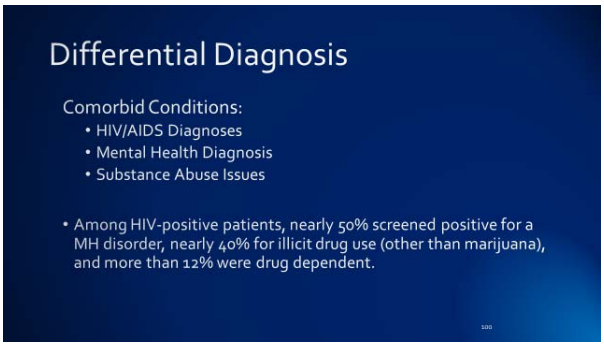
Note to participants that at this point in the training, the focus is shifting to building upon understanding of the different medications for categories of disorders to putting together treatment recommendations that would be useful in creating discussions that address need for referral for medication evaluation by a physician or strategies for medication adherence.

Slide 99: Recognizing HIV and Psychiatric Illness

This first subsection of treatment recommendations focuses on being able to recognize and distinguish HIV and psychiatric illness symptoms.

IMAGE CREDIT:

Fotolia, purchased images, 2017



Slide 100: Differential Diagnosis

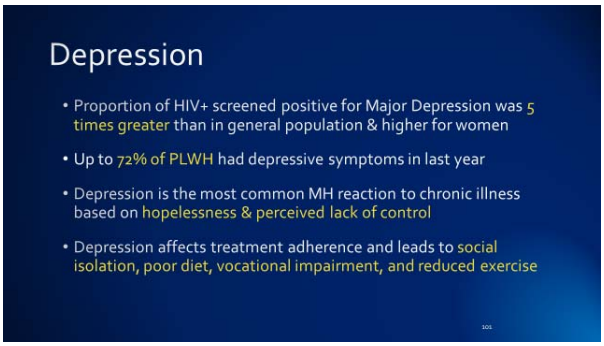
Summarize previous information presented: prevalence rates for all psychological disorders are significantly higher for PLWH than the general population at nearly 50% with one or more mental health and/or substance-related conditions. These patients are more likely to be non-adherent to medication regimens and have higher rates of morbidity and mortality.

Co-occurring mental health disorders tend to be more prominent in women, racial and ethnic minorities, and among those socially and economically marginalized.

REFERENCES:

Bing, E.G., Burnam, M.A., & Longshore, D. (2001). Psychiatric Disorders and Drug Use Among Human Immunodeficiency Virus-Infected Adults in the United States. *Archives of General Psychiatry, 58(8),* 721-728.

MacPhee, E.R. & Douaihy, A. (2005). Triple Diagnosis: An Overview. *FOCUS: Guide to AIDS Research & Counseling, 20(3)*, 5-7.



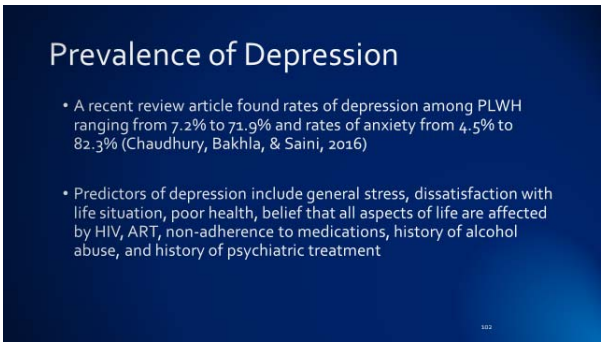
Slide 101: Depression

The percentage of PLWH who screened positive for depression was 5 times greater than in the general population and even higher for women. Depression screening and on-going assessment for depression should be integrated into practice at any healthcare facility with the ability to address depressive symptoms among PLWH or refer for treatment. Hopelessness and a lack of control can result from chronic conditions which create potential obstacles for engaging in health-improving behaviors that may affect treatment adherence and medication adherence.

REFERENCES:

Rabkin, J.G. (2008). HIV and depression: 2008 review and update. *Current HIV and AIDS Report*, *5(4),* 163-171.

Weatherburn, P., Keogh, P., Reid, D., Dodds, C., Bourne, A., et al., (2009) What do you need? 2007-2008 Findings from a national survey of people with diagnosed HIV. Retrieved from: www.sigmaresearch.org.uk/files/report2009b.pdf.



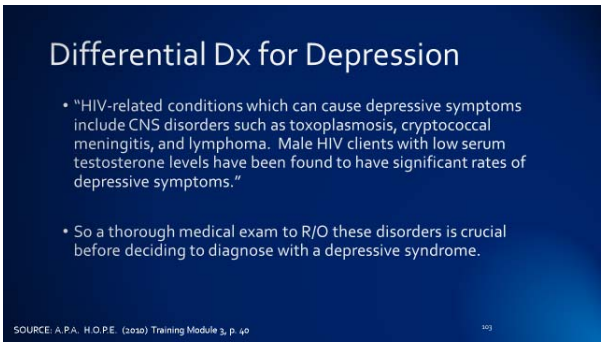
Slide 102: Prevalence of Depression

Prevalence and symptoms vary wildly – it's important to conduct a thorough assessment and coordinate care. The range can account for a number of variables ranging from the focus on clinical symptoms to patient self-report. The importance factor is to consider that depression is related to on-going impacts to health and well-being including general stress, dissatisfaction with life, poorer health, non-adherence to medication and history of alcohol abuse.

Additional information for trainers:
The wide range of prevalence rates can be accounted for in measuring symptoms vs. diagnoses; different diagnostic criteria i.e. DSM vs. ICD; self-report symptom checklists vs. clinician-administered assessments; assessing for current symptoms vs. the past two weeks vs. the past 30 days or lifetime.

REFERENCE:

Chaudhury, S, Bakhla, A, & Saini, R. (2016). Prevalence, impact, and management of depression and anxiety in patients with HIV: a review. *Neurobehavioral HIV Medicine, 7*, 15-30.

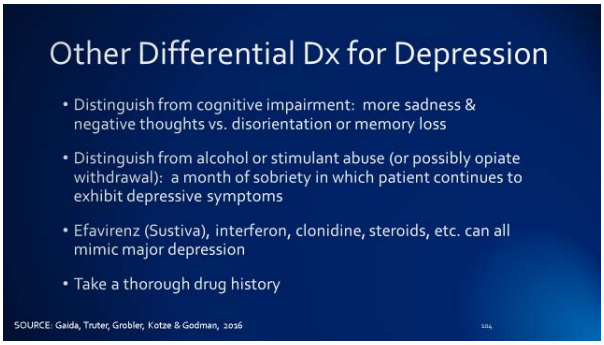


Slide 103: Differential Dx for Depression

As previously mentioned, a number of HIV-related conditions can cause depressive symptoms, so it is important to rule out these physical conditions prior to making a diagnosis of major depression.

REFERENCE:

A.P.A. H.O.P.E. (2010) Training Module 3. American Psychological Association, p. 40.



Slide 104: Other Differential Dx for Depression

Other aspects of differential diagnosis for depression include distinguishing it from cognitive impairment, alcohol or stimulant abuse, and side effects of the listed medications. It is important to take a thorough drug history at intake. In order to distinguish between depression from organic or other cognitive impairment is to note whether there is more sadness and negative cognition/thought versus disorientation and memory loss.

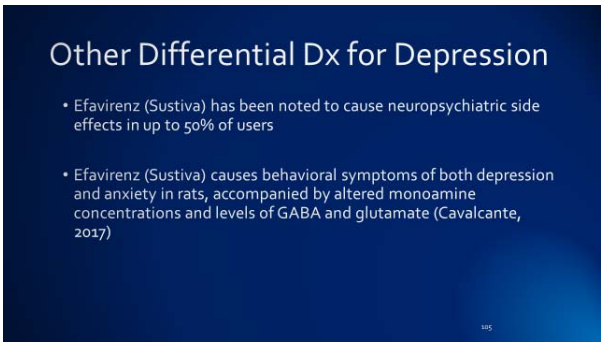
(Notes for Slide 104, continued)

Slide 104: Other Differential Dx for Depression

Taking a thorough history and observing the individual's behaviors and affect in the session can assist in determining this distinction. It can be difficult to distinguish between alcohol or other substance-induced cognitive impairment or sadness; in this situation, once the client has been able to obtain a month of sobriety, the presence of symptoms would most likely indicate on-going depression.

REFERENCE:

Gaida, R., Truter, I., Grobler, C., Kotze, T., & Godman, B. (2016). A review of trials investigating efavirenz-induced neuropsychiatric side effects and the implications. *Expert Review of Anti-infective Therapy, 14(4),* 377-388.

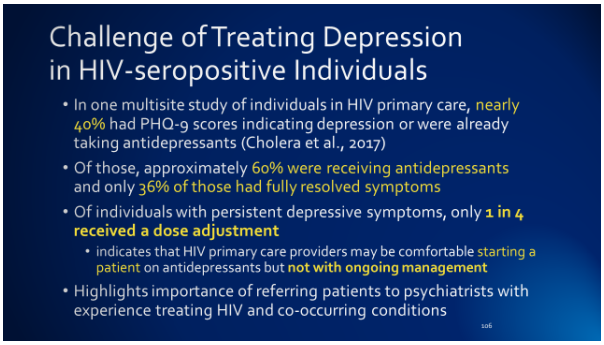


Slide 105: Other Differential Dx for Depression

Efavirenz, in particular, can cause psychiatric side effects. In animal studies, the administration of efavirenz caused behavioral symptoms of depression and anxiety as well as neurological changes such as monoamine changes.

REFERENCE:

Cavalcante, G., Chaves Filho, A.J., Linhares, M.I., de Carvalho Lima, C.N., et al. (2017). HIV antiretroviral drug Efavirenz induces anxiety-like and depression-like behavior in rats: evaluation of neurotransmitter alterations in the striatum. *European Journal of Pharmacology, 799,* 7-15.



Slide 106: Challenge of Treating Depression in HIV-seropositive Individuals

It can be difficult to treat depression in HIV-seropositive individuals due to exacerbation of untreated depression co-occurring with HIV seropositivity. One study found that almost half of all survey respondents exhibited symptoms of depression or were already taking antidepressants.

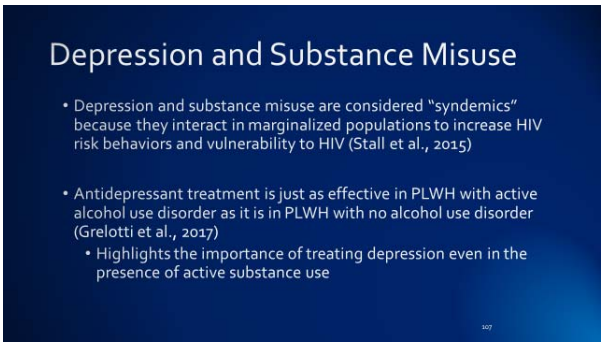
(Notes for Slide 106, continued)

Slide 106: Challenge of Treating Depression in HIV-seropositive Individuals

While over half of the individuals taking antidepressants had fully resolved symptoms, only 25% of all the individuals with persistent depressive symptoms received any adjustment to their medication. This indicates that while HIV care providers start patients on antidepressants, there is limited follow-up or on-going management that results in changes to the initial treatment intervention.

REFERENCE:

Cholera, R., Pence, B.W., Bengtson, A.M., Crane, H.M., Christopoulos, K., et al. (2017). Mind the gap: gaps in antidepressant treatment, treatment adjustments, and outcomes among patients in routine HIV care in a multisite U.S. clinical cohort. *PLoS ONE, 12(1),* 1-14.



Slide 107: Depression and Substance Misuse

An important point here is that antidepressants are effective in treating depression among PLWH regardless of whether they are abusing alcohol. Clinicians should not be reluctant to actively treat depression even with active alcohol abuse.

REFERENCES:

Grelotti, D.J., Hammer, G.P., Dilley, J.W., Karasic, D.H., Sorensen, J.L., Bangsberg., D.R., & Tsai, A.C. (2017). Does substance use compromise depression treatment in persons with HIV? Findings from a randomized controlled trial. *AIDS Care 29(3),* 273-279.

Stall, R., Coulter, R.W.S., Friedman, M.R., & Plankey, M.W. (2015). Commentary on "Syndemics of psychosocial problems and HIV risk: a systematic review of empirical tests of the disease interaction concept" by A. Tsai and B. Burns. *Social Science & Medicine 145,* 129-131.

Slide 108: Disparities in Depression Treatment

Health disparities exist among people living with HIV just as in the general population. Women are more likely to have depression, but African-American and Hispanic PLWH are less likely to receive antidepressants than White PLWH.

REFERENCE:

Bengtson, A.M., Pence, B.W., Crane, H.M., Christopolous, K., Fredericksen, R.J., et al. (2016). Disparities in Depressive symptoms and antidepressant treatment by gender and race/ethnicity among people living with HIV in the United States. *PLoS ONE 11(8),* e0160738.

IMAGE CREDIT:

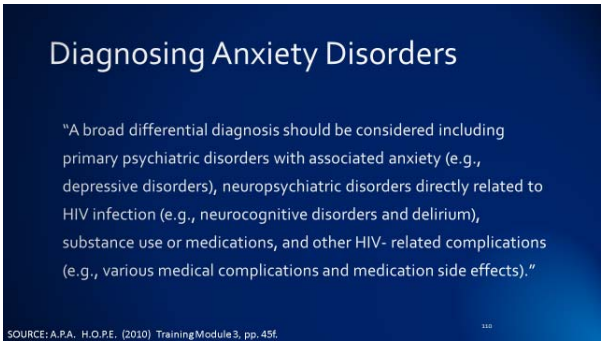
Fotolia, purchased image, 2017

Slide 109: Anxiety Disorders

In one study, PLWH screened positive for anxiety disorders 8 times higher than rates in the general population. It is important to realize that anxiety often manifests in physical symptoms that mimic medical issues.

REFERENCE:

A.P.A. H.O.P.E. (2010) Training Module 3. American Psychological Association, p. 44f.

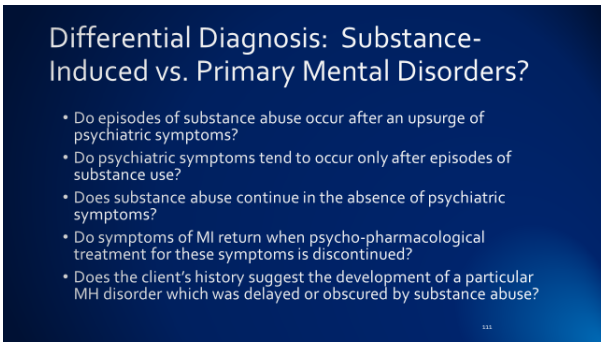


Slide 110: Diagnosing Anxiety Disorders

Have a member of the audience read through the quote and ask for volunteers to identify the ways in which this would look in their setting.

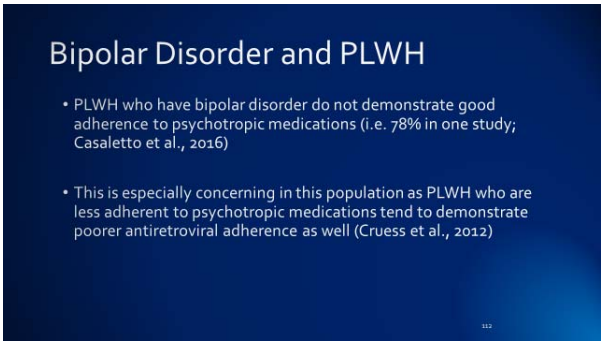
REFERENCE:

A.P.A. H.O.P.E. (2010) Training Module 3. American Psychological Association, p. 45f.



Slide 111: Differential Diagnosis: Substance-Induced vs. Primary Mental Disorders?

Present these questions to the audience as questions that will assist them in making determinations as to whether or not symptoms are substance-induced or a primary mental disorder. For example, if episodes of substance abuse occur after the occurrence of psychiatric symptoms, the individual is most likely self-medicating to relieve symptoms of an existing primary mental disorder.



Slide 112: Bipolar Disorder and PLWH

As with many psychiatric conditions, PLWH with bipolar disorder tend to have reduced adherence to both psychotropic medications and HIV medications.

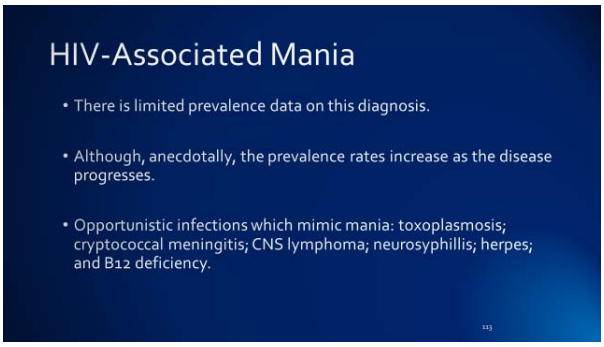
(Notes for Slide 112, continued)

Slide 112: Bipolar Disorder and PLWH

REFERENCES:

Casaletto., K.B., Kwan, S., Montoya, J.L., Obermeit, L.C., Gouaux, B., et al. (2016). Predictors of psychotropic medication adherence among HIV+ individuals living with bipolar disorder. *The International Journal of Psychiatry in Medicine, 51(1),* 69-83.

Cruess, D.G., Kalichman, S.C., Amaral, C., et al. (2012). Benefits of adherence to psychotropic medications on depressive symptoms and antriretroviral medication adherence among men and women living with HIV/AIDS. *Annals of Behavioral Medicine 43,* 189-197.



Slide 113: HIV-Associated Mania

There is limited data on HIV-associated mania though it appears that the impairment will increase as the disease progresses. HIV-related opportunistic infections that can mimic mania are: **toxoplasmosis**, a parasite infection causing flu-like symptoms; **cryptococcal meningitis**, a fungus typically found in the soil that can cause infection of the brain and spinal cord;

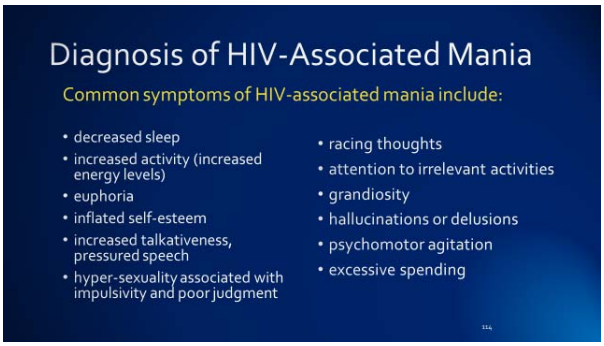
(Notes for Slide 113, continued)

Slide 113: HIV-Associated Mania

CNS lymphoma, malignant cancer cells forming in the brain or spinal cord; **neurosyphilis**, syphilitic infection of the brain or spinal cord which can be indicated by headache, stiff neck, nausea and vomiting; **herpes**, a virus causing contagious sores often around the mouth or genitals; **B12 deficiency**, a vitamin bound to proteins in food which can cause dementia in severe cases of deficiency.

REFERENCE:

Ellen, S.R., Judd, F.K., Mijch, A.M., & Cockram, A. (1999), Secondary Mania in Patients with HIV Infection. *Australian & New Zealand Journal of Psychiatry, 33*, 353-360.

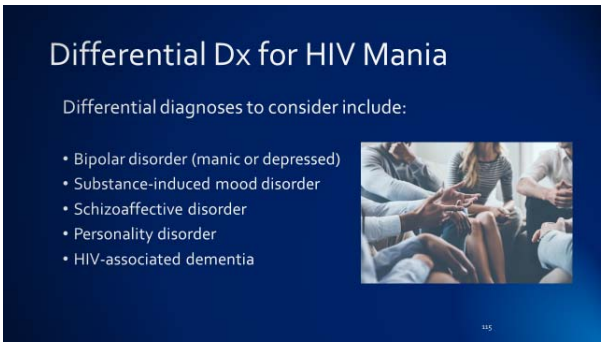


Slide 114: Diagnosis of HIV-Associated Mania

Read through the different symptoms of HIV-associated mania and ask the audience how those symptoms might be misdiagnosed or identified as a different substance-induced or mental health symptom.

REFERENCE:

A.P.A. H.O.P.E. (2010) Training Module 3. American Psychological Association, p. 49f.



Slide 115: Differential Dx for HIV Mania

While HIV mania can develop as the disease progresses, consider that other diagnoses may actually account for the symptoms. Other diagnoses to consider include bipolar disorder – either the manic symptoms or the depressive symptoms may mimic HIV mania. Substance-induced mood disorders, schizoaffective disorder, other personality disorders, and HIV-associated dementia can all create symptoms or behaviors that present similarly to HIV mania. Thorough and on-going assessment is clinically indicated.

IMAGE CREDIT:

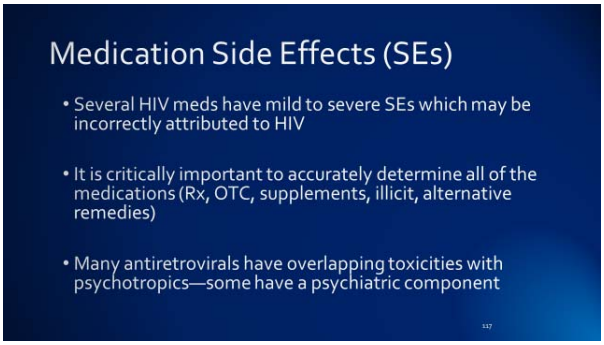
Fotolia, purchased image, 2017

Slide 116: Drug-Drug Interactions

Note that this next subsection of treatment integration is to consider how drug-drug interactions may affect the patient. Throughout this section, encourage participants to consider their scope of practice and, if mediation interactions are outside their scope, always refer to a physician if concerns arise.

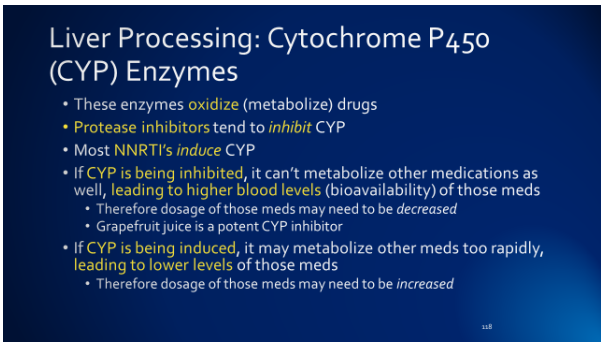
IMAGE CREDIT:

Fotolia, purchased images, 2017



Slide 117: Medication Side Effects (SEs)

This slide introduces the section on drug-drug interactions. Many medications have side effects that may be attributed either to a psychiatric condition or to the HIV itself. Again, imperative to get a full medication/drug history.



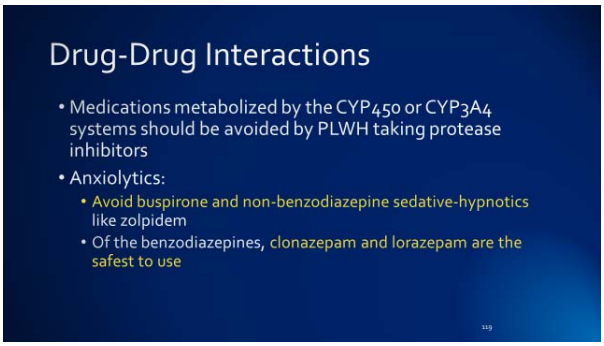
Slide 118: Liver Processing: Cytochrome P450 (CYP) Enzymes

This slide explains how medications are metabolized by the cytochrome P450 (CYP) system in the liver.

Important points: protease inhibitors tend to inhibit CYP, while NNRTI's (non-nucleoside reverse transcriptase inhibitors) tend to induce CYP. This affects blood levels of other medications, often requiring a dose adjustment of those meds.

REFERENCE:

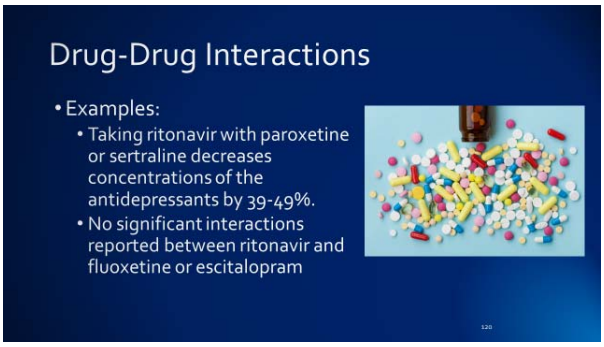
Stolbach, A., Paziana, K, Heverling, H., & Pham, P. (2015). A review of the toxicity of HIV medications II: interactions with drugs and complementary and alternative medicine products. Journal of Medical Toxicology, 11, 326-341.



Slide 119: Drug-Drug Interactions

Make the point that buspirone and zolpidem should be avoided by PLWH taking protease inhibitors and that of the anti-anxiety benzodiazepines, clonazepam and lorazepam are the safest to use with protease inhibitors.

(Notes for Slide 119, continued)



Slide 119: Drug-Drug Interactions

Additional information for trainers:

Buspirone → Buspar

Zolpidem → Ambien

Clonazepam → Klonopin

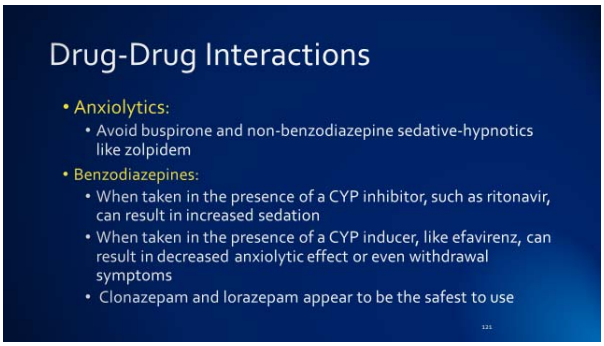
Loreazepam → Ativan

Slide 120: Drug-Drug Interactions

Taking paroxetine (Paxil) or sertraline (Zoloft) with ritonavir reduces the antidepressant blood levels by 39-49%, while there were no significant interactions reported between ritonavir and fluoxetine (Prozac) or escitalopram (Lexapro).

IMAGE CREDIT:

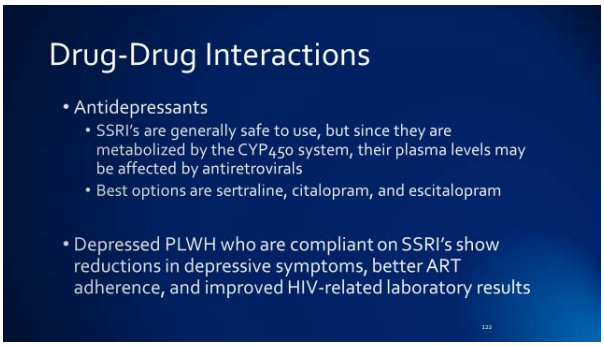
Fotolia, purchased image, 2017



Slide 121: Drug-Drug Interactions

An individual taking anxiolytics and benzodiazepines should avoid taking other sedative-hypnotics or buspirone. When benzodiazepines are taken with **CYP inhibitors** like ritonavir (an HIV antiviral medication), there can be increased sedation as a side effect of the medication. The mechanism of action when taken with a **CYP inducer** is the opposite and may result in withdrawal symptoms or a reduced anxiolytic effect which may compel the patient to try to take more of the benzodiazepine to get the desired effect.

Additional information for trainers:
CYP refers to the enzyme cytochrome which is responsible for the oxidation and disposal of certain molecules in the body.



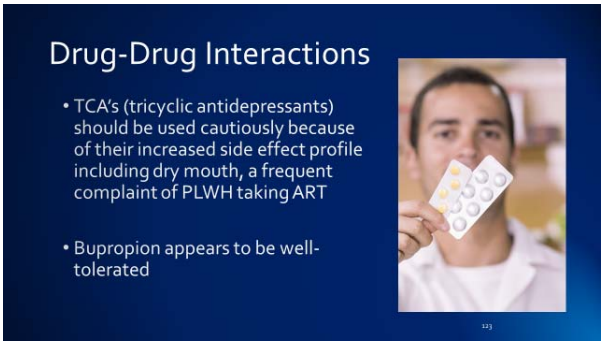
Slide 122: Drug-Drug Interactions

As far as antidepressant interactions with HIV medications, the SSRI's appear to be generally safe to use, and of those the best options appear to be sertraline (Zoloft), citalopram (Celexa), and escitalopram (Lexapro).

Important point: depressed PLWH taking an SSRI have better outcomes not only in terms of reduced depressive symptoms, but also HIV-related outcomes.

REFERENCE:

Stolbach, A., Paziana, K, Heverling, H., & Pham, P. (2015). A review of the toxicity of HIV medications II: interactions with drugs and complementary and alternative medicine products. *Journal of Medical Toxicology, 11,* 326-341.



Slide 123: Drug-Drug Interactions

The tricyclic antidepressants have side effects similar to those of many antiretrovirals, so they may be multiplied if taken together. Bupropion (Wellbutrin) seems to have fewer side effects and to be easier to tolerate.

(Notes for Slide 123, continued)

Slide 123: Drug-Drug Interactions

IMAGE CREDIT:

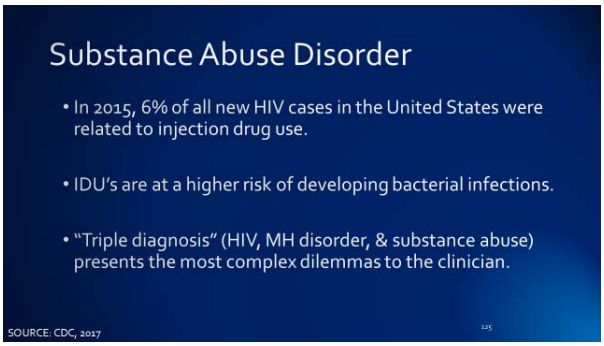
Fotolia, purchased image, 2017

Slide 124: HIV & Illicit Drug Interactions

Introduce the next section as focusing specifically on the interaction between HIV symptoms and medications and illicit drug use.

IMAGE CREDIT:

Fotolia, purchased images, 2017

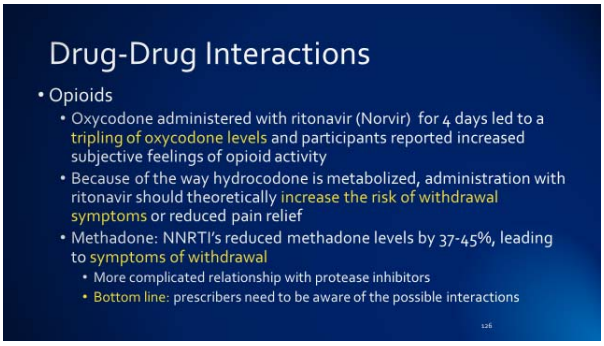


Slide 125: Substance Abuse Disorder

Illicit drug use is identified as use of any illegal substance or any prescription medication for a purpose other than intended by a prescribing physician. Six percent of all new HIV cases are due to injection drug use in the United States which also puts injection drug users (IDU) at greater risk of developing other health related consequences, such as bacterial infections.

REFERENCE:

Centers for Disease Control and Prevention. (2017, March). HIV and Injection Drug Use. Centers for Disease Control and Prevention: Division of HIV/AIDS Prevention. Retrieved from: https://www.cdc.gov/hiv/risk/idu.html.



Slide 126: Drug-Drug Interactions

Physicians and other prescribers need to be aware of the possible interactions between HIV meds and drugs of abuse. Read the examples of oxycodone, hydrocodone, and methadone from each bullet point.

(Notes for Slide 126, continued)

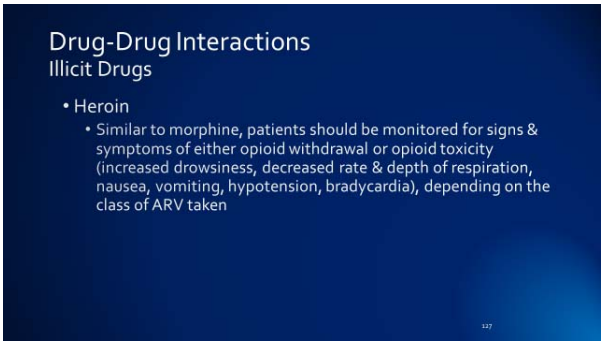
Slide 126: Drug-Drug Interactions

Additional information for trainers:

NNRTI – non nucleoside reverse transcription inhibitors

REFERENCE:

Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. The Annals of Pharmacotherapy, 36, 1598-1613.

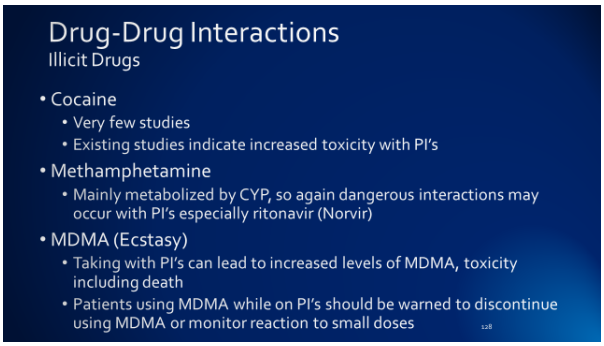


Slide 127: Drug-Drug Interactions

Depending on the type of antiretroviral a patient is taking, if they are actively using heroin they should be monitored for either opioid withdrawal or opioid toxicity. There are very few studies looking at cocaine in combination with antiretrovirals, but the ones that exist indicate increased toxicity with protease inhibitors.

REFERENCE:

Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. *The Annals of Pharmacotherapy, 36,* 1598-1613.

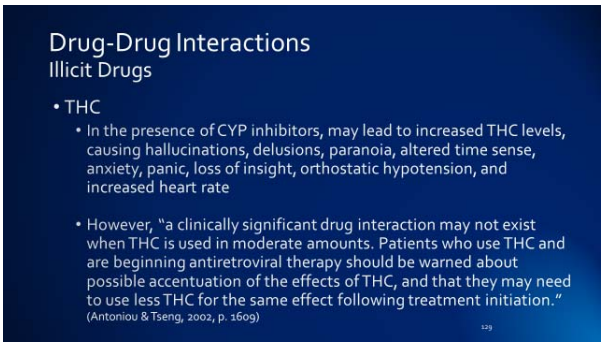


Slide 128: Drug-Drug Interactions

Using either MDMA (Ecstasy) or methamphetamine with protease inhibitors is likely to produce life-threatening drug interactions.

REFERENCE:

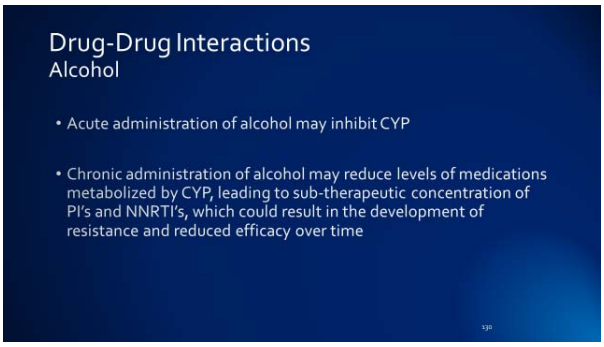
Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. *The Annals of Pharmacotherapy, 36,* 1598-1613.



Slide 129: Drug-Drug Interactions

With regard to cannabis, using it with CYP inhibitors may lead to increased THC levels, causing unpleasant and/or dangerous side effects. However, using small amounts of cannabis may be relatively safe. Patients should be warned that they may need to reduce the amount of cannabis they use to obtain the same effect.

(Notes for Slide 129, continued)



Slide 129: Drug-Drug Interactions

REFERENCE:

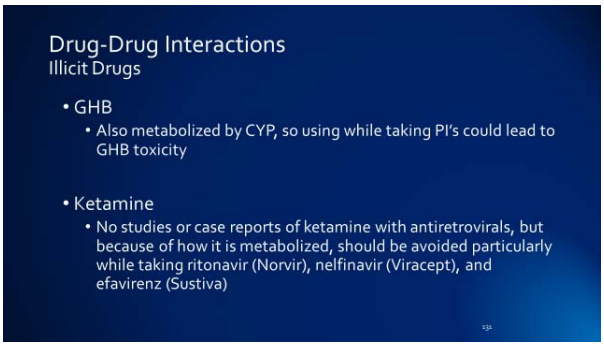
Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. *The Annals of Pharmacotherapy, 36,* 1598-1613.

Slide 130: Drug-Drug Interactions

Regular drinking may lead to reduced levels of both PI's and NNRTI's, resulting in the development of resistant viral strains over time.

REFERENCE:

Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. *The Annals of Pharmacotherapy, 36,* 1598-1613.



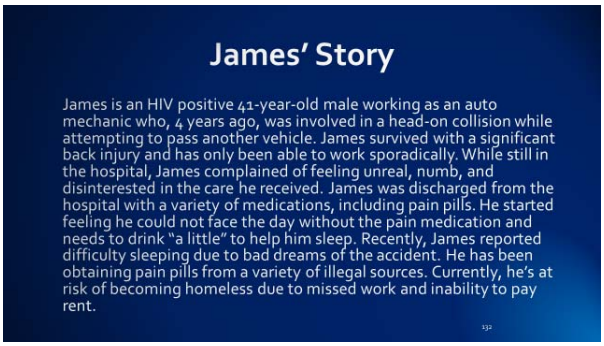
Slide 131: Drug-Drug Interactions

Both GHB and Ketamine should be avoided while taking protease inhibitors. GHB should be avoided due to being metabolized by CYP similarly to protease inhibitors which could result in increased GHB toxicity. While there are no studies that examine use of ketamine with antiretrovirals, it should be avoided based on the mechanism of metabolization.

Additional information for trainers:
Gamma hydroxybutyrate (GHB) is typically sold as a liquid or a powder and used for its euphoric effects. It can produce a feeling of calm and acts as a central nervous system depressant. It is sometimes referred to as the "date rape" drug due to the CNS depressant effects when mixed with alcohol.

REFERENCE:

Antoniou, T. & Tseng, A.L. (2002). Interactions between recreational drugs and antiretroviral agents. *The Annals of Pharmacotherapy, 36,* 1598-1613.



Slide 132: James' Story

Divide participants into groups of 2-4, depending on the size of the training. Read the vignette of James out loud and ask the participants to discuss the case in their groups and then debrief their discussion with the entire group. Allow 5-10 minutes for groups to review the case and develop answers for some key questions. Ask groups to consider:

- ***What other information do you need to know about James?***
- ***What questions/concerns would you have about medication interactions and/or substance use?***
- ***Given your role, when would James enter treatment at your facility?***
- ***What is the initial clinical focus of treatment and what strategies would you use to successfully engage James in integrated treatment?***

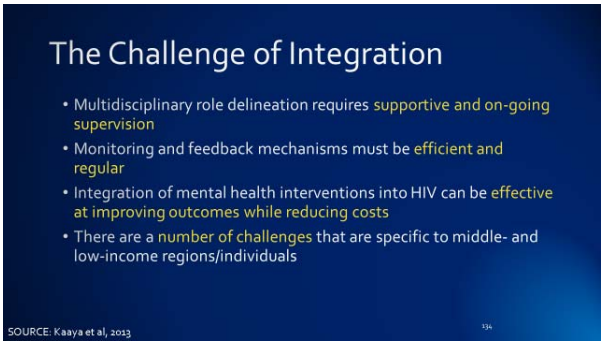
Allow for approximately 8 minutes for debrief, depending on the number of groups.

Slide 133: Treatment Approaches

The slide transitions from discussing assessment and drug-drug interaction information to identifying ways in which providers can start to utilize different treatment planning conceptualizations and interventions with clients.

IMAGE CREDIT:

Fotolia, purchased images, 2016



Slide 134: The Challenge of Integration

This slide identifies the challenges that providers tend to face at an organizational level in treatment complex "triple diagnosis" cases – clients who experience mental, physical and behavioral health impairments. The intervention slides frame treatment as requiring a multidisciplinary, integrated approach. Within this, role delineation is critical.

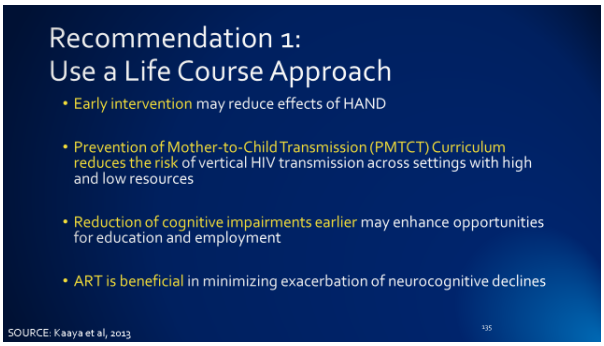
(Notes for Slide 134, continued)

Slide 134: The Challenge of Integration

Supportive and consistent supervision that is provided on an on-going basis will ensure that individuals who are working within an integrated service modality will be able to understand their role and the role of their team members. Organizations should have a mechanism in place to provide regular and consistent feedback to staff in order to make communication about progress as efficient as possible. Research indicates that integrating services can improve outcomes for patients while reducing overall health costs. The following slides will present some of the challenges that may arise and how to address those challenges.

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.



Slide 135: Recommendation 1: Use a Life Course Approach

From the Kaaya et al study referenced on the previous slide, there are four specific recommendations for organizational development of capacity to meet the challenges of integration presented by individuals diagnosed with HIV, mental health issues, and substance use issues. The first recommendation is to use a life course approach in conceptualization and treatment intervention. This includes, intervening early; if individuals can be screened for mental, physical, and behavioral health issues regularly, the possibility of earlier detection before significant impairments or exacerbation of impairments occurs is higher. Earlier intervention may reduce the effects of HAND and improve or maintain cognitive functioning. Antiretroviral treatments are beneficial in minimizing these neurocognitive declines.

Additional Information for Trainers:
PMTCT – Prevention of Mother-to-Child Transmission is a curriculum for healthcare providers to begin to reduce risk of transmission of HIV from mother to child.

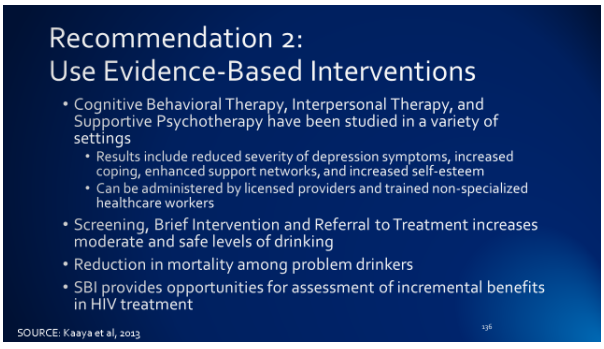
(Notes for Slide 135, continued)

Slide 135: Recommendation 1: Use a Life Course Approach

This type of transmission is referred to as **vertical** transmission, whereas **horizontal** transmission is any method of transmission between individuals of the a similar generation through transmission of bodily fluids (rather than from one generation to the next as in a parent-child relationship).

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.



Slide 136: Recommendation 2: Use Evidence-Based Interventions

From the Kaaya et al study referenced on the previous slide, there are four specific recommendations for organizational development of capacity to meet the challenges of integration presented by individuals diagnosed with HIV, mental health issues, and substance use issues.

(Notes for Slide 136, continued)

Slide 136: Recommendation 2: Use Evidence-Based Interventions

The second recommendation is to use evidence-based treatment interventions. Cognitive-behavioral based treatment interventions that have strong evidence supporting their use with "triply" diagnosed populations can be accessible to multiple disciplines and levels of experience among providers at an organization. Screening, brief intervention and referral to treatment services act as a harm reduction model for alcohol use and can increase opportunities for on-going screening and assessment of progress in treatment.

Additional Information for Trainers: The following acronyms represent evidence-based treatments that are manualized or brief interventions that have demonstrated efficacy with reducing substance use and depressive symptoms as well as enhancing motivation or coping skills.

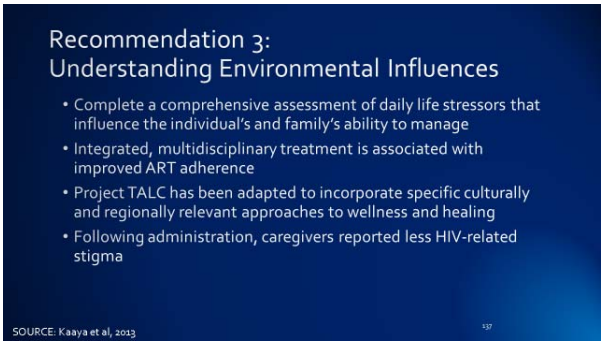
CBT – cognitive-behavioral therapy

IPT – interpersonal therapy

SPT – supportive psychotherapy

SBIRT – screening, brief intervention, and referral to treatment

(Notes for Slide 136, continued)



Slide 136: Recommendation 2: Use Evidence-Based Interventions

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.

Slide 137: Recommendations 3: Understanding Environmental Influences

From the Kaaya et al study referenced on the previous slide, there are four specific recommendations for organizational development of capacity to meet the challenges of integration presented by individuals diagnosed with HIV, mental health issues, and substance use issues. The third recommendation is to understand the way in which the environment influences recovery and health.

(Notes for Slide 137, continued)

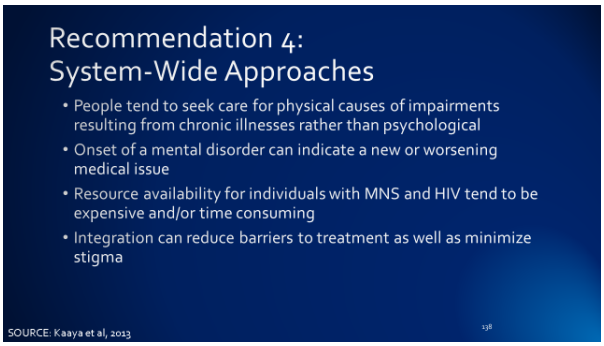
Slide 137: Recommendation 3: Understanding Environmental Influences

A comprehensive assessment examining biopsychosocial factors related to mental health, substance use, and health-related behaviors can provide information about the way in which daily life stressors influence the individual and family's ability to manage symptoms. An emphasis on integrated, multidisciplinary approaches to care enhances ART adherence and improves treatment outcomes.

Project TALC – Teens and Adults Learning to Communicate is a modular approach to enhancing communication between caregivers/adults with HIV or AIDS and teens living with adults who have HIV or AIDS. Enrollment in the curriculum resulted in reduced HIV/AIDS-related stigma.

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.



Slide 138: Recommendation 4: System-Wide Approaches

From the Kaaya et al study referenced on the previous slide, there are four specific recommendations for organizational development of capacity to meet the challenges of integration presented by individuals diagnosed with HIV, mental health issues, and substance use issues. The fourth recommendation is to consider system-wide approaches to integrated treatment, This includes the recognition that most people will tend to seek care or access care as a result of physical impairments resulting from chronic illnesses rather than psychological reasons. However, the onset of a mental disorder may place the individual at risk of developing a medical condition or exacerbating an existing medical condition. While resources for treatment of co-occurring mental health/substance use and HIV conditions can be expensive or difficult to find, integrating services at all points of access, even if just for screening and referral, can maximize opportunities for engagement, education, and early identification.

(Notes for Slide 138, continued)

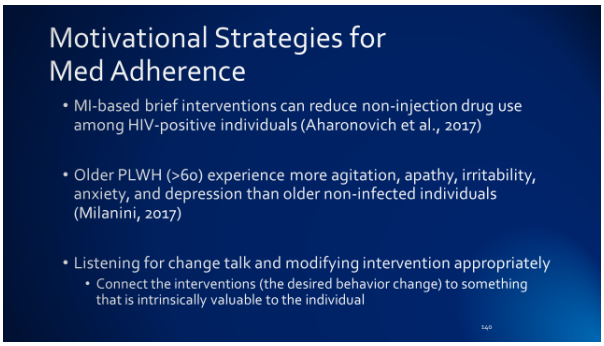
Slide 138: Recommendation 4: System-Wide Approaches

REFERENCE:

Kaaya, S., Eutache, E., Lapidos-Salaiz, I., Musisi, S., Psaros, C. & Wissow, L. (2013). Grand Challenges: Improving HIV Treatment Outcomes by Integrating Intervetions for Co-Morbid Mental Illness. *PLOS Medicine*, *10(5)*, 1-5.

Slide 139: Remember the difference between drugs and medications!

This slide is the same as Slide 14. It is presented again at this point in the presentation in order to remind participants that the distinction between medications and drugs is important and the way in which providers use language can enhance motivation and assist understanding.



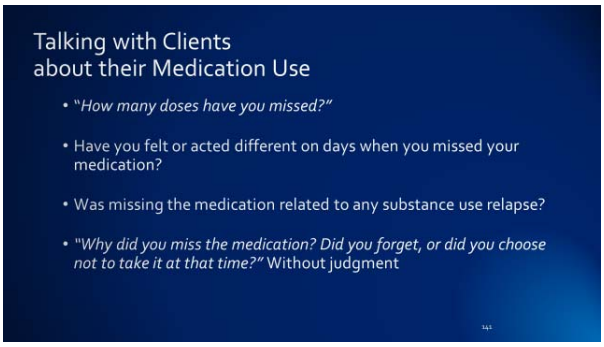
Slide 140: Motivational Strategies for Med Adherence

As a continuation of the previous slide, the way in which language is used can act as a motivational strategy to increase medication compliance. MI-based brief interventions can be useful, particularly among non-injection drug use HIV-positive individuals. A longer timeframe for intervention may be required to create substantial change for individuals injecting drugs. Motivational techniques can also be useful in reducing experiences of agitation, apathy, irritability, anxiety, and depression among older individuals diagnosed with HIV. The opportunity to listen for "change talk" means being able to hear what the individual is saying, identify their own self-identified values and incorporate that into an intervention.

REFERENCES:

Aharonovich, E., Sarvet, A., Stohl, M., DesJarlais, D., Tross, S., et al. (2017). Reducing non-injection drug use in HIV primary care: A randomized trial of brief motivational interviewing, with and without HealthCall, a technology-based enhancement. *Journal of Substance Abuse Treatment, 74,* 71-79.

(Notes for Slide 140, continued)



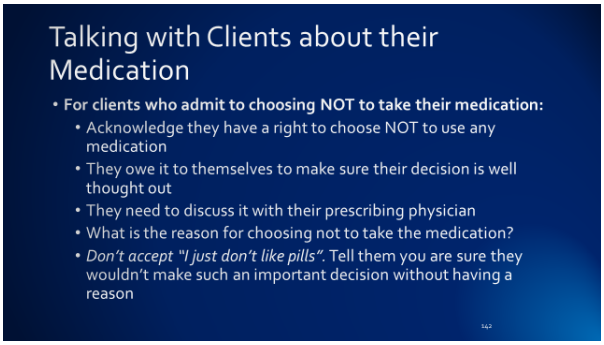
Slide 140: Medication Strategies for Med Adherence

Milanini, B., Catella, S., Perkovich, B., Esmaeili-Firidouni, P., Wendelken, L., et al. (2017). Psychiatric symptom burden in older people living with HIV with and without cognitive impairment: the UCSF HIV over 60 cohort study. *AIDS Care, 29(9)*, 1178-1185.

Slide 141: Talking with Clients about their Medication Use

When talking to client about their medication adherence, use open-ended questions when able to determine whether or not the individual recognizes having acted differently when missing doses or to determine whether missed doses were related to substance use/relapse. It may be useful to help the client identify reasons as to why they were unable to take medications to develop insight around medication adherence. When asking questions, it is important to ask without judgement. Two useful questions to ask are: "how many doses did you miss"; and "why did you miss doses?" In asking these questions, it is essential to talk to the client during the first session in which medication is identified as an important goal about the reason a provider might be asking these questions.

(Notes for Slide 141, continued)



Slide 141: Talking with Clients about their Medication Use

Without establishing the purpose behind these questions, they can easily be construed as judgmental, even if the provider is intending to ask them without judgment. Let the client know ahead of time that these questions will always be asked because people miss doses, but just because doses are missed does not mean it will not be discussed in the hopes of coming up with coping mechanisms and organizational strategies to prevent missed doses in the future.

Slide 142: Talking with Clients About their Medication

If a client admits to not taking a medication, a few strategies for continuing the conversation include acknowledging that they have a right to choose NOT to take their medication and that it is, ultimately, their choice whether or not they decide to take the medication; talk about the pros and cons of medication use; what is the individual getting out of using medication versus not using medication. As a provider, never accept "I just don't like pills."

(Notes for Slide 142, continued)

Slide 142: Talking with Clients About their Medication

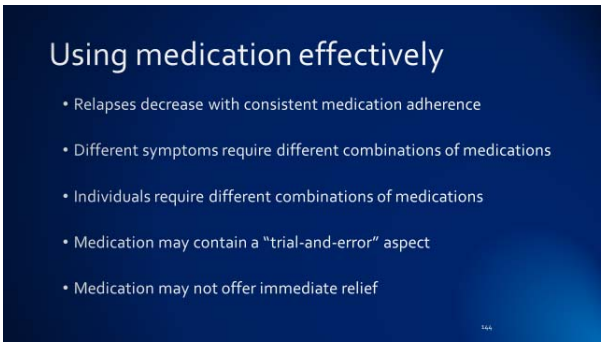
This is an opportunity to focus on developing an intervention that could help the client identify a reason for such an important decision.

Slide 143: What People Might Say

Conduct a group activity based on things clients may say as reasons for not taking a medication. Have training participants break into groups of 3-4 and discuss how they might address each of the phrases on the slide if a client were to give this as a reason for not taking medication. Debrief the activity by asking groups to share how they would address each of the phrases.

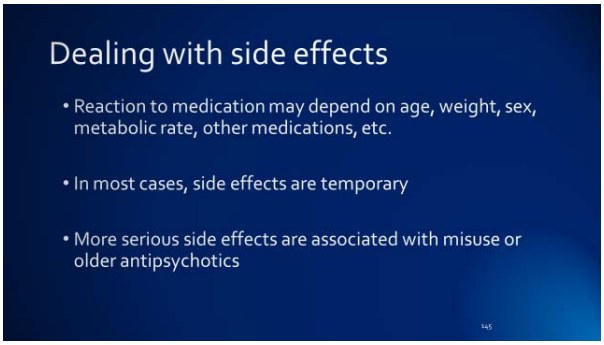
IMAGE CREDIT:

Fotolia, purchased image, 2017



Slide 144: Using Medication Effectively

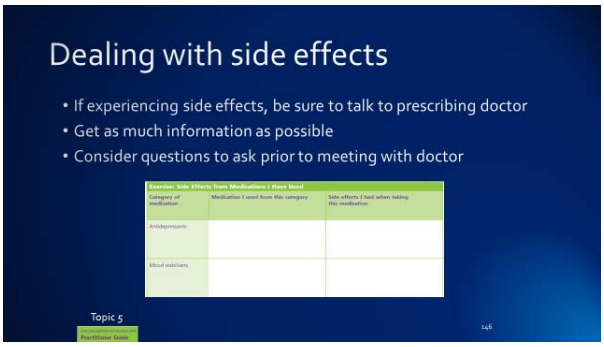
Some other education that you might be able to provide to clients to help them understand medication includes the fact that relapses decrease with consistent medication adherence. It can be useful for clients to know that medication administration or prescribing can be a process and different symptoms require different combinations of medications that may have to be modified or adjusted during an initial "trial-and-error" period and in on-going reassessment of treatment needs based on progress. Medications can also take time to start working, potentially up to a week or two of continuous use.



Slide 145: Dealing with Side Effects

Side effects may be part of the medication use. Some individuals experience side effects and others experience minimal side effects. The extent to which an individual may experience side effects depends on the medication being used and individual differences including age, weight, sex, metabolic rate and other medications.

(Notes for Slide 145, continued)



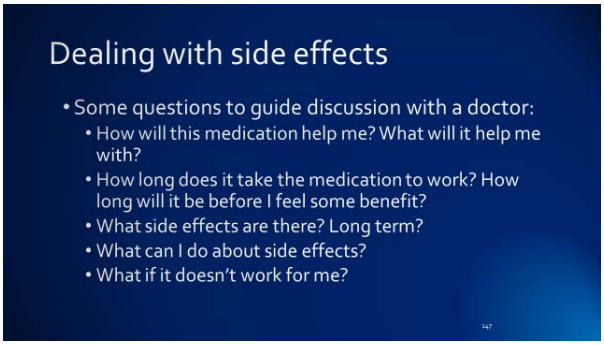
Slide 145: Dealing with Side Effects

In general, the side effects are temporary but certain medications may carry risk of significant side effects (i.e. antidepressants and the potential for increased suicidality). Always talk to a doctor if experiencing side effects.

Slide 146: Dealing with Side Effects

A useful tool may be for the client or client and provider to write down side effects as they occur. Keeping a log of different medications and the class of medications helps to organize the client's medication adherence as well as provide the counselor with a list of how the client is experiencing different medications. Consider, ahead of time, questions that need to be asked to doctors in order for the client to adequately advocate for themselves and have any concerns addressed in the meeting with the doctor.

(Notes for Slide 146, continued)



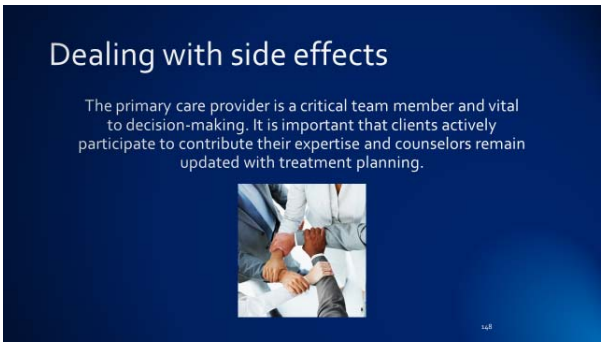
Slide 146: Dealing with Side Effects

REFERENCE:

Illness Management and Recovery: Evidence-Based Practices KIT. (2009). *U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, Rockville, MD.*

Slide 147: Dealing with Side Effects

This slide provides sample questions the client and counselor may want to consider in consultation with a doctor regarding side effects of medications. Ask the audience for other questions that might be useful for a client to consider prior to meeting with a doctor. Ask the audience to identify interventions or skills that client may be able to develop in order to ensure that there is a structured, organized method for keeping track of questions and remembering to ask them during a meeting with a doctor.

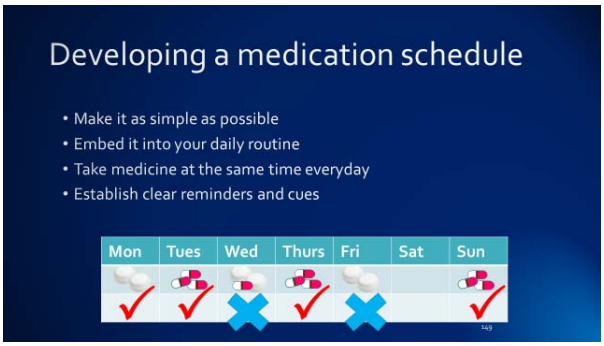


Slide 148: Dealing with Side Effects

Remind and emphasize for participants that integrating multidisciplinary team members, including doctors, leads to improved outcomes in treatment.

IMAGE CREDIT:

Fotolia, purchased image, 2017



Slide 149: Developing a medication schedule

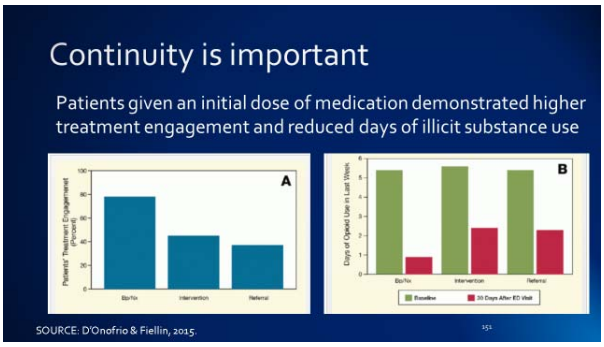
Consider ways to increase medication compliance, including developing a medication schedule that is simple to understand for the client. Make sure the schedule to take medications is embedded in the individual's daily schedule at a consistent time and place. Identify opportunities for clear reminders or cues (i.e. putting an alarm in a client's smartphone, putting post-it note reminders next to medication or near an item the client uses everyday like a toothbrush or television remote).

Slide 50: Enhancing medication compliance

Another recommendation to enhance medication compliance is to write down strategies, whether a client has tried them or not, and ask the client which they have tried, which they haven't, and which they might consider using in the future. This allows for a conversation that will break steps down into discrete, manageable pieces while tailoring taking medication to an individual's daily schedule and routine. Always consider what obstacles may be present in order to try to address those before they become stressors that might cause the individual to miss a dose.

REFERENCE:

Illness Management and Recovery: Evidence-Based Practices KIT. (2009). *U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services, Rockville, MD.*



Slide 151: Continuity is important

The main point of this slide is that individuals who were provided with medication-assisted treatment for substance use issues at intake showed a greater reduction in substance use and improved treatment engagement compared to individuals who just received an intervention or referral. Important to consider is that if we can effectively engage individuals using medicines that reduce unpleasant symptoms, they are more likely to be engaged and treatment compliant.

Additional information for trainers:
Drs. Gail D'Onofrio, David Fiellin, and colleagues at the Yale School of Medicine and School of Public Health screened 71,000 patients who presented for emergency care at a large urban hospital. Of 329 who met the researchers' study criteria and were found to be addicted to opioids, one-third (34 percent) came to the ED seeking treatment for their opioid addiction, and another 8.8 percent were experiencing opioid overdoses. The rest were identified through screening after presenting with various other emergencies. Most (75.1 percent) used heroin, and the remainder reported misusing prescription opioids exclusively.

(Notes for Slide 151, continued)

Slide 151: Continuity is important

Use or misuse of other addictive drugs was highly prevalent, including cigarettes (88 percent), cocaine (55 percent), marijuana (53 percent), and sedatives (47 percent).

The researchers assigned each patient addicted to opioids to one of three protocols:

Referral for treatment via a handout with information on local treatment centers offering inpatient and outpatient care, and how to contact them

A 10-to-15 minute motivational and informational discussion addressing drug use, addiction, and treatment, using the manualized Brief Negotiation Interview (BNI) modified for opioid users; plus active connection to local service providers, securing of insurance approval, and transportation arrangements

The BNI and a sufficient take-home supply of Bp/Nx (preceded by an onsite initial dose of Bp/Nx for patients in withdrawal) to last until an initial scheduled appointment for office-based follow-up care within 3 days

(Notes for Slide 151, continued)

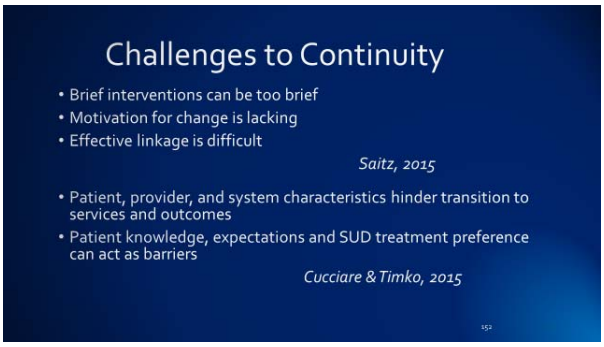
Slide 151: Continuity is important

They found that 30 days after their ED visits, 78 percent of patients who were given Bp/Nx were engaged in addiction treatment, compared with 45 percent of those in the referral and brief intervention group, and 37 percent in the referral-only group (see Figure).

The average number of days per week of self-reported opioid use, which was 5.4 in all groups at the time of their ED visit, had fallen to 0.9 in the Bp/Nx group, 2.4 in the interview plus referral group, and 2.3 in the referral-only group.

Among the patients who were engaged in treatment at follow-up, fewer of those who had initiated Bp/Nx in the ED were enrolled in costly inpatient care (11 percent versus 35 to 37 percent in the other groups). Patients in all three groups exhibited similar reductions of about one-third in behaviors that increase the risk for contracting or transmitting HIV.

(Notes for Slide 151, continued)



Slide 151: Continuity is important

REFERENCE:

D'Onofrio, G., O'Connor, P.G., Pantalon, M.V., Chawarski, M.C., Busch, S.H. et al. (2015). Emergency department-initiated buprenorphine/naloxone treatment for opioid dependence: a randomized clinical trial. *JAMA, 313(16)*, 1636-1644.

Slide 152: Challenges to Continuity

Case management and linkage is an essential component of integrated treatment as recommended in the four treatment approaches previously discussed in this section (Kaaya, et al, 2013). Some of the challenges to effective continuity in care include a brief intervention being too brief. If a brief intervention is the service an individual receives in a community health clinic, hospital, or other health agency before being referred to specialty care, providers should ensure that there is on-going communication and intervention, if possible.

(Notes for Slide 152, continued)

Slide 152: Challenges to Continuity

Motivation for change is typically lacking in individuals who come in for substance use or mental health treatment which makes continuity difficult to maintain and effective linkage a challenge. A number of system characteristics, including lack of resources or long waitlists, can hinder transition and coordination. Patient characteristics such as lack of motivation can also impact referral. Provider characteristics such as holding clients too long or not communicating with treatment team can also influence outcomes in treatment. It is useful to education patients and determine expectations for treatment in order to reduce barriers that may arise from misinformation. Consider the way in which stigma – whether it's mental health, substance use treatment, or HIV diagnosis – that may contribute to hindering engagement.

(Notes for Slide 152, continued)

Slide 152: Challenges to Continuity

REFERENCES:

Cucciare, M.A., & Timko, C., (2015). Bridging the gap between medical settings and specialty addiction treatment. *Addiction, 110(9),* 1417-1419.

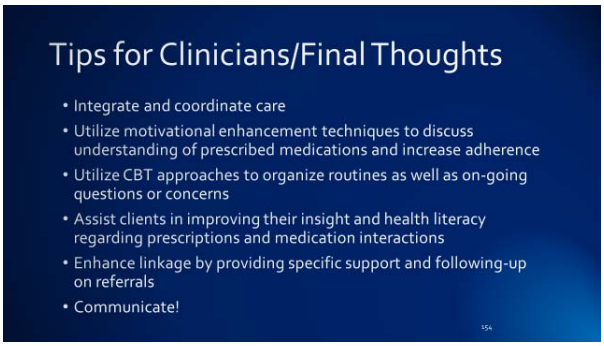
Saitz, R. (2015). Is SBIRT the answer? Probably not. *Addiction*, *110(9),* 1416-1417.

Slide 153: Tips for Clinicians

Review the tips for clinicians presented on the slide to enhance integrated coordination of treatment. Ask participants what other suggestions or ideas they have for improving referral and communication among providers.

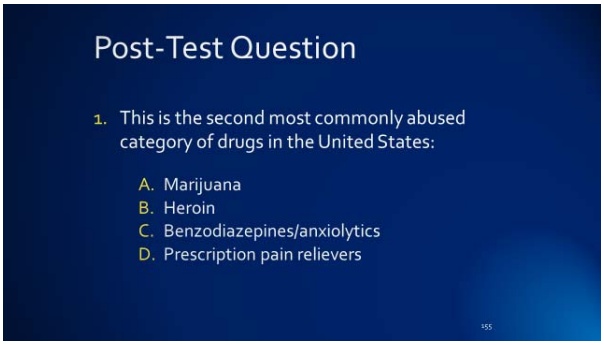
REFERENCE:

Glass, J.E. (2015). Challenges ahead in developing and testing referral to treatment interventions. *Addiction, 110(9)*, 1419-1420.



Slide 154: Tips for Clinicians/Final Thoughts

Review the final tips for clinicians and begin to summarize the training. Note that importance of** communication **– it is impossible (and outside of most providers' scope of practice) to know every single medication/drug interaction; make sure that you are communicating with other providers on the integrated team.



Slide 155: Post-Test Question #1

Read the question and answer choices, and review audience responses out loud. Once the audience has submitted their responses, read the percentage for each response and then provide the correct answer.

The correct answer is D – Prescription pain relievers.

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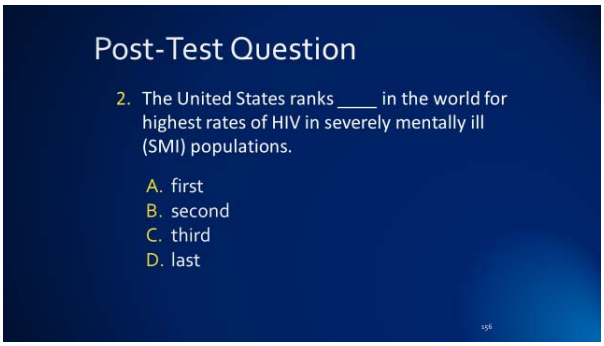

Slide 156: Post-Test Question #2

Read the question and answer choices, and review audience responses out loud. Once the audience has submitted their responses, read the percentage for each response and then provide the correct answer.

The correct answer is B – second.

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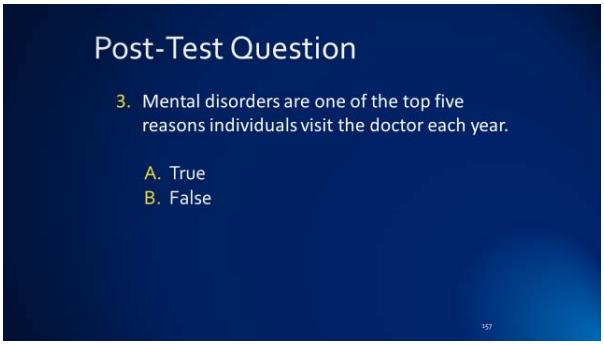

Slide 157: Post-Test Question #3

Read the question and answer choices, and review audience responses out loud. Once the audience has submitted their responses, read the percentage for each response and then provide the correct answer.

The correct answer is A – True.

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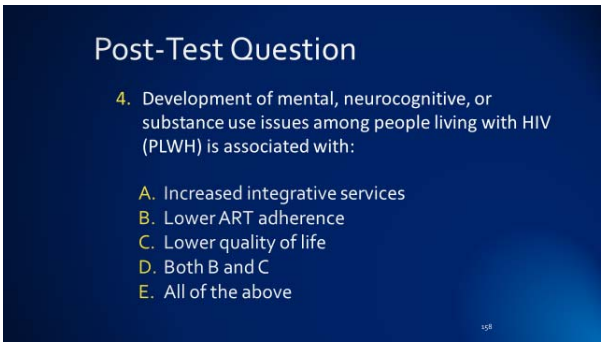

Slide 158: Post-Test Question #4

Read the question and answer choices, and review audience responses out loud. Once the audience has submitted their responses, read the percentage for each response and then provide the correct answer.

The correct answer is D – Both B and C.

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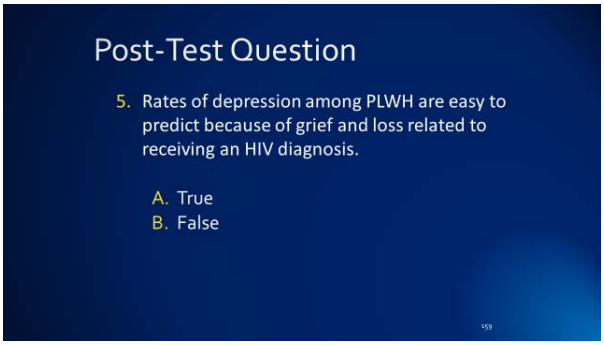

Slide 159: Post-Test Question #5

Read the question and answer choices, and review audience responses out loud. Once the audience has submitted their responses, read the percentage for each response and then provide the correct answer.

The correct answer is B – False.

**Audience Response System (ARS)-compatible slide

SLIDE 160: [Final slide]

This concludes the presentation. Thank the participants for their time and address any last-minute questions about the content. Encourage participants to reach out to the Pacific Southwest ATTC or the LA Region PAETC, should they have questions or concerns following the training session.

Acknowledgements

Prepared in 2017 by: Pacific Southwest Addiction Technology Transfer Center
11075 Santa Monica Boulevard, Suite 200
Los Angeles, California 90025
T: (310) 267-5408
F: (310) 312-0538
pacificsouthwestca@attcnetwork.org

At the time of writing, Thomas E. Freese, Ph.D. served as the Principal Investigator and Director of the HHS Region 9, Pacific Southwest Addiction Technology Transfer Center, based at UCLA Integrated Substance Abuse Programs. Humberto M. Carvalho, MPH, served as the ATTC Government Project Officer, and Kimberly Johnson, PhD, served as Director of the Center for Substance Abuse Treatment, Substance Abuse and Mental Health Services Administration. The opinions expressed herein are the views of the authors and do not reflect the official position of the PAETC/HRSA or the Pacific Southwest ATTC/SAMHSA-CSAT. No official support or endorsement of the PAETC/HRSA or the Pacific Southwest ATTC/SAMHSA-CSAT for the opinions described in this document is intended or should be inferred.