Alcohol and HIV: What Clinicians Need to Know

TRAINER'S NAME

TRAINING DATE

TRAINING LOCATION

Pacific Southwest ATTC

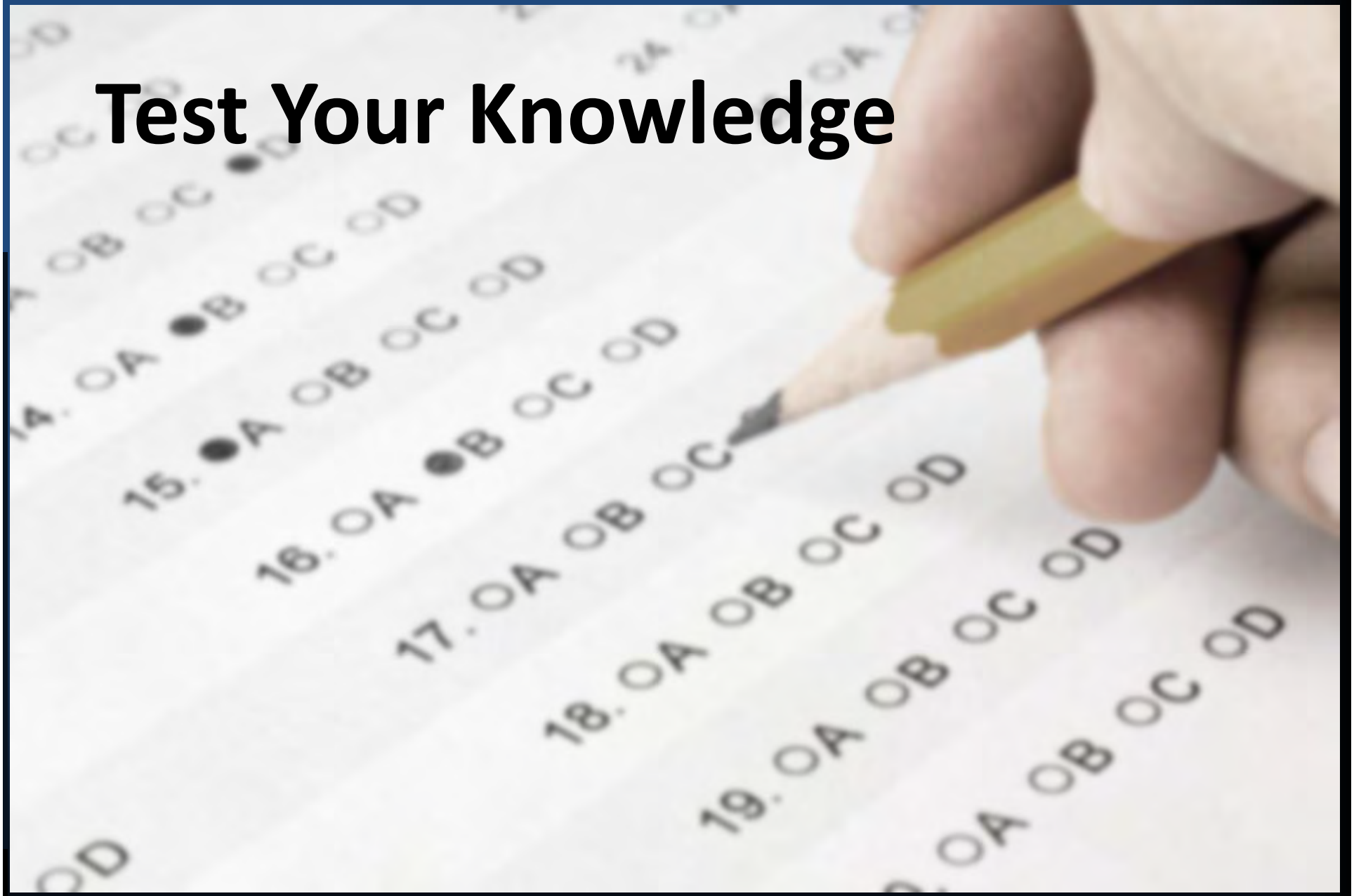
CDU

PACIFIC AIDS Education and Training Center

Training Collaborators

- Pacific AIDS Education and Training Center
  - Charles R. Drew University of Medicine and Science
  - University of California, Los Angeles
- Pacific Southwest Addiction Technology Transfer Center
- UCLA Integrated Substance Abuse Programs

Test Your Knowledge



Test Your Knowledge

1. At-risk drinking levels are the same, regardless of the drinker's age or gender:

A. True

B. False

Test Your Knowledge

2. The four main neurotransmitters relevant to alcohol are:

A. Dopamine, serotonin, GABA, and glutamate
B. Serotonin, GABA, endorphin, and norepinephrine
C. Endogenous opioids, glutamate, GABA, and dopamine
D. Endogenous opioids, glutamate, endorphin, and norepinephrine

Test Your Knowledge

3. Nationwide, binge drinking rates are higher among men than women:

A. True

B. False

Test Your Knowledge

4. Decreasing alcohol use among HIV patients can reduce which of the following:

A. Medical and psychiatric consequences of alcohol consumption
B. Other drug use
C. HIV transmission
D. All of the above

Test Your Knowledge

5. The goal of effective medication-assisted treatment for alcohol addiction should be:

A. Short term stabilization and withdrawal
B. A treatment of last resort
C. Ongoing maintenance
D. A and C
E. None of the above

Introductions

Briefly tell us:

- What is your name?
- Where do you work and what you do there?
- Who is your favorite musician or performer?
- What is one reason you decided to attend this training session?

Educational Objectives

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

1. Define several key terms related to alcohol and at-risk drinking

2. Review the neurobiology, medical consequences, and epidemiology of alcohol abuse

3. Discuss the intersection of alcohol use and HIV/AIDS

Educational Objectives, continued

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

4. Explain the key concepts of at least three (3) effective behavioral interventions for alcohol abuse

5. Explain the key concepts of at least three (3) effective medical interventions for alcohol addiction

First, let's define some key terms

- **At-risk drinking:** Alcohol use that exceeds the recommended weekly or per-occasion amounts:
  - More than 3 drinks per occasion (or >7 drinks per week) for women and more than 4 drinks per occasion (or >14 drinks per week) for men.
- **Hazardous drinking:** Alcohol use that places the patient at risk for medical and social complications.
- **Alcohol abuse:** Maladaptive pattern of alcohol use associated with recurrent social, occupational, psychological, or physical consequences.

First, let's define some key terms

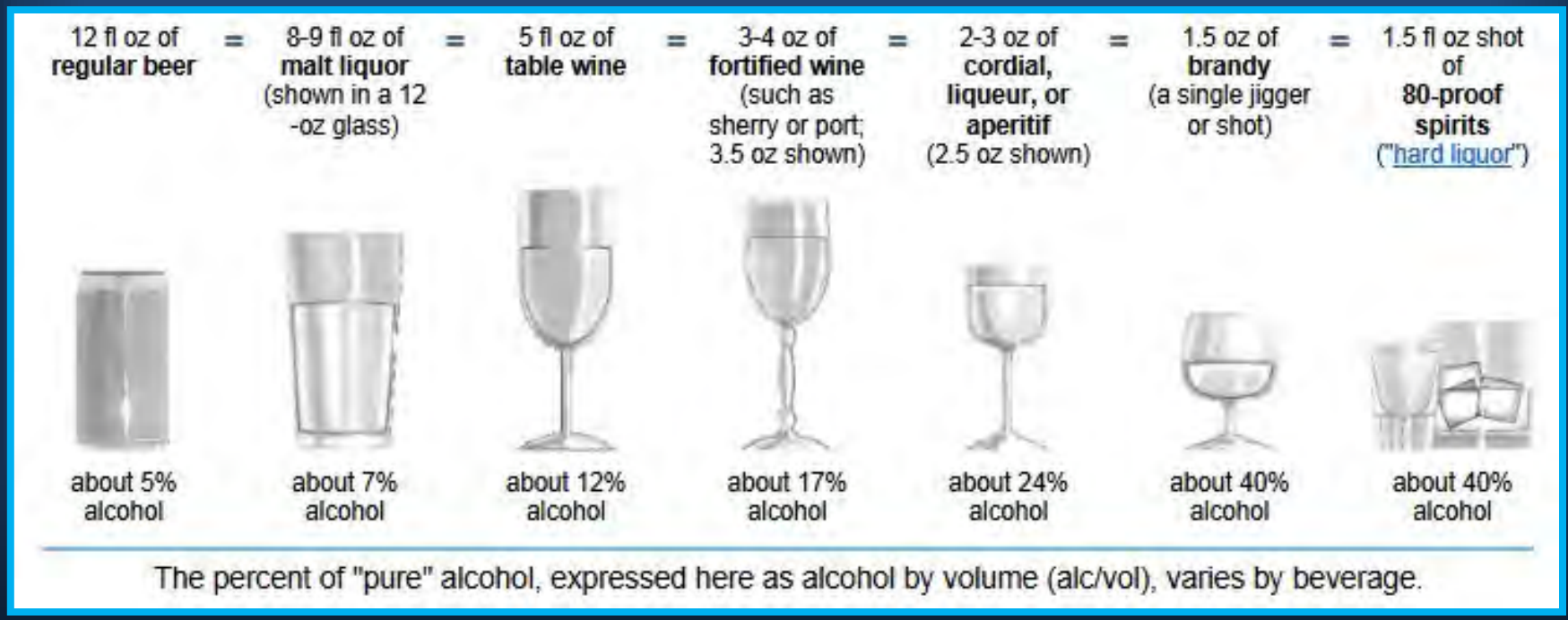
- **Alcohol dependence:** Maladaptive pattern of alcohol use associated with tolerance (increased drinking to achieve same effect), withdrawal, and recurrent social, occupational, psychological, or physical consequences
- **Binge drinking:** Pattern of drinking alcohol that brings blood alcohol concentration (BAC) to 0.08 gram percent or above. For the typical adult, this pattern corresponds to consuming 5 or more drinks (male), or 4 or more drinks (female), in about 2 hours.

How Do We Define Risk?

At-Risk Alcohol Use	Men	Women	Older Adults (65 +)
Per occasion	>4 drinks	>3 drinks	>1 drink
Per week	>14 drinks	>7 drinks	>7 drinks

SOURCE: NIAAA (n.d.). *What's "at-risk" or "heavy" drinking?* Retrieved from http://rethinkingdrinking.niaaa.nih.gov/IsYourDrinkingPatternRisky/WhatsAtRiskOrHeavyDrinking.asp

What is a "Standard Drink?"



SOURCE: NIAAA. (n.d.) *What's a "standard" drink?* Retrieved from http://rethinkingdrinking.niaaa.nih.gov/WhatCountsDrink/WhatsAstandardDrink.asp

Alcohol: Mechanism of Action and Acute and Chronic Effects

For our purposes, there are four main neurotransmitters relevant to alcohol:

endogenous opioids
Deadens pain and causes euphoria

glutamate
excitatory neurotransmitter
…speeds you up

dopamine
makes you happy

GABA
inhibitory neurotransmitter…
slows you down

Alcohol Neuronal Activity

1. Alcohol is used.

2. The endogenous opioids are released into the pleasure centers of the brain.

3. In response to this increased endogenous opioid activity, dopamine is released.

4. Dopamine make the drinker feel good. This reinforces the behavior and increased the likelihood that it will recur.

Alcohol Neuronal Activity

GABA is increased, slowing the brain down

Over time, the brain reacts to the over-abundance of GABA, by creating more receptors for Glutamate—increasing the effect of Glutamate, energizing the system and restoring balance

As the brain desired, the up-regulation works, and the imbalance is corrected.

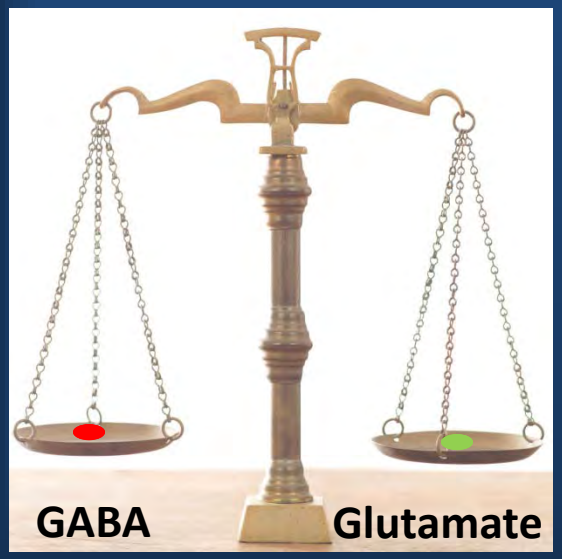
Now, if the individual drinks, it takes more alcohol to override the glutamate system again and feel the same level of intoxication.

This effect is known as

Tolerance.

Another Neuronal Activity

Normal



Intoxicated

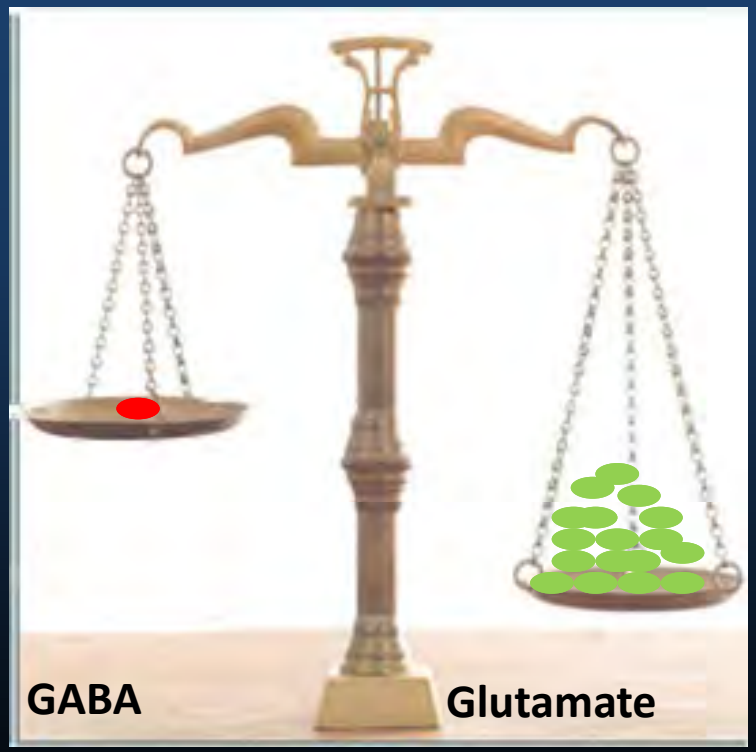
Tolerance

So now the brain has fully adapted to constant presence of alcohol. What do you think will happen once alcohol is taken away?

Another Neuronal Activity

What do you think will happen once alcohol is taken away?

WITHDRAWAL



Alcohol: Basic facts

Description: Alcohol or ethylalcohol (ethanol) is present in varying amounts in beer, wine, and liquors

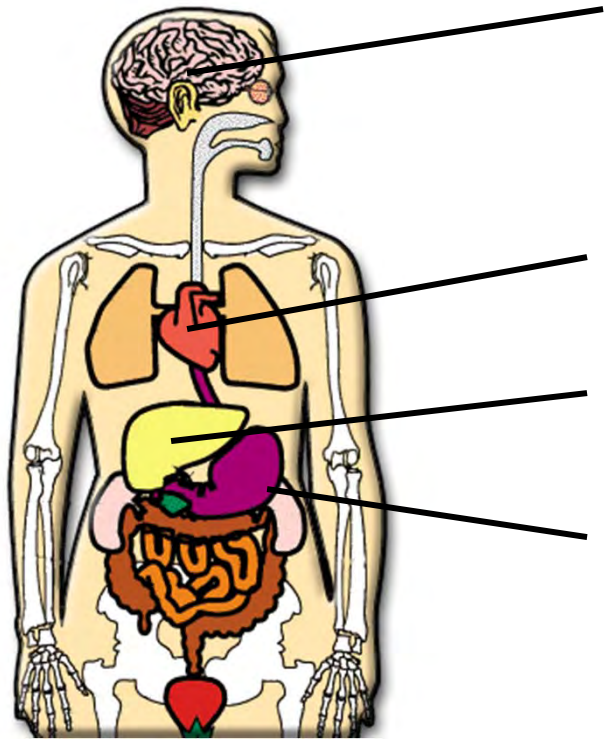
Route of administration: Oral

Acute Effects: Sedation, euphoria, lower heart rate and respiration, slowed reaction time, impaired coordination, coma, death

Chronic Effects and Alcohol Withdrawal

- Mild to moderate symptoms include: mild tremors, mild anxiety, headache, diaphoresis, palpitations, anorexia, and gastrointestinal upset
- Patients should be hospitalized for intensive medical management of withdrawal when they have:
  - Severe withdrawal symptoms
  - History of withdrawal seizures or complications
  - Delirium tremens or history of delirium tremens
  - Depression with suicidal ideation
  - Severe coexisting medical or psychiatric conditions
  - An unstable home situation

Long-Term Effects of Alcohol



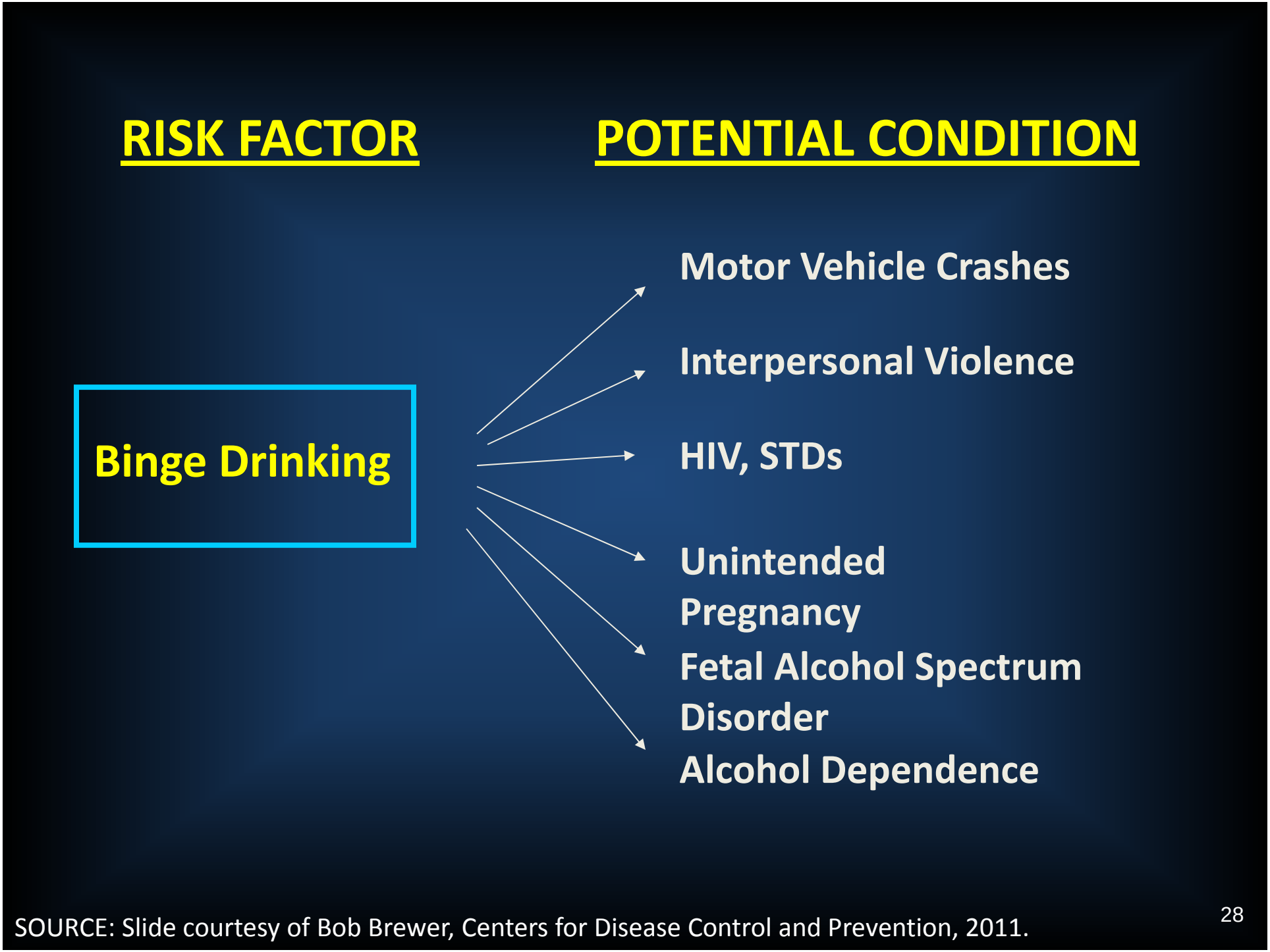
- Decrease in blood cells leading to anemia, disease, and slow-healing wounds
- Brain damage, loss of memory, blackouts, poor vision, slurred speech, and decreased motor control
- Increased risk of high blood pressure, hardening of arteries, and heart disease
- Liver cirrhosis, jaundice, and diabetes
- Immune system dysfunction
- Stomach ulcers, hemorrhaging, and gastritis
- Thiamine (and other) deficiencies
- Testicular and ovarian atrophy
- Harm to a fetus during pregnancy

The Epidemiology of Alcohol Use and Abuse: Local and National Trends

Public Health Impact of Excessive Drinking

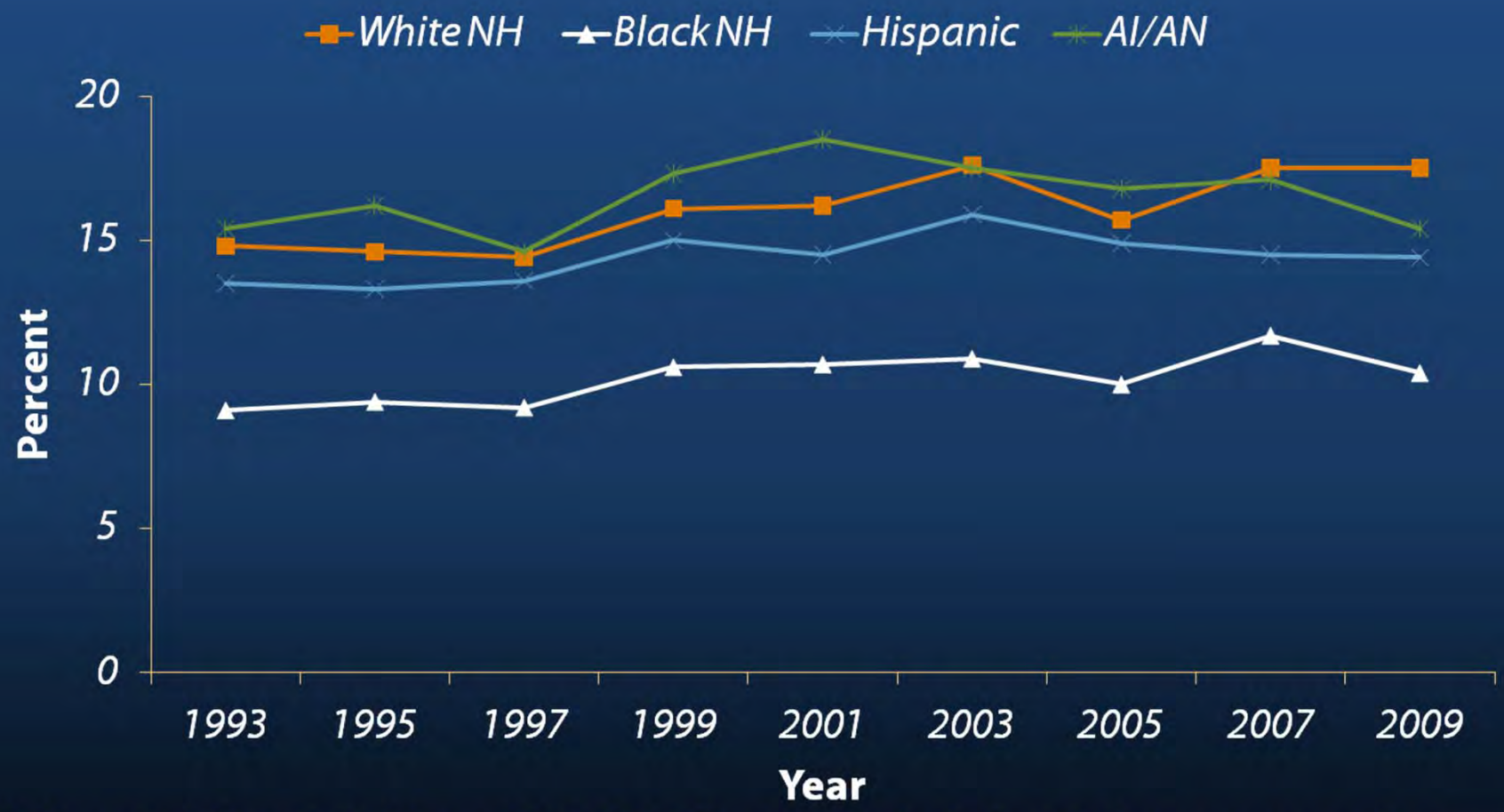
- 79,000 deaths and 2.3 million Years of Potential Life Lost (YPLL) due to excessive drinking in the U.S. each year.
- Third leading preventable cause of death in the United States.
- $185 billion in total economic costs in 1998; 72% due to productivity losses.
- Binge drinking is the most common pattern of excessive drinking in the U.S.; over 90% of excessive drinkers binge drink
- Most excessive drinkers are not alcohol dependent

SOURCE: Slide courtesy of Bob Brewer, Centers for Disease Control and Prevention, 2011.



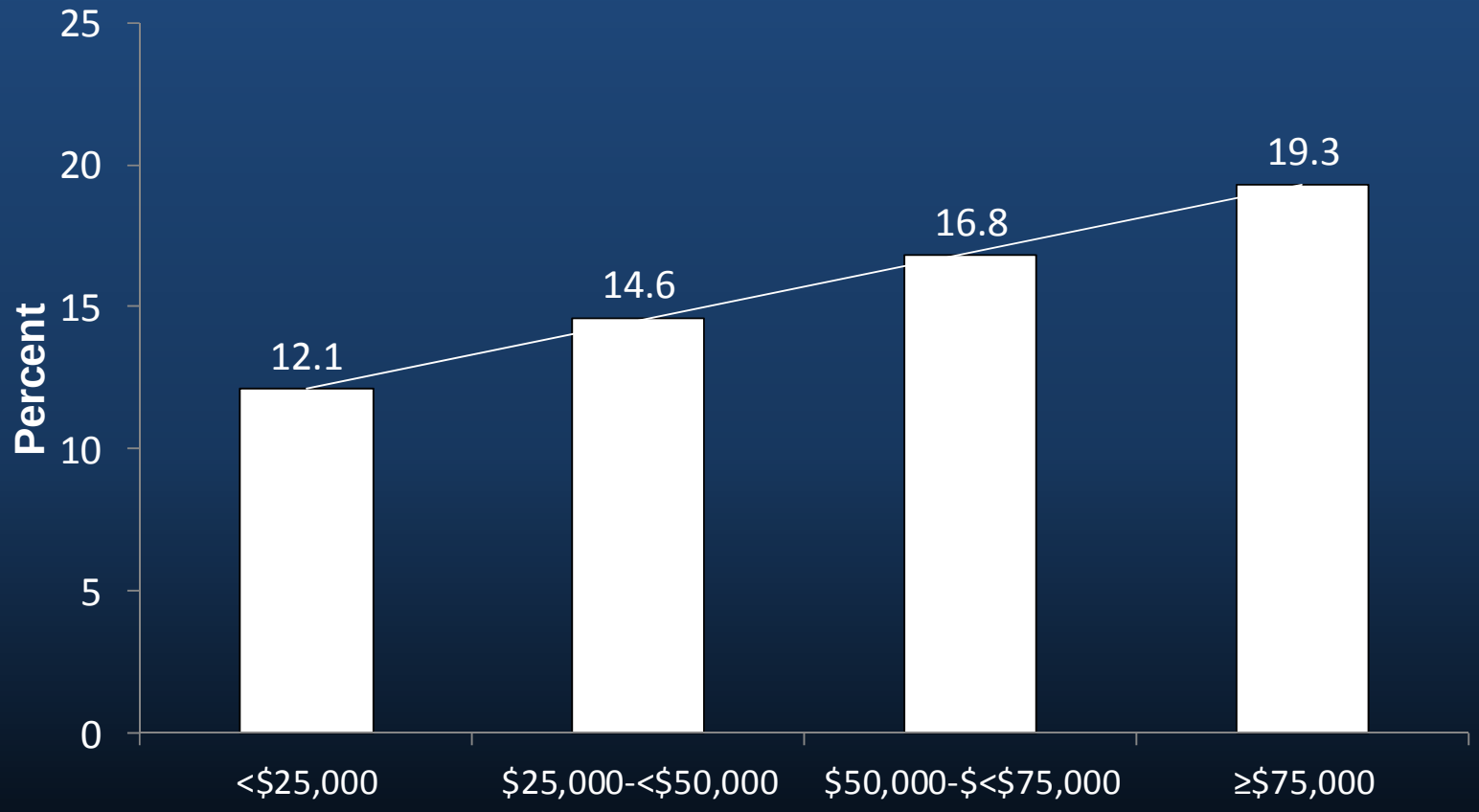
SOURCE: Slide courtesy of Bob Brewer, Centers for Disease Control and Prevention, 2011.

Binge Drinking by Race/Ethnicity and Year, U.S., 1993-2009



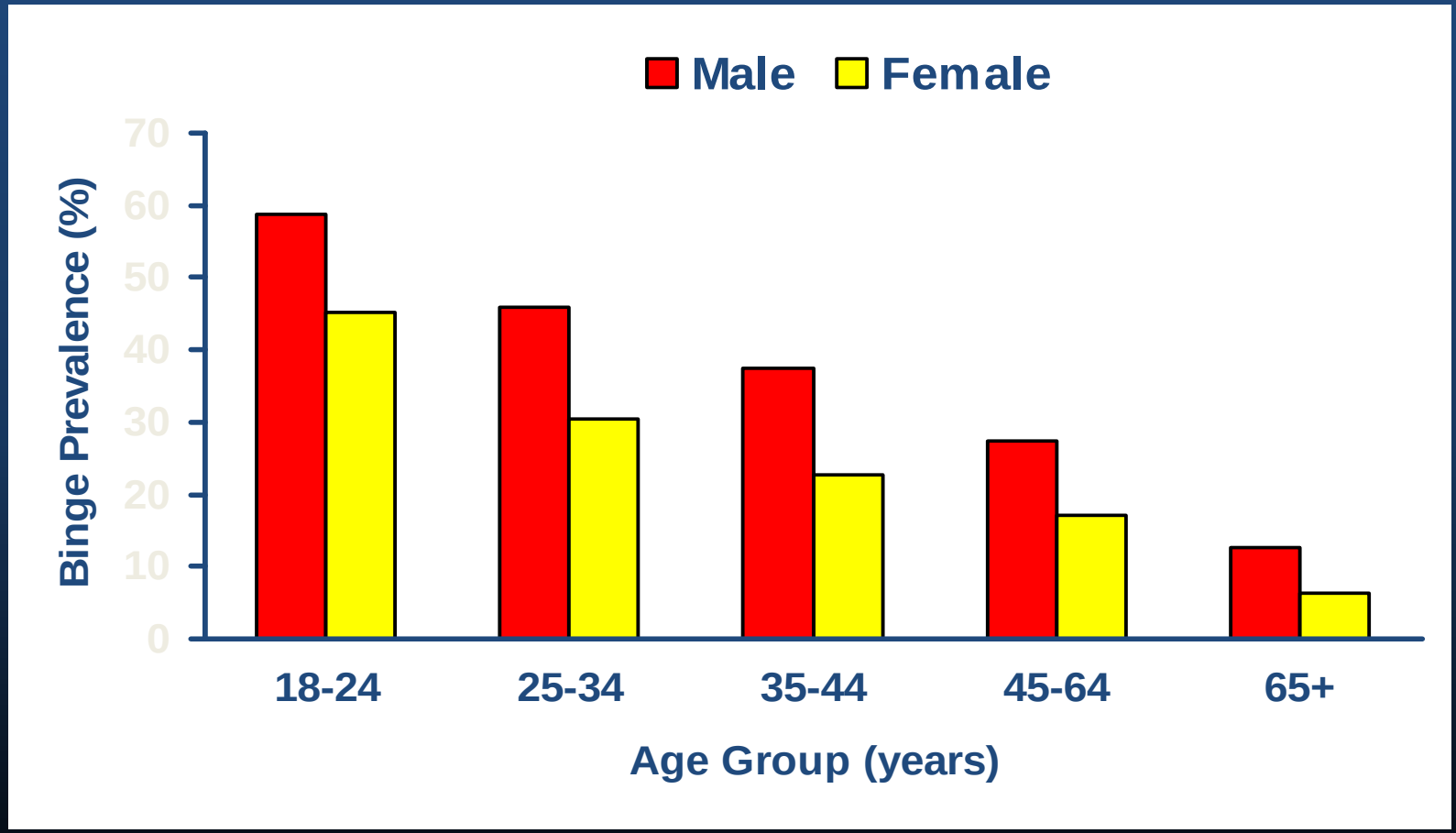
BRFSS Binge Drinking Definitions: 1993-2005 having ≥5 alcoholic drinks on one occasion; 2006-2009 as males having ≥5 drinks on one occasion, females having ≥4 drinks on one occasion

Binge Drinking by Household Income, U.S., 2009



SOURCE: Kanny, D., et al. *MMWR*, 2010.

Binge Drinking among U.S. Adults who Drink, BRFSS, 2009



SOURCE: CDC, Behavioral Risk Factor Surveillance System, 2009 results.

Binge Drinking: "Not Just for Kids"

- Nearly *one in five* men aged 50-64 reported binge drinking within the past month.
- Nearly *one in ten* older women reported recent binge drinking.
- Among those over age 65, *14%* of men and *3%* of women reported binge drinking.
- Also, *19% of older men* and *13% of older women* consumed enough alcohol on a daily basis to be classified as heavy drinkers by the American Geriatric Society.

SOURCE: Join Together Online, August 18, 2009; SAMHSA, NSDUH, 2009-10 results.

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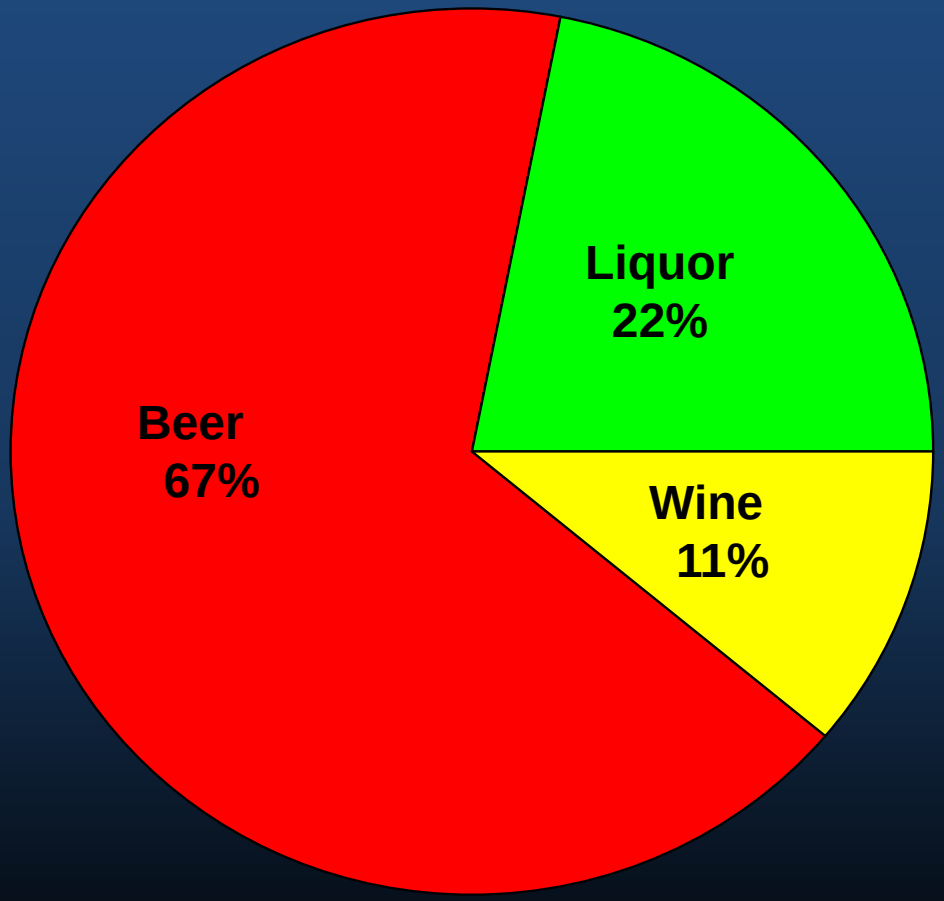
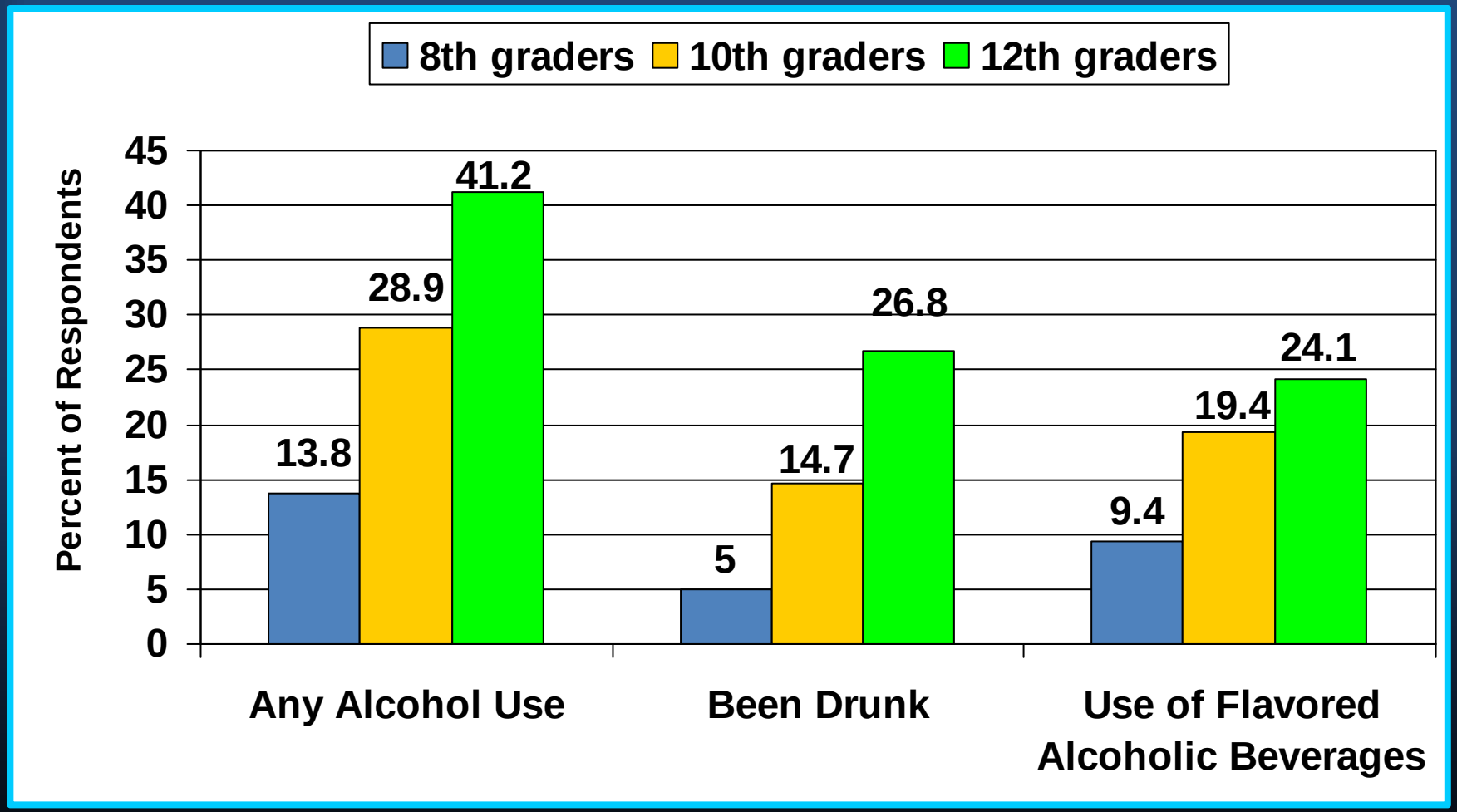
Total Binge Drinks by Beverage Type, BRFSS, 2003-2004



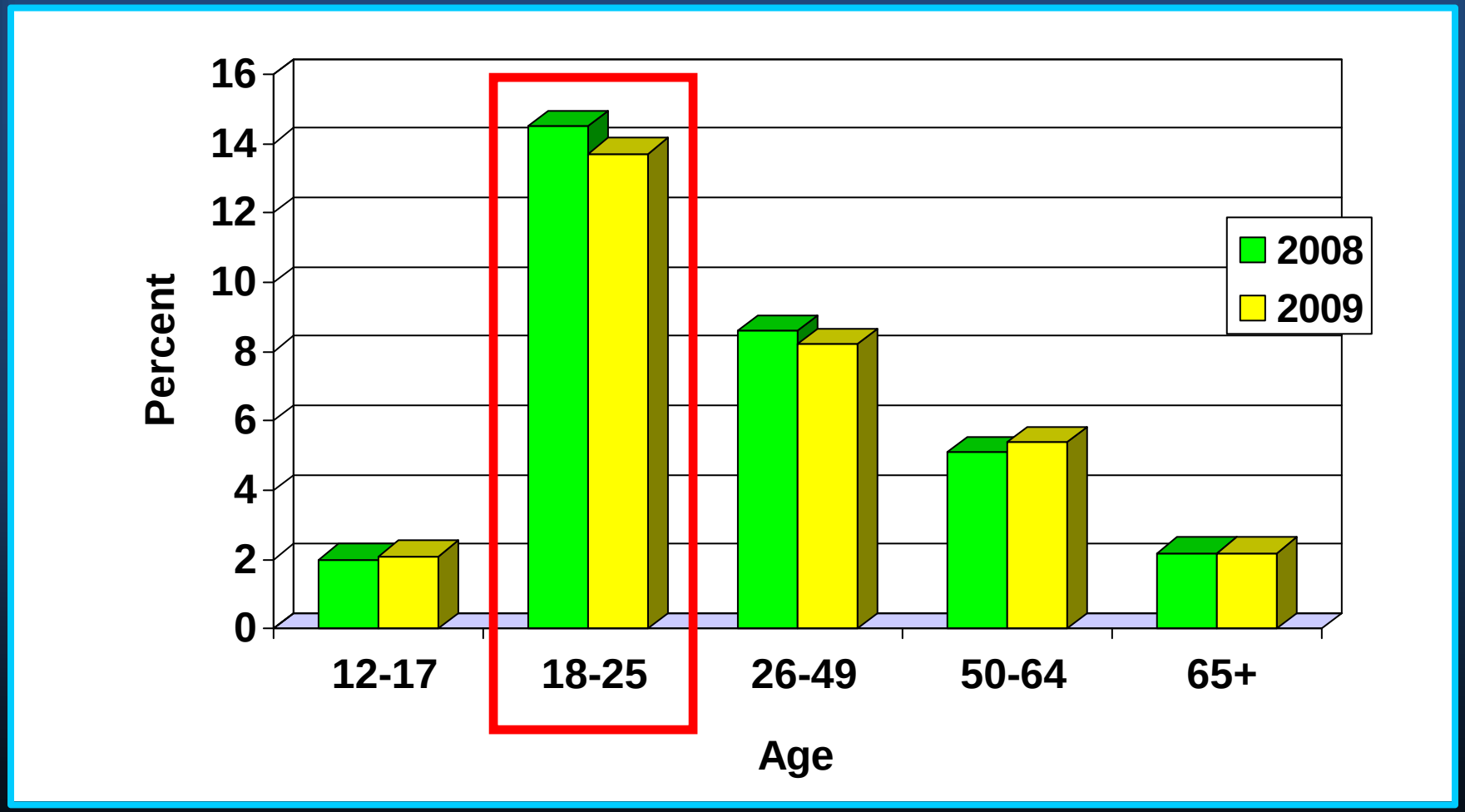
SOURCE: Naimi ,T. et al. (2007). *American Journal of Preventive Medicine*.

Current Alcohol Use among Secondary Students: National Findings, 2010



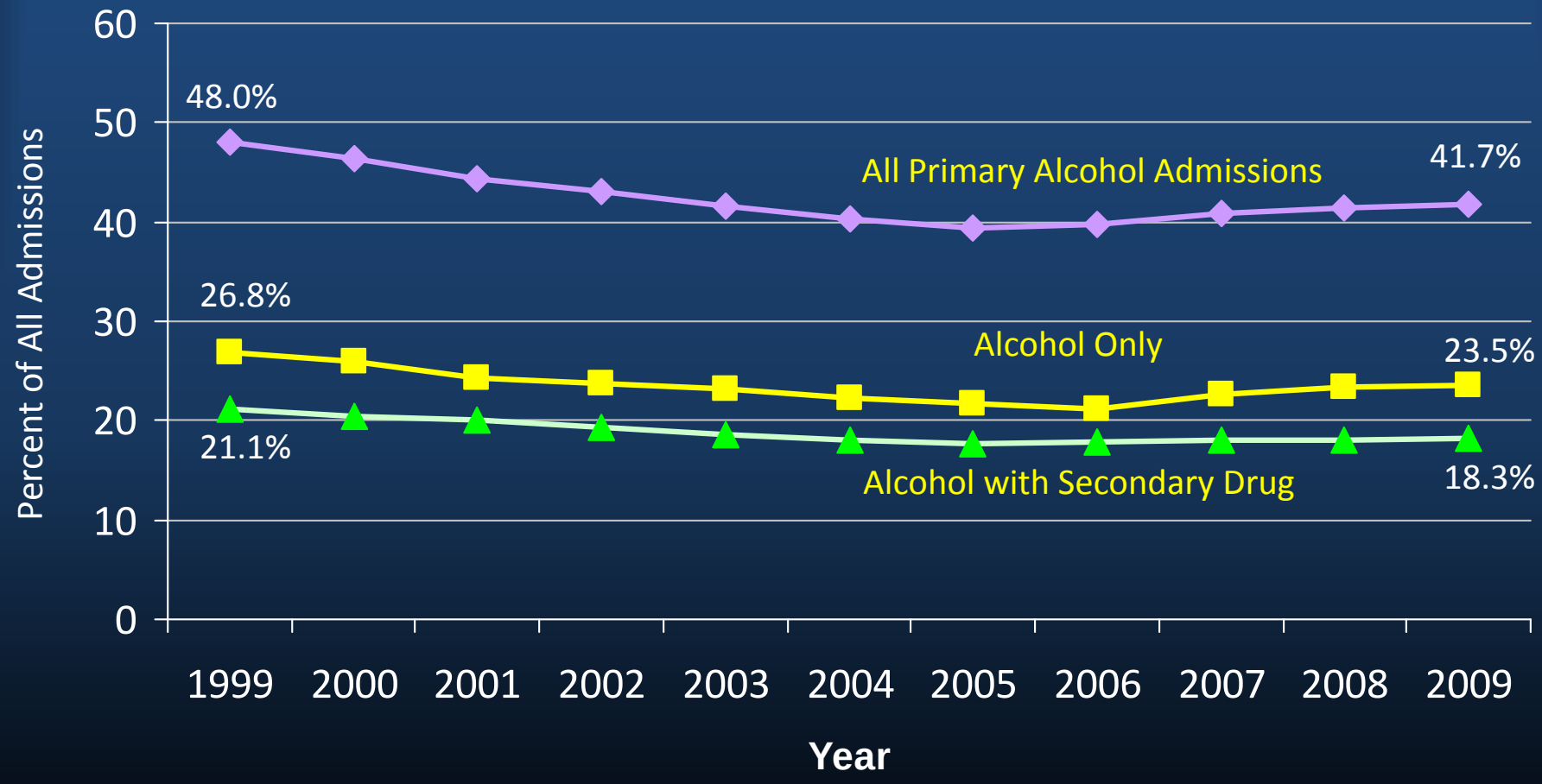
SOURCE: NIDA, Monitoring the Future Survey, 2010 national results.

Past Month Heavy Alcohol Use, by Age Group, National Findings



SOURCE: SAMHSA, NSDUH, 2009 results.

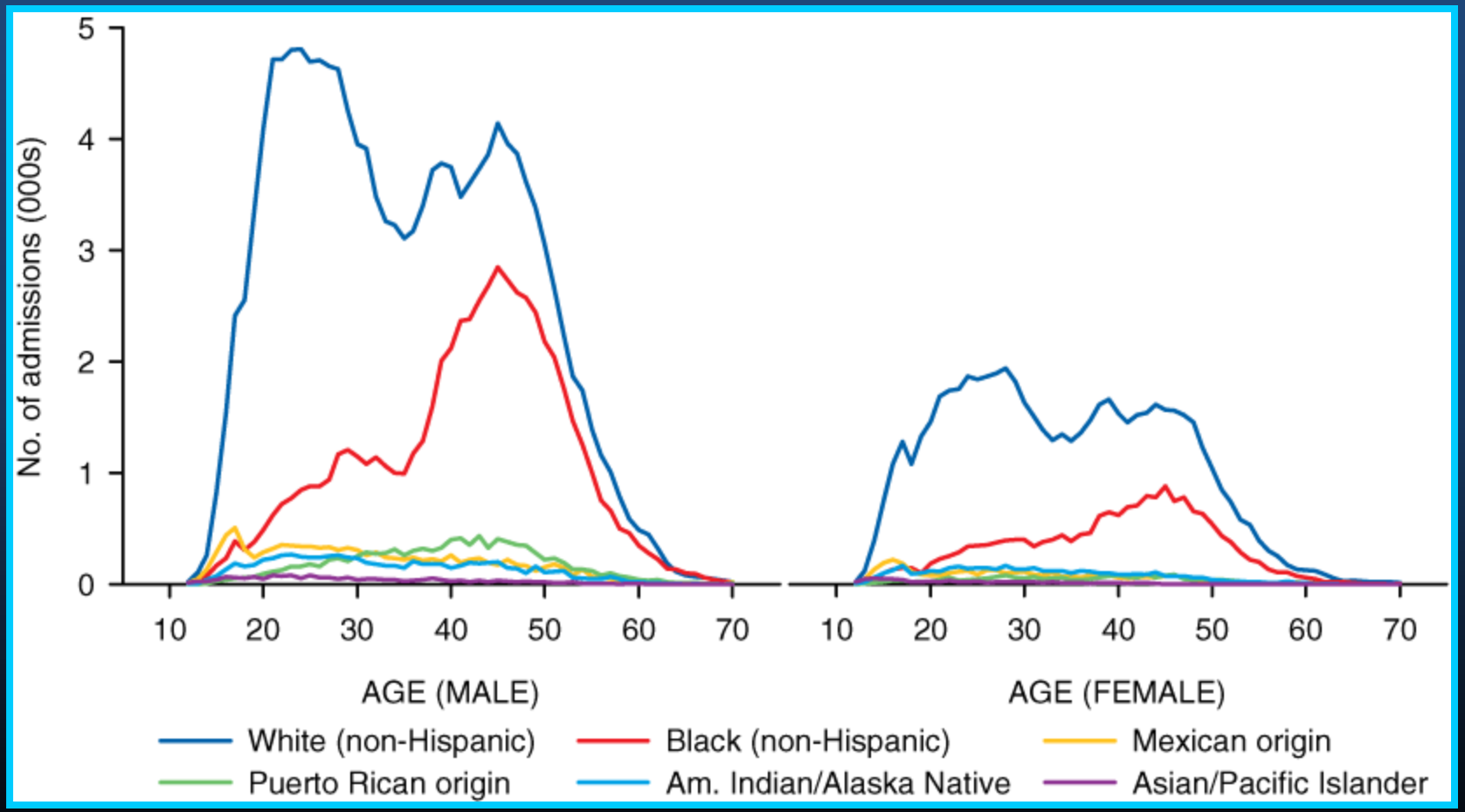
Trends in Treatment Admissions for Primary Alcohol Abuse: U.S., 1999-2009



SOURCE: SAMHSA, TEDS, 2009 Results.

Figure 7. Alcohol admissions with secondary drug abuse, by gender, age, and race/ethnicity: 2009

Alcohol Treatment Admissions with Secondary Drug Abuse, by Age and Race/Ethnicity: U.S., 2009



SOURCE: SAMHSA, TEDS, 2009 Results.

The Cost of Alcohol Abuse in California

- California has the largest alcohol market in the United States
- Alcohol consumption in CA led to an estimated:
  - 9,439 deaths and 921,929 alcohol-related problems in 2005
- Economic cost is estimated between $35.4 and $42.2 billion
- The disability caused by injury, personal anguish of violent crime victims, and the life years lost to fatality are the largest costs
  - The total value for this reduced quality of life is estimated between $30.3 and $60.0 billion

SOURCE: W. May, E. Wittman, R. Stark, & A. West, "The Cost of Alcohol Abuse in California:

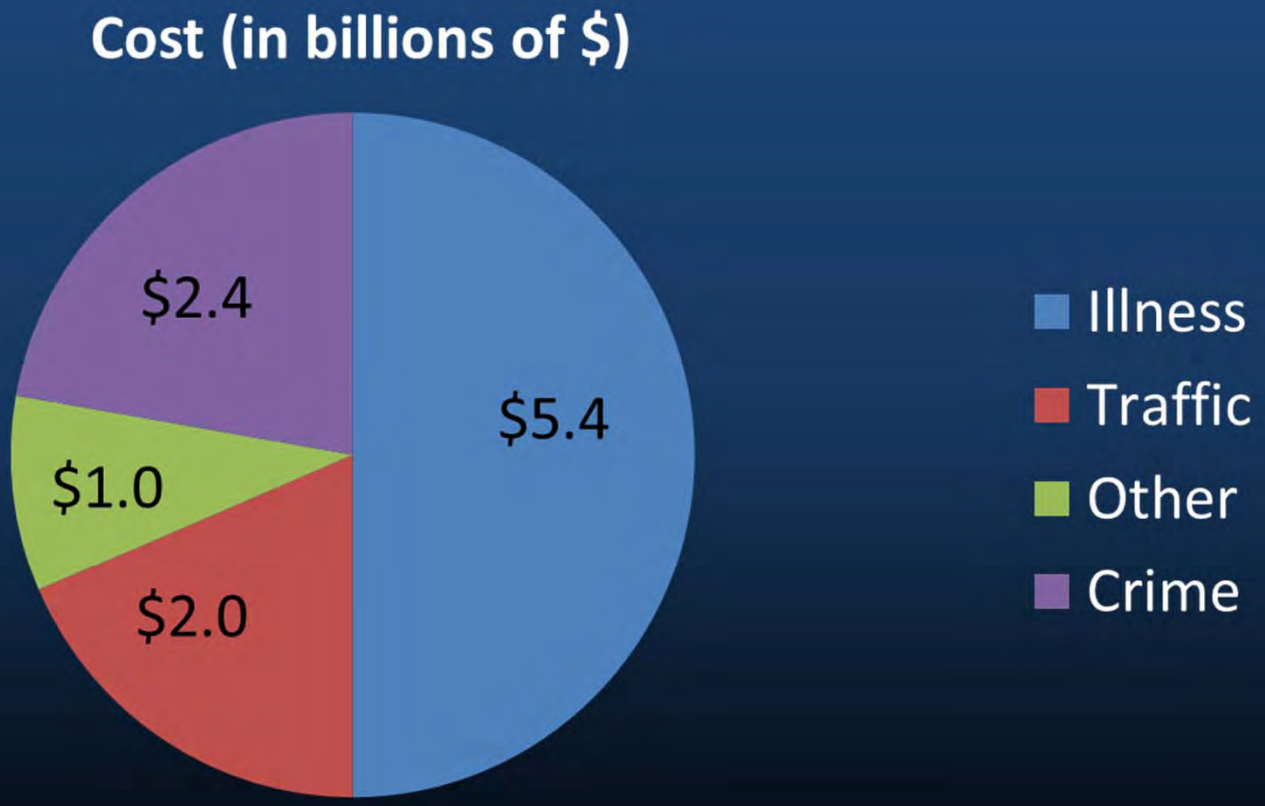
SOURCE: Rosen, SM, Miller, TR, & Simon, M. (2008). Alcohol Clin Exp, 32(11), 1925-36.

Test Your Knowledge

The annual cost of alcohol in Los Angeles County is estimated at:

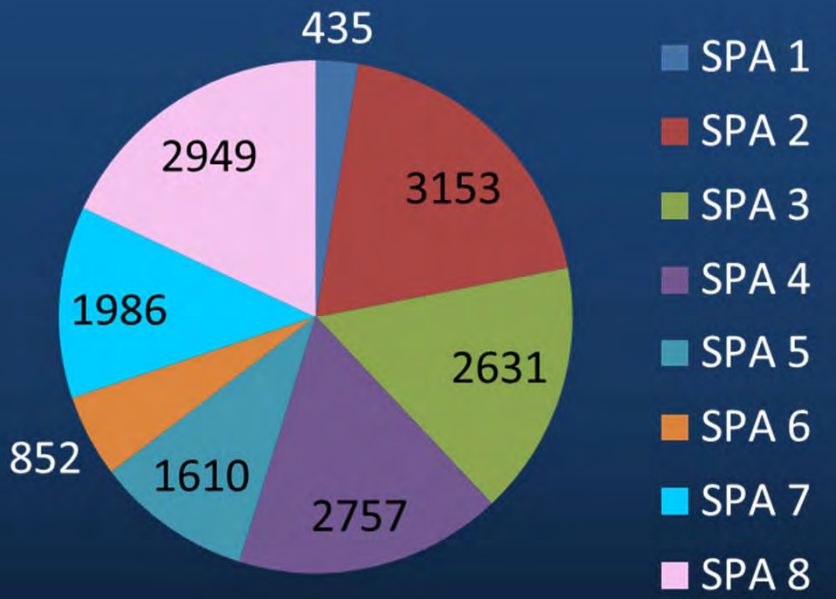
A. $5.6 billion
B. $10.8 billion
C. $15.0 billion
D. $25.2 billion

The Economic Cost of Alcohol in Los Angeles County

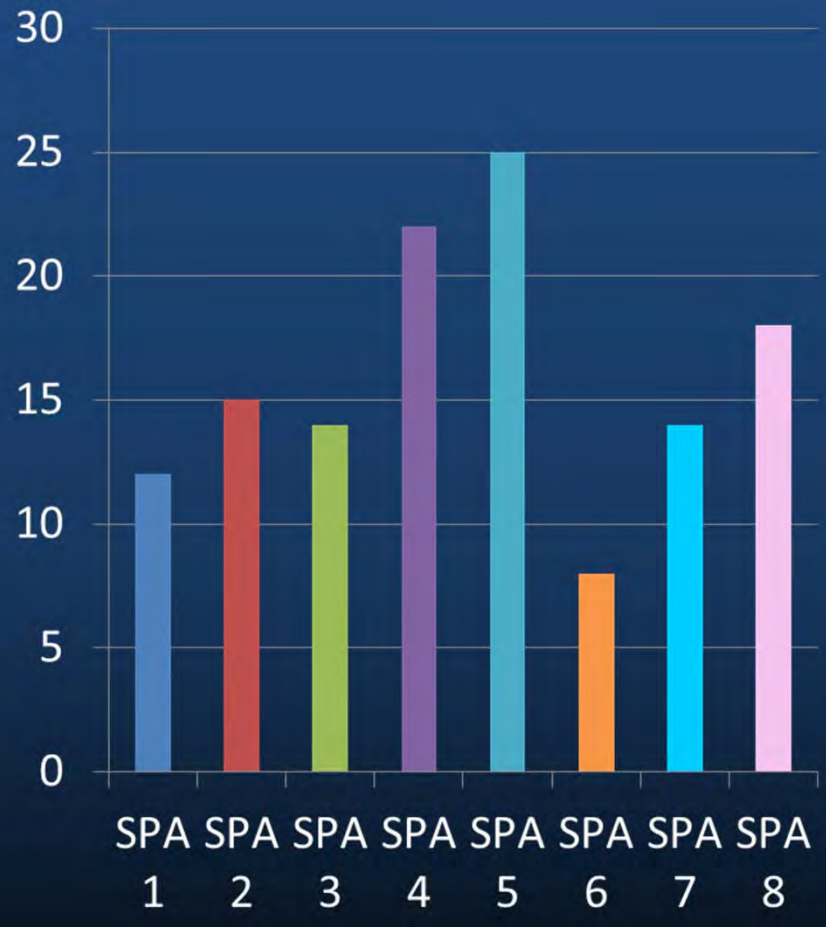


SOURCE: Marin Institute, 2008, The Annual Catastrophe of Alcohol in California: LA County.

Alcohol Availability in LA County



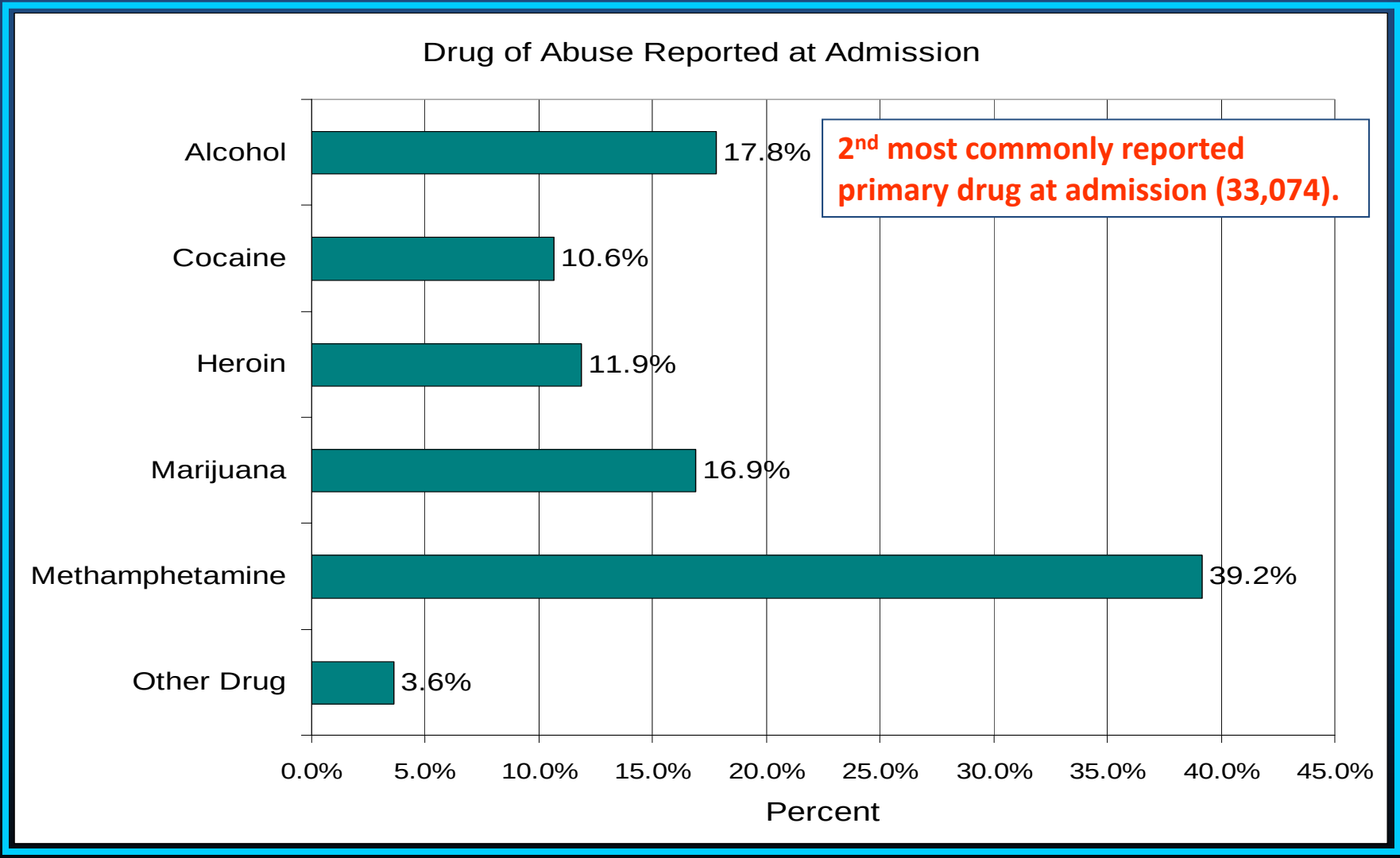
Raw Number of Alcohol Outlets



Population-Based Density of Alcohol Outlets Rate per 10,000 Population

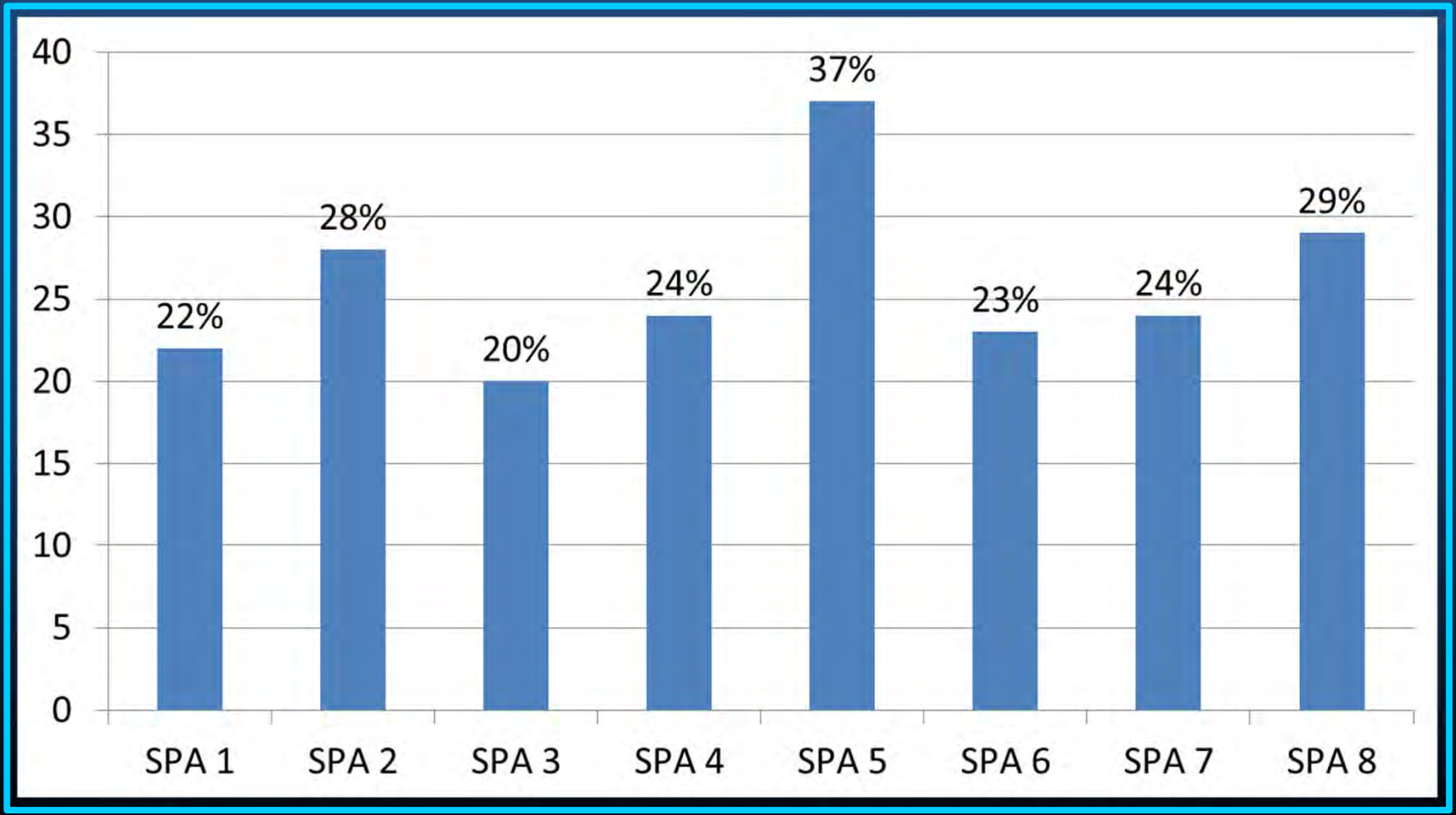
SOURCE: LA County DPH, Mapping Alcohol Density in LA County, in press.

Californians in Treatment



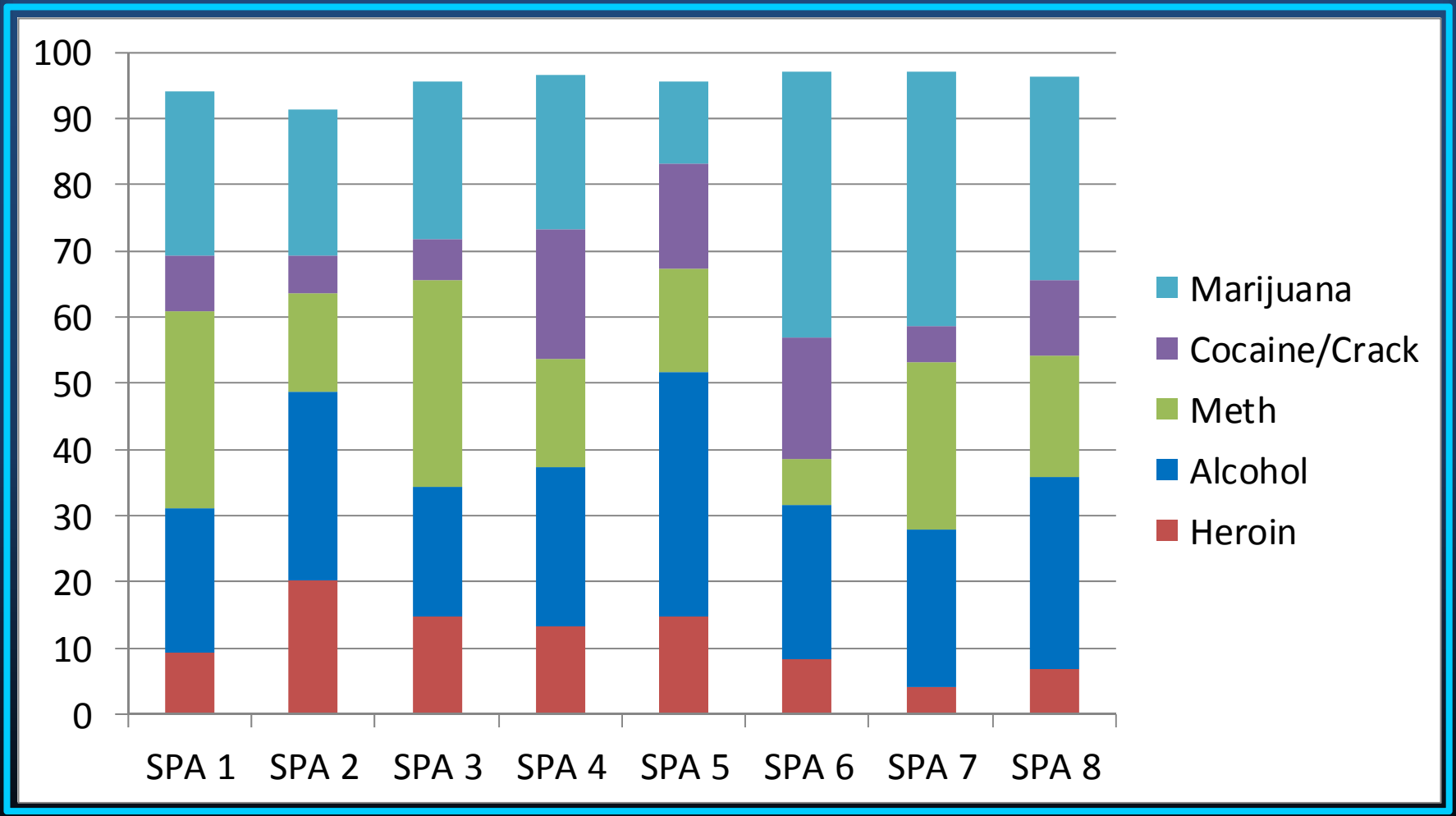
SOURCE: CA ADP, Fact Sheet: Californians in Treatment, FY 2006-07.

Percent of Primary Alcohol Admissions among All Treatment Admissions, by Service Planning Area (LA County, FY 2010-11)



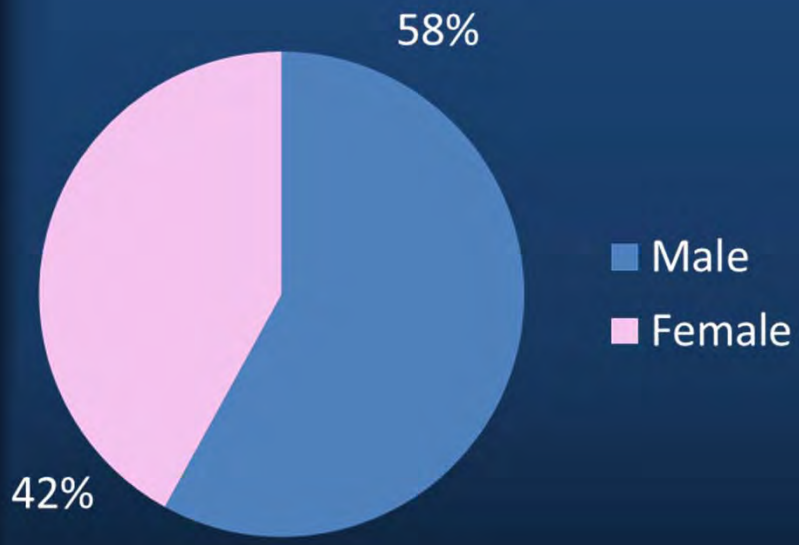
SOURCE: LA County SAPC, California Outcome Monitoring System (CalOMS)., FY 2010-11.

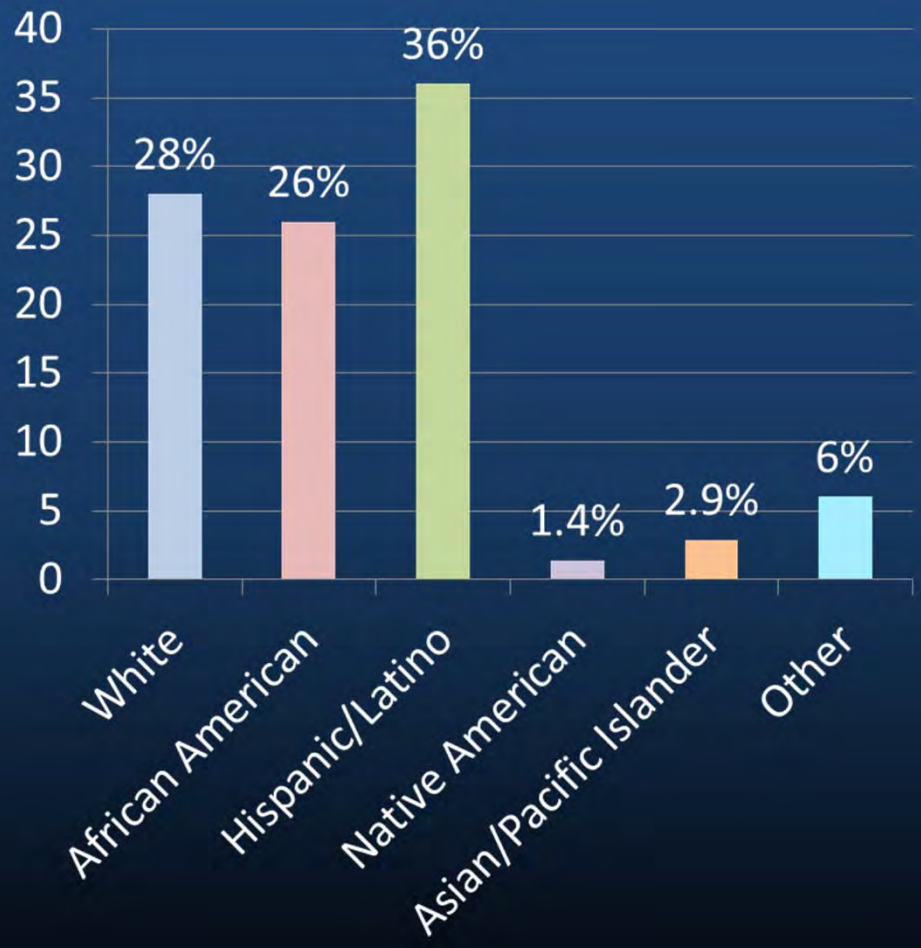
Top 5 Drug Rankings as a Percent of All LA County Tx Admissions, by SPA



SOURCE: LA County SAPC, California Outcome Monitoring System (CalOMS)., FY 2010-11.

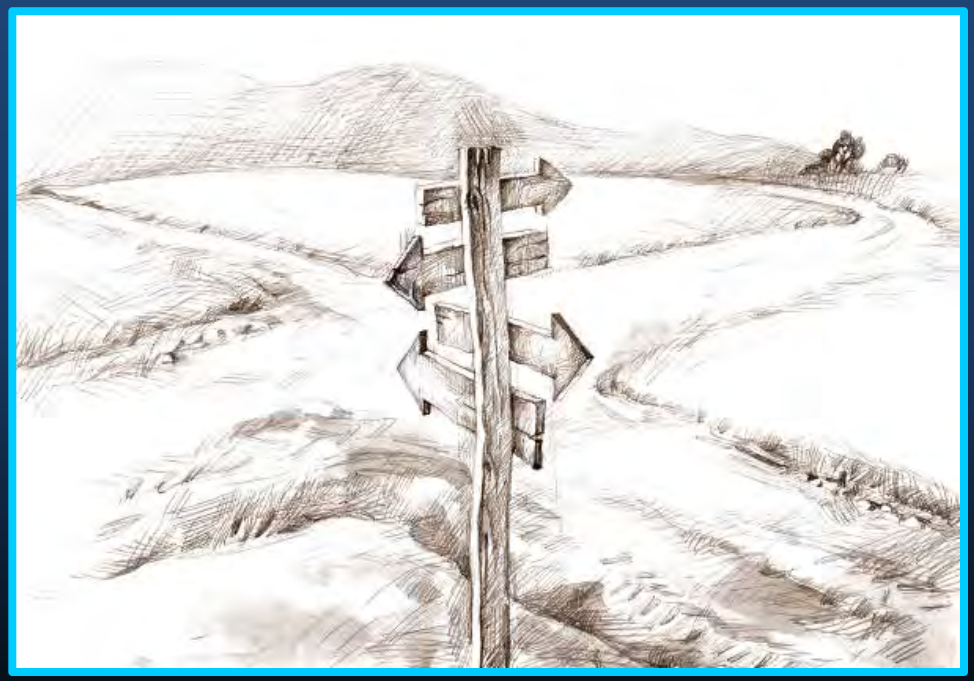
Select Demographics of Primary Alcohol Treatment Admissions, LA County, FY 2010-11





SOURCE: LA County SAPC, California Outcome Monitoring System (CalOMS)., FY 2010-11.

The Intersection of Alcohol and HIV/AIDS

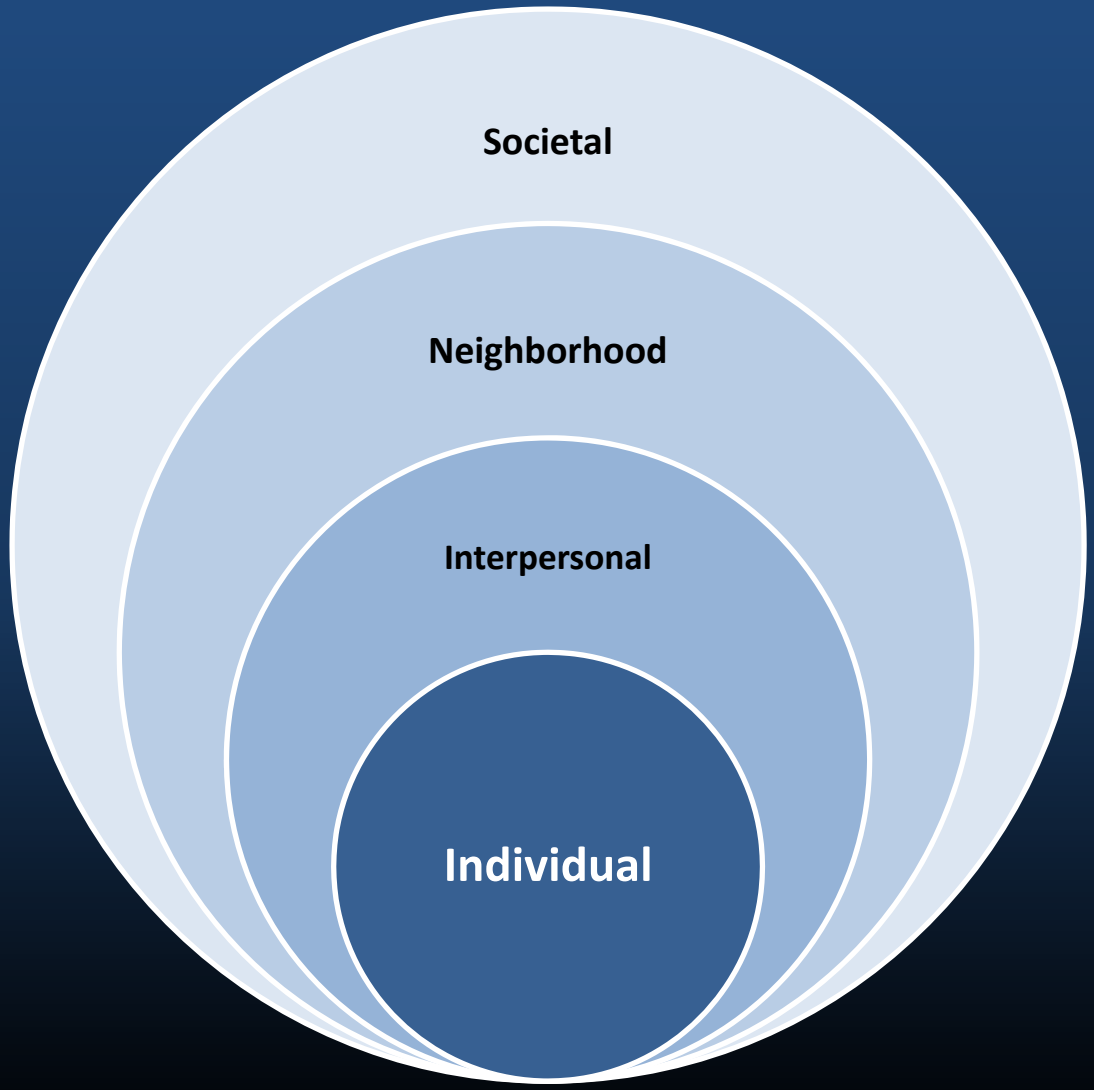


The HIV Epidemic Today

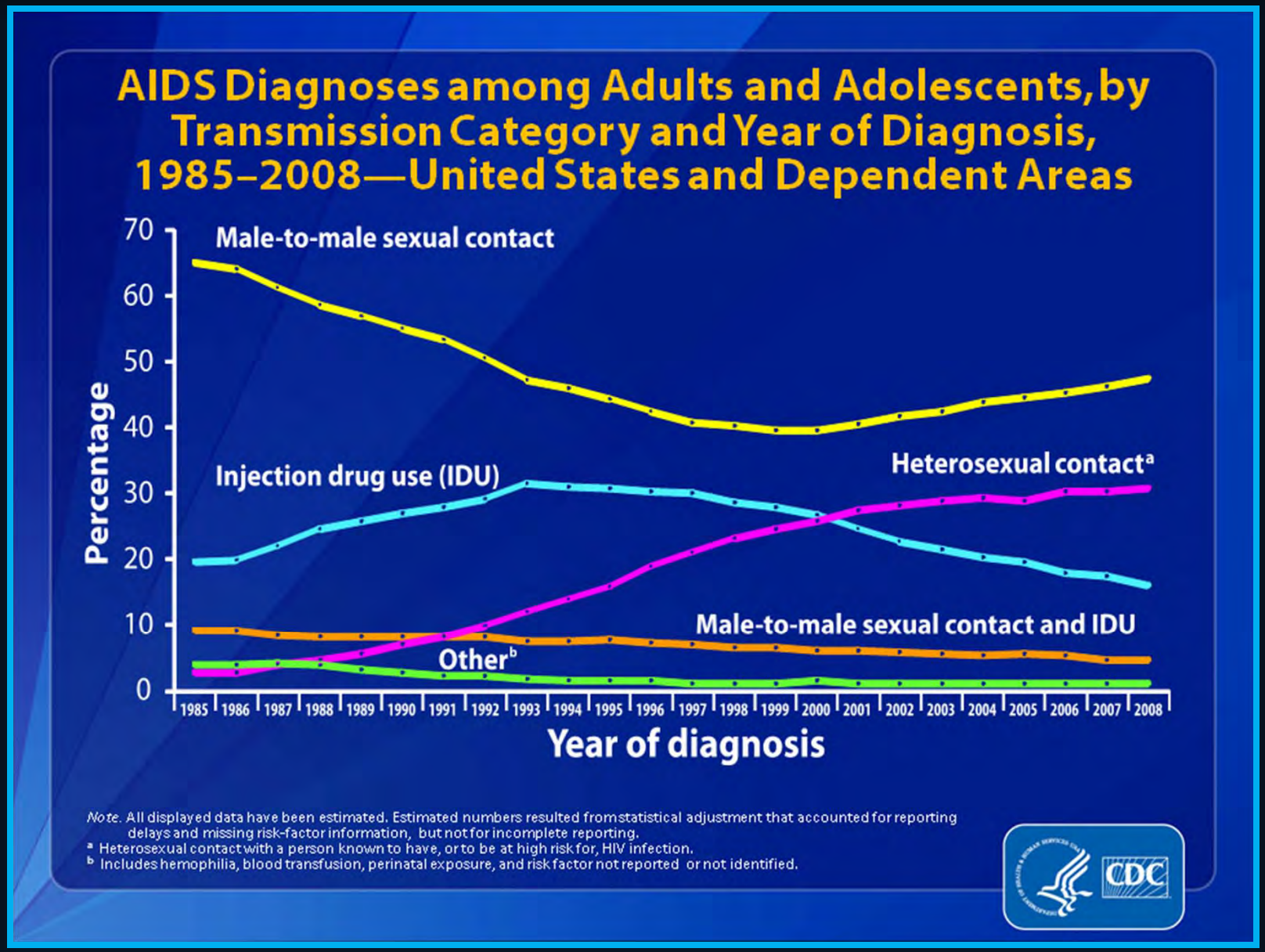
- 1.2 million people in the U.S. are living with HIV
- Nearly 1 in 5 do not know they are infected, don't get HIV medical care, and can pass the virus to others without knowing it
- Only 28% of people with HIV are taking medications regularly and have their virus under control
- Testing, treatment, and prevention counseling can help to reduce the incidence of new HIV infections

SOURCE: CDC Vital Signs, Dec 2011.

Framework for HIV/AIDS Risk



SOURCE: NIAAA, *Alcohol Alert* (No. 80).



SOURCE: Centers for Disease Control and Prevention.

Reported HIV/AIDS Cases in LA County, 2010

	Cumulative # of Cases	# People Living with HIV/AIDS (PLWHA)	# of Deaths
US	1,080,714***	652,294**	579,931**
CA*	159,341	111,024	88,844
LAC*	75,114	42,364	32,750

*Reported as of 12/31/10; **Reported as of 2008 ; ***Reported as of 2009

SOURCE: LA County DPH, HIV Epidemiology Unit, 2010.

Estimated Number of PLWHA* in LA County, 2009

	Reported/ Pending # PLWHA	Estimated #PLWHA Unaware	Estimated # PLWHA
LAC	48,450	13,250	61,700

*PLWHA = People living with HIV or AIDS

Los Angeles County Executive Summary, 2009

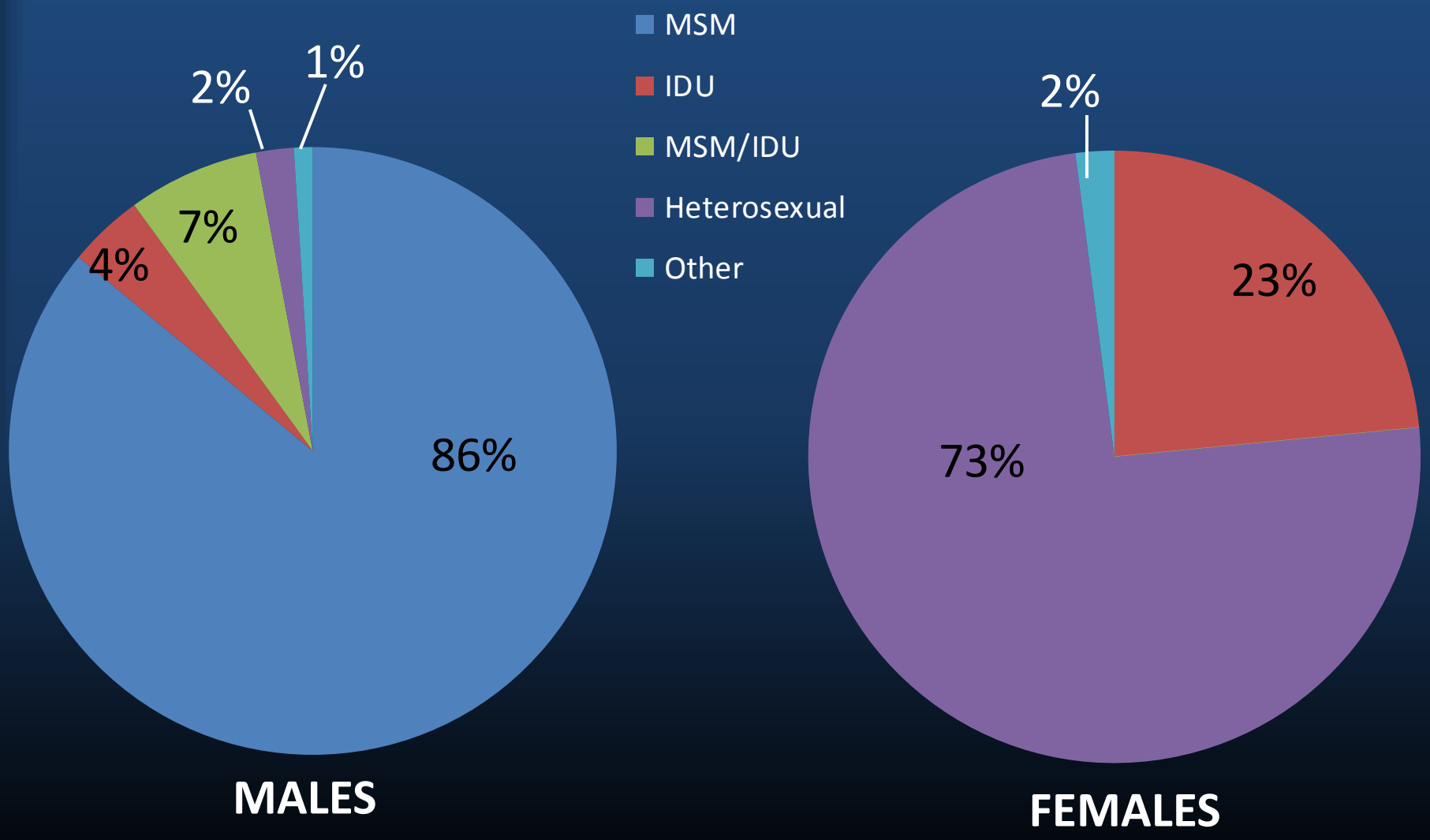
SOURCE: LA County DPH, HIV Epidemiology Unit, 2010.

HIV/AIDS in Los Angeles County

- The number of reported cases of PLWHA has been steadily increasing (from 13,708 in 1982 to 42,364 in 2010)
- HIV/AIDS cases by gender have remained steady over the years, with males at a significantly higher level of infection (males represent 7/8 cases; 87%)
- HIV/AIDS cases by ethnicity have remained steady, with Latinos (39%) reporting the most cases, followed closely by Whites (35%), Blacks (21%), Asian/PI(3%), and AI/AN (<1%)

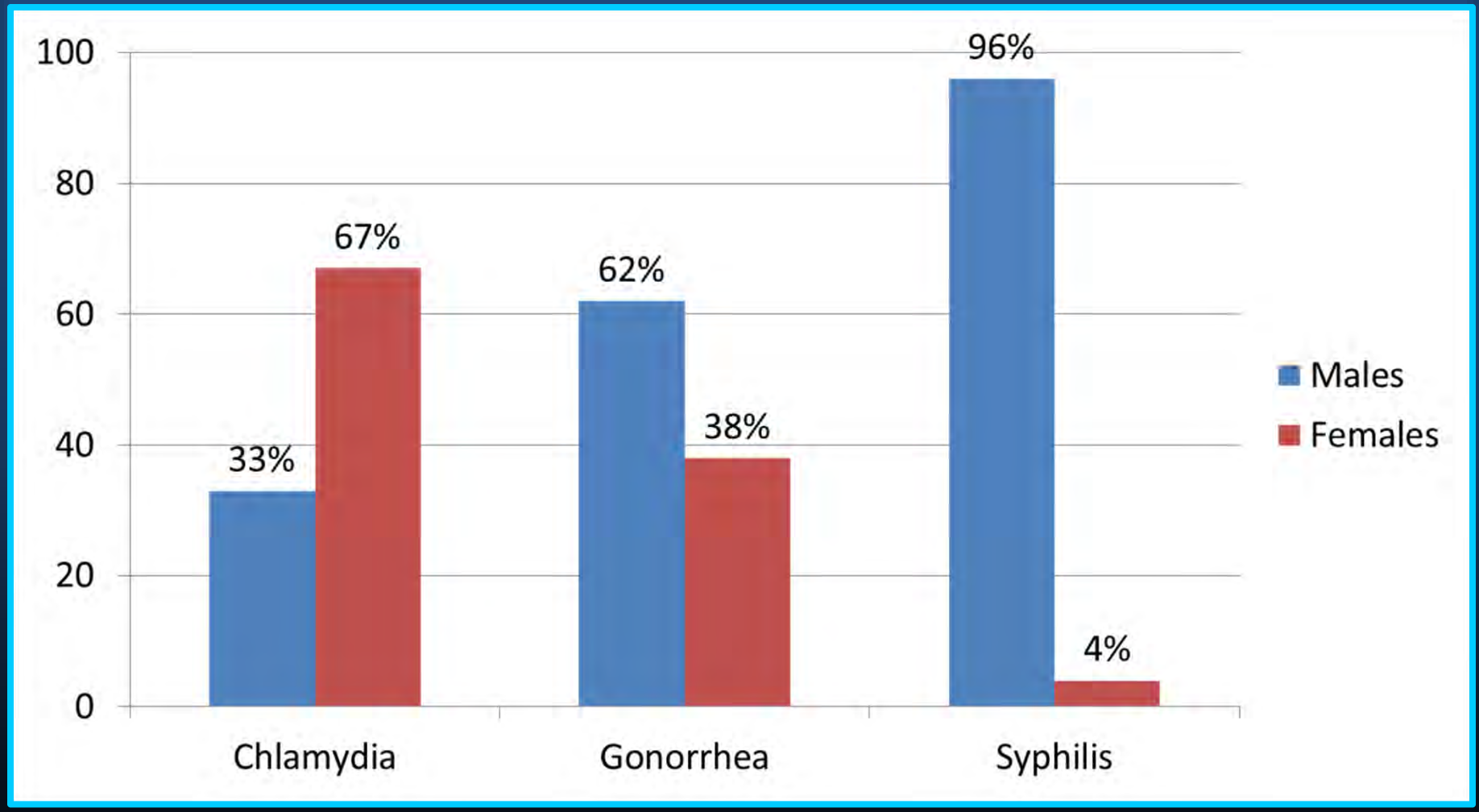
SOURCE: LA County DPH, HIV Epidemiology Unit, 2010.

Mode of Exposure for PLWHA, by Gender in LA County



SOURCE: LA County DPH, HIV Epidemiology Unit, 2010.

STDs Reported by Gender to LAC STI/STD Program, 2009



SOURCE: LA County DPH, HIV Epidemiology Unit, 2010.

HIV Care in the United States

80 are aware of their infection

28 have a very low amount of virus in their body

For every **100 people** living with HIV…

62 are linked to HIV care

36 get antiretro-viral therapy

41 stay in HIV care

SOURCE: New Hope for Stopping HIV. *CDC Vital Signs*, CDC, 2011.

Medications for HIV Infection

- Today, HIV-positive people have many options for AIDS/HIV medications:
  - Anti-HIV medications that treat HIV infection
  - Drugs that treat side effects of the disease or HIV treatment
  - Drugs that treat opportunistic infections that result from a weakened immune system

- HIV Drugs
  - The FDA has approved more than 25 antiretroviral drugs to treat HIV infection. They can help to:
    - Lower viral load
    - Fight infections
    - Improve quality of life

Medications for HIV Infection

- The current goals for the use of these HIV medications:
  - Control the growth of the virus
  - Improve overall immune system function and status
  - Suppress symptoms
  - Produce as few side effects as possible

Alcohol and HIV: Overview

- People who have tested positive for HIV are **nearly twice** as likely to use alcohol than people in the general population.
- Use and abuse of alcohol can **thwart** prevention efforts and treatment for those already infected.
- Abusing alcohol can impair judgment, leading to **risky** sexual behaviors.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Prevalence of HIV Consumption and Heavy Drinking among People with HIV in the U.S.

- Approximately 53% of persons in care for HIV reported drinking alcohol in the preceding month and 8% were classified as heavy drinkers.
- The odds of heavy drinking were significantly higher among users of cocaine or heroin and significantly lower among the better educated and those with an AIDS-defining illness.

SOURCE: Galvan et al. (2002), *J Stud Alcohol*.

The Importance of Monitoring Alcohol Use among HIV-Positive Patients

- Even intermittent use can complicate the clinical management of HIV-infected patients by:
  - Diminishing adherence to medications
  - Increasing risk of liver injury
  - Reducing the patient's ability to practice safer sex
  - Increasing the risk of side effects from medications
  - Changing pharmacokinetics of prescribed drugs

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Alcohol Use and Risky Sexual Behaviors

- Research suggests that people who strongly believe that alcohol enhances sexual arousal and performance are more likely to practice risky sex after drinking.
- Some people deliberately use alcohol during sexual encounters to provide an excuse for socially unacceptable behavior or to reduce conscious awareness of risk.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Alcohol's Effect on HIV Virus Growth

- Alcohol has numerous effects, both direct and indirect, on how this virus develops and how quickly it causes disease.
- Alcohol can increase how fast the virus replicates, leading to higher amounts of virus (i.e., the viral load) in the body.
  - Those high concentrations, in turn, can increase the spread of the disease.
  - In one study, women receiving antiretroviral therapy (ART) who drank moderately or heavily were more likely to have higher levels of the HIV virus, making it easier for them to spread the virus to others.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Alcohol and ART

- A major cause of illness and death among HIV-infected patients that has emerged since the advent of ART is liver disease.
- ARTs not only are processed in the liver, they also have toxic effects on the organ, and some drug combinations can lead to severe toxicity in up to 30 percent of patients who use them.
- A large proportion of people with HIV also are infected with hepatitis C (HCV).
  - Alcohol abuse and dependence significantly increase the risk of liver damage both in people with HIV alone and with HCV co-infection.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Effects of Alcohol or Drug Use on Receipt of and Adherence to ART and Virologic Suppression

- Hazardous alcohol use (in the absence of drug use) is associated with reduced likelihood of:
  - Being on antiretroviral therapy
  - Being adherent to antiretroviral therapy
  - Achieving virologic suppression
- Effects are similar to those seen with illicit drugs
- The findings underscore the importance of screening HIV-infected patients for alcohol AND drug use.

SOURCE: Chander, G. (2011) *Alcohol Use and HIV*.

The Impact of Alcohol and HIV on the Lungs

- Patients who drink or who have HIV infection are more likely to suffer from pneumonia and to have chronic conditions such as emphysema.
- Lung infections remain a major cause of illness and death in those with HIV
  - Chronic alcohol consumption has been found to increase the rate at which viruses infect lungs and aid in the emergence or opportunistic infections

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

The Impact of Alcohol and HIV on the Brain

- In studies comparing patients with alcoholism, HIV infection, or both, people with alcoholism had more changes in brain structure and abnormalities in brain tissues than those with HIV alone.
- Patients with HIV infection and alcoholism were especially likely to have difficulty remembering and to experience problems with coordination and attention.
- Those with alcoholism whose HIV had progressed to AIDS had the greatest changes in brain structure.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Indirect Effects of Alcohol on Increasing HIV Risk

- Alcohol consumption often occurs in bars and clubs where people meet potential sex partners.
  - These establishments create networks of at-risk people through which HIV can spread rapidly
- Alcohol abusers' high-risk sexual behaviors make them more likely to be infected with other sexually transmitted diseases; those, in turn, increase the susceptibility to HIV infection.
- Alcohol abusers are more likely to abuse illegal substances, which can involve other risky behaviors, such as needle sharing.

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

The Impact of Alcohol Consumption on the Survival of HIV+ Individuals

- Nonhazardous alcohol consumption decreased survival by more than 1 year if the frequency of consumption was once per week or greater, and by 3.3 years (from 21.7 years to 18.4 years) with daily consumption.
- Hazardous alcohol consumption decreased overall survival by more than 3 years if frequency of consumption was once per week or greater, and by 6.4 years (From 16.1 years to 9.7 years) with daily consumption.

SOURCE: Braithwaite et al. (2007). *AIDS Care.*

Alcohol Treatment as HIV Prevention

- Decreasing alcohol use among HIV patients can reduce the medical and psychiatric consequences associated with alcohol consumption
  - It can also decrease other drug use and HIV transmission
- Screening, intervention, and referral to care for alcohol use disorder is an integral part of clinical care for individuals with HIV infection.
- Bottom Line = Alcohol treatment can be considered primary HIV prevention

SOURCE: NIAAA. (2010). *Alcohol Alert,* Number 80.

Case Study #1

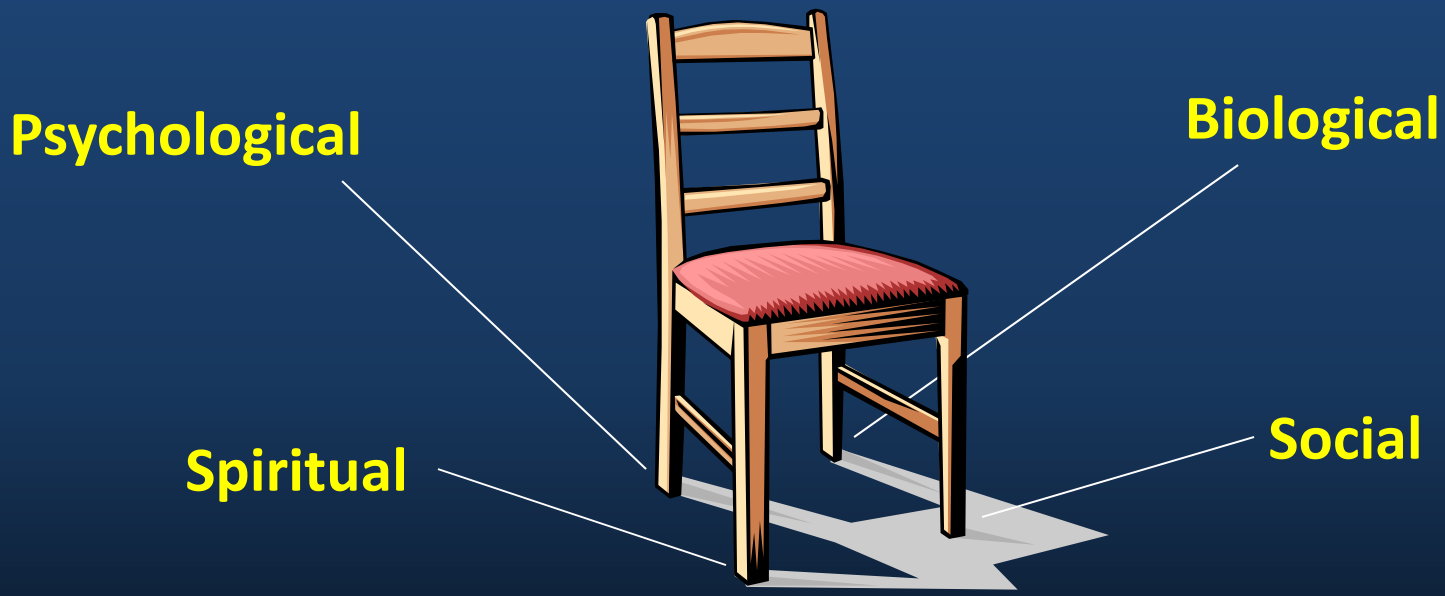
A 25 year-old African American patient recently tested positive for HIV and has come to your office for assistance in developing an ongoing care plan. She discloses that she just moved in with her older girlfriend in South Los Angeles. She has a history of experimentation of "some drugs," but no regular use, and has 2-3 beers several nights a week.

1. What additional information do you want to know?
2. What services are most important to begin her care?

Effective Behavioral Treatment Interventions for Alcohol Abuse

Four Legs of Addiction

Think of this concept as a chair, with each leg representing a component of a patient's treatment plan.



All four legs are required to "support" the patient, and if one leg is missing, the chair will be unstable and unable to accomplish its goal.

Treatment Planning

- Treatment teams must evaluate the appropriateness of including pharmacotherapies into a patient's individualized treatment plan.

- There are many factors that contribute to a patient's individualized treatment plan, and sometimes medications are not appropriate for all patients or situations.

Stages of Change Model

The **Stages of Change Model** identifies five independent stages of behavior and thinking that patients experience when making changes.

By identifying a patient's current stage of change, addiction professionals can better determine the most appropriate treatment options.

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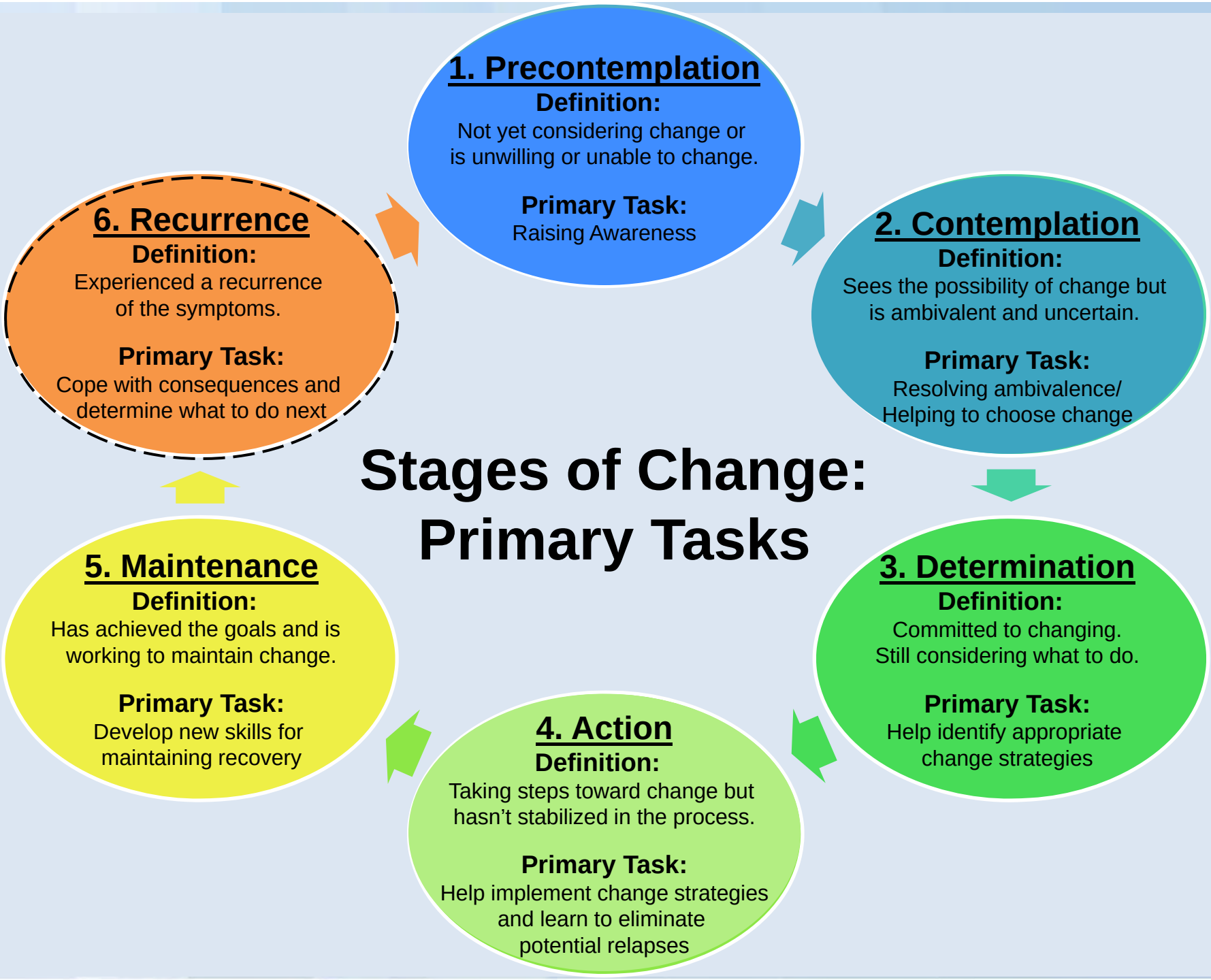
Stages of Change: Primary Tasks



Stages of Change: Intervention Matching Guide

1. Pre-contemplation

- Offer **factual** information
- Explore the **meaning of events** that brought the person to treatment
- Explore **results of previous efforts**
- Explore **pros** & **cons** of targeted behaviors

Medications

- may not be ready to take them
- knowing there are medications that could help may create an interest in treatment and offer hope

2. Contemplation

- Explore the person's **sense of self-efficacy**
- Explore **expectations** regarding what the change will entail
- **Summarize** self-motivational statements
- Continue exploration of **pros** & **cons**

Medications

- could support the notion that change is possible;
- can be seen as a tool to help them achieve their goals

3. Determination

- Offer a **menu of options** for change
- Identify **pros** & **cons** of change options
- Identify and **lower barriers** to change
- Help person **enlist social support**
- Encourage **announcement of plans**

Medications

- may promote the patient's commitment to recovery plan;
- can help to set a timeframe for initiating the plan

4. Action

- Support change through **small steps**
- Help **identify high-risk situations** and develop **coping strategies**
- Help **find new reinforcers** of change
- Help access family and social **support**

Medication

- effects can reinforce initial success of treatment;
- can reduce cravings and post-acute withdrawal symptoms

5. Maintenance

- Help identify and try **alternative behaviors** (drug-free sources of pleasure)
- Maintain **supportive contact**
- Help **develop escape plan**
- Work to **set new** short and long term **goals**

Medication

- can prevent relapse and support stabilization;
- can reduce cravings and post-acute withdrawal symptoms

6. Recurrence

- Frame as a **learning opportunity**
- Explore **antecedents**
- Develop **alternative coping** strategies
- Encourage person to **stay in the process**
- Maintain **supportive contact**

Medication

- can support the patient's commitment to change;
  can reduce cravings and post-acute withdrawal symptoms

Behavioral Interventions

*It is **imperative** that **pharmacotherapies are paired with** some form of evidence-based behavioral therapeutic intervention*

Behavioral Approach #1: Contingency Management (CM)

- CM is also known as Motivational Incentives
- May be particularly useful for helping patients achieve initial abstinence.
- Some CM programs use a voucher-based system to give positive rewards for staying in treatment and remaining drug-free.
  - Based on drug-free urine tests, the patients earn points, which can be exchanged for items that encourage healthy living, such as joining a gym, or going to a movie and dinner.

SOURCE: NIDA Research Report Series – Cocaine Abuse and Addiction, 2010.

Behavioral Approach #2: Cognitive Behavioral Therapy (CBT)

- Relapse Prevention
- Underlying assumption = learning processes play an important role in the development and continuation of drug abuse and dependence.
- CBT attempts to help patients recognize the situations in which they are most likely to use drugs, avoid these situations when appropriate, and cope more effectively with a range of problems and problematic behaviors associated with drug abuse.
- CBT is compatible with a range of other treatments patients may receive, such as pharmacotherapy.

SOURCE: NIDA Research Report Series – Cocaine Abuse and Addiction, 2010.

Behavioral Approach #3: Therapeutic Communities (TCs)

- Residential programs with planned lengths of stay of 6 to 12 months.
- A focus on re-socialization of the individual to society, and can include on-site vocational rehabilitation and other supportive services.
- Variation exists with regards to the types of therapeutic processes offered in TCs.

SOURCE: NIDA Research Report Series – Cocaine Abuse and Addiction, 2010.

Behavioral Approach #4: Motivational Interviewing (MI)

- "…a directive, client-centered method for enhancing intrinsic motivation for change by exploring and resolving ambivalence (Miller & Rollnick, 2002).
- "…a way of being with a client, not just a set of techniques for doing counseling" (Miller and Rollnick, 1991).

SOURCE: Rollnick S., & Miller, W.R. (1995). What is motivational interviewing? *Behavioural and Cognitive Psychotherapy*, *23*, 325-334.

MI: Basic Principles and Micro-Skills

- Motivational Interviewing Principles:
  - Express empathy
  - Develop discrepancy
  - Roll with resistance
  - Support self-efficacy
- Motivational Interviewing Micro-Skills (OARS):
  - **O**pen-Ended Questioning
  - **A**ffirming
  - **R**eflective Listening
  - **S**ummarizing

SOURCE: Miller & Rollnick.

Behavioral Approach #5: 12-Step Facilitation Therapy

- An active engagement strategy to:
  - Increase the likelihood of an individual becoming affiliated with and actively involved in 12-step self-help groups
  - Promote abstinence from alcohol and other drugs
- Three key aspects, including:
  - Acceptance
  - Surrender
  - Active Involvement

SOURCE: NIDA, *Principles of Drug Addiction Treatment*.

Effective Medical Treatment Interventions for Alcohol Abuse

How can we Treat Alcohol Addiction?

Medications for alcoholism can:

- **Reduce** post-acute withdrawal
- **Block or ease** euphoria from alcohol
- **Discourage** drinking by creating an unpleasant association with alcohol

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MAT: What do you think?

Our patients should have access to medication-assisted treatment.

A. True
B. False

MAT: What do you think?

Medications are drugs, and you cannot be "clean" if you are taking anything.

A. Strongly Disagree
B. Disagree
C. Neutral
D. Agree
E. Strongly Agree

MAT: What do you think?

Alcoholics Anonymous (AA) & Narcotics Anonymous (NA) do not support the use of medications.

A. Strongly Disagree
B. Disagree
C. Neutral
D. Agree
E. Strongly Agree

MAT: What do you think?

MAT is not effective.

A. Strongly Disagree
B. Disagree
C. Neutral
D. Agree
E. Strongly Agree


Disulfiram
Antabuse®

Disulfiram

Marketed as Antabuse®

FDA Approved in 1951

Indication: An aid in the management of selected chronic alcohol patients who want to remain in a state of enforced sobriety so that supportive and psychotherapeutic treatment may be applied to best advantage.

Disfulfiram discourages drinking by making the patient physically sick when alcohol is consumed.

Has not been found to be addictive and no reports of misuse

Additional Disulfiram Information

Cost:

$57.59 per month, which is around $1.92 a day.

Third-Party Payer Acceptance:

Covered by most major insurance carriers, Medicare, Medicaid, and the VA.

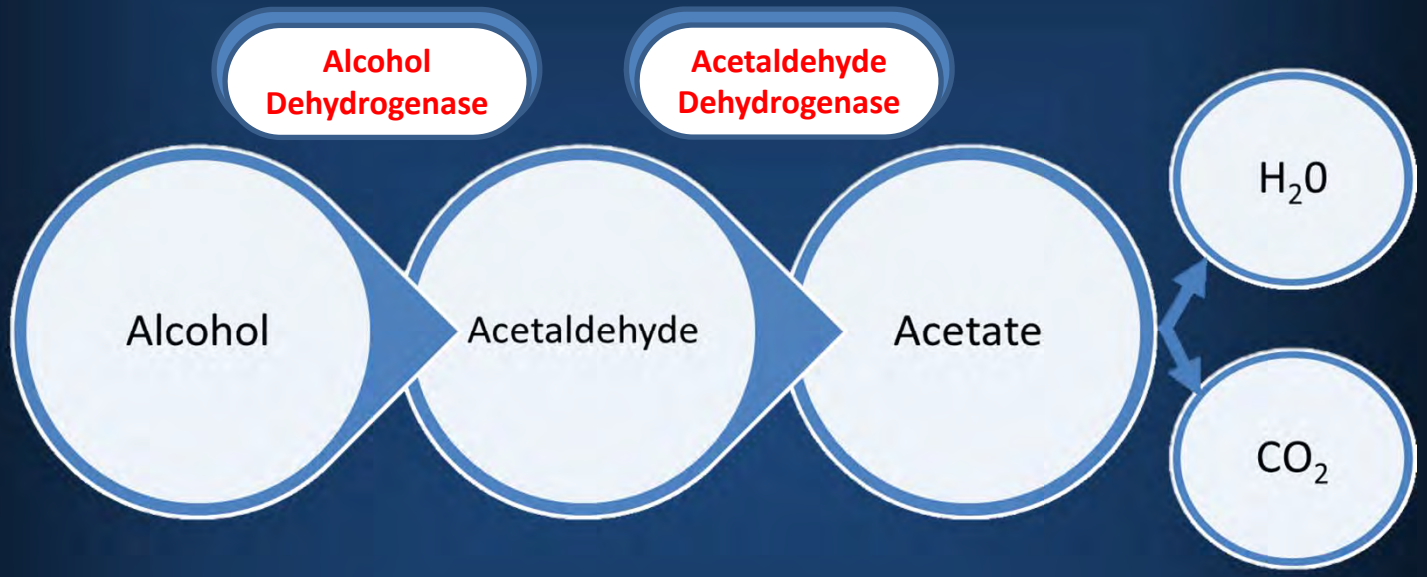
Dosing:

One 250mg tablet, once a day,
Can be crushed, diluted or mixed with food.

Abstinence Requirements:

Must be taken at least 12 hours after last alcohol use

How Does Disulfiram Work?



Disulfiram works by blocking the enzyme acetaldehyde dehydrogenase. This causes acetaldehyde to accumulate in the blood at **5 to 10 times higher** than what would normally occur with alcohol alone.

Since **acetaldehyde is poisonous**, a buildup of it produces a highly unpleasant series of symptoms, which is commonly referred to as the "**disulfiram-alcohol reaction**."

- throbbing in head/neck
- brief loss of consciousness
- throbbing headache
- lowered blood pressure
- difficulty breathing
- marked uneasiness
- copious vomiting
- nausea
- flushing
- sweating
- thirst
- weakness
- chest pain
- dizziness
- palpitation
- hyperventilation
- rapid heartbeat
- blurred vision
- confusion
- respiratory depression
- cardiovascular collapse
- myocardial infarction
- congestive heart failure
- unconsciousness
- convulsions
- death

How Does Disulfiram Work?

- As long as there is alcohol in the blood, the disulfiram-alcohol reaction will continue.
- Symptoms are usually fully developed when the patient's blood alcohol concentration is 50 mg per 100 mL, but mild reactions can occur in sensitive patients with levels as low as five to ten mg per 100 mL.
- Further, the disulfiram-alcohol reaction can be triggered when alcohol is consumed one or even two weeks after the last dose of disulfiram was taken.

Disulfiram Contraindications

- The disulfiram-alcohol reaction usually lasts for 30 to 60 minutes, but can continue for several hours depending on the amount of alcohol consumed.
- Should never be administered to a patient when he or she has consumed alcohol recently or is currently intoxicated from alcohol.
- Should never be administered to a patient that has consumed alcohol-containing preparations such as cough syrup, tonics, etc.

Research about Disulfiram

- Participants treated with disulfiram **did not maintain complete abstinence** more frequently than those treated with placebo.
- Participants treated with disulfiram had a **greater reduction in the number of drinking days** during the entire study than those treated with placebo.

Acamprosate

Campral®

Acamprosate Calcium

Marketed as Campral®

FDA Approved in 2004

Indication:

For the maintenance of abstinence from alcohol in patients with alcohol dependence who are abstinent at treatment initiation by reducing post-acute withdrawal symptoms.

Has not been found to be addictive and no reports of misuse

Additional Information

Cost:

- $135.90 per month, which is around $**4.53** a day.[46]

Third-Party Payer Acceptance:

- Patient Assistance Program (Forest Laboratories, Inc.)
- Covered by most major insurance carriers,
- Covered by Medicare, Medicaid, and the VA (if naltrexone is contraindicated).

Dosing:

- Two 333mg tablets, three times a day
- Cannot be crushed, halved or diluted, but can be mixed with food.

How Does Acamprosate Work?

While the exact mechanism of action is not know, acamprosate is thought to be:

a glutamate receptor modulator

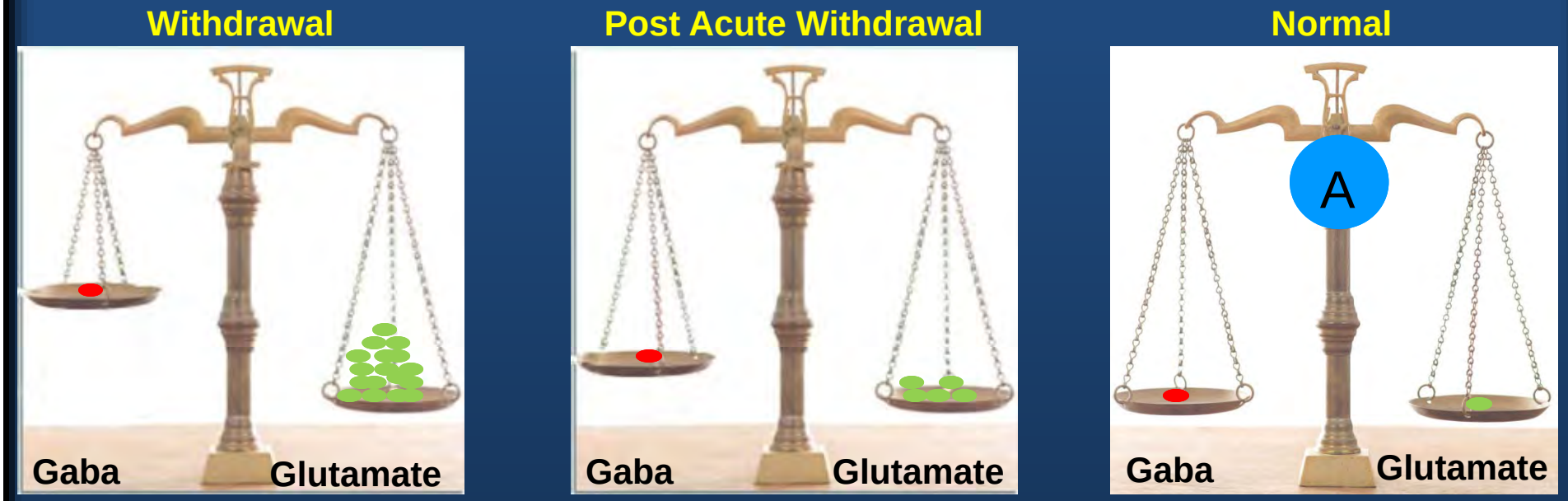
The brain responds to repetitive consumption of alcohol causes by increasing glutamate receptors, thereby counteracting alcohol's depressive effects.

How Does Acamprosate Work?

When alcohol is not present in a dependent's body:

1. Glutamate behaves normally
2. Since there are more glutamate receptors and no alcohol to counteract it, glutamate activity skyrockets
3. The normal balance between inhibitory and excitatory is altered, resulting in **alcohol withdrawal.**

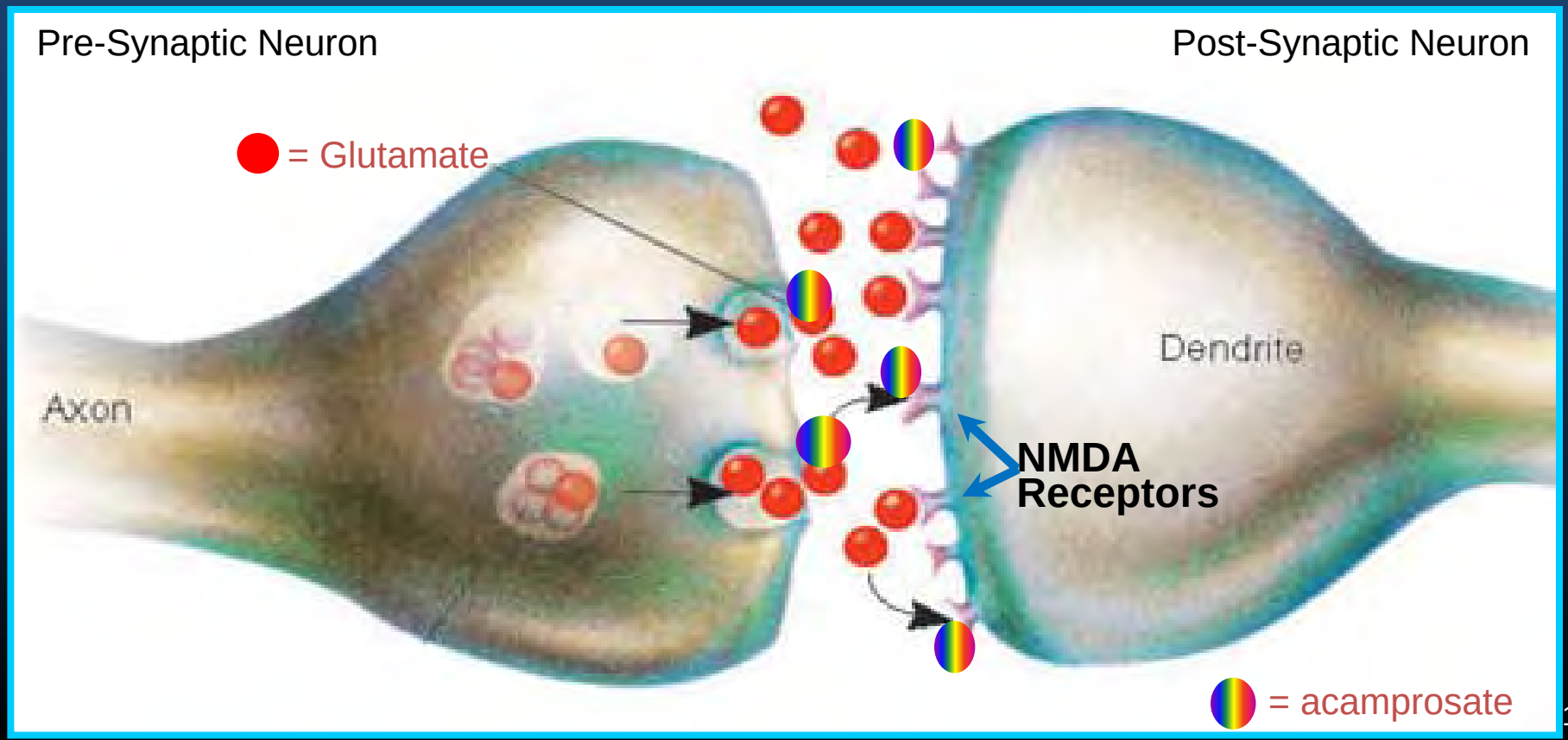
How Does Acamprosate Work?



- Even after acute withdrawal, the glutamate system continues to be overactive as it readjusts by down regulating the glutamate receptors.
- During this time, the client continues to feel anxiety and agitation that can lead to relapse.

How Does Acamprosate Work?

- Acamprosate is thought to reduce amount of glutamate released, and
- Reduce the activity of the glutamate receptors



Research about Acamprosate

- Participants treated with acamprosate were able to maintain complete abstinence more frequently than those treated with placebo
- Participants treated with acamprosate had a greater reduction in the number of drinking days during the entire study than those treated with placebo.
- In all three studies, participants treated with acamprosate were able to regain complete abstinence after one relapse more frequently than those treated with placebo.

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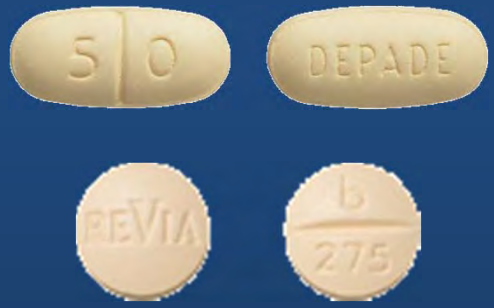
Naltrexone
Revia® or Depade®

Naltrexone Hydrocholoride



Marketed As: ReVia® and Depade®

Indication

Used in the treatment of alcohol or opioid dependence and for the blockade of the effects of exogenous administered opioids and/or decreasing the pleasurable effects experienced by consuming alcohol.

Has not been found to be addictive or produce withdrawal symptoms when the medication is ceased.

Administering naltrexone will invoke opioid withdrawal symptoms in patients who are physically dependent on opioids.

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Additional Information

Cost:
$110.68 per month, which is around $3.69 a day.
Third-Party Payer Acceptance:
Covered by most major insurance carriers, Medicare, Medicaid, and the VA.

Dosing:

One 50mg tablet, once a day
Can be crushed, diluted or mixed with food.

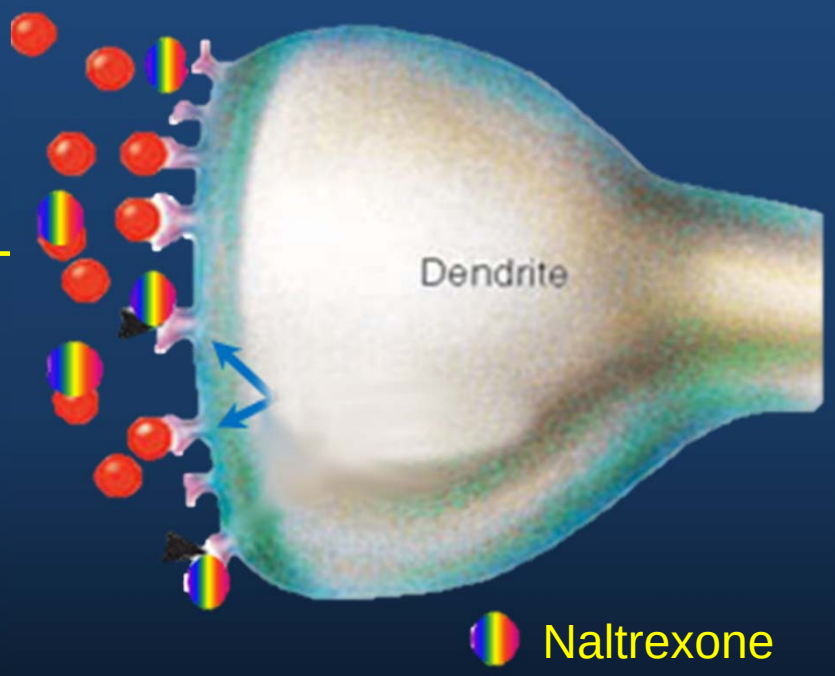
Abstinence requirements: must be taken at least 7-10 days after last consumption of opioids; abstinence from alcohol is not required.

How Does Naltrexone Work?

- Naltrexone is an opioid receptor antagonist and blocks opioid receptors.

This prevents the effects of self-administered opioids.

It also diminishes release dopamine when alcohol is consumed, reducing the pleasurable effects



Research for Naltrexone

- Participants treated with naltrexone were **not able to maintain complete abstinence** more frequently than those treated with placebo.
- Participants treated with naltrexone had a **greater reduction in relapse** during the study than those treated with placebo.

What Does the Research Say?

- Naltrexone is effective for opioid and alcohol addiction:
  - Reduces risk of re-imprisonment
  - Lowers risk of opioid use, with or without psychological support
  - Extended-release naltrexone addresses the issue of patient compliance

What Does the Research Say?

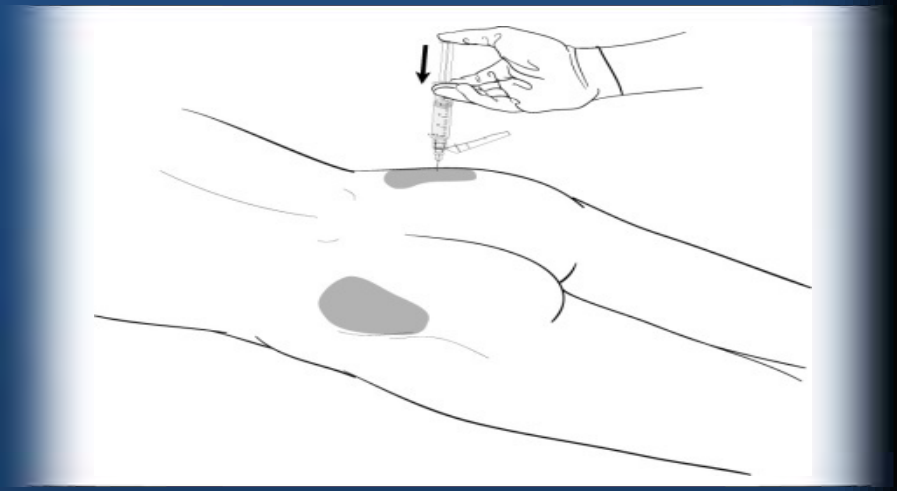
- Naltrexone for opiates was well tolerated and associated with a significant abstinence rate.

- In a five-year follow up study, naltrexone with behavioral therapy for opiates saw improvements in drug use, days of depressant use, legal status, and psychiatric factor.

Naltrexone for Extended-Release Injectable Suspension

Extended-Release Naltrexone

Dosing:



One 380mg injection deep muscle in the buttock, every 4 weeks

Must be administered by a healthcare professional and should alternate buttocks each month.

Blocks opioid receptors for **one entire month** compared to approximately 28 doses of oral naltrexone.

It is **not possible to remove** it from the body once extended-release naltrexone has been injected.

Special Precautions for Extended-Release Naltrexone

- During clinical trials, there was an increase in adverse events of a suicidal nature in patients taking extended-release naltrexone. Counselors should continue to closely monitor and record all suicidal events for patients, including those taking extended-release naltrexone.
- If opioid analgesia is required, it should be noted that the patient may necessitate greater than usual amounts of opioids to achieve desired effect, and the resulting respiratory depression may be deeper and more prolonged.

Research about Extended-Release Naltrexone

- Participants treated with extended-release naltrexone did not maintain complete abstinence more frequently than those receiving placebo.
- Participants treated with extended-release naltrexone had a greater reduction in the number of heavy drinking days during the study than those receiving placebo.
- Participants treated with extended-release naltrexone who had a **seven-day abstinence period from alcohol** prior to treatment initiation had a greater reduction in the number of heavy drinking days during the study than those receiving placebo.

Case Study #2

A 23 year-old Hispanic/Latino male reports a series of unprotected sexual encounters following episodes of binge drinking has come to you for help. Upon further discussion, it is discovered that the patient drinks large amounts of alcohol daily (5-7 standard drinks), and increases consumption on the weekend. The patient recently was determined to be physically dependent on alcohol, and was released to medical detox yesterday.

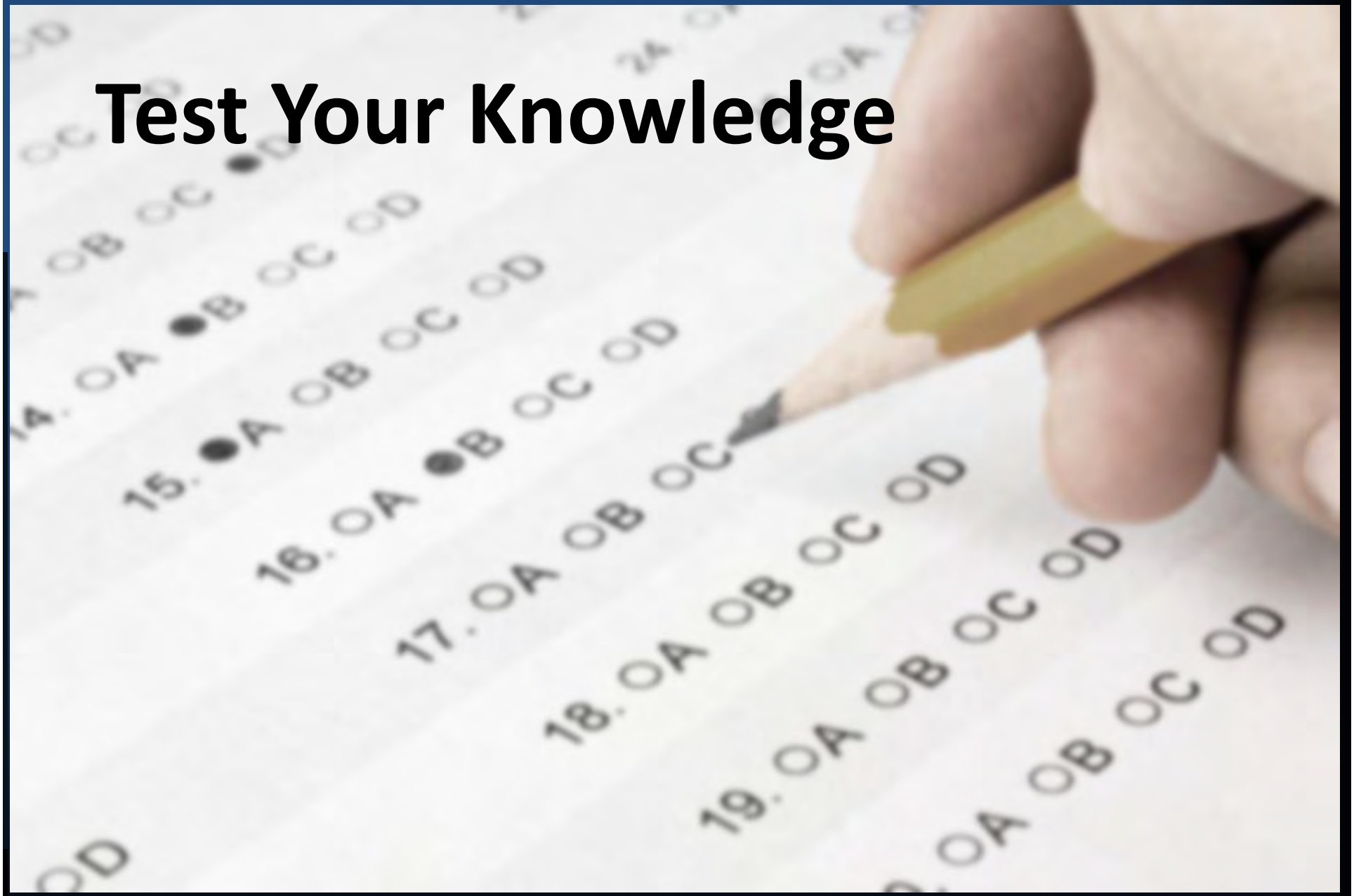
1. What are the critical issues that need to be addressed?

2. Should MAT be considered? If so, which medication do you think might be most appropriate?

Concluding Thoughts

- While some drug use trends are changing, alcohol has a stronghold in the community, and is a widely available substance of abuse
  - Alcohol abuse and it consequences impact individuals of all ages and racial/ethnic backgrounds.
  - Alcohol use is strongly connected to HIV
  - Treatments are available to treat alcohol abuse, which may, in turn prevent the further spread of HIV

Test Your Knowledge



Test Your Knowledge

1. At-risk drinking levels are the same, regardless of the drinker's age or gender:

A. True

B. False

Test Your Knowledge

2. The four main neurotransmitters relevant to alcohol are:

A. Dopamine, serotonin, GABA, and glutamate
B. Serotonin, GABA, endorphin, and norepinephrine
C. Endogenous opioids, glutamate, GABA, and dopamine
D. Endogenous opioids, glutamate, endorphin, and norepinephrine

Test Your Knowledge

3. Nationwide, binge drinking rates are higher among men than women:

A. True

B. False

Test Your Knowledge

4. Decreasing alcohol use among HIV patients can reduce which of the following:

A. Medical and psychiatric consequences of alcohol consumption
B. Other drug use
C. HIV transmission
D. All of the above

Test Your Knowledge

5. The goal of effective medication-assisted treatment for alcohol addiction should be:

A. Short term stabilization and withdrawal
B. A treatment of last resort
C. Ongoing maintenance
D. A and C
E. None of the above

Take Home Points for Clinicians

- **Know** - your local resources (substance use disorders treatment facilities, 12-step meetings, mental health resources, etc.).

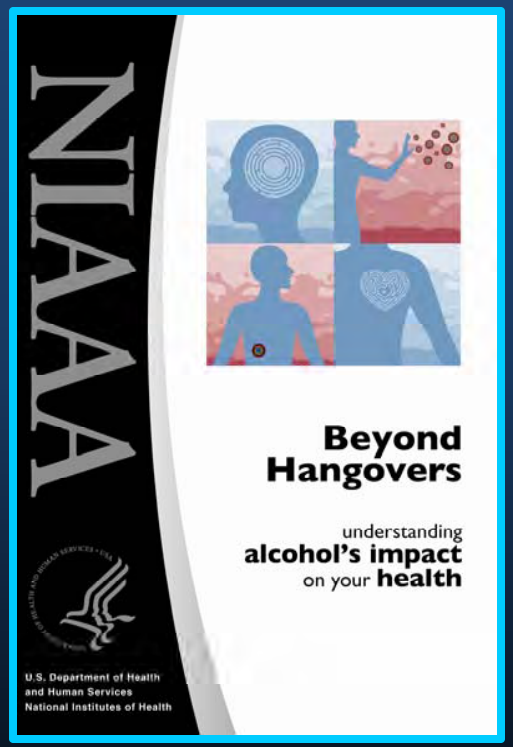
- **Remember**- alcohol abuse is treatable and every clinic visit is an opportunity for intervention and prevention messages.

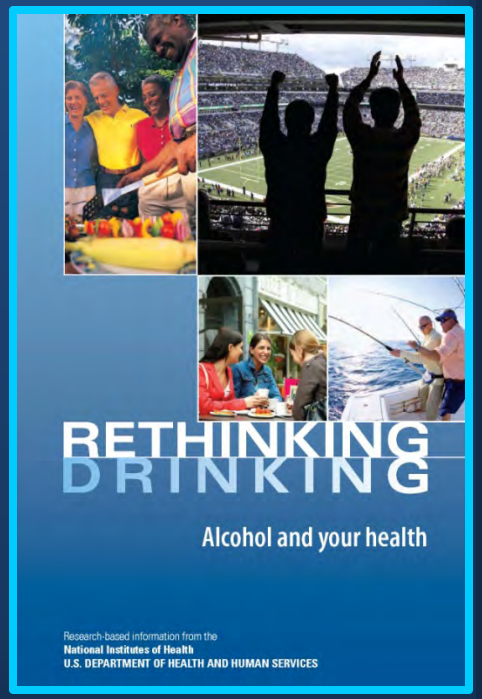
- **Encourage**- Patients and staff to discuss the challenges of alcohol abuse and remind them of the importance of continued HIV care, if applicable.

Take Home Points for Clinicians

- Offer their patients an HIV test as a regular part of medical care.
- Offer their patients STD testing and treatment services.
- Prescribe ART as needed for patients with HIV and make sure the amount of virus is as low as possible.
- Make sure people with HIV continue getting HIV medical care.
- Provide HIV prevention counseling to patients on how to protect their health and avoid passing the virus on to others; refer to other prevention services (for example, partner counseling) as needed.

Key Resources





References & Local Referrals

- **Los Angeles County STD Clinic and Schedules**
  Find out where to get free, confidential STD testing and treatment at a location near you.
- **inSPOTLA.org**
  Includes an interactive clinic finder map with over 60 clinics in Los Angeles County.
- **AIDS Healthcare Foundation (AHF) Men's Wellness Center**
  The AHF Men's Wellness Center is dedicated to providing sexual health services to men in LA County, including gay and bisexual men and male to female transgender clients.
- **LA Gay and Lesbian (GLC) Center Sexual Health Program**
  The L.A. Gay & Lesbian Center Sexual Health Program offers free sexually transmitted disease screening, treatment and education specifically for the gay, lesbian, bisexual and transgender community (though everyone is welcome).

References & Local Referrals

- **HIVcare.org**

  Provides addresses of free HIV testing sites

- **FreeHIVtest.net**

  Provides free HIV tests at AHF centers and *Out of the Closet* stores

- **plannedparenthood.org/los-angeles**

  Search for testing sites by zip code; info about STDs/HIV

- **California HIV/AIDS Service Referrals**

  http://cdcnpin.org/ca/

- **aidshotline.org (check website)**

  800-367-AIDS: 9 AM to 9 PM weekdays and 10 AM to 6 PM on weekends

Thank you for your time!

For more information:

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Beth Rutkowski: brutkowski@mednet.ucla.edu

Jennifer McGee: jen@HIVtrainingCDU.org

Pacific Southwest ATTC: www.psattc.org

PAETC Training calendar: www.HIVtrainingCDU.org

Pacific Southwest ATTC

CDU

PACIFIC AIDS Education and Training Center