Effective Substance Use Disorder Treatments for the Justice-Involved Veteran Population

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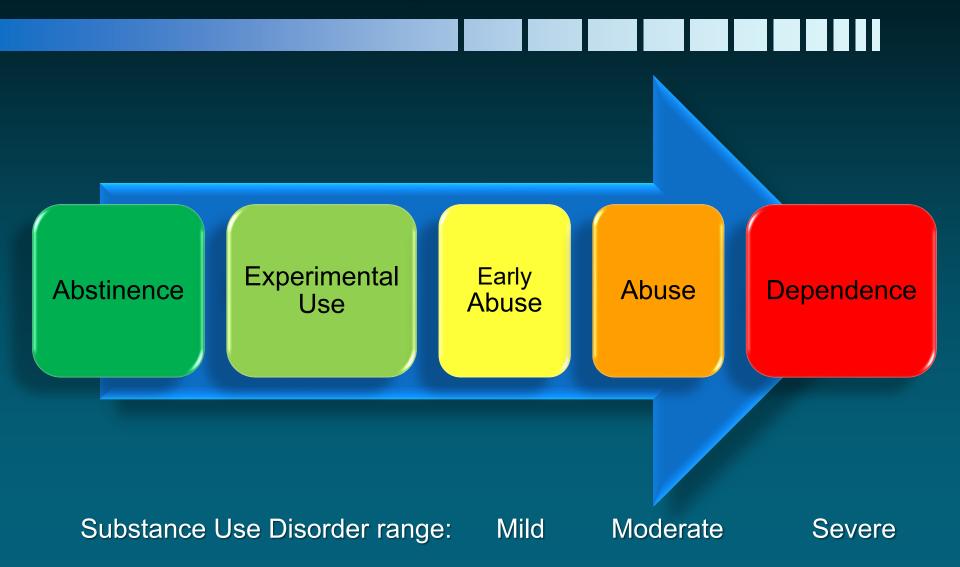
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Why You Should Care about Substance Use Disorders

- A study of 7,931 Veterans in Veterans Treatment Courts (Tsai et al., 2018) found:
 - The top two diagnoses were Alcohol Use Disorder (55.1% of Veterans) and Drug Use Disorder (37.6%)
 - If they had an AUD, they were 1.28 X more likely to be re-incarcerated than those who did not
 - If they had an DUD, they were 1.59 X more likely to be re-incarcerated than those who did not

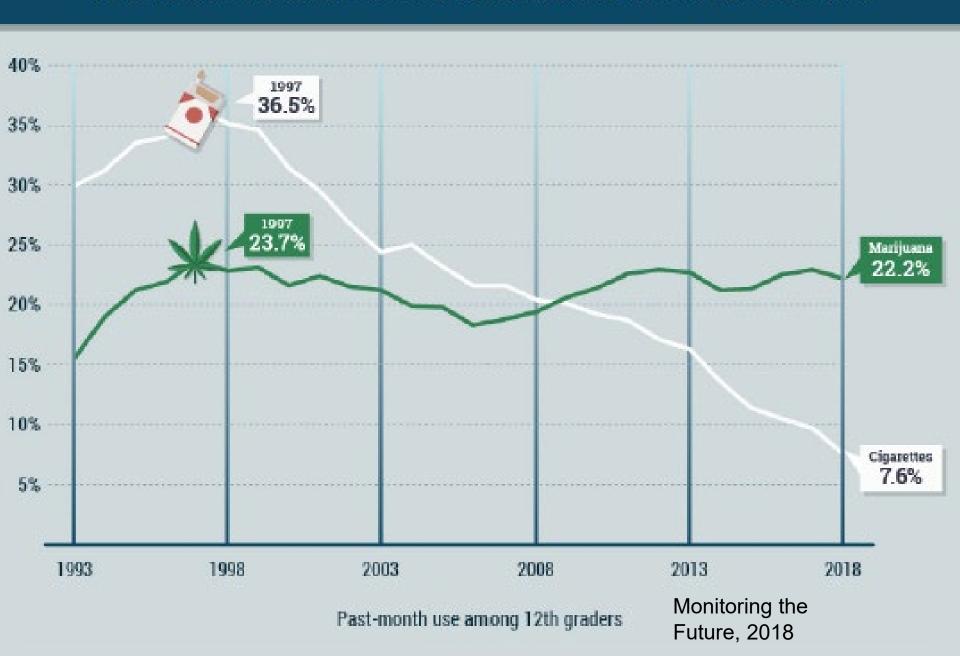


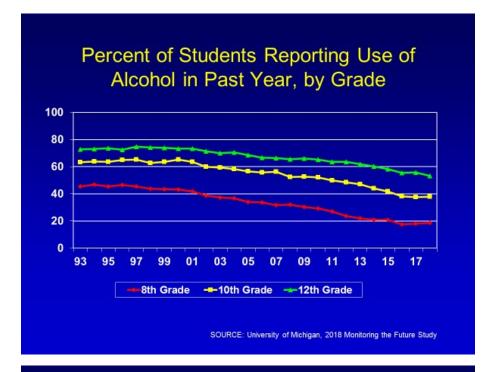
Substance Use Problem Severity Continuum

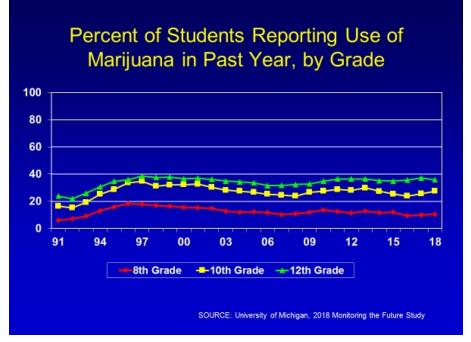


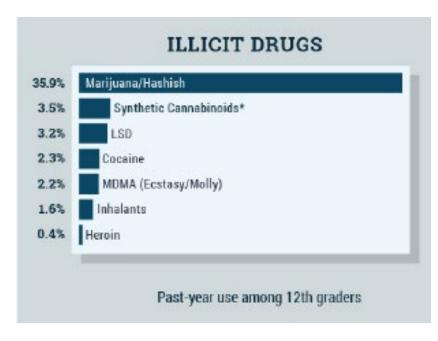
Adolescent Substance Abuse

TEENS MORE LIKELY TO USE MARIJUANA THAN CIGARETTES



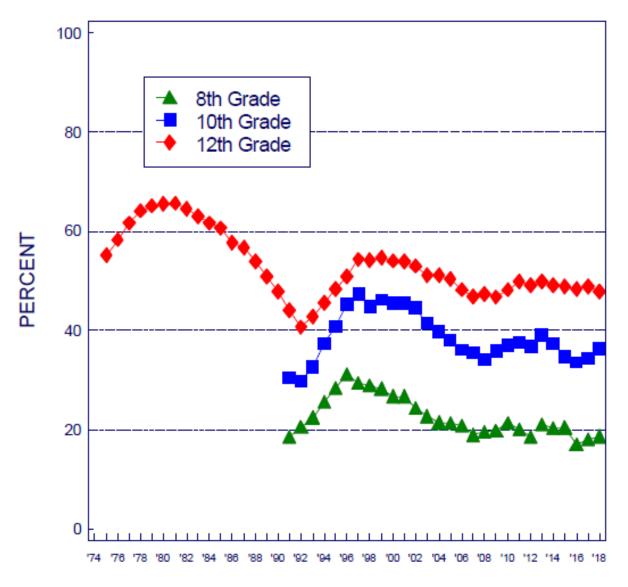






Monitoring the Future, 2018

Use % who used any illicit drug in lifetime

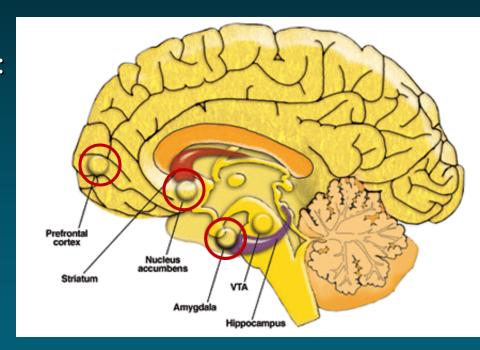


Adolescents Are Especially Vulnerable to Substance Abuse

- Compared to adults, most adolescents are more impulsive, display poorer judgment, and consider consequences less
- The brain continues to develop until age 25
- Much late adolescent brain development occurs in the prefrontal cortex
- Adolescent brains are less sensitive to the effects of alcohol, which may result in using larger amounts

Brain Structures Maturing During Adolescence That Are Involved in Responses to Substances

- Nucleus accumbens:
 where substances produce
 pleasurable effects and
 where modulation of effort:
 reward ratio occurs
- Amygdala: where emotional reactions to pleasurable and aversive experiences are controlled
- Prefrontal cortex: where impulse control, judgment, foreseeing consequences, planning, and complex information processing occur



Substance Use Disorders in the Military

Alcohol Abuse Prior to Combat

• 18.5% of Millennium Cohort responders (N=77,000) screened positive for potential alcohol dependence prior to combat deployment (Jacobson et al., 2008)



OEF-OIF Combat and Alcohol Abuse

| F | Heavy weekly drinking | Binge <u>drinking</u> | Alcohol-related <u>problems</u> |
|-----------------------|--------------------------|--------------------------|------------------------------------|
| Reserve & Nat'l Guard | | <i>(</i> 0/ | O/ |
| Before New onset | 9% 8.8% | 53.6% 25.6% | 15.2% 7.1% |
| Active duty | | 45.0 /0 | /.1 /0 |
| new onset | 6% | 26.6% | 4.8% |

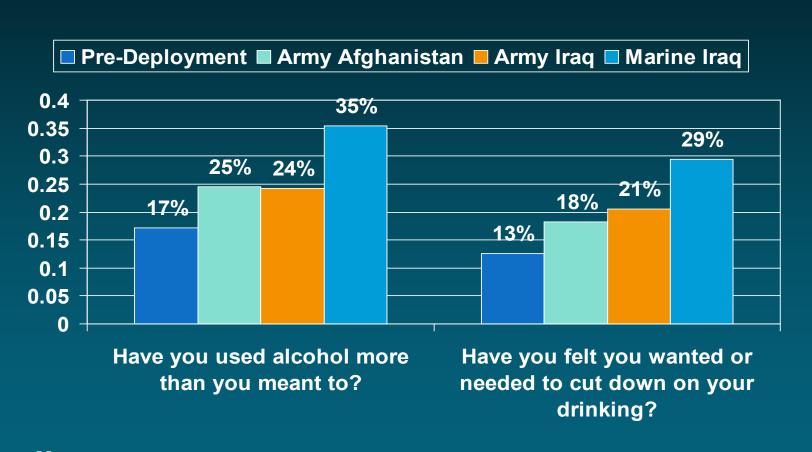
Jacobson et al., 2008

Heavy Drinking



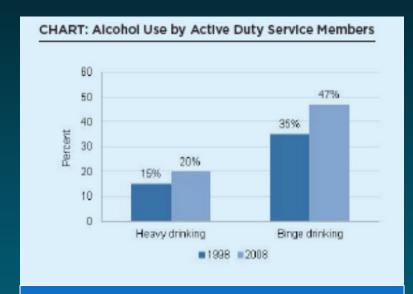
- 1/4 of Army soldiers consider themselves heavy drinkers (DOD, 2007)
 - 47% of active duty service members report heavy drinking (Bray et al., 2009)
 - Twice as many 18-25 year old soldiers and Marines drink alcohol compared to their civilian counterparts (DOD 2007)

Increase in Drinking for OEF-OIF Veterans



Alcohol Abuse

- 1/8 returning troops from Iraq and Afghanistan were referred to counseling for alcohol problems (DOD, 2009)
- From 2001-2010, 141,341 active duty service members received a chronic alcohol problem diagnosis during a medical encounter (MSMR, 2011)



Alcohol abuse more than doubled among active duty personnel from 1998-2008 (Bray et al., 2009)

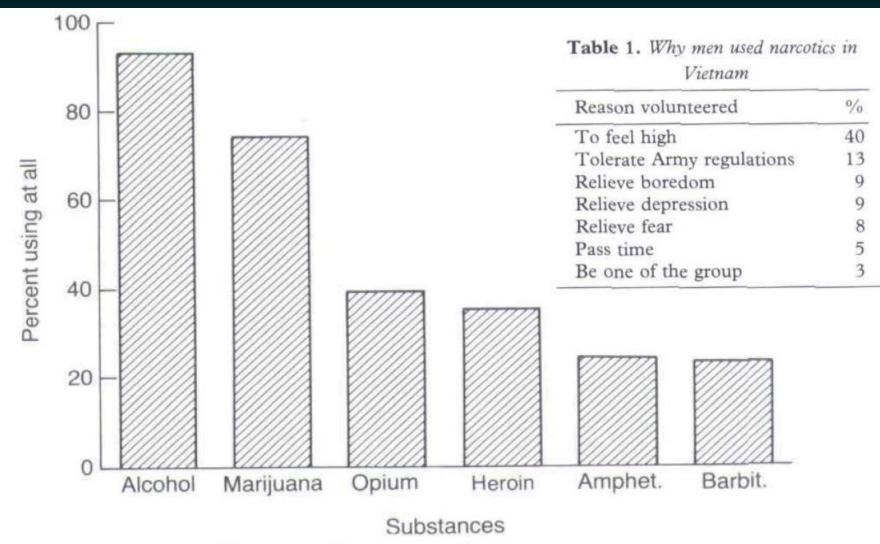
Substance Abuse among OEF-OIF Veterans

- Alcohol abuse among Army soldiers increased from 13% to 21% one year after return from Iraq and Afghanistan (Army Post-Deployment Reassessment Study, 2005)
- 12% of active duty personnel and 15% of reserve personnel meet criteria for Alcohol Abuse 6 months after returning home (Milliken et al., 2007)
- 17% of OEF-OIF veterans suffer from substance abuse problems (DOD, 2011)

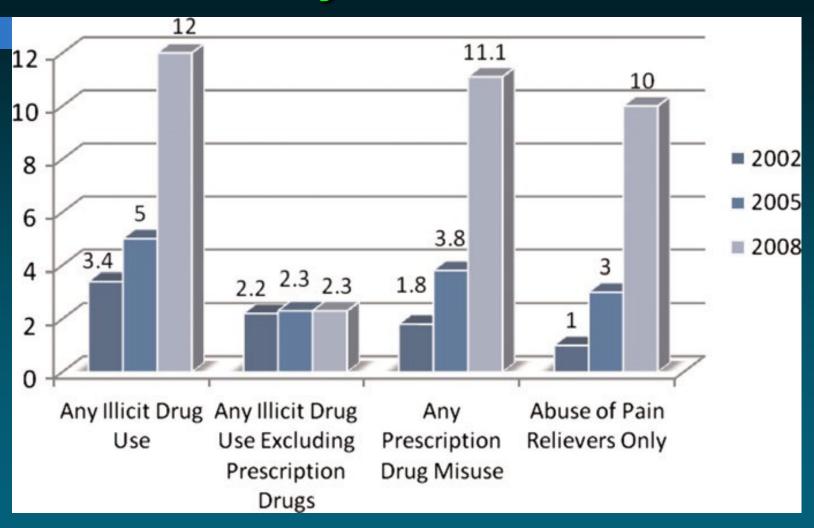
Substance-Related Problems

- Drinking was a factor in 33% of suicides, 57% of sexual assaults, 29% domestic violence incidents, and 44% of fatal motor vehicle accidents (DOD, 2006)
- 33% of troops who committed criminal acts in Iraq and Afghanistan were under the influence of alcohol or drugs (FOIA, 2007, quoted by National Council on Alcoholism and Drug Dependence)

Substance Use in Vietnam



Illegal Drug Use in the Military 2002-2008



Some Reasons Why Substance Use is Common in the Armed Services

- 18-24 are the peak years of alcohol abuse
- Masculine military culture
- "Letting off steam" after hours
- Soldiers used to be given free cigarettes
- In Vietnam, soldiers were given 3% beer to drink
- In Vietnam, opium and marijuana were common
- Boredom
- To feel happy
- Younger OEF-OIF veterans feel entitled to "party" and have fun

Drug Abuse



- Only 2.3% of military personnel used illicit drugs in the past 30 days, compared to 12% of civilians
 - However, by 2008, 11% of military personnel abused prescription drugs, more than their civilian counterparts
 - This increased from only 2% in 2002

Rising Opiod Abuse in the Military

- Use of opioids escalated during the Persian Gulf War
- A 2010 Army report found 14% of soldiers had opioid prescriptions
- Opioid misuse increased by 10 times, from 1% to 10%, between 2002 and 2008 (Bray, 2010)



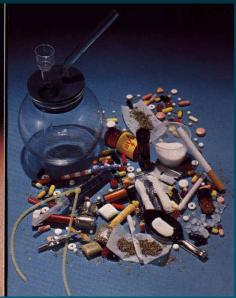
- A recent study (Cesur et al., 2019) found that Veterans are 15% more likely to have opioid prescriptions
 - It noted that "DoD has speculated that the GWOT may have contributed to opioid addiction among post-9/11 Veterans."

Substance Use Disorders in Veterans

Most Common Substances Abused by Veterans

- Alcohol
- Marijuana
- Cocaine
- Heroin
- Benzodiazepines
- Opioid painkillers





Substance Abuse Prevalence among Male Vietnam Veterans

Current Lifetime

Alcohol Abuse 11.2% 39.2% or Dependence

Drug Use 1.8% 5.7% or Dependence

Most Prevalent Disorders besides PTSD among Vietnam Veterans

Lifetime Current

Male

Alcohol Abuse Alcohol Dependence

Generalized Anxiety D/O

Alcohol Abuse

Alcohol Dependence

Generalized Anxiety D/O

Antisocial Personality D/O

Female

Depression

Generalized Anxiety D/O Generalized Anxiety D/O

Depression

Alcohol Abuse

Alcohol Abuse

Alcohol Dependence

Alcohol Dependence

Drug Use in Theater Does Not Always Predict Drug Use after Coming Home

The 1970-71 Robins study (N=13,280 soldiers)

- 45% tried narcotics
 - 34% tried heroin
 - 38% tried opium
- 20% felt strung out or addicted



- Even though almost half tried narcotics again
- Only half of regular heroin users became addicted in the US



Combat Exposure Increases Substance Use

- Alcohol abuse doubles after return from combat (Jacobson et al., 2008; Wilk et al., 2010)
- Greater combat exposure associated with greater substance abuse (Prigerson et al., 2002; Reifman & Windle, 1996)
- High war zone stress associated with greater alcohol and drug abuse, both current and lifetime, than low and moderate war zone stress in Vietnam era veterans (Jordan et al., NVVRS, 1991)

First-time Users of VA Health Care, 2001-2009

 11% of OEF-OIF Veterans who used VA health care for the first time had either an Alcohol Use Disorder, a Drug Use Disorder, or both

(Seal et al., 2011)

9.9% experienced AUDs

- 4.5% experienced DUDs
- 3% experienced both



Drug Abuse by Veterans Is Underestimated

- Current estimates of drug abuse among Veterans may underestimate the true prevalence of drug abuse because the VA routinely screens for alcohol use but not drug use
- There are very few studies of drug abuse among OEF-OIF Veterans, and most do not break out abuse by drug type
- Hawkins et al. (2010) found that 3.3% of OEF/OIF
 Veterans abused cocaine and 3.9% abused cannabis

Young Veterans May Minimize Substance Abuse Problems

- Heavy drinking is common among young adults
 - 37% of men under age 25 binge drink (drops to 20% in men age 45-64)
 - Drinking to mask problems is less stigmatizing than admitting to PTSD or depression
- Admitting to drug use may have negative career consequences for active duty military personnel

Frequency of Mental Disorders among OEF/OIF/OND Veterans Seen at VAMCs since 2002

- 1,218,857 Iraq and Afghanistan veterans were seen at VAMCs between 1st Quarter FY 2002 and 3rd Quarter FY 2015
- 708,062, or 58.1 %, were diagnosed with mental health disorders
- Of those diagnosed with MH disorders:
 - 55.5% have PTSD
 - 13-30.9% have Substance Use Disorder diagnoses, not counting Alcohol Abuse

Frequency of Mental Disorders among OEF/OIF/OND Veterans Seen at VAMCs 2002-2015

| Disease Category (ICD code) | Total Number of OEF/OIF/OND Veterans* | Change since Q3FY14 |
|---|---|------------------------|
| PTSD (ICD-9CM 309.81) | 393,139 | 11.9% |
| Depressive Disorders (311) | 321,365 | 13.7% |
| Neurotic Disorders (300) | 309,232 | 14.9% |
| Affective Psychoses (296) | 202,705 | 14.1% |
| Alcohol Dependence Syndrome (303) | 92,197 | 12.4% |
| Nondependent of Drugs (ICD 305.2-9) | 72,677 | 15% |
| Drug Dependence (304) | 54,269 | 14.6% |
| Specific Nonpsychotic Mental Disorder due to Organic Brain Damage (310) | 37,970 | 5.9% |

N = 708,062

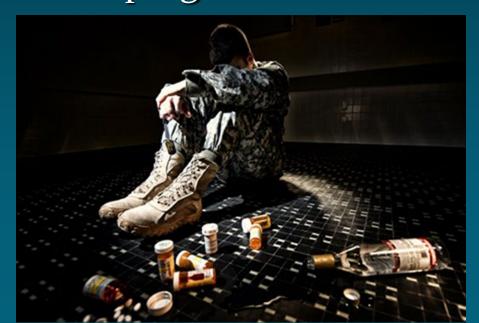
^{*}Not including PTSD from VA's Vet Centers or data from Veterans not enrolled for VA health care Cumulative from 1st Quarter FY 2002 through 3rd Quarter FY 2015

Opioid Use Disorders in Veterans

- The rate of diagnosed Opioid Use Disorders in Veterans increased 131% from 2002-2015 (VHA, 2016)
- The 5 year prevalence rate of OUDs from 2006-2010 is 1.11% (Baser et al., 2013)
 - In non-cancer patients, it is 1.98%
 - Among patients prescribed opioids, it is 3.04%
 - Among patients with pain, it is 3.26%
- Opioid abuse prevalence in Veterans is almost 7 X greater than commercial patients (Baser et al., 2013)

Veteran SUDs FY 2018

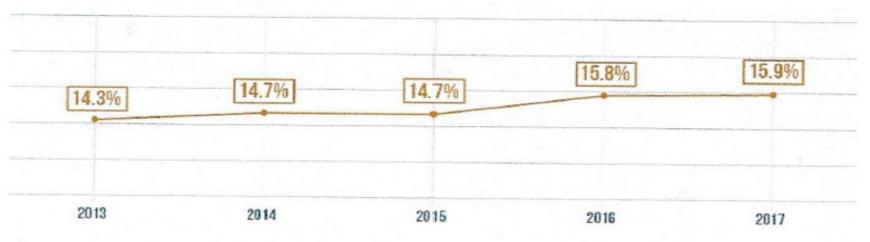
- VA provided treatment to over 522,000
 Veterans with SUDs
- More than 152,000 received care in specialty SUD treatment programs



Veteran SUDs FY 2019

| | Percentage | Number |
|----------------|------------|-----------|
| Marijuana | 12.8% | 3,600,000 |
| Cocaine | 1.1% | 801,000 |
| Hallucinogens | 1.0% | 223,000 |
| Methamphetamin | e 0.5% | 109,000 |
| Heroin | 0.3% | 57,000 |
| Inhalants | 0.2% | 44,000 |

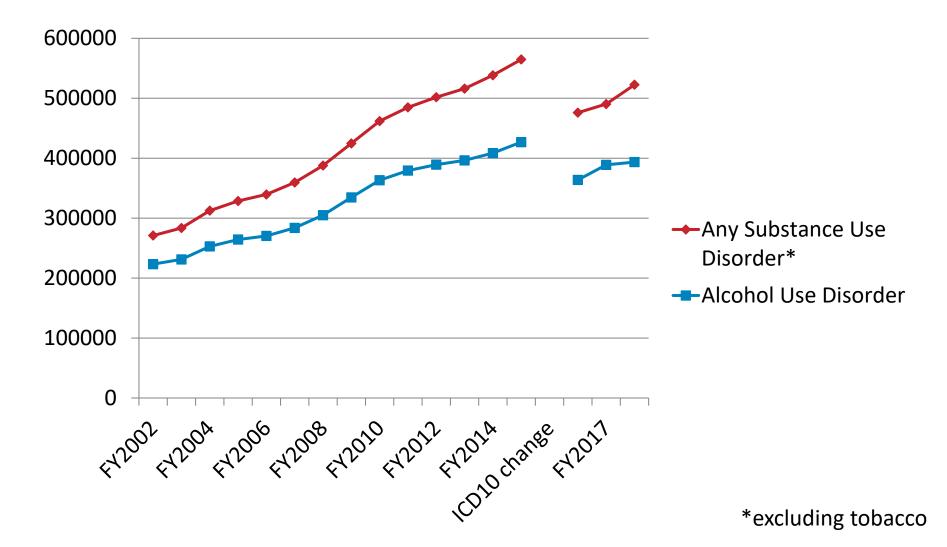






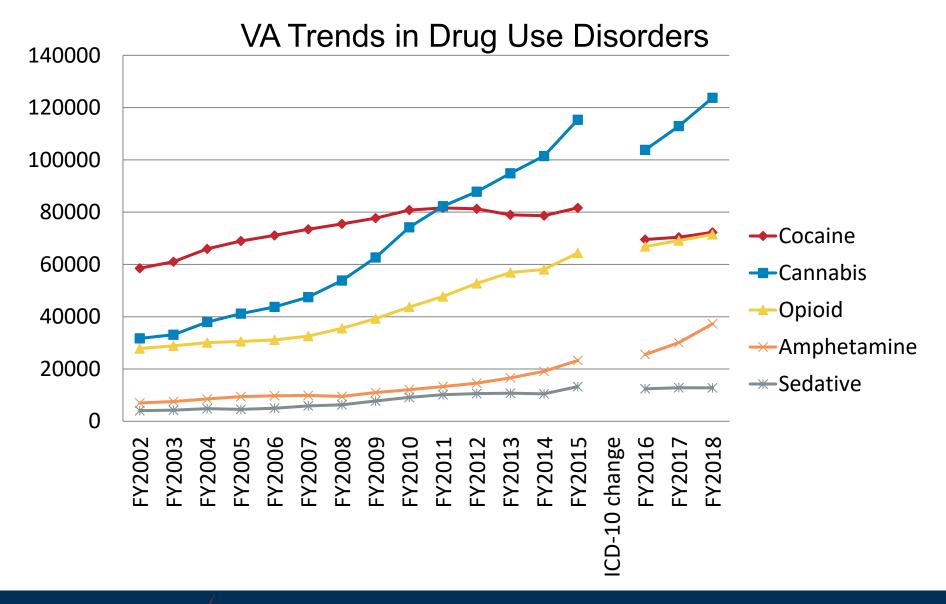
Data: CDC Chart: American Addiction Centers, 2019

VA Trends in Alcohol & Substance Use Disorders









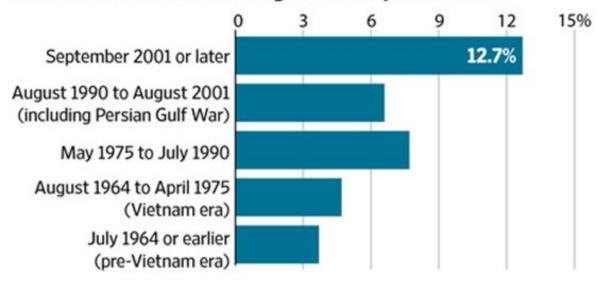




Aftershocks

Substance abuse is higher among newer veterans, and the Veterans Health Administration is treating a growing number for opioid problems.

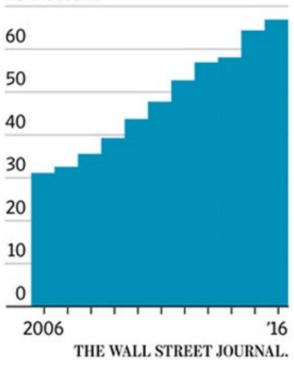
Substance-use disorder among veterans by service era



Source: Department of Veterans Affairs

Number of patients seen by the VHA for an opioid-use disorder (fiscal years)

70 thousand



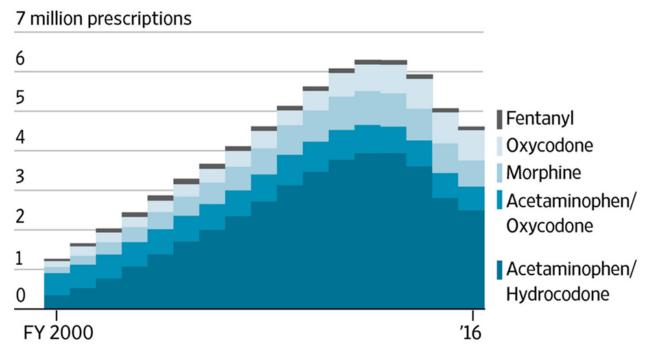




The Surge

Painkiller prescriptions from the Department of Veterans Affairs soared as troops returned from Afghanistan and Iraq, then declined after the agency sought to taper their use in 2013.

Opioid prescriptions from the VA, by drug type



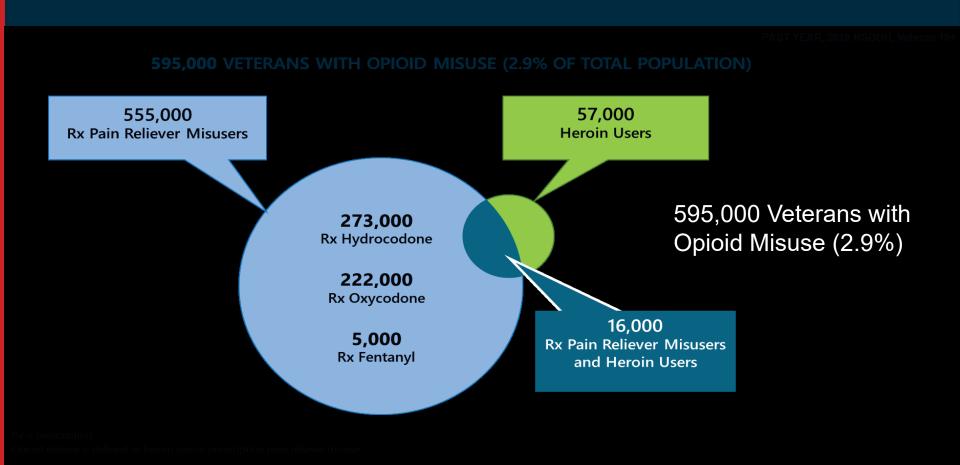
Note: Codeine and hydrocodone are not charted. Source: Department of Veterans Affairs

THE WALL STREET JOURNAL.





The Opioid Epidemic 2019: Prescription Pain Reliever Misuse among Veterans





Substance Abuse and Co-Morbid Disorders in Veterans

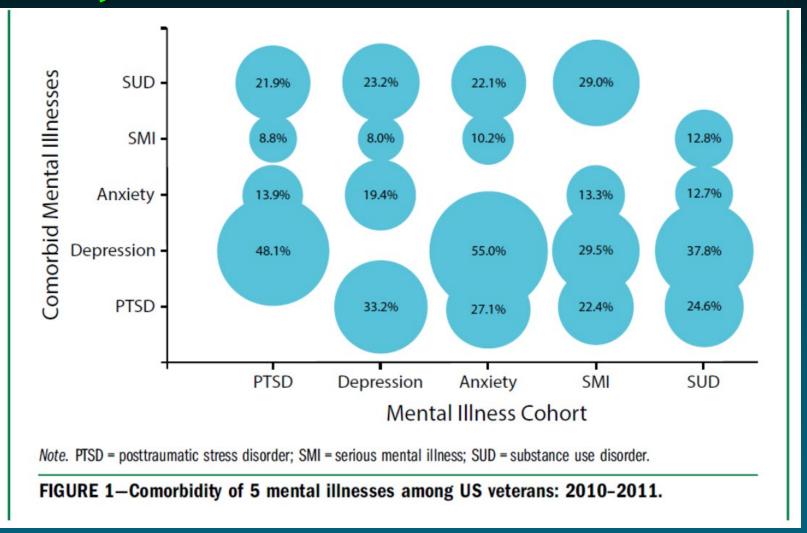
Co-occurrence of PTSD and Substance Abuse

Co-occurring disorders are the rule rather than the exception.

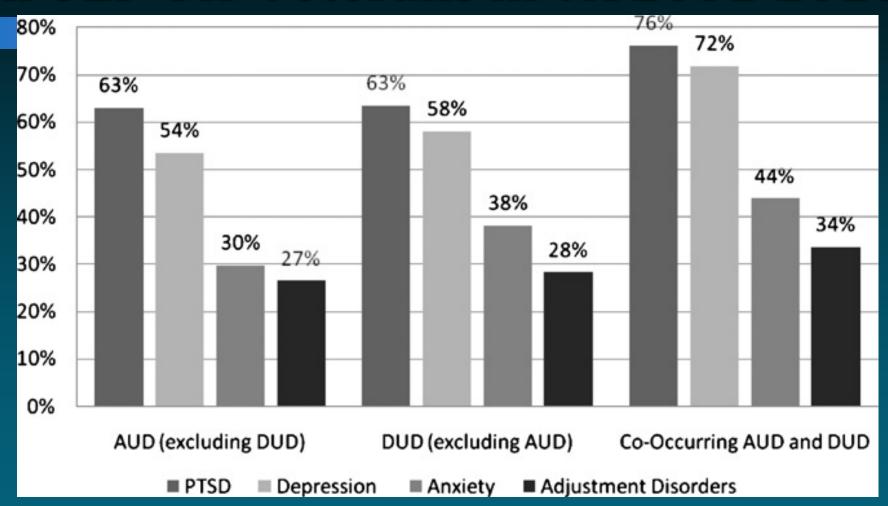
(SAMHSA, 2002)



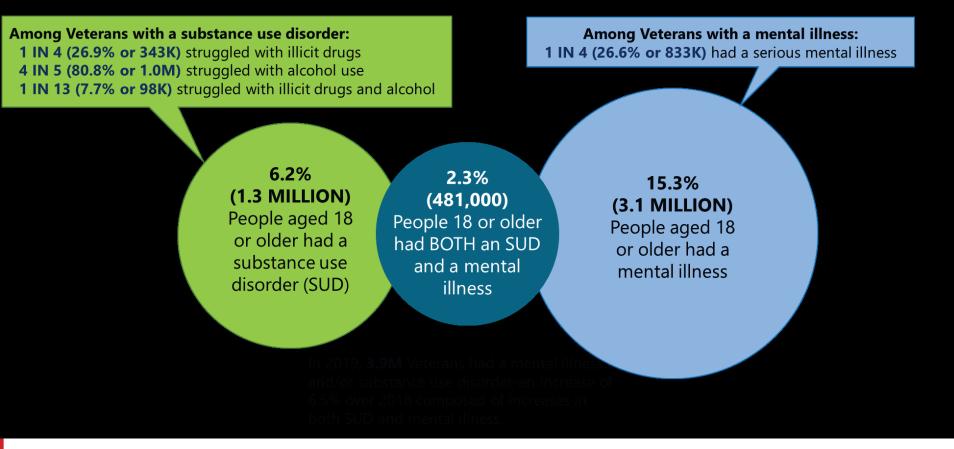
Co-Morbidities among Major Disorders in Veterans



Co-Morbid Mental Health Disorders in OEF-OIF Veterans in VA 2001-2010



Mental Illness and Substance Use Disorders in America among Veterans 18 or Older



In 2019, **3.9 million Veterans** had a mental illness and/or substance use disorder – an increase of 6.5% over 2018.



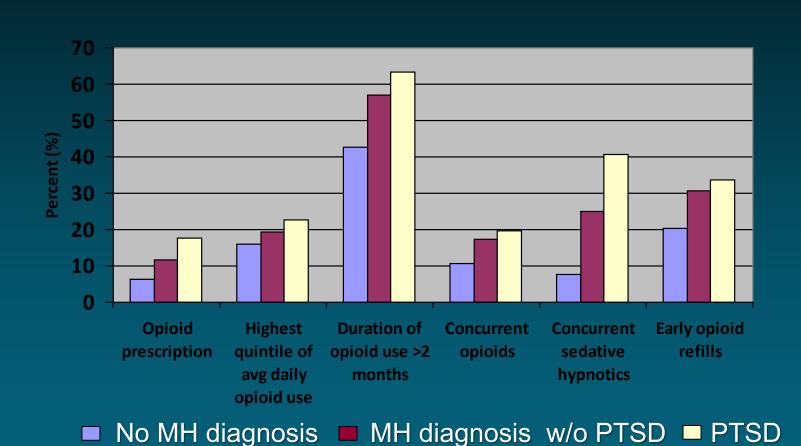
Mental Health Disorders in Veterans by Substance Type



- Alcohol 65%
- Opioids 63%
- Any Drug Use 51.8%
- Tobacco 74%

Rhee & Rosenheck, 2019

High Risk Opioid Use in Iraq and Afghanistan Veterans with MH Problems



Seal et al., 2012

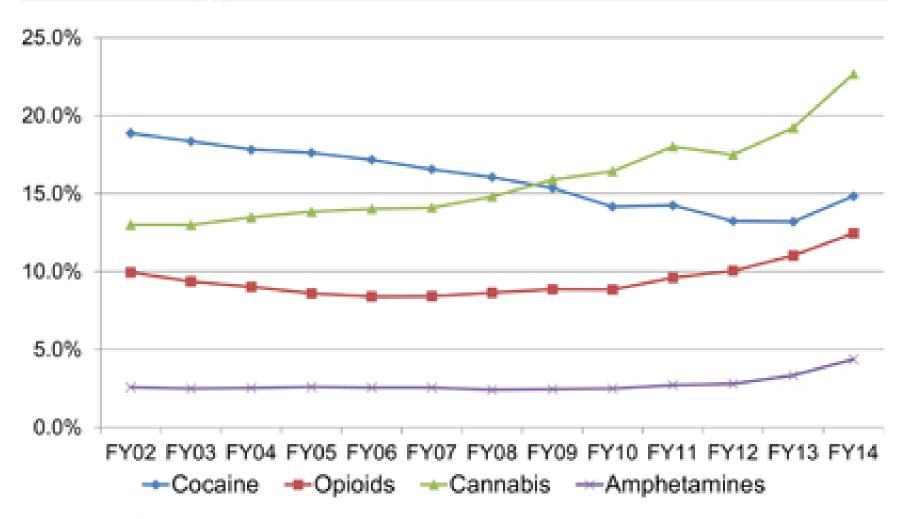
Common Co-Morbid Disorders

- 55-75% of first time users of VA health care from 2001-2009 who had alcohol and/or drug use disorders had either PTSD, depression, or both (Seal et al., 2011)
 - 82-93% had one co-morbid disorder
- Patients in substance abuse treatment show higher levels of pain than the general population (Sheu et al., 2008; Mertens et al., 2003)
- Every stimulant drug can result in insomnia
 - · Alcohol, marijuana, and opioids all interrupt sleep

Co-Occurring PTSD and Substance Abuse in Veterans

- Study of residential PTSD program:
 - Substance abuse onset associated with onset of PTSD symptoms
 - Increases in substance abuse paralleled increases in PTSD symptoms (Bremner et al., 1996)
- 60-80% of Vietnam veterans seeking PTSD treatment have alcohol use disorders (NCPTSD, 2009)
- As many as half of returning OEF-OIF veterans may have a co-occurring substance use disorder (NIDA, 2008)

Trends in Rates of Past-Year SUD Diagnoses by Drug among Veterans with PTSD & SUD Diagnoses Treated in VA Health Care

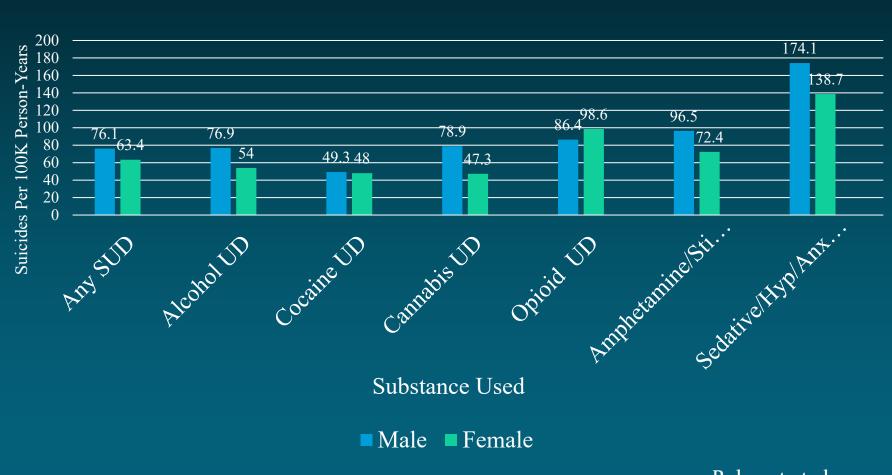


SUDs in OIF/OEF Veterans with PTSD



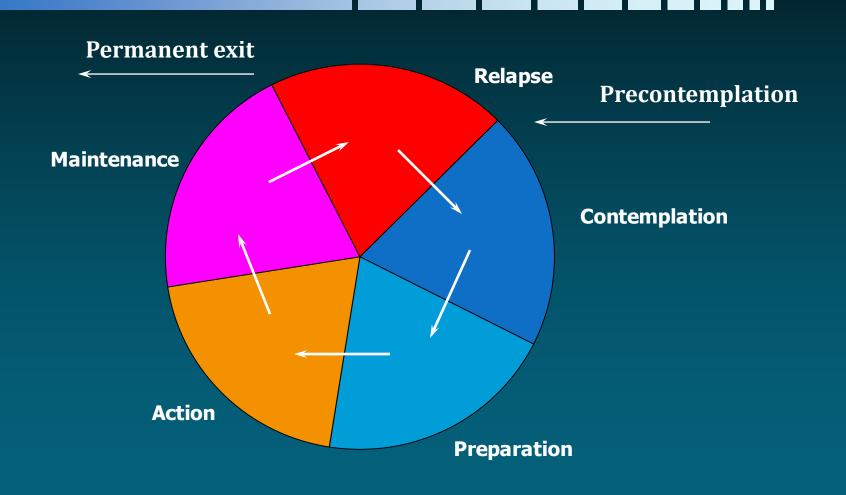
- Binge Alcohol 50% (2 X community rate)
- Tobacco smoking 50% (2.5 X community rate)
- Opiate abuse 9% (3 X community rate)
- Other drugs inhalants, sedatives, marijuana

SUDs and Veteran Suicide 2006-2011



Treatment of Substance Abuse

Stages of Change



Medication for Substance Use Disorders

Alcohol:

- Antabuse (Disulfiram)
- Naltrexone
- Acamprosate
- Opioids:
 - Methadone
 - Buprenorphine
 - Suboxone
 - Naltrexone



Medication-Assisted Treatment

- Medication-Assisted Therapy is the use of FDAapproved medications to treat opioid, alcohol, and stimulant use disorders
- MAT is the gold standard in Opioid Use Disorder treatment
- MAT saves lives
 - Buprenorphine and Methadone reduce mortality rates by two-thirds (Sordo et al, 2017)
 - Naltrexone also saves lives (Krupitsky et al., 2013)

The Treatment of Substance Use Disorders in Veterans

- Among veterans who had participated in inpatient SUD programs, those with outpatient follow-up and 12 step groups had better outcomes than those who had no aftercare (Ouimette et al., 1998)
 - Less remission, depression, arrests, unemployment, and homelessness
- Veterans with more severe SUDs have better outcomes when treated in residential programs, while those with less severe SUDs do better in outpatient treatment (Tiet et al., 2007)

Psychological Treatment of Substance Use Disorders

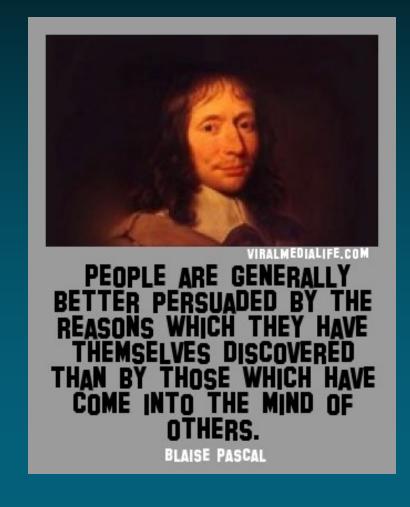
Evidence-Based Treatments:

- Motivational Interviewing
- Motivational Enhancement Therapy
- Cognitive-Behavioral Therapy for SUDS (CBT-SUDS)
- Contingency Management
- Behavioral Couples Therapy

Motivational Interviewing

- "MI is a client-centered, directive method to enhance motivation by exploring and resolving ambivalence" - Miller & Rollnick, 2002
- Uses reflective listening
- Empathic
- Avoids arguments
- Supports client autonomy and self-efficacy
- Enhances internal discrepancies between goals and behaviors
- Evokes change talk

MI Is Effective



- Meta-analysis of 72 studies showed effectiveness of MI (Hettema et al., 2005)
- Cochrane review
 of 59 studies drew
 the same
 conclusion
 (Smedslund et al., 2011)

Motivational Enhancement Therapy

- MET is a four session manualized version of MI (Miller, 2000; Miller et al., 1994)
- Session 1 is an intake and discussion of substance use that leads to a plan
- Sessions 2-4 focus on achieving the plan
- NIDA Clinical Trials Network multi-community study found MET more effective for alcohol abusers than drug abusers (Ball et al., 2007)

Cognitive-Behavioral Therapy



 NIDA Clinical Trials Network multi-community study found that CBT resulted in marginally better outcomes for alcohol abusers than MET (Project MATCH Research Group, 1998)

Contingency Management

- CM provides tangible rewards to reinforce positive behaviors such as attendance in treatment and abstinence
- Voucher-based reinforcement provides vouchers with monetary value for drug free urine samples that increase in value over time
- Prize incentive CM rewards are provided on a variable reinforcement schedule

Contingency Management Works

Voucher-based incentives work

- For alcohol abuse (Petry et al., 2000)
- For cocaine abuse (Higgins et al., 2000)
- For opioid dependence (Bickel et al., 1997)
- With CBT for marijuana (Budney et al., 2006)
- For multiple drugs (Piotrowski et al., 1999)

Prize-based incentives work

- Meta-analysis shows effectiveness (Prendergast et al., 2006)
- For cocaine abuse (Petry et al., 2005)
- And do not increase gambling (Petry et al, 2006)

Behavioral Couples Therapy

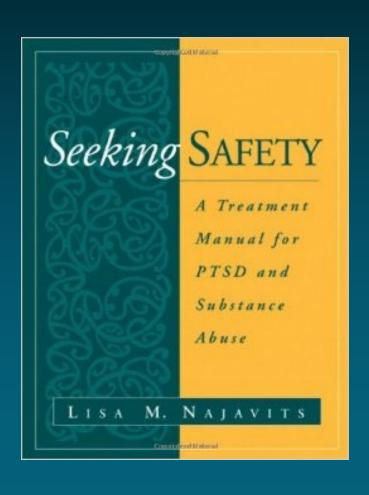


- Based on the concept that dysfunctional behavior patterns in couples sustain and increase substance abuse
- 12 weekly 60 minute sessions
- Uses a daily abstinence contract
- Uses behavioral principles to help the spouse/partner verbally reinforce abstinence and prescribe positive behavior
- BCT was developed for Veteran couples

Behavioral Couples Therapy

- BCT increases abstinence and marital happiness and decreases alcohol-related problems and marital separations better than individual treatment (Azrin et al., 1982; Bowers and al-Redha, 1990; McCrady et al., 1991; O'Farrell et al., 1992)
- BCT also decreases domestic violence in couples where one partner is alcoholic (O'Farrell & Murphy, 1995)
- BCT also increases time to relapse and couples satisfaction and decreases relapse, days of drug use, and drug-related arrests and hospitalizations in couples where one partner abuses drugs better than individual treatment (Fals-Stewart et al., 1996)

Seeking Safety



- 25 lessons on topics that overlap between PTSD and Substance Abuse
 - Safety Skills
 - Grounding
 - Anger
 - Boundaries
 - Self-care
 - Honesty
 - Compassion

Seeking Safety

- Weekly 90 minute sessions
- Often taught in 12 sessions
- Can be provided individually or in groups
- Typical group size is 8 members
- Combined psychoeducational and psychodynamic treatment
- Can be provided by professionals or paraprofessionals

Seeking Safety Format

- Check-in (3-5 minutes per person)
 - Used to elicit information to be discussed during the course of the session
- Quotation
- Topic of the day (50 minutes)
- Check out with commitment



Seeking Safety Results

- 6 randomized controlled trials and 3 controlled studies
- Seeking Safety has shown positive results across all studies (Najavits & Hien, 2013)
- Populations include
 - Women outpatients, inpatients, Veterans, homeless women, rural women, and women in prison;
 - Men outpatients, inpatients, and Veterans;
 - Adolescent girls; and
 - Young African-American men.

EBTs for Substance Abuse in the VHA



- Motivational Interviewing
- Motivational Enhancement Therapy
- CBT-SUD
- 12 Step Facilitation
- Contingency Management
- Behavioral Couples Therapy
- Seeking Safety

Levels of Substance Abuse Treatment in the VA



- Outpatient
- Medication-assisted treatment
- Intensive Outpatient Treatment
- Residential
- Domiciliary
- Sobriety/Maintenance

Resources

Motivational Interviewing

- Motivational Interviewing, 3rd ed. (2012), William Miller and Sam Rollnick
- <u>Motivational Interviewing in the Treatment of</u>
 <u>Psychological Problems</u> (2007), Hal Arkowitz and Henny Westra, eds.
- Finding Your Way to Change (2015), Allan Zuckoff and Bonnie Gorscak
- http://www.motivationalinterviewing.org/
- <u>http://www.motivationalinterviewing.org/sites/</u>
 <u>default/files/MATCH.pdf</u>
- http://mid-attc.org/accessed/mi.htm

Cognitive-Behavioral Therapy

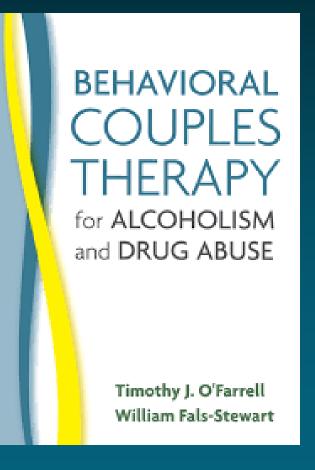
- <u>Cognitive-Behavioral Coping Skills Therapy</u>
 <u>Manual</u> (1998), Project MATCH
- Cognitive Therapy of Substance Abuse (2001),
 Aaron Beck and Fred Wright
- Overcoming Alcohol Use Problems: A
 Cognitive-Behavioral Treatment Program
 Therapist Guide (2009), Elizabeth Epstein and Barbara McCrady

Contingency Management

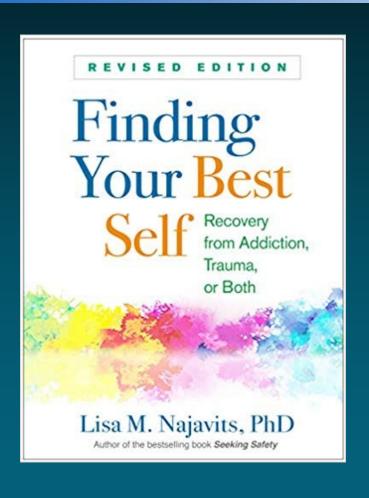
- <u>Contingency Management in Substance Abuse</u>
 <u>Treatment</u> (2007), by Stephen Higgins,
 Kenneth Silverman, and Sarah Heil (eds.)
- Motivating Behavior Change among Illicit
 Drug Abusers: Research on Contingency
 Management Interventions (1999), by Stephen
 Higgins and Kenneth Silverman
- <u>Contingency Management for Substance</u>
 <u>Abuse Treatment: A Guide to Implementing</u>
 <u>This Evidence-Based Practice</u> (2011) by Nancy
 Petry

Behavioral Couples Therapy

Behavioral Couples
 Therapy for
 Alcoholism and
 Drug Abuse (2006),
 by Timothy O'Farrell
 and William Fals Stewart



Seeking Safety



- Seeking Safety (2002),
 Lisa Najavits
- Finding Your Best Self (2019), Lisa Najavits
- http://www.treatment-innovations.org/seeking-innovations.org/seeking-safety.html

PTSD and SUDs

- Trauma and Substance Abuse (2nd ed.) by Page Ouimette and Jennifer Read
- PTSD 101 course about treating PTSD and SUDs:
 - www.ptsd.va.gov/professional/ptsd101/coursemodules/SUD.asp
- Practice recommendations for treating cooccurring PTSD and SUDs: www.ptsd.va.gov/professional/pages/handouts--pdf/SUD_PTSD_Practice_Recommend.pdf

VetChange: A Free Program to Treat PTSD and Alcohol Abuse

 Online version: <u>https://vetchange.org/home/index2</u>



App version: VetChange





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