



THE UNIVERSITY OF NEW MEXICO
HEALTH SCIENCES CENTER
CLINICAL & TRANSLATIONAL SCIENCE CENTER



UNM
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Addictions- An Introduction

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Objectives

- Become familiar with epidemiology of substance use disorders
- Appreciate the bio-psycho-social etiologies of substance use disorders
- Recognize substance use disorders as chronic illnesses
- Become familiar with an overview of addictions treatment

Epidemiology

Addiction Epidemiology- Lifetime Prevalence Rates

- National Comorbidity Survey Replication Study [2001-2003]
 - N=9200
 - DSM-IV criteria used
 - Alcohol abuse 13.2%
 - Alcohol dependence 5.4%
 - Drug abuse 7.9%
 - Drug dependence 3.0%
 - Highest rates between ages 30-44

Estimated Economic Cost to Society from Substance Abuse and Addiction:

Illegal drugs: \$181 billion/year

Alcohol: \$185 billion/year

Tobacco: \$158 billion/year

Total: \$524 billion/year

White House Report on New Mexico, 2007

- More people on NM died as a direct consequence of drug use than motor vehicle accident or firearms
- Rate of drug-induced deaths in New Mexico is nearly **DOUBLE the rate** of drug-induced deaths in US as a whole
- *Source:* Centers for Disease Control and Prevention - National Vital Statistics Reports Volume 58, Number 19 for 2007
http://www.cdc.gov/nchs/data/nvsr/nvsr58/nvsr58_19.pdf
- NM rates of rates of drug use have consistently remained above the national average [SAMHSA, DAWN]

NM adolescents are at a particular risk

- NM among the states with **HIGHEST** rates of past month illicit drug, marijuana, and cocaine use among ages 12-17
<http://www.samhsa.gov/data/StatesnMetro.aspx?state=NM>
- Significantly higher rates of non-medical prescription opioid use than those over 25
- More likely than their national counterparts to have tried heroin
- Represent an increasing proportion of heroin overdose [City of Albuquerque opioid needs assessment]

Diagnosis

Substance History

- A detailed substance history
 - Age of first use
 - Age of regular/heavy use
 - Peak use
 - Current/most recent use
 - Route of administration
 - Treatment history
 - Longest period of sobriety
 - Drug effects
 - Family substance history
 - **All major classes of substances!**
 - **Don't forget a thorough evaluation!**

Substance history

- Chicken and the Egg: “Do I drink or use because I’m depressed/anxious/bipolar or is it vice-versa ?”
- History will help delineate when this occurred
 - Was there evidence of a mood disorder pre-experimentation?
 - Were there problems with mood during periods of abstinence?
 - Do they get better or worse when you detox them?

Motivational Interviewing

- Can be incorporated into an evaluation
- Ask about consequences of use
- Ask about consequences of sobriety
- Assess prior treatment/twelve step participation
- Assess readiness of change
- Use scales for instant feedback
- Use this to plan treatment

Lab tests

- Urine drug screens are ESSENTIAL
- Serum drug screens may yield more false negatives, but help with quantitative analysis; good for volatiles [huffing]
- LFTs
- Renal functions
- CBC
- ELISA
- Hepatitis
- RPR

The Addictive Process

C's of Addiction

- Compulsion: To seek and take the drug
 - Control: Loss of control in limiting intake
 - Continued use despite problems
 - Chronic, relapsing course
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- Eventual emergence of a negative emotional state when substance not available

ASAM Definition of Addiction

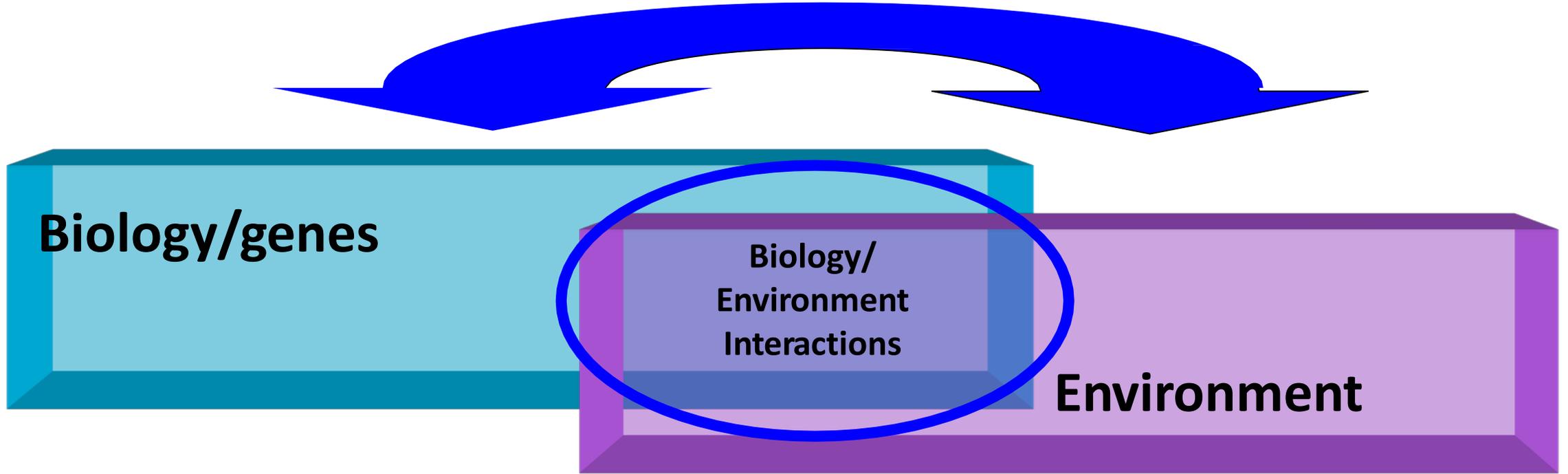
- A primary, chronic disease of brain reward, motivation, memory and related circuitry.
- Dysfunction in these circuits leads to characteristic biological, psychological, social, and spiritual manifestations.
- This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors.

Hedonic Homeostatic Dysregulation

The patients are logically aware they do not “need” the drug, but survival drives tend to take precedence over logic and judgment

Continued substance use slowly takes “survival precedence” over life goals, self esteem, relationships, stability, safety, and health





Biology/genes

**Biology/
Environment
Interactions**

Environment

Role of genetics

- Heritability:
 - AD: 50-60%
 - OD: 43%
 - CD: 65-79%
 - ND: >60%
- Candidate genes
 - ALDH2: alcohol metabolism
 - GABRA2: via anxiety as the mediating factor?
 - OPRM1

Other risk factors

- Individual
 - Risk-taking/novelty-seeking
 - Lack of emotional control
 - Poor interpersonal relatedness
 - Co-existing psychiatric illnesses
- Family
 - Parental psychopathology
 - Parental substance use
 - Parent-offspring relationship
 - Sibling relationship

Other risk factors

- Peer influences
- Marital relationships
- Stress
- Low SES
 - Impoverished residence
 - A drug-salient milieu
 - Neighborhood social disorganization
 - Discrimination

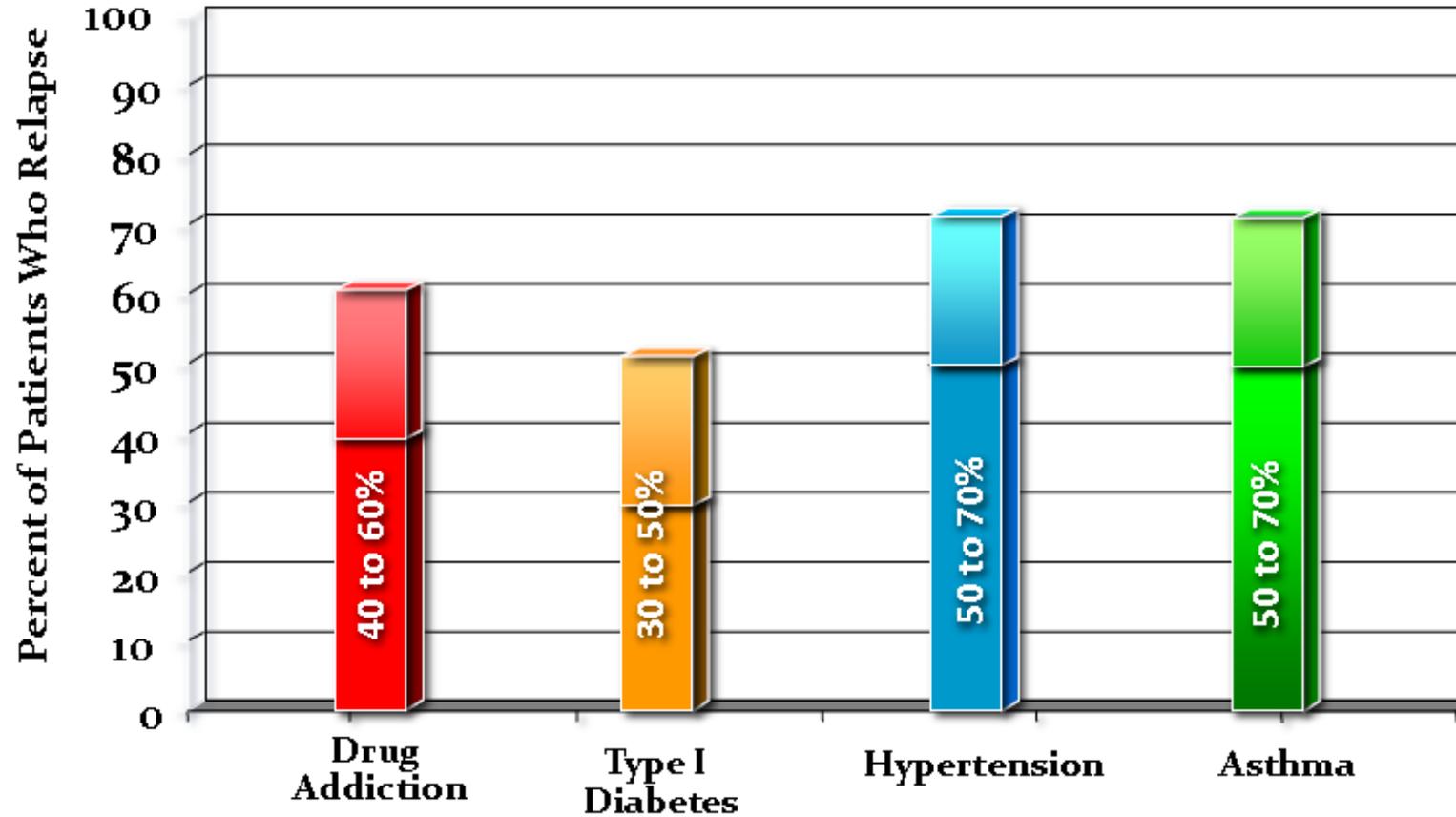
Gene-environment interplay

- Multiple factors [genetic and environmental] interact with the end result being a SUD
- “Epigenetics”: environmental cues can influence genetic expression
- Genetics can influence environmental factors
- 5-HTTPLR polymorphism involving a short allele, together with negative life events, moderated drinking and drug use

Similarities with Other Chronic Diseases (Type II Diabetes, HTN, Asthma)

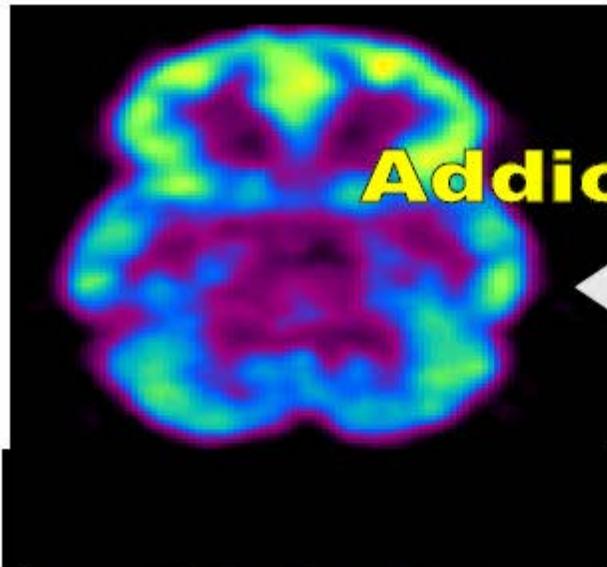
- **Genetic impact is similar**
- **The contributions of environment and personal choice are comparable**
- **Medication adherence and relapse rates are similar.**
- **Long term maintenance treatments proven most effective.
(McLellan, JAMA 2000)**

Relapse Rates Are Similar for Drug Addiction & Other Chronic Illnesses



Implications

- As in all chronic diseases, treatment should be continuous rather than episodic
- Goal should be improvement, not “cure”
- Available treatment leads to substantial improvement in:
 - Reduction of alcohol and drug use
 - Increases in personal health and social functioning
 - Reduction in threats to public health and safety
 - Reduction in monetary costs
- Therefore, a case must be made to treat addictions like all other chronic illnesses.



Addiction



Social

Homelessness
Crime
Violence

DRUGS

Medical



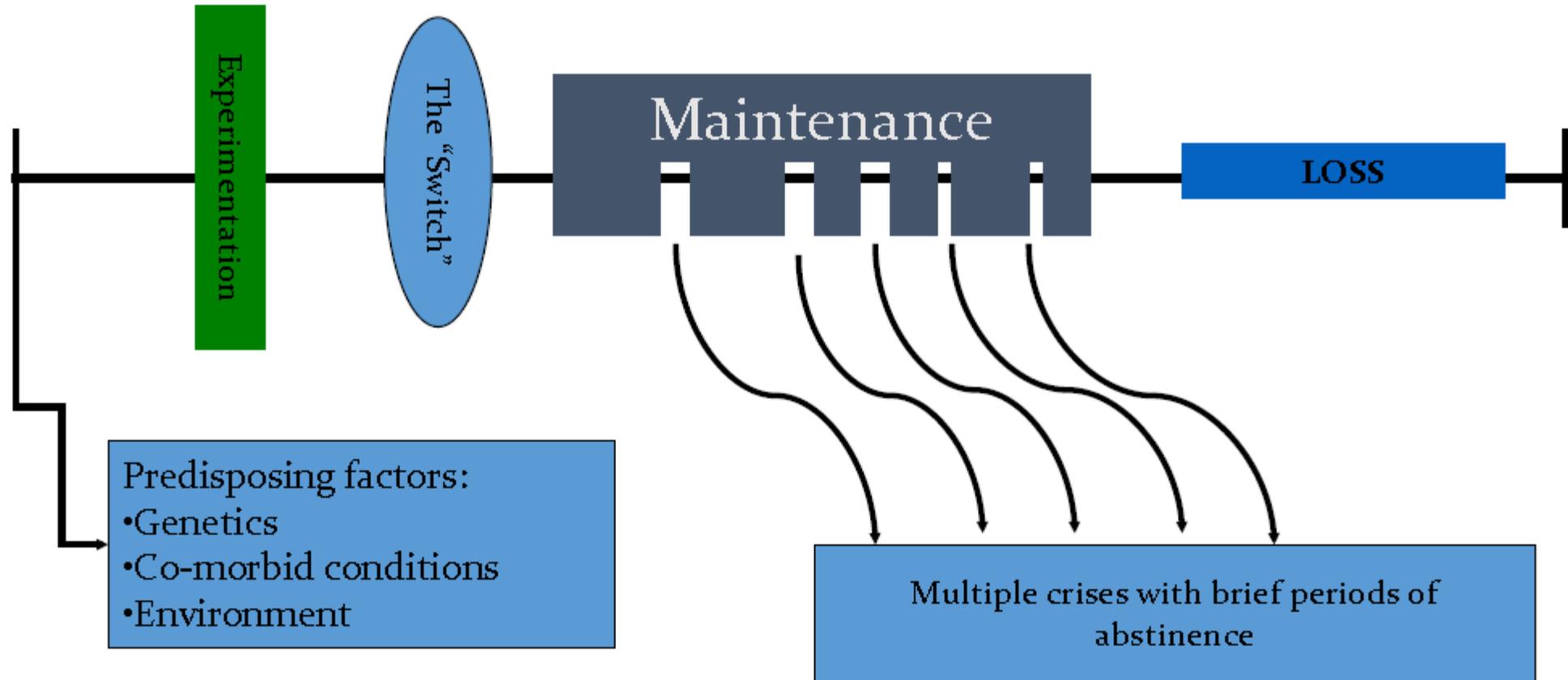
Neurotoxicity
AIDS, Cancer
Mental illness

Economic



Health care
Productivity
Accidents

Timeline of Untreated Addiction



A note on co-morbidity

Co-Morbidity

- Addictive disorders show a strong co-morbidity with other psychiatric disorders
- 51% of adults (15-64) with lifetime addictive disorder also had lifetime mental disorder (Nat'l Comorbidity Survey)
- Among mood disorders, Bipolar I disorder most strongly associated with prescription drug use disorders
- Among anxiety disorders: panic disorder with agoraphobia
- Among Axis II: Antisocial Personality Disorder

Treatment Considerations

**We Need to Treat the
Whole Person!**

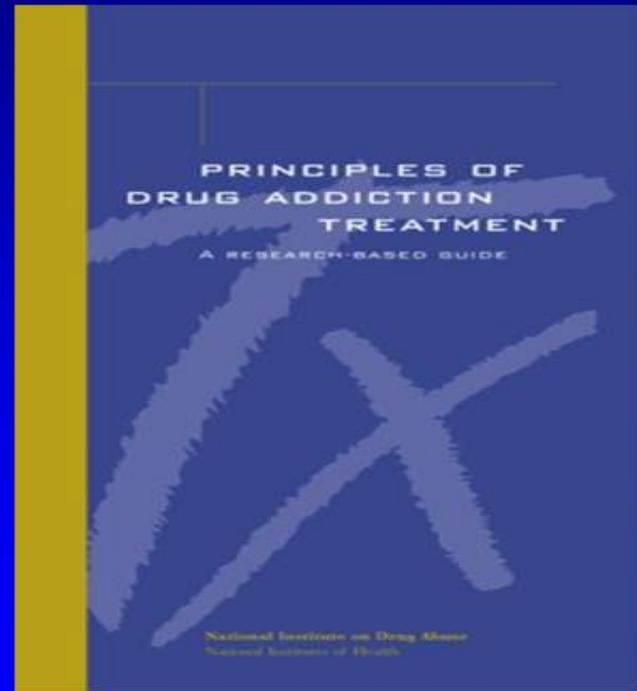


In Social Context

Treatment Can Work

NIDA's Principles of Treatment

- **No single treatment is appropriate for all individuals.**
- **Treatment needs to be readily available.**
- **Treatment must attend to multiple needs of the individual, not just drug use.**
- **Multiple courses of treatment may be required for success.**
- **Remaining in treatment for an adequate period of time is critical for treatment effectiveness.**



Phases of treatment and levels of care

Phases of treatment

- Assessment (addiction, medical, psychiatric)
- Induction or detoxification & stabilization
- Maintenance of Recovery
- Prevention and treatment of relapses

Levels of care

- Screening and brief intervention
- Brief treatment
- Outpatient specialty care (lower and higher intensity)
- Inpatient
- Residential

Coordination of available resources is key.

Components of treatment (across levels and phases)

- Counseling/Therapy
 - Group
 - Individual
 - Family
- Pharmacotherapy (medications)
- **Treatment of co-occurring psychiatric and medical illness**
- Addressing other social needs
 - Education
 - Safe housing
 - Vocational
- Case Management/care coordination

Effective Medications

- **Alcohol:**

- Naltrexone
- Disulfiram
- Acamprosate

- **Opioids:**

- Methadone
- Buprenorphine
- Naltrexone

- **Cocaine:** Vaccine in development

- **Nicotine:** NRT, varenicline, bupropion

Addictions Treatment lowers community burden of infectious diseases

- Cochrane review: SUD tx significantly reduced drug use behaviors with a high risk of HIV transmission
- Drug users out of methadone treatment 6x more likely to become HIV positive than those in methadone treatment [Metzger et al., 1993]
- Significant reductions in risk behaviors with both methadone and suboxone [Lott et al., 2006]
- Treatment for alcohol use disorders = better hepcc outcomes [Loftis et al., 2006]

There is unmet need for treatment

- Adolescents: 6,000 males and 5,000 females in New Mexico needed but did not receive treatment for past-year drug problems.
- Adolescents: 8,000 females and 6,000 males needed but did not receive treatment for alcohol problems.
- Ages 18-25: 7% of those with drug addiction and 17% of those with alcohol addiction did not receive treatment
- <http://www.samhsa.gov/data/StatesnMetro.aspx?state=NM>