The Nature of Addiction and Recovery

Basic Substance Abuse for District Court Judges

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The Nature of Addiction and Recovery

- Models for understanding substance abuse and addiction
- Progression from use to abuse to dependence
- Abuse and addiction applied to abuse of prescription medications
- Basic elements of evidence based SA treatment
- Role and limitations of medication assisted treatment
- Elements of SA assessment and treatment matching

Pivotal Developments in the Approach to Substance Abuse Assessment and Treatment

Potential for effective interventions improved by **three major developments** in the field:

- Public Health "Continuum" Model
- Evidence Based Behavioral Therapies
- Neurophysiologic Research and Pharmacologic Adjuncts: Medication Assisted Therapy (MAT)

We Are a Drug *Using* Culture

- Alcohol
- Tobacco
- Caffeine
- Stimulant medications
- Sleeping pills
- Tranquilizers ("nerve pills")
- Analgesics/pain pills
- Illicit drugs

Drugs of *Abuse*: Legal and Illegal

- Nicotine
- Alcohol
- Marijuana and hashish
- Cocaine, amphetamines, MDMA ("ecstasy")
- Heroin, opioid analgesics (pain pills)
- Benzodiazepines, barbituarates
- Inhalants (solvents, gases, nitrous)
- Hallucinogens (LSD, mescaline, psilocybin)
- Other: Ketamine/PCP/DXM/Steroids
- NEXT?

Deaths Related to Drug Use
(US Centers for Disease Control and Prevention)

- tobacco >430,000/year
- alcohol 100,000/year

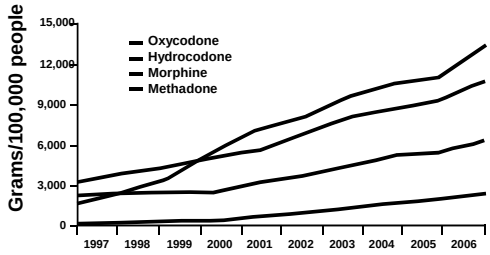
Overdose deaths:

- abuse of Rx meds >20,000/year
- cocaine and heroin 15,000/year

Commonly Abused Prescription Medications

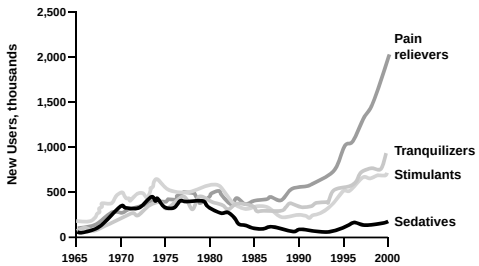
- **Ranking of common classes of abused prescription medications in terms of frequency and public health impact:**
- **Opioid analgesics**
  - Hydrocodone (Vicodin)
  - Oxycodone (Percocet, Oxycontin)
  - Methadone (Dolophin)
- **Benzodiazepines**
  - Alprazolam (Xanax)
  - Clonazepam (Klonopin)
- **Stimulants**
  - Amphetamine (Adderal)
  - Methylphenidate (Ritalin)

US Therapeutic Opioid Use



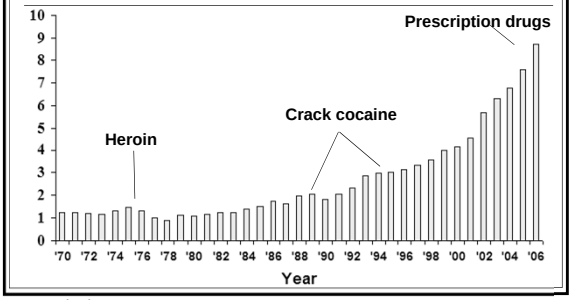
Manchikanti L, Singh A. *Pain Physician*. 2008;11(2 Suppl):S63-S88. 8

Psychotherapeutic Agents: Increasing Non-medical Use



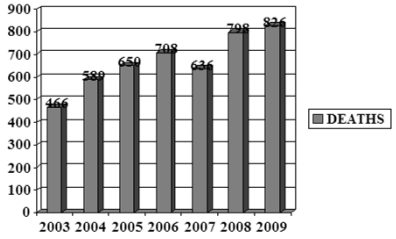
Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *2001 National Household Survey on Drug Abuse*. 2002. http://www.oas.samhsa.gov/nhsda/2k1nhsda/vol1/CHAPTERS.HTM#fig5.3. Accessed April 23, 2008. 9

Epidemics of Unintentional Drug Overdose Deaths in the US: 1970-2006



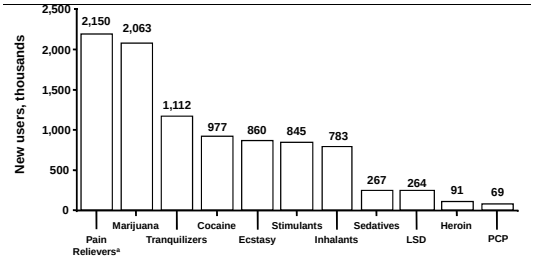
Len Paulozzi, MD, MPH
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

Unintentional Deaths in NC Due To Prescription Drugs



Source: NC State Medical Examiner's Office

New Illicit Drug Use in US: 2006



[a] 533,000 new nonmedical users of oxycodone aged ≥12 years.
Past year initiates for specific illicit drugs among people aged ≥12 years.
LSD, lysergic acid diethylamide; PCP, phencyclidine.
Substance Abuse and Mental Health Services Administration, Office of Applied Studies. *2006 National Survey on Drug Use and Health*. Department of Health and Human Services Publication No. SMA 07-4293; 2007.

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The Next Generation

Increase in recreational use of opioid analgesics between 1992 and 2002:

Age 12 to 17: **542 %**
Age over 18: **124%**

Prevalent nationwide but higher in rural, suburban and small urban areas.

National Center on Addiction and Sub Abuse: Columbia U., 2005.
Cicero TJ, et al. Pain Medicine, 2007.

Adolescent Prescription Medication Abuse:

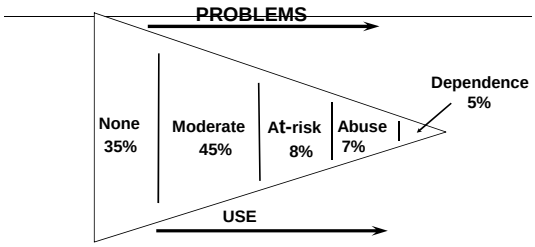
Sources: 60%: Friend or relative
17%: Single physician
5%: Drug dealer
1%: Internet

SAMHSA: National Survey on Drug Use and Health, 2005

Reasons for using: Easy to get from medicine cabinet: 62%
Available everywhere: 52%
They are not illegal drugs: 51%
Safer to use than illegal drugs: 35%
Easy to get over the internet: 32%
Parents don't care as much if caught: 21%

NIDA: PATS Survey: Grades 7 through 12, 2005.

Drugs Use Extends Along a Continuum from Low Risk Use to Abuse and Dependence



Alcohol use in primary care patients > 18 years old

A Guide to SA Services for Primary Care Clinicians, SAMHSA, 1997

Public Health Paradigm of Prevention and Intervention for Alcohol and Other Drug Related Problems

The primary goals are to:

1. Prevent or delay the onset of use and/or prevent the progression of high-risk or problematic use.

2. Reduce high-risk or problematic use to lower-risk levels.

3. Promote abstinence in persons who are alcohol or other drug dependent.

This presentation will focus on the last of these 3 goals although aspects will be applicable to the other two.

Progression Along the Continuum

- Continuum: Use-Misuse-Abuse-Dependence

- How does someone get from use to abuse?
- Why some and not others?
- Why them and not me?

- How do you go back?
- How do you prevent or intervene with the progression?
- How do you treat addiction?

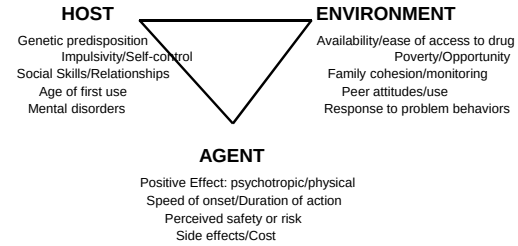
Models for Addiction: Past and Present

- **Moral:**
  The addict is weak or bad.
  The drug itself is evil.

- **Psychological/Sociological:**
  "Addictive personality"
  Learned behavior: Reward theory
  Family and cultural norms

- **Medical "disease":**
  Genetic predisposition
  Neuro-chemical "imbalance" or adaptation

Public Health Model of Disease Applied to Addiction



Host: Predisposing Factors

- Predisposition based on:
  - -genetics
  - -impulsivity/risk taking
  - -pronounced response to drug
  - -early age of first use
- Increased risk from co-existing conditions:
  - -mood disorders
  - -trauma/PTSD
  - -personality disorders
  - -chronic pain

Environment: Cultural and Economic Factors

- Availability of drugs
- Poverty/opportunity
- Family cohesion/monitoring
- Response to problem behaviors
- Availability of treatment
- Peer and family attitudes
- Cultural norms about drug use

Cultural Ambivalence About Alcohol and Other Drugs

- Source of serious morbidity and mortality

BUT

- Often socially acceptable
- Readily available
- Many heavily promoted and advertised
- Consequences tolerated by society

US society and opioid analgesics

Percentages of *world-wide production* of opioid analgesics that are *consumed* in the US:

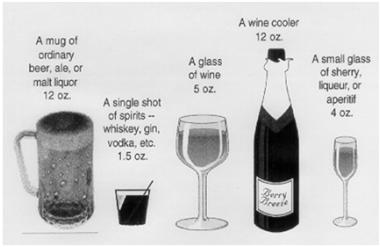
Hydrocodone	99%
Oxycodone	83%
Hydromorphone	57%
Methadone	60%
Morphine	51%
Codeine	14%

International Narcotics Control Board: UN Pub. 2006

Agents: Characteristics of Drugs and Medications

- How do characteristics of certain drugs enhance or disguise their abuse potential?
- How do these characteristics interact with host and environment?
- How can characteristics of certain opioids even make them useful as treatments?

A "Standard Drink"



Cocaine: Forms and How Used

Coca leaves (chewed or as tea)
- 2% cocaine

Coca Paste (occasionally smoked)
- 20% cocaine
- typically not exported

Cocaine Hydrochloride (snorted or injected)
- 90% cocaine
- traditional powder form

Cocaine Base ("crack": smoked)
- 95% cocaine
- small pebble sized/easily marketable

Onset and Peak Effects of Stimulants Related to Route of Administration

Route	Onset of Action	Peak Effect
Inhalation	7-8 seconds	1-5 minutes
Intravenous	15-16 seconds	3-5 minutes
Intranasal	3 minutes	15-20 minutes
Oral	10 minutes	45-60 minutes

Opioid Characteristics: Abuse and Addiction or Treatment

	Methadone Buprenorphine	Short acting opioid
Route	Oral Sublingual	Oral, injected (IV), Intranasal (IN)
Onset	60 min. or more	IV, IN: seconds Oral: 15-20 min.
Duration	8 to 24 hrs.	2 to 4 hours
Euphoria	Absent	Present: moderate to pronounced

Addiction: Progression Along the Continuum

- Review the progression from non-problematic use to abuse and dependence:

  To provide a background for understanding the necessary core elements of treatment.

Why do people start using drugs?

- To feel good: get *"high"* or *"buzzed"* or *"altered"*
- To avoid emotional pain, relax or deal with stress: *"chill"* or *"mellow out"*
- To perform better, activate, energize or enhance: *"rev"* or *"amp up"*
- To be part of a group, socialize, conform: *"fit in"*
- Medical treatment of physical pain or psychiatric illness: *"get relief"*

Why do people keep using or escalate their use of drugs?

- Previous reasons with **expansion** into other domains
- **Narrowing** of behavioral alternatives/increased reliance on drug
- What's "good" about using **seems** to outweigh what's "not so good"
- Denying or **ignoring risk or problems** as they develop

Escalating Risks of Drug Use and Abuse

- **Risks associated with quantity/frequency/chronicity:**
  The *more and the longer* you use, the more likely you are to have problems.
  Ex: Alcohol and liver disease
  Marijuana and lung disease
- **Risks associated with acute toxicity:**
  The characteristics of the drug or how it is used mandate risk at *any level* of use.
  Ex: Cocaine and cardiac risk
  Injecting behaviors and infectious disease risk
  Drinking/drug use and trauma risk
- **Escalation of medical and psychiatric co-morbidities**

Particular Risks Associated with Prescription Medication Use and Abuse: Subtle

- Escalating use in attempt to get *relief* from untreated pain or mood disorder
- Over-reliance on meds for *"chemical coping"*
- Rationalizing problematic or high risk use because *"it's prescribed for me"*
- Even if recognize problems, may see as *"only way to deal with pain or anxiety"*
- If try to wean or stop: withdrawal, untreated pain or mood disorders are strong *triggers for relapse*

Progression to Abuse and Dependence: Problems

- Increased use of the drug and time involved with the drug
- Development of recurrent pattern of problems related to use:
  Emotional/Interpersonal/Social
  Physical/Occupational/Legal
- Continued use of the drug in spite of these problems
- Increasing guilt/shame/denial

Progression to Abuse and Dependence: Neuro-adaptation

- Neuro-adaptation in reward (survival) system with increasing reliance on the drug to maintain hedonic tone**.**
- Deterioration in pre-frontal cortical control system and transition from volitional control to compulsive, out of control use.
- Transition from pleasurable use to maintenance use and need to avoid physical withdrawal.

Host: Altered Brain Physiology

Progression toward addiction is facilitated by:

- *Neuro-plasticity* in host in response to repeated drug exposure:
- Alterations in neuronal structure and neurotransmitters in three critical
  areas of the brain:
  -limbic system
  -hippocampus
  -prefrontal cortex

Neurotransmitters and Drugs of Abuse

- **Dopamine**
  - -mediates motivation and reinforcement
  - -increased release with drug use
- **Serotonin**
  - -modulates mood, motivation, appetite
  - -influences rewarding effects of drugs
- **Endorphins**
  - -mediates rewarding effects, relief
  - -activates dopamine release
- **GABA (gamma-amino butyric acid)**
  - -major inhibitory transmitter
  - -enhanced by alcohol and other sedating drugs
- **Glutamate**
  - -major excitatory transmitter
  - -suppressed by alcohol or other sedating drugs

Dependence on Alcohol or Other Drugs

Maladaptive pattern of use leading to clinically significant impairment or distress, manifested within a 12-month period by at least 3 of the following:

1. Tolerance
2. Withdrawal
3. Loss of control over amount consumed
4. Preoccupation with controlling use
5. Preoccupation with related activities
6. Impairment of social, occupational, or recreational activities
7. Use is continued despite persistent problems related to use

DSM-IV-TR. **American Psychiatric Association: Washington, DC; 2000.**

"Bio-psycho-social-spiritual" Treatment Elements

- Time abstinent: re-set neuro-adaptation/restore cortical function
- Mitigate craving: MAT and behavioral interventions
- Address reasons for use and how to respond to and avoid triggers and cues
- Alternate means of coping with craving and dysphoria
- Decrease social risks: situations/settings/associates

Treatment Elements: continued

- Increase access and use of non-using behavioral alternatives
- Increase social support for sobriety/connect or reconnect
- Reinforce other sources of reward/pleasure
- Re-establish connection with spiritual or other source of meaning (god/family/community/meaningful work)

Treatment Alternatives to Facilitate Recovery

Mutual support/self-help groups
AA, NA, Al-Anon,Smart Recovery, Women for Sobriety

Psychosocial and non-pharmacologic treatments
Cognitive Behavioral Therapy
Motivational Enhancement Therapy
Contingency or Incentive Based Therapy
Family and Couples Based Therapies

Applied in individual and/or group therapy settings

Medication assisted treatments (MAT)

Dimensions of Substance Use Treatment

- Levels of care
- Setting
- Duration
- Approach

Levels of Care: ASAM Placement Criteria

- Based on 5 dimensions
  - Biomedical conditions
  - Emotional or cognitive condition
  - Readiness to change
  - Relapse, continued problems
  - Recovery environment
- Levels of Care: 0.5-4.0
  - 0.5 Early intervention
  - I Outpatient Services
  - II Intensive Outpatient
  - III Residential/Inpatient
  - IV Med Managed Inpatient

Settings for Treatment Within Each Level of Care

LOC	Examples of Setting
.5	DUI programs, EAP services, eval only, mobile
I	office practice, primary care, 2X weekly group
II.1	intensive evening program (e.g. 5X/week, 5-8 hrs/day)
II.5	day program (e.g. 5-7 X/week, 5-8 hrs/day)
III.1	halfway house
III.3	extended care facility
III.5	therapeutic community
III.7	inpatient rehabilitation center
IV	inpatient hospital detox or psych unit

Approaches to the Treatment of Substance Use

- Distinction between setting and approach
- Large number of approaches, differing in:
  - philosophy
  - conceptual understanding of addiction
  - techniques employed
- Approaches can be practiced across a variety of treatment settings for variable duration

Treatment of Substance Abuse: Role of MD

Addiction Medicine physicians may have various roles in different settings and levels of care:

- Treatment of medical and/or psychiatric co-morbidities, including withdrawal management.
- Providing medication assisted treatment (MAT) with or without involvement in non-pharmacologic treatment.
- Care related to Non-pharmacologic treatment:
  - Provided directly by the MD
  - Managed or supervised by the MD
  - Supported and reinforced by MD

Review of Treatment Effectiveness
Miller et al (1995)

- Meta-analytic review of 219 studies
- Ultimately able to rank 30 treatment approaches

Best Performing Approaches
(not rank ordered)

- Motivational Interviewing
- Brief Interventions (usually motivational approach)
- Cognitive-Behavioral Treatment
- Community Reinforcement Approach (CRA)
- Contingency Management (CM)
- Behavioral Marital Therapy (BMT)
- Medication Assisted Treatments

Worst Performing Approaches
(not rank ordered)

- Educational approaches alone
- General counseling (usually disease model training)
- Psychotherapy (supportive, insight-oriented)
- Confrontational counseling
- Relaxation training alone

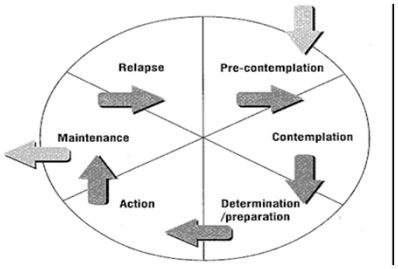
Selected Psychosocial Treatments

- Motivational Interviewing (MI)
- Cognitive-Behavioral Treatment (CBT)
- Community Reinforcement Approach (CRA)
- Contingency Management (CM)
- Family and Marital Therapy (BMT)
- Dialectical Behavioral Therapy (DBT)

Approaches in Addiction Treatment: Motivational Interviewing

- A *directive, client-centered* counseling style for eliciting behavior change by helping clients to explore and resolve *ambivalence*.
- Recognizes that people make changes when:
  - They see themselves vulnerable to negative consequences and regard them as serious
  - They see the benefits of change outweighing the costs of change
- Builds upon/distinct from Trans-theoretical Stages of Change Model

Trans-theoretical Stages of Change Model



Stages of Change (1)

(Prochaska & DiClemente's Transtheoretical Model)

- Pre-contemplation
  - Awareness of association between risk or problems related to drug use move people out of this stage
- Contemplation
  - Perceived rewards of *changing* must increase and costs of changing must decrease: *resolve ambivalence*
- Preparation
  - Acceptance of need for change/plan implementation

Stages of Change (2)

- Action
  - Most treatment is aimed at patients in this stage only:often a mismatch between readiness and plan
- Maintenance
  - Requires ongoing work to sustain changes
- Termination
  - Less than 30% make this stage
- (Relapse)
  - Ongoing risk but doesn't mean "going back to square one"

Two Stages of Motivational Interviewing

- Phase 1: Building Motivation for Change
- Phase 2: Strengthening Commitment to Change

Change Talk

- Change talk is any *client speech that favors movement* in the direction of change
- Previously called *"self-motivational statements*"
- Change talk is by definition linked to a *particular behavior change* target

Preparatory Change Talk (Building Motivation)

- DESIRE to change (I want to...would like to…wish I could…)
- ABILITY to change (I could . .)
- REASONS to change (If I could…then…)
- NEED to change (I need to… have to…)

Implementing Change Talk

Reflects resolution of ambivalence:

- COMMITMENT (intention, decision, readiness)
- ACTIVATION (willing, trying, preparing)
- TAKING SPECIFIC STEPS
  - "I have decided to…"
  - "I am willing to…"
  - "I am doing this…and this…"

Motivational Interviewing (MI) helps to:

- Enhance intrinsic motivation for change (mobilize client's own change resources)
- Recognize the need to do something about the current or potential problem
- Resolve ambivalence and reach a decision for change
- Build commitment to change

Cognitive-Behavioral Therapy (CBT): Rationale

- Substance use can be seen as learned behavior
- Over time, substance use affects how people think and feel, and what they do
- By understanding this process, one can learn how to stop or change use
- New, more effective skills can replace old habits that lead to use
- Practice is essential

Cognitive Behavior Therapy: Basic Treatment Components

- Identification of high risk situations
  - "people, places, and things"
- Development of coping skills
  - To manage risk/triggers as well as negative emotional states
- Development of new lifestyle behaviors
  - To decrease need for/role of substance use
- Development of sense of self-efficacy
  - Build on small successes in coping

Core Elements of CBT: Recognize/Avoid/Cope

- **Recognize**: triggers/cues (external/internal)
- **Anticipate/Avoid**: (situations/people/places)

"People/Places/Things"
"Playmates/Playgrounds/Playthings"
"Play the tape to the end."

"It is easier to avoid temptation,
than to resist temptation".

Cognitive Behavior Therapy: Basic Treatment Components (2)

- Communication skills
  - Drink refusal skills
  - Asking for help
- Preparation for lapses
  - Process to be learned from "lapses"
  - Prevent lapse from becoming relapse
  - Identify and manage patterns of thinking that increase risk
- Dealing with relapse
  - Relapse is not a catastrophe
  - Minimize consequences

Core Elements of CBT Applied to Substance Abuse Treatment

- **Cope**: develop or reinforce skills:

  Deal with cravings/urges to use/situations
  Explore other ways *to relax/deal with stress/problem solve*
  Re-expand dormant behavioral options to socialize/have fun
  Connect/re-connect with sources of reward
  and "hedonic tone"

  "Who needs life when you've got heroin." (Trainspotting)

CBT: Editing the Patient's "Story"

The language of the story:
- Generalizations
- Distortions/delitions

Therapeutic interventions:
- Challenging "learned helplessness"
- Reinforcing the power of "yet"
- Supporting "self-efficacy"

Support Self-Efficacy: Editing the Patient's "Story"

Listen to the *language* of the patient's story:
generalizations/deletions/distortions
"I always screw up" "I can't stop using" "My life is still crap"

Therapeutic interventions:
- Challenging "learned helplessness"
  - "Really, you *always* screw up?"
- Reinforcing the power of "yet"
  - "Well, yes…you haven't stopped… *yet*"
- Supporting "self-efficacy"
  - "Look what you *have* accomplished…you can do this"

Contingency Management (CM)

- Based on operant conditioning: substance use as learned behavior
- Contrived rather than naturally occuring: uses contingencies set in place explicitly and exclusively for therapeutic purposes
- Example: Earning vouchers exchangeable for retail products contingent on negative urine toxicology results
- Example: Earning methadone take-home privileges for negative urine drug screens

Community Reinforcement Approach (CRA) Basic Treatment Components

- Based on operant conditioning: substance use as learned behavior
- *Naturalistic*: uses contingencies already operating in the individual's natural environment to support change and abstinence (eg: giving or withholding praise for behaviors)
- Functional analysis of both healthy and substance use behaviors in terms of ability to reward/be aversive
- Refining problem-solving and goal-setting efforts for individual and/or family (teaching positive communication, contracting skills)

Approaches in Addiction Treatment: Treatment for Significant Others

- Types of Family/Marital Treatment (alone or together with identified patient)

  CRAFT: Community Reinforcement and Family Training

  Behavioral Marital Therapy (BMT)

Community Reinforcement and Family Training (CRAFT)

- Only Concerned Significant Other (CSO) present for sessions (identified substance user not present)
- Usually individual sessions
- Behavioral focus on reinforcing/rewarding abstinent behaviors and removing inadvertent reinforcers of substance use
- Behavioral clinical tools employed, e.g. role plays, problem-solving, self-reports (Happiness Scale) to focus self-care efforts and improve communication skills

Behavioral Marital Therapy (1)

- Treatment based on group couples therapy
  - Initial 6-8 session conjoint meetings (including Antabuse contracting)
  - Couples weekly group lasting 10 sessions
  - Must accept sobriety as a goal
  - Must be lack of significant threat of violence

Behavioral Marital Therapy (2)

- Alcohol and alcohol-related interactions
  - Review Antabuse contract
  - Review cravings/urges
  - Relapse prevention
- Increase positive activities/interactions
  - Notice, acknowledge, & initiate caring behavior
  - Increase shared pleasant activities

Behavioral Marital Therapy (3)

- Communication skills training
  - Listening and speaking skills
  - Direct expression of feeling
- Negotiation of behavior change
  - Learning positive specific requests
  - Negotiation and compromise skills

Treatment of Co-morbid Emotional Issues

- Characterologic/Coping Skills Deficiencies:
  - Dialectical Behavioral Therapy (DBT)
  - Anger management skill building
- Trauma history (after stable recovery):
  - DBT
  - EMDR
- Psychiatric Axis I Co-Morbidity:
  - Medication and behavioral therapies

Dialectical Behavior Therapy (DBT): Basic Treatment Components

- Manualized behavioral treatment utilizing validation and motivational enhancement techniques
- Often combination of group and individual elements
- Addresses enhancement of 4 basic capabilities:
  - Interpersonal effectiveness
  - Emotional and self regulation capacities
  - Ability to tolerate distress
  - Mindfulness

Developing Coping Strategies:

- Coping with craving
- Coping with:
  - Emotional triggers/dyphoria
  - Anger
  - Anxiety
- Role of mindfulness
- Role of non-using fun

Emotion Regulation

Most people think the sequence goes:

Event ➔ Emotion ➔ Action

Instead, we teach:

Event ➔ Self-Talk ➔ Body Response ➔ Emotion ➔ Action

And encourage patients to have sober FUN regularly to offset events they can't control.

Distress Tolerance

…how to get through difficult situations when you can't solve the problem (right away, or at all) without making things worse (using).

- Distractions
- Prayer, meaning
- Self-soothing
- (Radical) Acceptance

Behavioral Therapies: Groups

- Modal format for substance abuse psychotherapy:
  - More economical than individual therapy
  - All major schools of individual therapy have been adapted to group
- Advantages:
  - Modeling, varied coping skills
  - Public affirmations, confession, support
  - Networks of support

Behavioral Therapies: Individual

- Privacy
- Flexibility to address issues as they arise
- Focus on unique individual relevant issues
- More practical size for some providers
- Avoidant patients may do better (e.g. schizophrenics, traumatized)

Role of Medication in in Substance Abuse Treatment

- Withdrawal management
- Psychiatric co-morbidity
- To support primary addiction treatment:
  - ”Relapse Prevention”
  - “Anti-Craving”

Medication Assisted Treatment for Primary Addiction Treatment

Demonstrated efficacy and FDA approval:

- Alcohol:
  - disulfiram, naltrexone, acamprosate
- Nicotine:
  - nicotine replacement, buproprion, varenicline
- Opioids:
  - agonist: methadone, buprenorphine/naloxone
  - antagonist: naltrexone

Preliminary findings of efficacy for Cannabinoids/Cocaine

All efficacy demonstrated in combination with participation in non-pharmacologic treatment.

MAT for Opioid Abuse: Agonist/Substitution Therapy

- *Rationale for Substitution Therapy:*
  - Cross-tolerance
  - Prevents withdrawal
  - Relieves craving
  - Blocks euphoric effects of other opioids
  - Appropriate for illicit or prescription opioid abuse
- *Available alternatives:*
  - Methadone: dispensed through licensed opioid treatment program (OTP)
  - Buprenorphine (Subutex/Suboxone): prescribed through office based opioid treatment (OBOT)

Buprenorphine: Benefits of Pharmacology

1. **Partial agonist**
   -results in a '*ceiling effect*' on respiratory depression
   -has a lower reinforcing effect than full agonist
2. **Slow onto the receptor** minimizing euphoria
3. **Very high affinity** for the mu receptor
   -results in the ability to displace other opioids
   -makes it difficult for other opioids to displace it
   -results in easier taper and withdrawal

Antagonist Tx. for Opioid Dependence: Naltrexone

- Antagonist: naltrexone binds with and blocks opioid receptors
- Available as an FDA approved oral preparation (ReVia)
- Compliance improved by monitored dosing
- IM sustained release (monthly) preparation available (Vivitrol)
- Recently FDA approved for alcohol dependence as well as opioid dependence

Adjunctive Medications for Cocaine and Other Stimulants

- **Disulfiram (Antabuse)**
  Clearest efficacy in co-morbid alcohol/cocaine abuse by elimating use of alcohol
- **Stimulant agonist medications:**
  Modafinil (Provigil)
  Methylphenidate (Ritalin)
- **GABA active agents:**
  Baclofen
  Topiramate (Topamax)
  Tiagabine (Gabitril)

Vocci FJ et al. American J of Psychiatry. 2005
Kenna GA et al. CNS Drugs. 2007

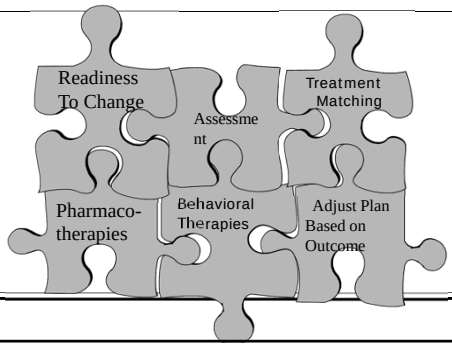
Medication Assisted Treatment: Is It Effective?

- Literature review and meta-analysis: 2003:
- More effective than non-pharmacologic approaches in terms of retention in treatment and decreased opiate use.
- In clinical trials shown to reduce opiate use greater than drug-free treatment or detoxification.
- No difference in outcome between buprenorphine and methadone.
- Mattick, RP, et al: MMT Versus No Opioid Replacement Therapy for Opioid Dependence. Mattick, RP, et al: Buprenorphine versus Placebo or Methadone. The Cochrane Library, 2003

Assess/Treat/Monitor/Adjust

- Adequate assessment for:
  - Diagnosis of abuse or dependence
  - Withdrawal risk
  - Medical and psychiatric co-morbidities
- Assess readiness to change
- Develop treatment plan/treatment matching
- Monitor and adjust treatment plan as ongoing process

Assessment thru Outcome - All the Pieces are Interconnected



Assessment: Comprehensive

- Quantify/frequency/duration
- Impact on life/relations/performance/legal:
  - Physical -Psychological -Family
  - Job -Legal
- Evaluate for psychiatric co-morbidity
- Evaluate for medical consequences
  - Trauma -Depression -Insomnia
  - Hypertension -GI Symptoms
- Evaluate lab data/Drug Screens
- Assess recovery environment
- Assess Readiness to Change

Assess Pattern/Consequence Systematically

- **AUDIT** - Alcohol Use Disorders Identification Test
  - WHO 1989, 10 Questions, 5 minutes
  - Hazardous Use or Harm to Health
  - #1-3: Quantity/frequency
  - #4-10: dependence + consequences
  - Validated performance across wide variety of settings, gender, nationalities

Assess Consequences Systematically

- **Addiction Severity Index** (ASI) (1980, 1985, 1992)
  - Semi-structured interview
  - Validated in wide range of settings
  - Useful for treatment planning and outcome evaluation
  - 1 hour administration by interviewer
  - Computerized scoring available

ASI Composite Scores

- Past 30-day Severity of Problems (scores 0.0-1.0)

1. Medical
2. Employment
3. Alcohol Use
4. Drug Use
5. Legal
6. Family/Social
7. Psychological

Assess Consequences Systematically

- **MAST** & **SMAST** & **BMST**

(Michigan Alcoholism Screening Tests: Original, Short, Brief)

- 25-, 13-, or 10-Item Questionnaires
- Self-administered, rapid, effective
- Lifetime Alcohol-related Problems/Alcoholism

Assess Consequences Systematically

- **SAAST** (Self-Administered Alcoholism Screening Test)
  - 37-items, MAST-like,
  - Copyrighted Mayo Clinic
  - Questions include: loss of control, occupational & social disruption, emotional consequences, concerns of family & friends
  - Administered by patient, family, or friend

Assess Withdrawal Systematically

CIWA-Ar : Clinical Institute Withdrawal Assessment for Alcohol–Revised)

- Addiction Research Foundation, Toronto
- Initial assessment/ongoing monitoring of withdrawal
- Evaluated only for treatment settings
- 10 Parameters, scored on scales of 1-7
- Objective and subjective types measures
- High inter-rater reliability

Diagnose by DSM IV Criteria: Dependence

Maladaptive pattern of use leading to clinically significant impairment or distress, manifested within a 12-month period by at least 3 of the following:

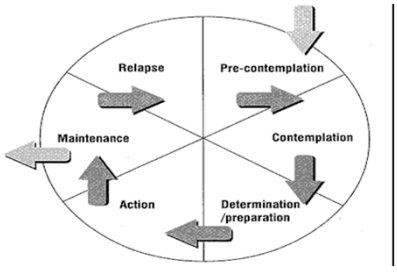
1. Tolerance
2. Withdrawal
3. Loss of control over amount consumed
4. Preoccupation with controlling use
5. Preoccupation with related activities
6. Impairment of social, occupational, or recreational activities
7. Use is continued despite persistent problems related to use

DSM-IV-TR. **American Psychiatric Association: Washington, DC; 2000.**

Bottom Lines Regarding Evaluation for Rx Meds

- Still have to do the *same basic evaluation*, whether it's a prescribed drug or illicit drug:
  - Pattern of use/Risk/Problems/Control
  - Use all available information from different sources
  - Use appropriate drug screening
- Do need to get information from the *prescribing clinician*
  - Indication for med/Patterns of use/Problems
  - Information about the prescriber
- Evaluate for abuse or addiction but also for *co-morbidities*

Assess Readiness to Change



Individuals change when:

- They believe they have a problem (DiClemente, 1991)
- They feel they can be effective (Bandura, 1977)
- They participate in setting the goals (Ockene, 1988)

Patient-Treatment Matching

Project MATCH

- Prospective, randomized design MI/CBT/12 Step Facilitation
- >1000 patients, over 4 years, with >90% follow-up
- 90% Reduction in drinking seen by week 2 of study (drinks per drinking day, drinking days in prior month)
- No significant differences in outcome found between 3 options.

Patient-Treatment Matching

ASAM Patient Placement Criteria

Useful in multi-dimensional care planning

- Withdrawal Risks
- Biomedical Conditions
- Emotional and Behavioral Conditions
- Readiness to Change (Treatment Resistance)
- Relapse/Continued Use Potential
- Recovery Environment

Patient-Treatment Matching

ASAM Patient Placement Criteria

- Preliminary studies show validity of model and predictive utility for treatment assignment
- Widely used tool
- Has helped build consensus among a broad range of health care agents and treatment providers

Monitor for Effectiveness/Outcome

- Monitor not just in terms of sobriety/abstinence
- Monitor in terms of functional improvement:
  - -emotional
  - -interpersonal
  - -medical
  - -occupational
  - -legal

Adapting Treatment Based on Ongoing Assessment and Outcome

- Increase level of care
- Improve recovery environment
  - Joblessness - Homelessness
  - Substance users in living environment
- Assess treatment for co-morbid psych problems
- Leverage what is different since last contact?
- What follow-up plans did he complete/not complete?
- What is going well, what not so well?
- Is there now a need for medication assisted treatment?

Further Adaptation as Indicated

- Rearrange reinforcements
- Reassess for ambivalence re change process
- Increase self-efficacy: build on successes
- Increase skills for tolerating negative affects

- **Client-centered treatment strategies in association with confrontation**

Change Mechanisms and Efficacy How Can We Do Better?

Take advantage of what we know:

- Utilize pharmacologic and non-pharmacologic treatment approaches that research shows are most effective
- Adapt treatments dependent on outcome/progress

Take advantage of all opportunities to:

- Use motivational approach to keep patients engaged with treatment
- Adapt treatments to address patients at various stages of change