

**43rd Annual 2016 KY School of Alcohol and Other Drug Studies ■ Louisville, KY ■
10:30a-4:45p July 17-19, 2016**

Current Science and Clinical Practice: Medication Assisted Treatment for Opioid Use Disorders



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2 Objectives for the Two Day Workshop

- 1. Participants will practice strategies to address stigma associated with individuals who use substances.**
- 2. Participants will practice strategies to address stigma associated with Medication Assisted Treatment with staff and patients.**
- 3. Participants will compare and contrast the common ways methadone and buprenorphine work as an important part of a complete treatment approach to opioid dependence.**

Why Are You Here Today?

- 1. I do not know much about treating women who have opioid use disorders and I want to learn more.**
- 2. I have had negative experiences with individuals who take methadone or buprenorphine and I am not convinced medication is needed to treat opioid use disorders.**
- 3. I know a lot about methadone and buprenorphine and I want to more about how to reduce stigma related to patients and these medications.**

Guiding Vision

The guiding vision of our work must be to create a world in which people with:

- a history of alcohol and/or drug problems**
- people in recovery**
- people at risk for these problems**

are valued and treated with dignity, and where stigma, accompanying attitudes, discrimination and other barriers to recovery are eliminated

How is stigma defined?

- **Enacted**
- **Perceived**
- **Self-stigma**



Stigma In Action



Woman injecting: free image by pololia "A woman having bad time in a tunnel"
<http://thequietpool.blogspot.com/2012/03/hatchery-junkies.html>
<http://patrickspoungle.com/2013/11/23/season-two-breaking-bad-we-just-finished-it-part-1/>

Stigma Experienced?



How is stigma formed and reinforced?

- ❖ **Exposure to the illness**
- ❖ **Media plays a big role!**

Depictions of substance use disorders seem to contain two main fallacies that can taint reputability and reinforce negative stigma:

- (1) inaccurate representations of the illness**
- (2) frequent depiction of mainly negative symptomology**

The Power Of Words To Hurt Or Heal

Stigmatizing Words	Preferred Words
Addict, Abuser, Junkie	Person in active addiction, person with a substance misuse disorder, person experiencing an alcohol/drug problem, patient
User	person who misuses alcohol/drugs or person engaged in risky use of substances
Abuse	Misuse, harmful use, inappropriate use, hazardous use, problem use, risky use
Clean, Dirty Clean / Sober	Negative, positive, substance-free
Habit or Drug Habit	alcohol and/or drug use disorder, alcohol and drug disease, active addiction
Drug of Choice	Drug of Use or drug of addiction
Replacement or Substitution Therapy	Treatment, medication-assisted treatment, medication

Stigma and Babies

By: Elaine Quijano CBS NEWS

JULY 8, 2015, 6:03 PM

Life begins with agony of withdrawal for opiate-addicted babies

BOSTON -- America's heroin problem is getting worse. A new report from the Center for Disease Control says that in just six years heroin use has risen 150 percent to more than a half-million Americans Over a decade use by women alone is up 100 percent. The most innocent victims of drug abuse are babies.



LOUISVILLE, Ky. — Shortly after he was born, tremors wracked Leopoldo Bautista's tiny body as he suffered through the pain of drug withdrawal — pain his mother understands.

Born into suffering: More babies arrive dependent on drugs
LAURA UNGAR, USA TODAY
7:10 P.M. EDT JULY 8, 2015



Drug-addicted babies on rise in Tennessee
October 12th, 2013 7:58 pm by Becky Campbell

When Do Our Feelings Change?



The innocent 'meth heads': How more and more children are becoming victims of deadly drug as number of 'shake and bake' at-home labs skyrocket

The Daily Mail by Rachel Quigley

Published: 12:43 EST, 24 July 2013 |

Updated: 10:12 EST, 5 February 2015



Police arrested two women for using heroin in a restaurant bathroom, according to the Auburn Police Department.

<http://fox40.com/2014/04/13/auburn-women-arrested-for-drug-use-in-restaurant-bathroom/>

Exercise



List the myths and stigmatizing comments about men

List the myths and stigmatizing comments about women

Review the list and then develop counter-statements to each myth or comment

Myths and Stigma of Medication

16

Myths

- **Methadone and buprenorphine are addicting**
- **Methadone and buprenorphine are legal highs**
- **Medication is “liquid handcuffs”**

Facts

- **Physical dependence is different from addiction**
- **When used correctly, there is no intoxication**
- **Medication is an individual decision; it is possible to discontinue medication with strong social supports – discontinuing medication is not right for everyone**

Exercise



List the myths and stigmatizing comments about methadone and buprenorphine

Review the list and then develop counter-statements to each myth or comment

Exercise



What are the goals of methadone and buprenorphine pharmacotherapy?

What is the role of staff in providing methadone or buprenorphine pharmacotherapy?

What is the role of patients in methadone or buprenorphine pharmacotherapy?

Classic Research

In 1974:

Sampled opinions of:

- “ex-addict” counselors maintained with methadone**
 - “ex-addict” counselors who were abstinent**
 - “non-addict” counselors**
 - administrative and supervisory staff**
- ▲ *The staff uniformly viewed methadone maintenance as preferable to the use of heroin – but as significantly less desirable than the person's functioning without drugs***

Later Research

- **Subsequent research in the 1980s and 1990s examined the relationship between attitudes of staff in methadone maintenance programs and patient retention in treatment**
- **The general finding of this line of research indicated that, compared to patients treated in methadone maintenance programs that emphasized indefinite maintenance, patients treated in programs that were abstinence-oriented**
 - **were more likely to use heroin while in treatment**
 - **leave treatment earlier**
 - **more likely to return to maintenance after discharge**

Quiz: Explore Your Attitudes

Exercise

**Caplehorn and colleagues developed
a 14-item *Beliefs about Medication
Assisted Treatment* test**

**Take the next 7 minutes to complete
this true/false test**



The Quiz

- 1. Methadone/buprenorphine maintenance patients who continue to use illicit opiates should have their medication dose reduced.**
- 2. Patients who ignore repeated warnings to stop using illicit opiates should be gradually withdrawn off methadone/buprenorphine.**
- 3. No limits should be set on the duration of methadone/buprenorphine maintenance.**
- 4. Methadone/buprenorphine should be gradually withdrawn once a maintenance patient has ceased using illicit opiates.**
- 5. Methadone/buprenorphine services should be expanded so that all opioid dependent patients who want medication can receive it.**
- 6. Methadone/buprenorphine maintenance patients who continue to abuse non-opioid drugs (e.g. benzodiazepines) should have their dose of methadone/buprenorphine reduced.**
- 7. Abstinence from all opioids (including methadone/buprenorphine) should be the principal goal of methadone maintenance.**
- 8. Left to themselves, most methadone/buprenorphine patients would stay on methadone for life.**
- 9. Maintenance patients should only be given enough methadone/buprenorphine to prevent the onset of withdrawals.**
- 10. It is unethical to maintain individuals on methadone/buprenorphine indefinitely.**
- 11. The clinician's principal role is to prepare methadone/buprenorphine maintenance patients for drug-free living.**
- 12. It is unethical to deny an individual methadone/buprenorphine.**
- 13. Confrontation is necessary in treating drug addiction.**
- 14. Patients should remain in methadone/buprenorphine maintenance for at least three to four years.**

Scoring The Quiz

**Score 1 for each “yes” to question 1, 2, 4, 6, 7, 8, 9, 10, 11, and 13.
Score 1 for each “no” to questions 3, 5, 12, and 14.**

Staff Attitudes Toward Methadone

- **Caplehorn and colleagues reported in 1998 that the Median Abstinence Orientation Scale was strongly related to patient time in treatment.**
- **A 1-unit increase in scores was related to a more than threefold risk of discharge.**
- **Estimates suggest that approximately 60% of patients would have left an abstinence-oriented program in the first year of treatment, while only approximately 20% would have left an indefinite maintenance program.**

What Would You Do?

Exercise



You have a patient with opioid use disorder who wishes to begin opioid agonist pharmacotherapy. What would you tell that patient about the choice between methadone and buprenorphine?

What do you think the person knows or thinks he or she knows about these two medications?

What do you feel you need to know about these two medications to be able to inform him or her about the options?

How Do You Respond?

Exercise

You have staff telling patients that they are not “clean” or that they are still “just a junkie” if they take methadone or buprenorphine. How do you respond?



Removing Stigma From Methadone

Methadone: Removing the Stigma

MAY 27, 2013 POSTED BY DR. VERA TARMAN

8 MINUTES LONG

<http://addictionsunplugged.com/2013/05/27/methadone-removing-the-stigma/>

What You Can Do To Reduce Stigma

- **One of the most powerful tools you can use to overcome and reduce stigma is to practice empathy**

Merriam Webster *Empathy*

The action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner



- **Empathy is the most important skill you can practice.**
- **It will lead to greater success personally and professionally and will allow you to become happier the more you practice.**

How Empathetic Are You?

How To Increase Your Empathy

Practical tips to consider for increasing empathy:

- **Listen**
- **Don't interrupt people**
- **Tune in to non-verbal communication**
- **Practice the "93% rule"**
- **Use people's names**
- **Be fully present when you are with people**
- **Smile at people**
- **Take a personal interest in people**

Respond with Empathy

Acting Exercise

Divide into groups by counting off

Everyone needs a role

Scene 1: A pregnant woman comes to a provider, is clearly in opioid withdrawal and says she needs help

Scene 2: A young man has been taking methadone for a month, you can see his pupils are large, his nose is running and he has goose flesh. He says his dose is too low and he wants to use

Scene 3: An opioid dependent woman comes to the provider and says everything in her life is falling apart and the one thing that will help her get on her feet is to be on buprenorphine

Scene 4: Your choice (per trainer approval)



Increasing Empathy Helps Everyone

Four skills decrease the likelihood of malpractice suits and improve patient outcomes and greater patient compliance:

- 1. Engage the patient***
- 2. Display empathy***
- 3. Educate the patient***
- 4. Enlist the patient***



Summary

- ◆ **Reducing and ending stigma for individuals with substance use disorders and the medications that treat such disorders starts with each of us**
- ◆ **Taking care with the language we use can reduce and prevent stigma**
- ◆ **Help to share facts and dispel myths**
- ◆ **Listen to the individuals for whom you care**
- ◆ **Tune in to non-verbal communication**
- ◆ **Be fully present when you are with people**



Objectives for the Two Day Workshop

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- ✓ **Participants will practice strategies to address stigma associated with Medication Assisted Treatment with staff and patients.**

3. Participants will compare and contrast the common ways methadone and buprenorphine work as an important part of a complete treatment approach to opioid use disorders.

Outline

- **Defining drug addiction and recovery**
- **Patterns of use**
- **Role of medication-assisted withdrawal**
- **Role of medication in recovery from opioid use disorders**
- **What to look for in a good medication-assisted treatment program**



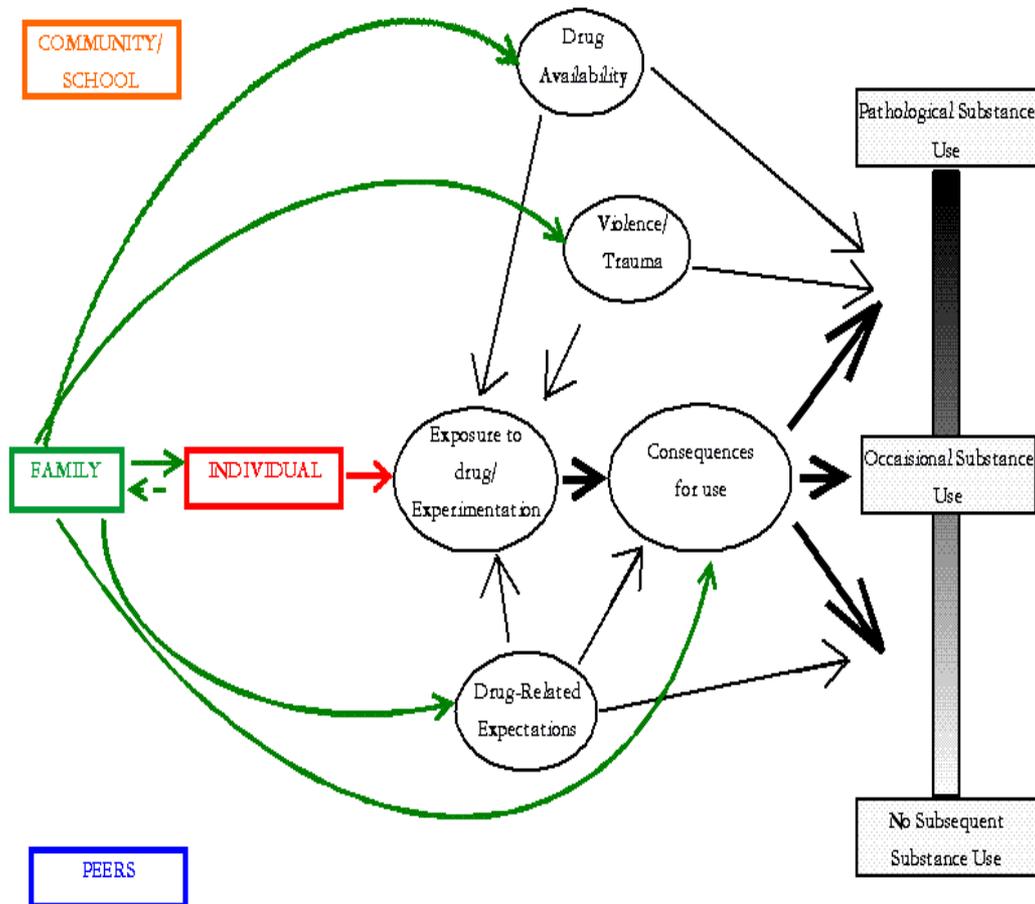
Defining Drug Addiction

- **“Addiction is 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.**
- **Addiction is characterized by:**
 - **Inability to abstain from the substance**
 - **Impaired behavioral control**
 - **Craving**
 - **Significant problems with interpersonal relationships**
 - **Dysfunctional emotional response**
- **Like other chronic diseases, addiction often involves cycles of relapse and remission.**
- **Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.**
- ***Drug dependency is not a synonym for drug addiction or drug abuse***

Patterns of Use: Initiation

- **Drug initiation, abuse, and dependence involve a multitude of potential causes**
 - **There is no single biopsychosocial factor responsible**
- **Initiation of drug use in women is often the result of use by a boyfriend, partner, or husband**
- **Reasons for initiation of drug use vary**
 - **Stress, negative mood, and poor family, interpersonal, and/or social relationships often are reported as extremely important**
 - **Some women report they initiate drug use in order to lose weight or to have more energy**
- **Women generally initiate drug use at an older age than do men**

Patterns of Use: Risk Factors



- ▶ **Familial Substance Abuse**
- ▶ **Partner Substance Abuse**
- ▶ **Personality Factors**
- ▶ **History of Interpersonal Violence, Childhood Sexual Abuse, and Other Traumas**

Patterns of Use: Risk Factors

Familial Substance Abuse

- **Drug use disorders co-occur in families**
- **Major risk factors for drug initiation and dependence among women include chaotic, argumentative, blame-oriented, and violent households**



Effect of Partner Substance Abuse

- **Social factors are important contributors to drug use in women**
- **Drug-dependent women are more likely than drug-dependent men to have partners who use drugs**
- **Some women continue using alcohol and illicit drugs to have an activity in common with their partners or to maintain the relationships**
- **Although alcohol and marijuana use often begins with peer pressure during adolescence, women are likely to be introduced to cocaine and heroin by men**



Patterns of Use: Risk Factors

Relationships to Substance Use Disorders

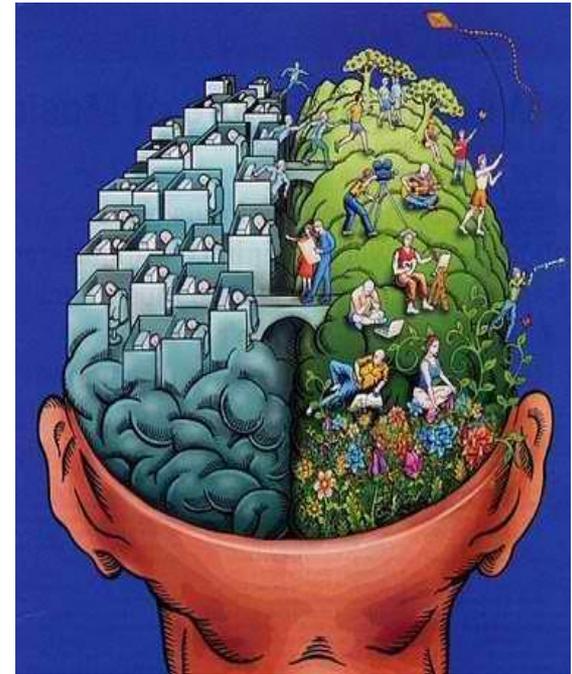
- Depression is estimated to co-occur in adults with opioid use disorder at somewhere between 15% and 30%
 - This rate may be even higher in adults with prescription opioid use disorder
 - Co-occurrence is higher in women than in men
 - A higher rate of injection drug use is found in adults with co-occurring opioid use disorder and depression
 - Adults with co-occurring opioid use disorder and depression are more likely to suffer more severe social and economic problems than individuals with opioid use disorder without depression
 - Lack of a treatment response is more likely for adults with co-occurring opioid use disorder and depression
- ↪ *Although we know less about co-occurring opioid use disorder and anxiety, the general picture appears to be quite similar*

Co-occurring Mental Disorders

- **Women are more likely than men to have co-occurring drug use and mental disorders**
- **Women are more likely to have multiple co-morbidity (three or more psychiatric diagnoses, in addition to substance use disorder) than are men**
- **Research on co-occurring disorders suggests that women who use drugs may be using them to self-medicate distressing affect**
- **Anxiety disorders and major depressive disorders are the most common co-occurring diagnoses**
- **Eating disorders and Post-Traumatic Stress Disorder (PTSD), a common reaction following exposure to violence and trauma, also often co-occur in women with drug use disorders**

Personality Factors

- **Certain personality characteristics predict risk of future drug use:**
 - Depression
 - Obsession
 - Anxiety
 - Problems controlling affect and behavior
 - Low self-esteem



History of Interpersonal Violence, Childhood Sexual Abuse, and Other Traumas

▶ History of traumatic events, including:

- sexual and physical assaults
- childhood sexual and physical abuse
- domestic violence

have been found to predict both initiation of drug use and development of drug use disorders in women

↳ *Najavits et al. (1997) reported a lifetime history of trauma in 55-99% percent of women who used drugs, compared with population-based rates of 36-51%*

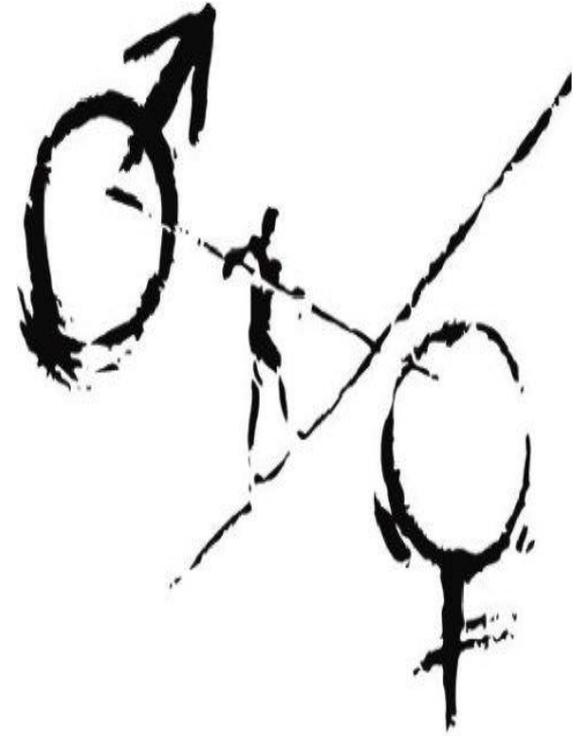
Patterns of Use

- **Both women and men initiate drug use based on, but not limited to:**
 - **availability**
 - **level of ease in obtaining the substances**
 - **price of substances**
 - **the ratio between perceived drug benefit versus perceived risk associated with use**
 - **general attitude toward substance use**
- ↳ ***However, women display different patterns of use of alcohol, tobacco, and illicit and prescription drugs***

Patterns of Use

Knowledge of distinct gender differences in drug use that merit attention in providing treatment services to women:

- ◆ **Narrowing of the Gender Gap**
- ◆ **People of Introduction and Relationship Status**
- ◆ **Drug Injection and Relationships**
- ◆ **Path to Treatment Admission**



Narrowing of the Gender Gap

- Rates of alcohol and drug use over the past 10+ years indicates that the gender gap is narrowing:
 - ↳ *younger women are more likely than older women to display patterns of alcohol and illicit drug use similar to the patterns displayed by men*



People of Introduction and Relationship Status

- **Women are more likely to initiate alcohol and drug use through contact with significant others**
 - **Relatives**
 - **Boyfriends**
 - **Partners**
 - **Husbands**



Drug Injection and Relationships: Women

- are less likely to inject drugs than men, although they begin injecting sooner
- injecting drugs for the first time are more likely to be introduced to injecting by a sexual partner
- are more likely to be involved with a sexual partner who also injects
- are more likely to inject with and borrow needles and equipment from their partner, spouse, or boyfriend.
- are also likely to begin injecting with groups that are predominantly female

↳ *Although women may initiate injection through their relationships with injection-drug-using individuals, they are also likely to initiate injection on their own*

Path to Treatment Admissions

- ◆ Previous data largely come from populations with identified drug use problems
 - ➔ Yet most women who have substance use disorders never receive treatment
- ◆ Alcohol appears to be the primary drug of abuse
 - ➔ However, a large percentage of women admitted to drug use treatment report opioids or cocaine as their primary drugs of abuse
- ◆ Referrals from primary health care providers are one of the lowest referral routes to drug use treatment for women
- ◆ Self-referral, social service agencies, and the criminal justice system are the primary sources of referral
- ◆ Women are also likely to be identified with a substance use disorder through child protective services
- ▲ *Women often identify stress, not drug use, as the primary reason to enter treatment*
- ▲ *Women also exhibit more serious drug problems on treatment entry, as well as problems related to drug use, particularly medical and psychological problems*

Apply Patterns of Use

Exercise

Divide into groups and discuss how the elements of patterns of use listed below have implications for the work you do:

- **Familial Substance Abuse**
- **Partner Substance Abuse**
- **Personality Factors**
- **History of Interpersonal Violence, Childhood Sexual Abuse, and Other Traumas**
- **Narrowing of the Gender Gap**
- **People of Introduction and Relationship Status**
- **Drug Injection and Relationships**
- **Path to Treatment Admissions**



Outline For Objective 3

3. Participants will compare and contrast the common ways methadone and buprenorphine work as an important part of a complete treatment approach to opioid use disorders.

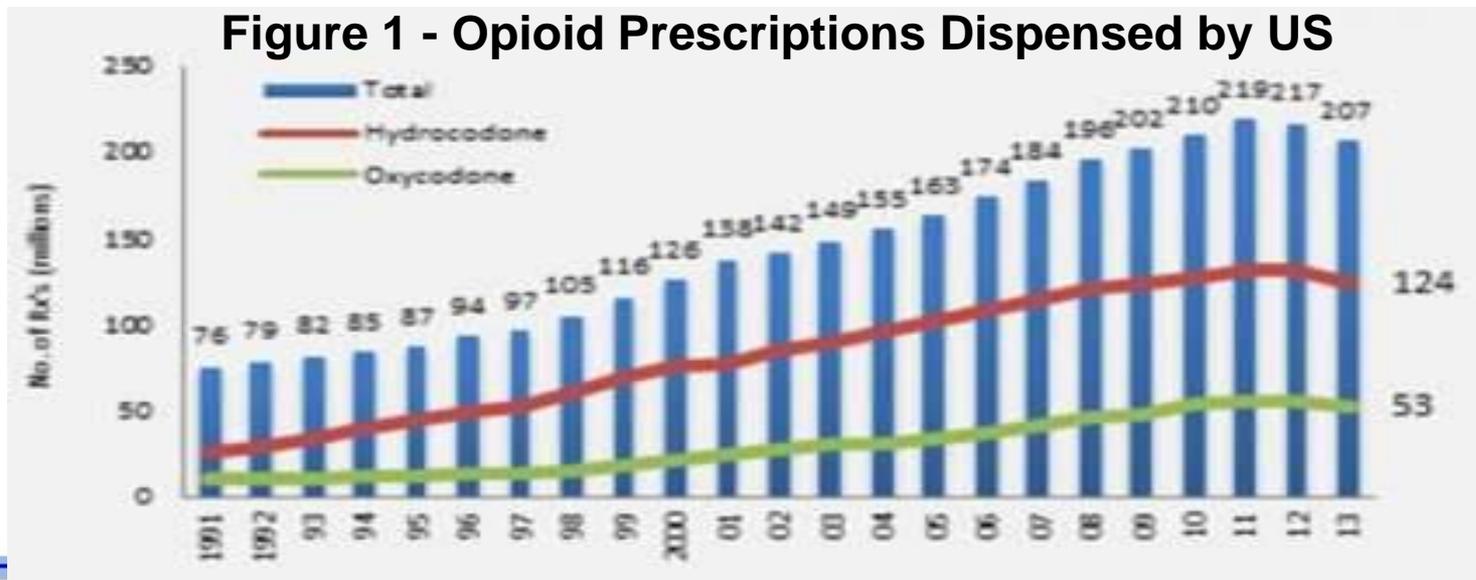
- ✓ Defining drug addiction and recovery
- ✓ Patterns of use
 - Role of medication-assisted withdrawal
 - Role of medication in recovery from opioid use disorders
 - What to look for in a good medication-assisted treatment program



The Story of How America's Prescription Opioid Epidemic Came To Be

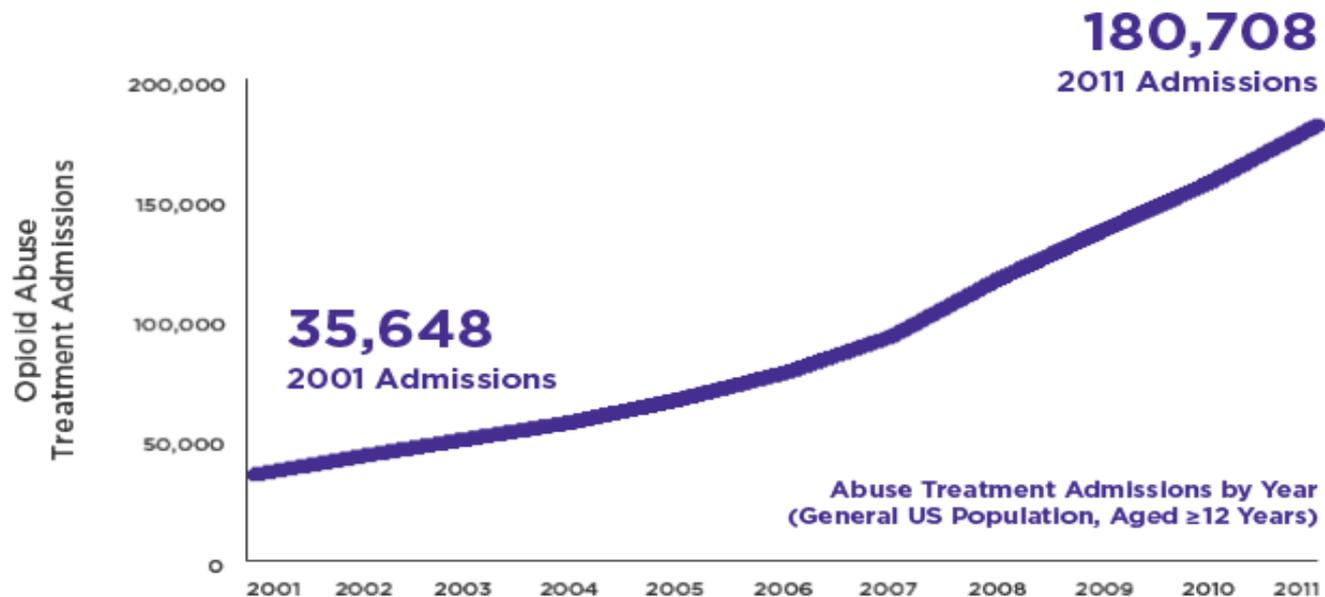
Factors: Prescription Drug Use Disorder Problem

- Drastic increases in the number of prescriptions written and dispensed
- Reduced harm beliefs/ social acceptability for using medications for different purposes
- Aggressive marketing by pharmaceutical companies
- Internet availability



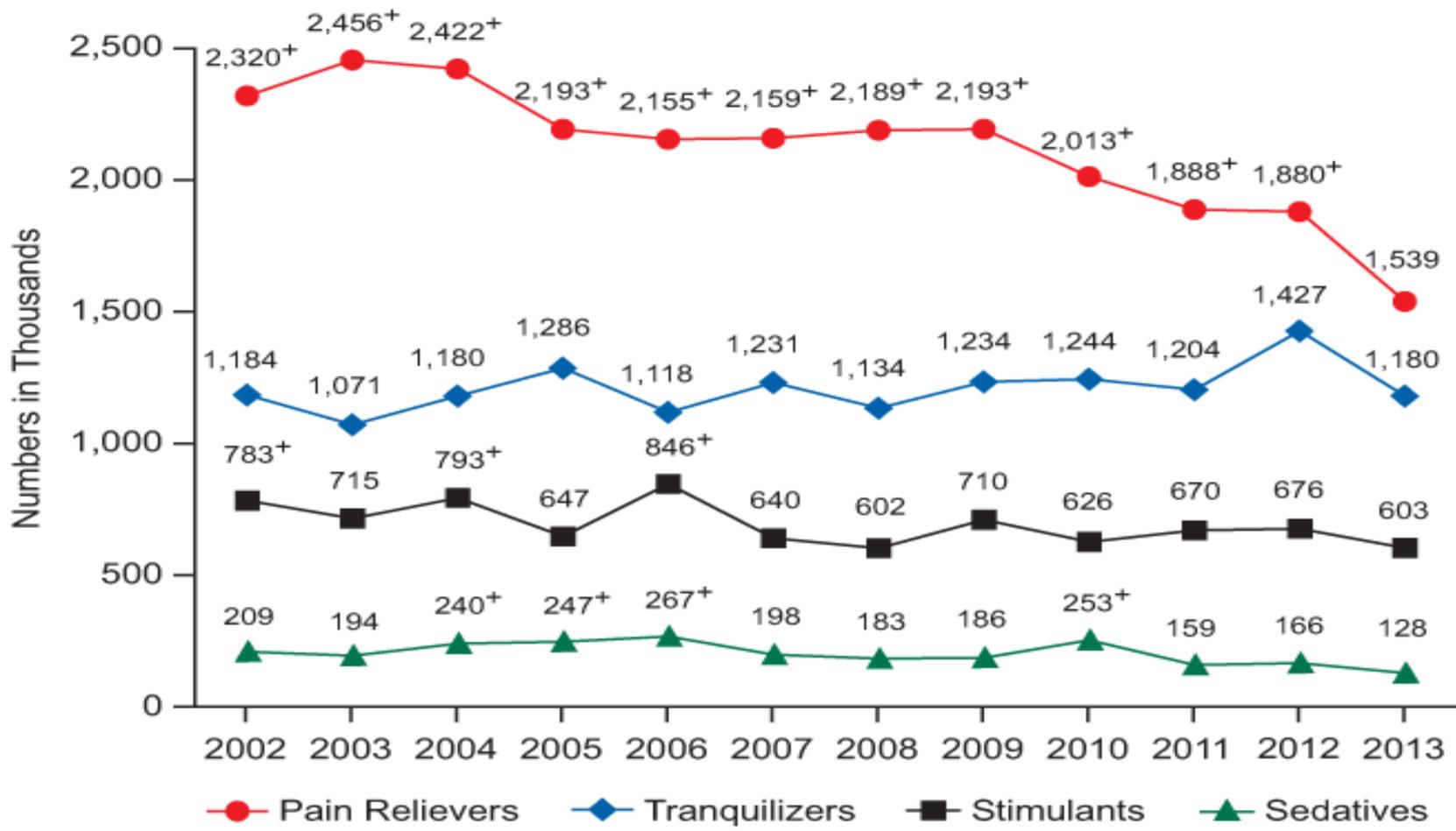
Current Context of Treatment Admissions

2001-2011: ADMISSIONS FOR PRESCRIPTION OPIOID ABUSE TREATMENT Escalated More Than 5-Fold



Note: The data represented here consist of all prescription opioids, including prescription methadone.

Future May Be Improving



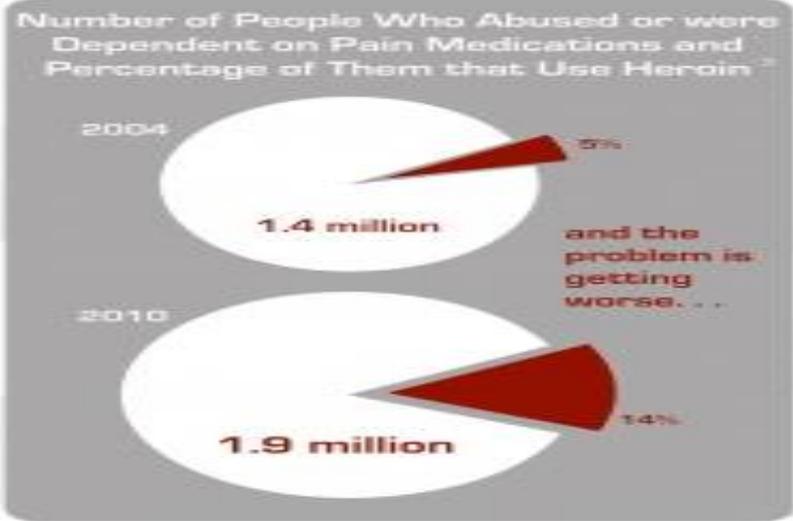
Current Data

ABUSE OF PRESCRIPTION PAIN MEDICATIONS RISKS HEROIN USE

In 2010 almost 1 in 20 adolescents and adults – 12 million people – used prescription pain medication when it was not prescribed for them or only for the feeling it caused¹. While many believe these drugs are not dangerous because they can be prescribed by a doctor, abuse often leads to dependence. And eventually, for some, pain medication abuse leads to heroin.



PEOPLE WHO TAKE NON MEDICAL PRESCRIPTION PAIN RELIEVERS WILL TRY HEROIN WITHIN 10 YEARS²



Heroin users are **3X** as likely to be dependent

14% of non medical prescription pain reliever users are dependent.
54% of heroin users are dependent.⁴

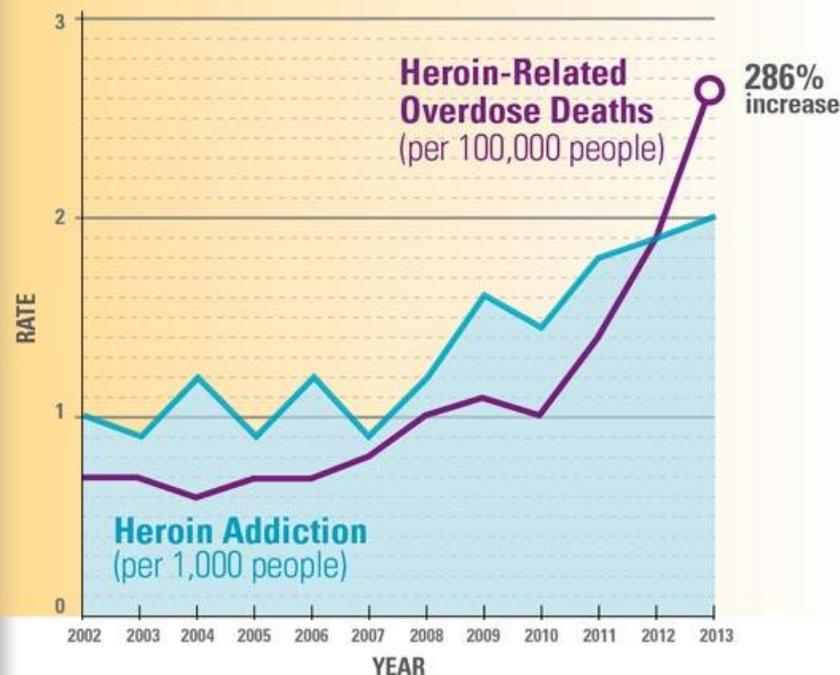


Change from Prescription Opioids to Heroin

Heroin Use Has INCREASED Among Most Demographic Groups

	2002-2004*	2011-2013*	% CHANGE
SEX			
Male	2.4	3.6	50%
Female	0.8	1.6	100%
AGE, YEARS			
12-17	1.8	1.6	--
18-25	3.5	7.3	109%
26 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3	114%
Other	2	1.7	--
ANNUAL HOUSEHOLD INCOME			
Less than \$20,000	3.4	5.5	62%
\$20,000-\$49,999	1.3	2.3	77%
\$50,000 or more	1	1.6	60%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.3	4.7	--
Private or other	0.8	1.3	63%

Heroin Addiction and Overdose Deaths are Climbing



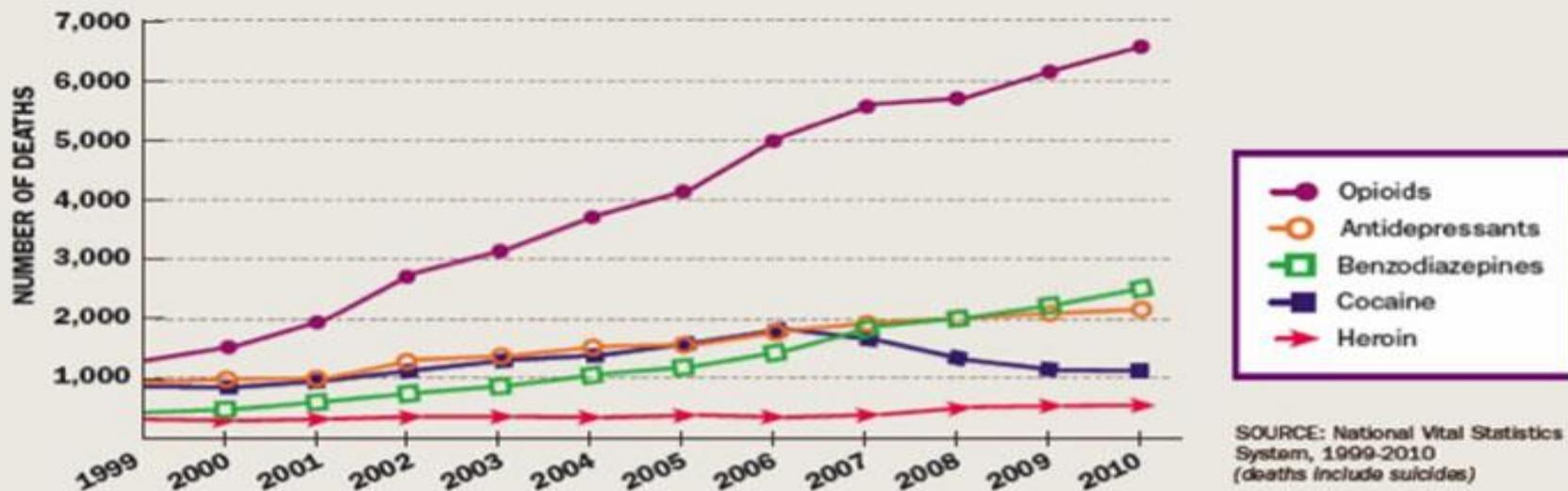
SOURCES: National Survey on Drug Use and Health (NSDUH), 2002-2013.
National Vital Statistics System, 2002-2013.

Current Context of USA Opioid Use and Women

Women are more likely to:

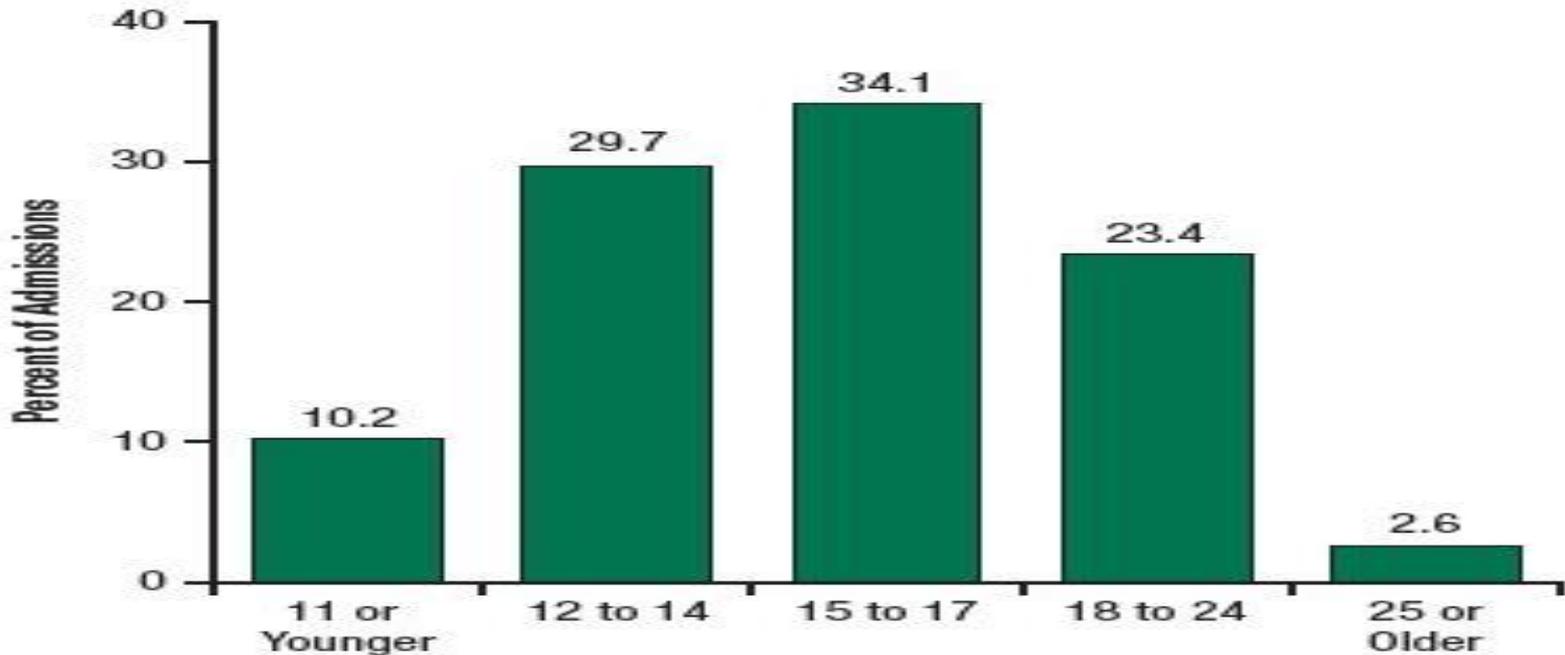
- have chronic pain
- be prescribed prescription pain relievers
- be given higher doses, and use them for longer time periods than men
- the duration between opioid use initiation and seeking help for an opioid use disorder is shorter for women than men

Prescription painkiller overdose deaths are a growing problem among women.



Addiction is a Pediatric Disease

Just 5 percent of youth with a substance use disorder get treatment



Opioid Therapy for Chronic Pain Has Limited Efficacy

Opioid therapy for chronic noncancer pain is controversial due to concerns regarding long-term effectiveness and safety, particularly the risk of tolerance, dependence, or abuse.

– 26 studies with 4,893 participants

– 25 of the studies were case series or uncontrolled long-term trial continuations, the other was an RCT comparing two opioids

- Many patients discontinue long-term opioid therapy (especially oral opioids) due to adverse events or insufficient pain relief; however, weak evidence suggests that patients who are able to continue opioids long-term experience clinically significant pain relief
- Improvement in quality of life or functioning is unclear
- Many expected minor adverse events (e.g., nausea and headache) occurred, but serious adverse events, including iatrogenic opioid addiction, were rare

Role of Medication in Recovery

- ***Maintenance pharmacotherapy*** on an opioid-agonist medication such as methadone or buprenorphine is defined as treatment with medication for an indefinite period by fixing and maintaining the level of the opioid in an individual, in order to avoid the craving and withdrawal symptoms that abstinence from illicit opioids would produce.
- ***Medication-assisted withdrawal*** (sometimes termed ‘detoxification’ or tapering) provides consecutively smaller doses of a medication such as methadone or buprenorphine as well as non-opioid-agonists to provide a ‘smooth’ transition from illicit opioid use to a medication-free state.
- “Withdrawal from opioid dependence is uncomfortable, but not life-threatening for a woman who is not pregnant. However, for pregnant women who are opioid-dependent, abrupt withdrawal from opioids can be life-threatening to the fetus”

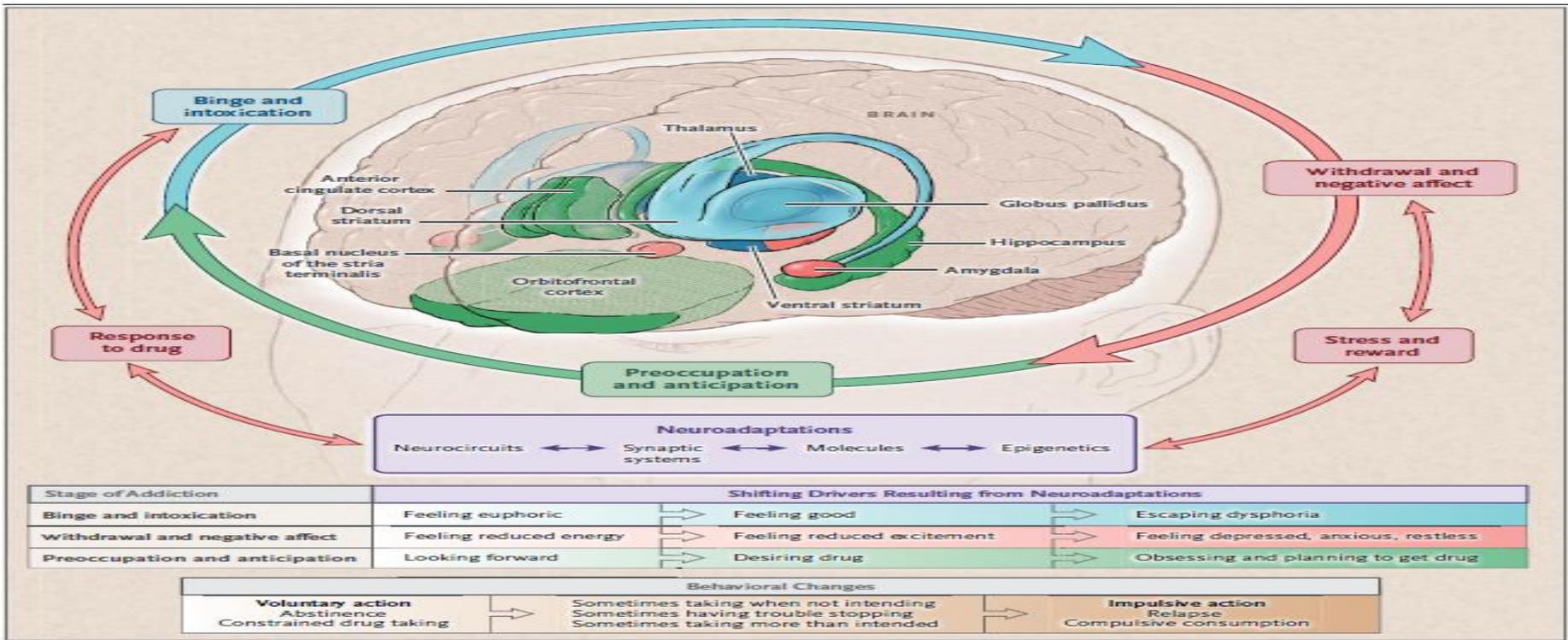
Role of Medication in Recovery

REVIEW ARTICLE

Dan L. Longo, M.D., *Editor*

Neurobiologic Advances from the Brain Disease Model of Addiction

Nora D. Volkow, M.D., George F. Koob, Ph.D., and A. Thomas McLellan, Ph.D.



NIDA's 13 Principles of Effective Treatment:

- **Addiction is a complex but treatable disease that affects brain function and behavior.**
- **No single treatment is appropriate for everyone.**
- **Treatment needs to be readily available.**
- **Effective treatment attends to multiple needs of the individual, not just drug abuse.**
- **Remaining in treatment for an adequate period of time is critical.**
- **Behavioral therapies—including individual, family, or group counseling—are the most commonly used forms of drug use treatment.**
- **Medications are an important element of treatment for many patients, especially when combined with counseling and other behavioral therapies.**
- **An individual's treatment and services plan must be assessed continually and modified as necessary to ensure that it meets his or her changing needs.**
- **Many drug-addicted individuals also have other mental disorders.**
- **Medically assisted detoxification is only the first stage of addiction treatment and by itself does little to change long-term drug abuse.**
- **Treatment does not need to be voluntary to be effective.**
- **Drug use during treatment must be monitored continuously, as lapses occur.**
- **Treatment programs should test patients for infectious diseases and provide targeted risk-reduction counseling, linking patients to treatment if necessary.**

⁶⁶ Role of Medication-assisted Withdrawal

- **WHO 2014 Guidelines:** “Pregnant women dependent on opioids should be encouraged to use opioid maintenance treatment whenever available rather than to attempt opioid detoxification. Opioid maintenance treatment in this context refers to either methadone maintenance treatment or buprenorphine maintenance treatment.”
- **Guidance regarding maintenance versus medication-assisted withdrawal has traditionally been based largely on good clinical judgment**
- **Medication followed by no medication treatment has frequently been found to be unsuccessful, with relatively high attrition and a rapid return to illicit opioid use**
- **Maintenance medication facilitates retention of patients and reduces substance use compared to no medication**
- **Biggest concern with opioid agonist medication during pregnancy is the potential for occurrence of neonatal abstinence syndrome (NAS) – a treatable condition**

Role of Medication-assisted Withdrawal

- **The SAMHSA/CSAT Principles of Recovery state that there are many roads to recovery.**
- **Medications such as methadone or buprenorphine have used to achieve and sustain recovery. There may also be times when patients want to discontinue their medications.**
- **Factors to consider in medication-assisted withdrawal:**
 - **A complete medical and psychosocial assessment**
 - **What is motivating the man or woman to discontinue medication?**
 - **What positive relationships does he/she have in place in her life?**
 - **What is the plan for the patient and his/her children if there is a relapse?**
 - **What is the plan if he/she wants to stop the medication-assisted withdrawal?**
 - **Is she pregnant? Is there obstetrical/medical care? Is she post-partum?**

Role of Medication-assisted Withdrawal

Methadone Maintenance vs. Methadone Taper During Pregnancy: Maternal and Neonatal Outcomes

Hendrée E. Jones, PhD,¹ Kevin E. O'Grady, PhD,² Debbie Malfi, MA,¹ Michelle Tuten, MSW, LCSW-C¹

	3 or 7 day withdrawal (n=95)	3 or 7 day withdrawal then MMT (n=28)	MMT (n=52)
Maternal +UDS (%)	51 (53.4)	5 (17.8)	12 (23)
Maternal days in treatment	21	100	122
OB visits	2.3	8.3	
Birthweight (g)	2911	3020	2819
Preterm (%)	28 (29.4)	3 (10.7)	10 (19.2)
NICU admit (%)	30 (31.6)	1 (3.6)	23 (46)
NAS treatment (%)	27 (28.4)	5 (17.9)	14 (27)
LOS days	9.4	7	13

Summary:

Maternal benefits of maintenance:

- Longer retention in treatment
- More antenatal care
- Less illicit use at delivery

Neonatal benefits of maternal withdrawal:
None apparent

Safe to detox during pregnancy:
No acute events during detoxification

The obstetrical and neonatal impact of maternal opioid detoxification in pregnancy

Robert D. Stewart, MD; David B. Nelson, MD; Emily H. Adhikari, MD; Donald D. McIntire, PhD; Scott W. Roberts, MD; Jodi S. Dashe, MD; Jeanne S. Sheffield, MD

“For many years, our group has offered pregnant opioid users inpatient hospitalization with slow taper of their methadone dosage, with the goal of reducing the likelihood of NAS”

N=95 with inpatient detoxification attempt:

- Successful n=53 (56%) (no illicit drugs at delivery)
- 43/95 (48%) success if exclude MAT (n=5) and left program (n=5)

Paper focused on variables associated with detox success:

- Duration of in patient detoxification (25 vs 15 days)
- Completing inpatient counseling program

TABLE 3

Infant outcomes of women electing inpatient opioid detoxification compared by illicit maternal drug use at delivery

Variable	No illicit drug use at delivery, n = 53	Illicit drug use at delivery, n = 40	P value
Max NAS score	0 [0, 0]	8.3 [6.5, 10]	< .001
Infant treated for withdrawal	5 (10)	33 (80)	< .001
Infant hospital duration, d	3 [2, 6]	22 [15, 26]	< .001
Gestational age at delivery	39 ± 1.9	37.8 ± 2.4	.008
≤34 wk	4 (8)	4 (10)	.69
≤36 wk	5 (10)	7 (18)	.27
Birthweight percentile	3065 ± 487	2788 ± 516	.01
<10th	7 (13)	12 (30)	.05
<3rd	1 (2)	2 (5)	.40
5-min Apgar <4	0	1 (3)	.26
pH <7	0	0	NA
Neonatal death	0	0	NA

Data reported as n (%), mean ± SD, median [First Quartile, Third Quartile].

NA, not applicable; NAS, neonatal abstinence syndrome.

Stewart. Opioid detoxification in pregnancy. Am J Obstet Gynecol 2013.

Summary:

- Demonstrates detoxification can be successful in select women
- If successful, less NAS and improved birthweights
- Rates of relapse are almost 50% even after completion of hospital stay

Comparing methadone and buprenorphine maintenance with methadone-assisted withdrawal for the treatment of opioid dependence during pregnancy: maternal and neonatal outcomes

Table 2 Frequencies (%) or means (standard errors) and *P* values for the two planned contrasts for the outcome measures in the three treatment groups (N = 25)

Outcome measure	Methadone-assisted withdrawal (n = 8)	Methadone (n = 12)	Buprenorphine (n = 5)	Methadone-assisted withdrawal vs	
				Methadone <i>P</i>	Buprenorphine <i>P</i>
Neonatal outcomes					
Treated for NAS [yes]	2 (25%)	8 (66.7%)	2 (40%)	0.079	0.571
NAS peak score	7.0 (1.4)	13.7 (1.2)	10.2 (1.8)	0.002	0.182
Total amount of morphine for NAS (mg)	0.2 (0.1)	82.8 (3.2)	8.2 (2.0)	<0.001	<0.001
Days of infant hospital stay	7.0 (3.4)	24.2 (5.1)	9.0 (4.8)	0.019	0.727
Head circumference (cm)	33.1 (0.7)	32.8 (0.6)	33.0 (0.9)	0.701	0.901
Days medicated for NAS	3.9 (1.4)	31.5 (2.0)	12.0 (2.4)	<0.001	0.008
Birth weight (gm)	3023.0 (220.9)	2849.6 (180.4)	2911.0 (279.4)	0.549	0.756
Infant length (cm)	48.7 (1.1)	48.0 (0.9)	48.8 (1.3)	0.633	0.948
Pre-term (<37 weeks) birth [yes]	3 (37.5%)	4 (25%)	1 (20%)	0.848	0.512
Gestational age at delivery (weeks)	38.1 (0.9)	37.2 (0.8)	39.0 (1.2)	0.414	0.575
Apgar score at 1 minute	8.4 (0.6)	7.2 (0.5)	7.6 (0.8)	0.127	0.445
Apgar score at 5 minutes	9.0 (0.4)	8.1 (0.3)	8.6 (0.5)	0.092	0.565
Maternal outcomes					
Cesarean section [yes]	1 (12.5%)	3 (25%)	1 (20%)	0.501	0.718
Maternal weight gain (kg)	5.5 (3.0)	7.4 (2.1)	10.7 (3.2)	0.606	0.248
Non-normal presentation [yes]	1 (12.5%)	1 (8.3%)	0 (0%)	0.762	0.947
Analgesia during delivery [yes]	6 (75%)	10 (83.3%)	3 (60%)	0.650	0.571
Drug screen at delivery [positive]	1 (14.3%)	2 (16.7%)	0 (0%)	0.891	0.958
Medical complications at delivery [yes]	4 (50%)	9 (75%)	1 (20%)	0.258	0.295
Number of prenatal obstetrical visits	10 (1.5)	10.1 (1.2)	10.2 (1.9)	0.966	0.935

Notes: Estimates in the table are *f* (%) or mean (SE). Means for total amount of morphine for NAS and days medicated for NAS were estimated only for those neonates treated for NAS, based on the use of a zero-inflated Poisson regression model (see text for details). One case from the methadone-assisted withdrawal group was missing a value for drug screen at delivery. Significant effects are noted with *P* values in bold.

Abbreviation: NAS, Neonatal Abstinence Syndrome.

- Methadone assisted withdrawal: N=8
- (51 eligible at entry; 43 excluded (39 desired maintenance; 4 no outcome data))
- 7 day inpt withdrawal: (40, 30, 25, 20, 15, 10, 5 mg qd) the outpt CAP f/u (Hopkins)
- Compared to women on maintenance (methadone =12; buprenorphine=5)

Summary:

- **A high proportion of women that consider medication assisted withdrawal choose maintenance**
- **Medication assisted withdrawal does not eliminate NAS**
 - severity of NAS is reduced
 - the reduction of NAS symptoms and treatment associated with withdrawal is not as pronounced when compared to buprenorphine exposed infants

96 Detoxification from opiate drugs during pregnancy

Craig V. Towers¹, Jennifer Bell¹, Callie Heitzman¹, Barbara Smith¹,
Katie Chattin¹, Mark Hennessy¹

¹University of Tennessee Medical Center, Knoxville, TN

Table 1: Demographics, gestational age at the time of detoxification, neonatal intensive care unit (NICU) admission, and pregnancy outcome of the opiate detox study population.

Demographics	Group 1	Group 2	Group 3	Group 4	Total
Number	108	23	77	93	301
Mean maternal age	26.9 +/- 3.7	26.4 +/- 3.5	26.6 +/- 3.6	27.2 +/- 3.9	26.8 +/- 3.7
Maternal age range	18-43	17-38	18-39	17-39	17-43
Maternal age < 30	82 (76%)	18 (78%)	55 (71%)	67 (72%)	222 (74%)
Multiparity	94 (87%)	14 (61%)	54 (70%)	73 (78%)	235 (78%)
Caucasian	85 * (79%)	22 (96%)	74 (96%)	84 * (90%)	265 (88%)
African-American	22 (20%)	1 (4%)	3 (4%)	8 (9%)	34 (11%)
Gestational Age at Detox and NICU admission					
Detox first trimester 5-13 weeks gestation	10 (9%)	4 (17%)	12 (15%)	2 (2%)	28 (9%)
Detox second trimester 14-27 weeks gestation	65 (60%)	10 (43%)	36 (47%)	37 (40%)	148 (49%)
Detox third trimester ≥ 28 weeks gestation	33 (31%)	9 (39%)	29 (38%)	54 (58%)	125 (42%)
Preterm deliveries prior to 37 weeks gestation	21 (19%)	3 (13%)	13 (17%)	16 (17%)	53 (17.6%)
Neonatal intensive care unit admission	32 (30%)	5 (22%)	60 (78%)	22 (24%)	119 (40%)
Pregnancy Outcome					
Rate of NAS	20 (18.5%)	4 (17.4%)	54 (70.1%)	16 (17.2%)	94 (31%)
Rate of Relapse ~	25 (23.1%)	4 (17.4%)	57 (74.0%)	21 (22.5%)	107 (36%)

Group 1: Incarcerated
Group 2: Inpatient Detox (bup) with close follow-up
Group 3: Inpatient detox (bup) only

Group 4: slow wean with buprenorphine (8-16 wks)

Determination of opioid dependence versus abuse not described

Summary:

- **Consistent with ability to detox without obstetric complication**
- **Did not do any monitoring during detoxification**
- **Lower relapse rates than most other studies**
- **No mention of lost to follow-up**

Summary of evidence of pregnancy outcome with detoxification

- **Detoxification can be performed without significant risk of fetal demise or initiation of preterm labor**
- **Women that are able to abstain from illicit substances following detoxification have larger babies and less NAS**
- **In all studies only a fraction of women requesting treatment were considered for detoxification and of those, many opted for maintenance during the detoxification process**
- **Relapse and/or loss to follow-up occur in at least half of women that attempt detoxification during pregnancy, despite select criteria**
 - **All studies of detoxification or medication assisted withdrawal were compromised by patients lost to follow-up**
 - **No study examined maternal health after delivery**
 - **It is plausible that those patients without follow-up had worse outcomes**
- **It is likely women that have successful detoxification are different from those that are either ineligible or choose maintenance (literature outside of pregnancy can help quantify, but we need data on young women)**

Role of Medication-assisted Withdrawal

- **Acute opioid withdrawal is common upon entry into correctional facilities and, untreated, may result in needless suffering, interruption of life-sustaining medical treatments and, rarely, death.**
- **To improve success in reducing substance abuse during and after correctional confinement, the National Commission on Correctional Health Care has guidelines on opioid detoxification in correctional settings.**
- **The general approach to opioid withdrawal comprises four essential components:**
 - **Screening. All inmates should be screened for potential opioid withdrawal symptoms within two hours following entry into the facility.**
 - **Evaluation. All inmates who screen positive should be formally assessed for opioid withdrawal within 24 hours.**
 - **Detoxification. All inmates with clinically significant withdrawal should be treated with effective medication.**
 - **Referral for substance abuse treatment. All inmates with opioid withdrawal should be educated about their disease and referred for substance abuse evaluation and treatment.**

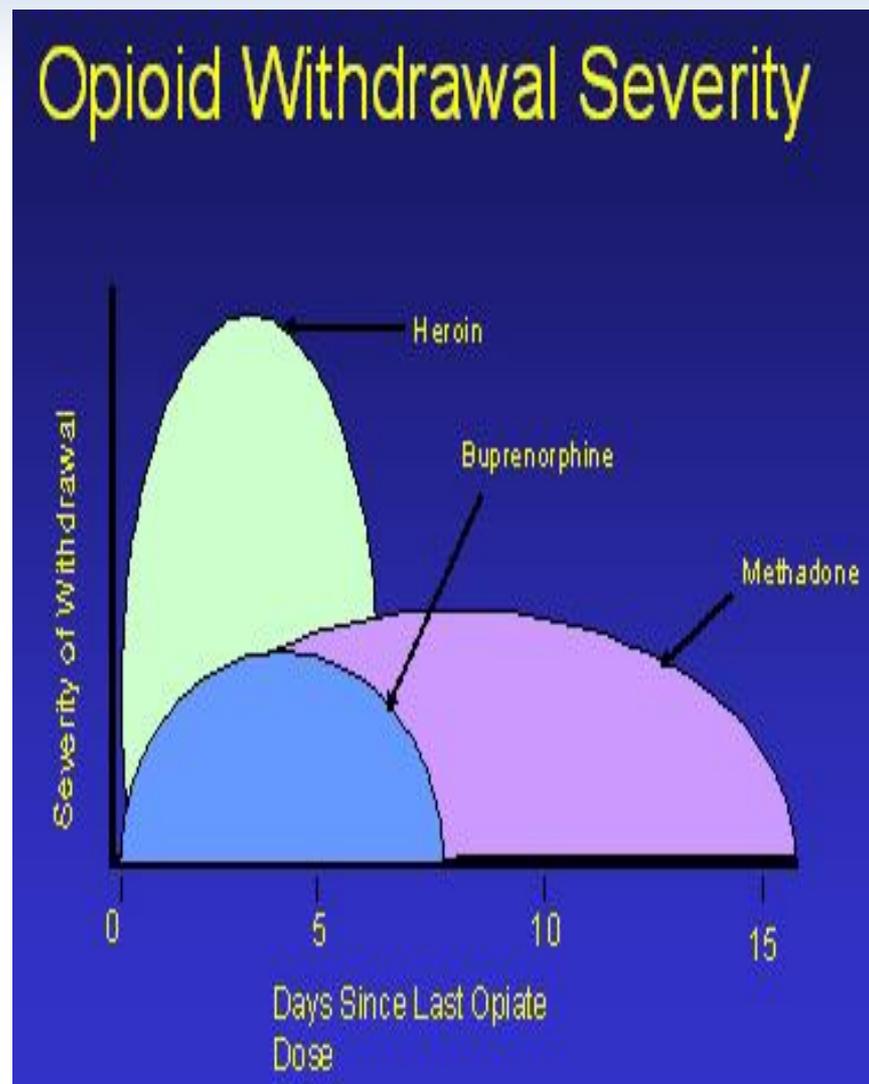
Role of Medication-assisted Withdrawal

- **Detoxification does not treat the underlying disease of addiction.**
- **All inmates with opioid dependence should be referred for substance abuse treatment.**
- **Depending on expected time of confinement, the inmate should be offered enrollment in drug treatments programs within the facility or referred upon release to comprehensive treatment programs that offer both behavioral and pharmacological treatment.**
- **Engagement in community treatment should be done quickly because correctional release often triggers relapse with a high risk of overdose and death.**



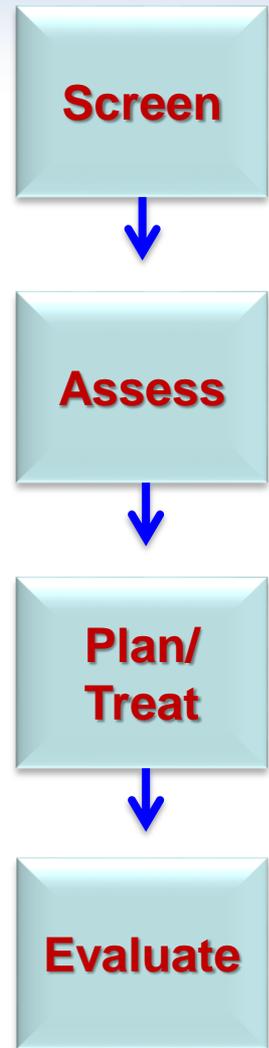
Role of Medication-assisted Withdrawal

- **Very slow methadone or buprenorphine taper in pregnancy recommended only if in stable recovery**
- **Taper methadone or buprenorphine by 2 mg on any given day, AND not more than 2–4 mg/week**
- **Stop if signs or symptoms of withdrawal become uncomfortable**
- **Monitor pregnancy**
- **Increase frequency of visits and urine drug screens**

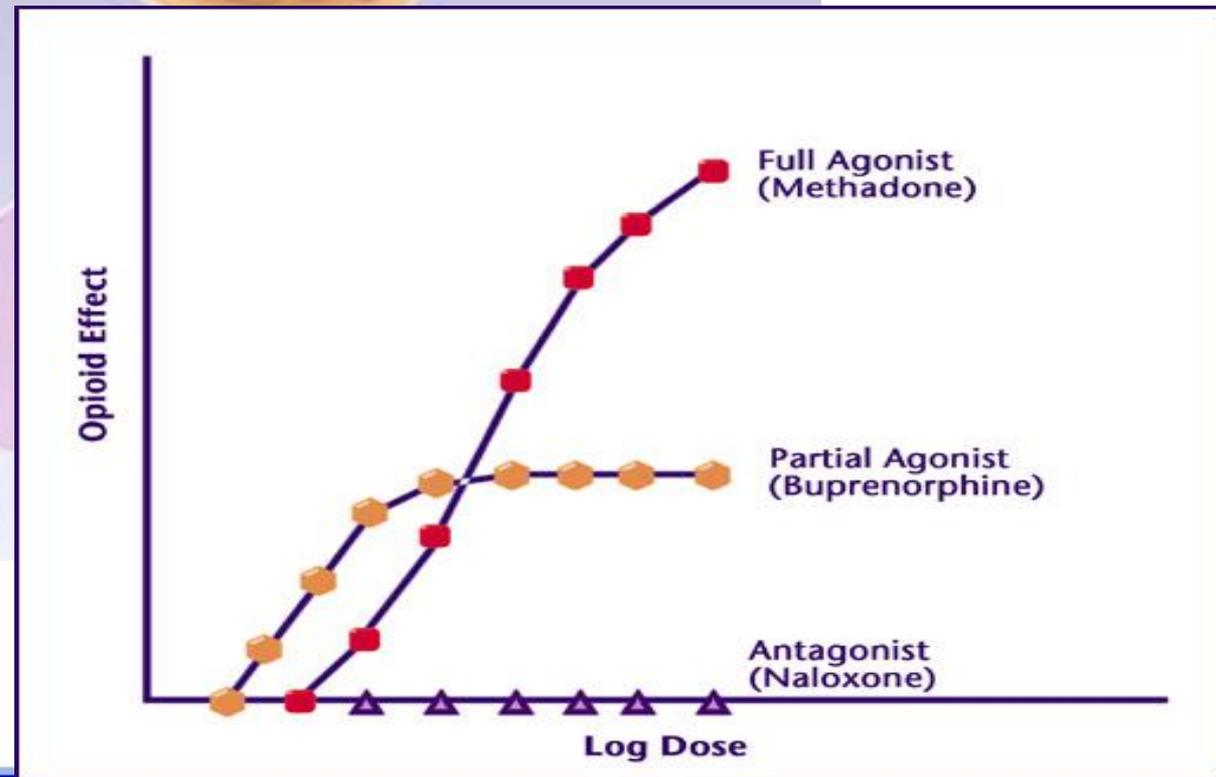
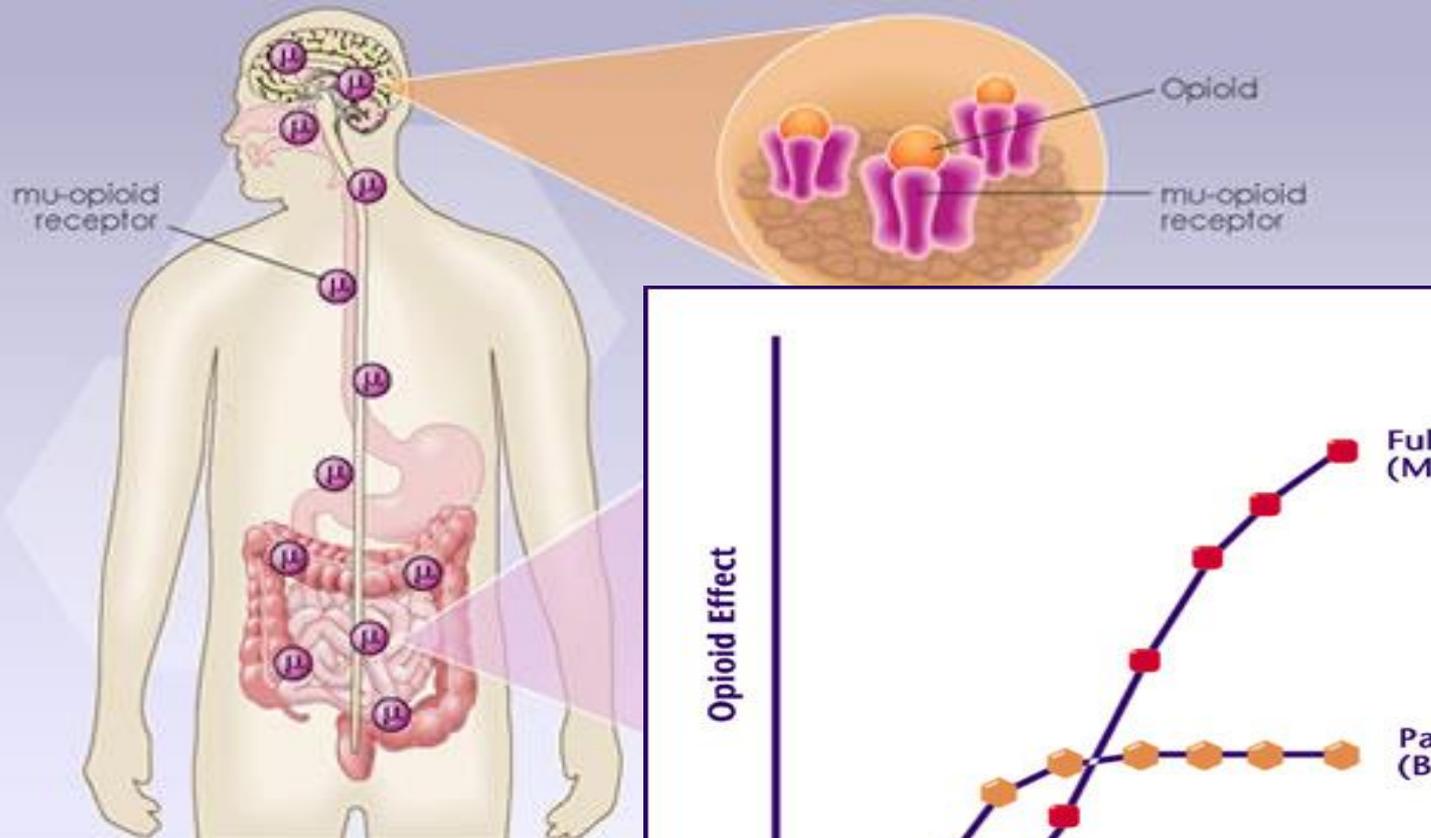


Role of Medication in Recovery

- Few medications are successful in the treatment of any substance use disorders, except for alcohol and opioids.
- Opioid medications such as methadone and buprenorphine can be successful components in treating opioid use disorder, both in the general population and in pregnant women.
- Opioid medications are best provided in the context of a comprehensive treatment plan that includes behavioral treatment like individual counseling.
- A comprehensive treatment plan is developed following an assessment that determines which life areas have been affected by drug use and to what extent they have been affected.
- The patient and provider then develop specific goals for improved life functioning in each life area and a plan for how and when the goals will be met.
- Part of the plan may eventually include wellness indicators of when patients can taper off of their medication.



Role of Medication in Recovery



Role of Medication in Recovery

With opioid medications we are not replacing one addiction for another. Opioid medications are long-acting medication that help with:

✓ CRAVING

An individual's cravings are controlled

✓ COMPULSION

Individual is no longer compulsively using opioids

✓ CONTROL

Medication-assisted treatment gives back control to the individual

✓ CONSEQUENCES

Medication assisted treatment helps the individual focus on rebuilding her life

↪ An individual receiving opioid pharmacotherapy must be monitored by a medical team that evaluates adequacy of medication dosage and general health and well-being of the individual.

79 Role of Medication in Recovery

- ▲ 391 methadone patients and 340 buprenorphine patients who completed 24 weeks of pharmacotherapy
- ▲ Of the original sample, 74% of methadone versus 46% of buprenorphine patients had completed 24 weeks of treatment
- ▲ Risky behaviors were assessed at baseline, and weeks 12 and 24
- ▲ In the month prior to treatment entry, needle sharing occurred in 14% of the patients in both medication conditions
- ▲ In the month prior to week 24, needle sharing decreased to 5% in the methadone group and 2% in the buprenorphine group
- ▲ In the 30 days prior to entering treatment, 8% of the methadone and 7% of the buprenorphine patients had multiple sexual partners
- ▲ In the month prior to week 24, only 5% in each group reported multiple partners

Role of Medication in Recovery

A recent review of 38 studies, involving some 12,400 participants, found that opioid agonist treatment with either methadone or buprenorphine is associated with reductions in:

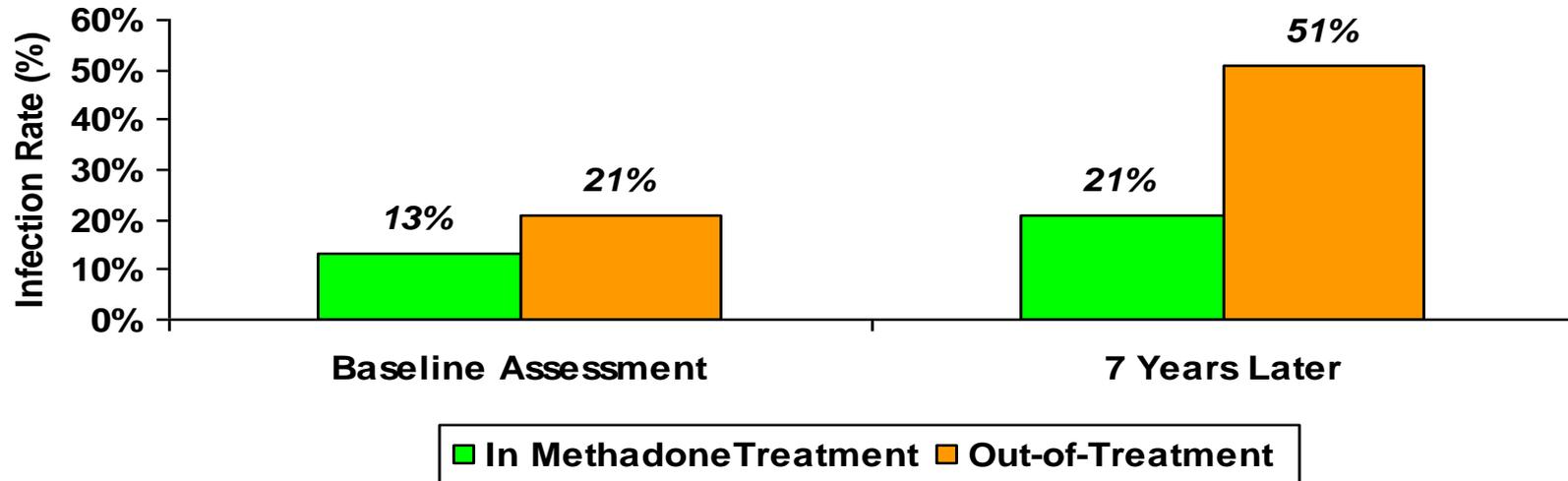
- **illicit opioid use**
 - **injecting use**
 - **sharing of injecting equipment**
 - **Number of multiple sex partners**
 - **exchanges of sex for drugs or money**
 - ***but* has little effect on condom use**
- ↳ ***Review also suggests that the reductions in risk behaviors related to substance use do translate into reductions in cases of HIV infection***

Role of Medication in Recovery

- ♦ 2½-year follow-up of 195 men and 129 women maintained on methadone in San Diego who were terminated from a public treatment program
 - ♦ Patients who transferred into fee-for-service treatment were compared with patients who did not transfer
 - ♦ Negative outcomes were found for patients unable or unwilling to transfer:
 - higher rates of illicit drug use
 - Higher crime rates
 - Higher rates of dealing
 - More contact with the criminal justice system
- were found for the non-transfer patients.
- ↳ *Importantly, the savings resulting from a reduction in costs of methadone treatment were nearly equal to the increased direct costs for incarceration, legal services, and other government-funded substance use treatment.*

Role of Medication in Recovery

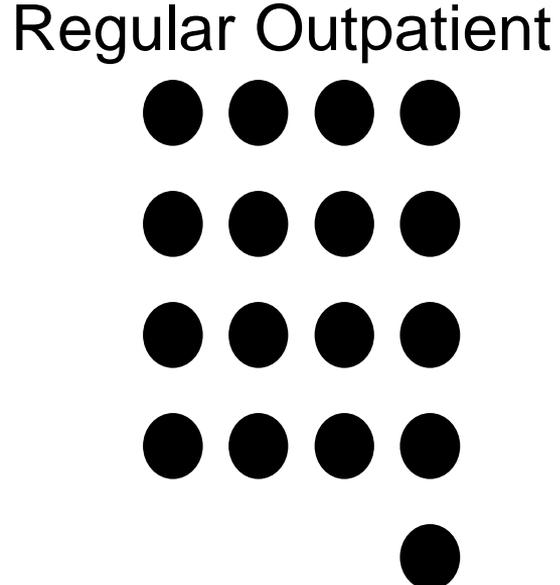
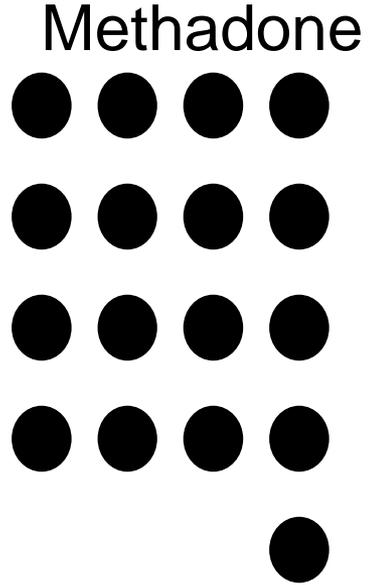
Incidence of HIV Infection in Adults with Histories of Heroin Use



- 152 Adults in treatment with methadone
- 102 Adults out of treatment for at least one year
- The out-of-treatment participants were matched to the in-treatment participants on age, race, gender, neighborhood and other relevant background factors associated with substance use

Role of Medication in Recovery

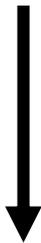
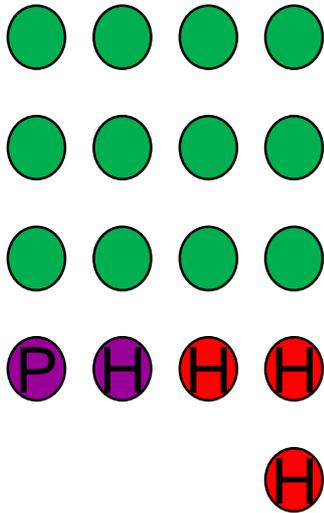
Baseline



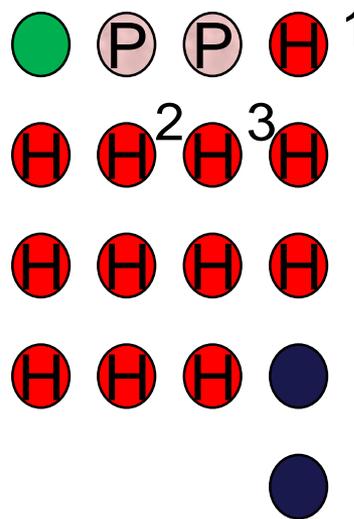
Role of Medication in Recovery

After 2 Years

Methadone



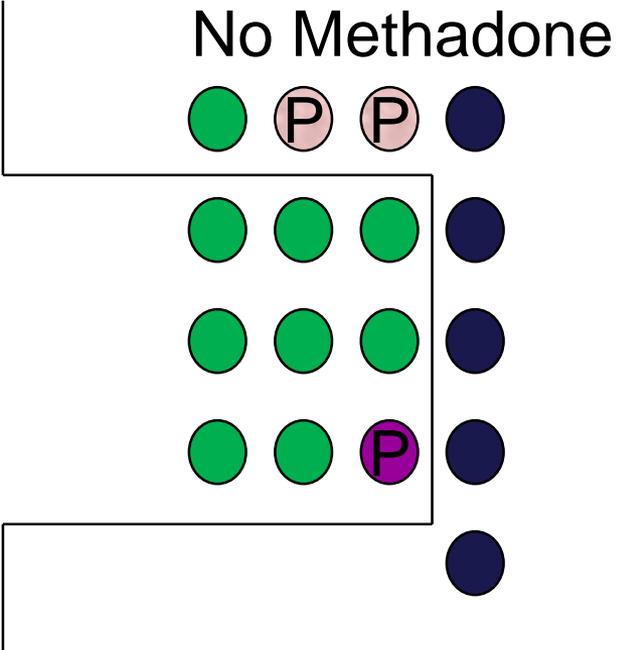
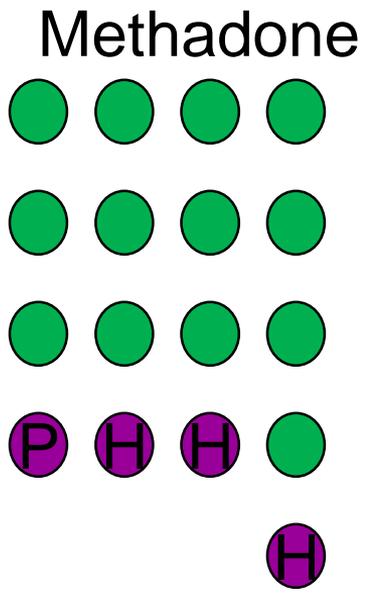
No Methadone

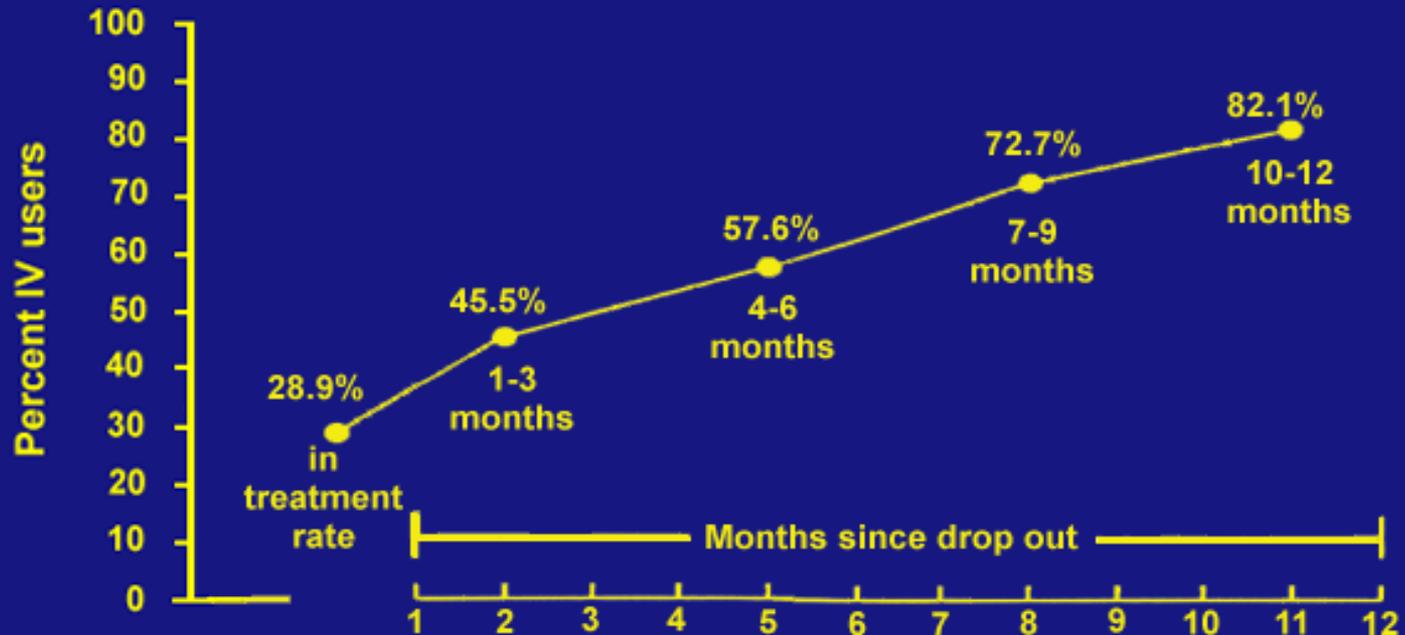


- 1- Sepsis & endocarditis
- 2- Leg amputation
- 3- Sepsis

Role of Medication in Recovery

After 5 Years

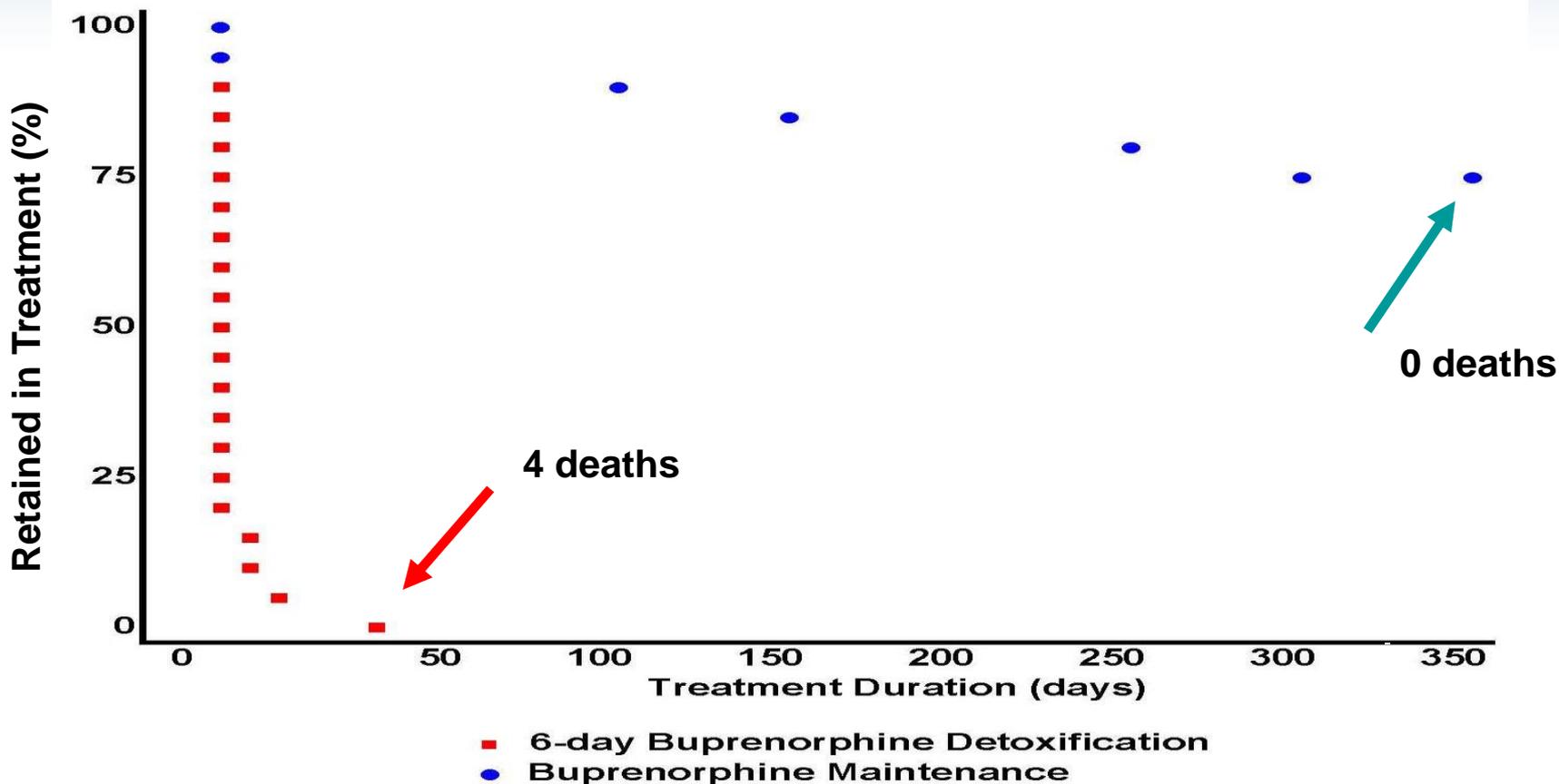




Relapse to intravenous drug use after methadone maintenance treatment for 105 male patients who left treatment.

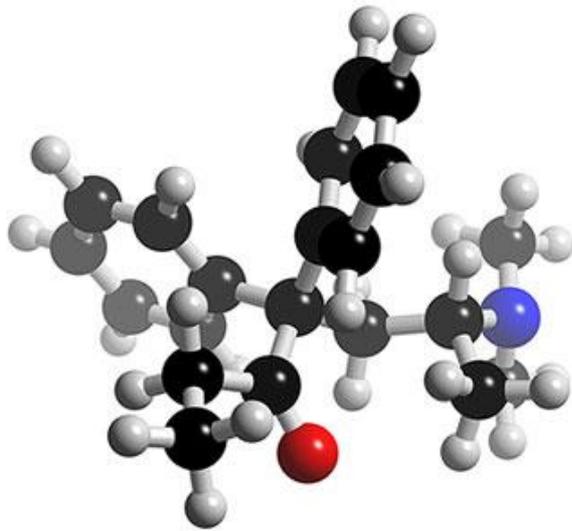
From the Effectiveness of Methadone Maintenance Treatment (p. 182). by J. C. Ball and A. Ross, 1991, New York: Springer-Verlag. Copyright 1991 by Springer-Verlag New York, Inc. Reprinted with permission.

Role of Medication in Recovery



n=20 Patients in each Group. All Patients received group CBT relapse prevention, weekly individual counseling, thrice-weekly urine drug screenings

Role of Medication in Recovery



- Prevents erratic maternal opioid levels that occurs with use of illicit opioids, and so lessens fetal exposure to repeated withdrawal episodes
- Reduces craving and fetal exposure to illicit drugs
- Produces drug abstinence, that in turn allows other behavior changes which decrease health risks to both mother and fetus (for example: HIV, hepatitis, and sexually transmitted infections)
- Reduces the likelihood of complications with fetal development, labor, and delivery.

Role of Medication in Recovery



- **Schedule II opioid**
- **Synthetically derived**
- **μ opioid receptor agonist**
- **also uniquely a δ -opioid receptor agonist**
- **Antagonist at NMDA receptors**
- **Half-life estimated to fall in the range of 24-36 hours**
- **It is one part of a complete treatment approach**

Role of Medication in Recovery

JAMA, Aug 23, 1965 • Vol 193, No 8

A Medical Treatment for Diacetylmorphine (Heroin) Addiction

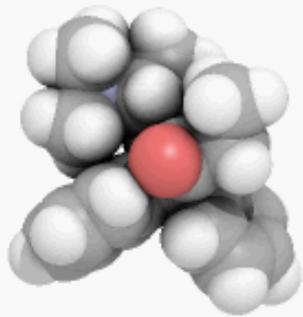
A Clinical Trial With Methadone Hydrochloride

Vincent P. Dole, MD, and Marie Nyswander, MD

A group of 22 patients, previously addicted to diacetylmorphine (heroin), have been stabilized with oral methadone hydrochloride. This medication appears to have two useful effects: (1) relief of narcotic hunger, and (2) induction of sufficient tolerance to block the euphoric effect of an average illegal dose of diacetylmorphine. With this medication, and a comprehensive program of rehabilitation, patients have shown marked improvement; they have returned to school, obtained jobs, and have become reconciled with their families. Medical and psychometric tests have disclosed no signs of toxicity, apart from constipation. This treatment requires careful medical supervision and many social services. In our opinion, both the medication and the supporting program are essential.

- Developed and first used as an analgesic in Germany prior to World War II
- First utilized in the United States in the 1940s for medication-assisted withdrawal for heroin addicted individuals, using decreasing doses over a 7-10 day period
- Follow-up research found relapse rates exceeding 90%
- ◆ In the 1960s, Dole and Nyswander found that heroin-dependent patients could be safely maintained on methadone
- ◆ Effective dosing leads to tolerance and a reduction or elimination of craving for heroin

Role of Medication in Recovery



- Can be provided in inpatient or outpatient settings
 - Patients typically begun on methadone when they are in mild withdrawal from opioids
 - Patients cannot be using benzodiazepines and alcohol before beginning methadone treatment in order to minimize chances of oversedation
 - Patients typically begin their methadone dosing under observation; first dose is small; observe for possible negative effects
 - Assuming no negative reactions to initial doses of methadone, dose is systematically increased until it prevents withdrawal, cravings, and possible continued use of illicit opioids
- *There is no 'correct' dose; optimal dose varies greatly between patients*
- *Blood concentrations of patients on an equivalent dose, adjusted for body weight, have been estimated to vary between 17- and 41-fold*
- *Dosing does not have to be more complicated for pregnant patients*

Role of Medication in Recovery



- In the 1970s, a positive relationship between maternal methadone dose and NAS severity was reported
- Recommendations to maintain pregnant women on methadone doses between 20 to 40 mg
- 3 decades of research shows an inconsistent relationship between maternal methadone dose and NAS severity
- The latest systematic review and meta-analysis concluded that the “Severity of the neonatal abstinence syndrome does not appear to differ according to whether mothers are on high- or low-dose methadone maintenance therapy.”

Role of Medication in Recovery

Split Dosing

- Maternal Results
 - increase drug negative urines during treatment
 - Increased adherence with treatment
 - decrease withdrawal symptoms in mother
 - No change in maternal heart rate, vagal tone or skin conductance
- Fetal Results
 - Minimizes the reduction in breathing
 - Minimizes the reduction in movement
 - Fetal movement-fetal heart rate coupling less suppressed

AM



12 hrs

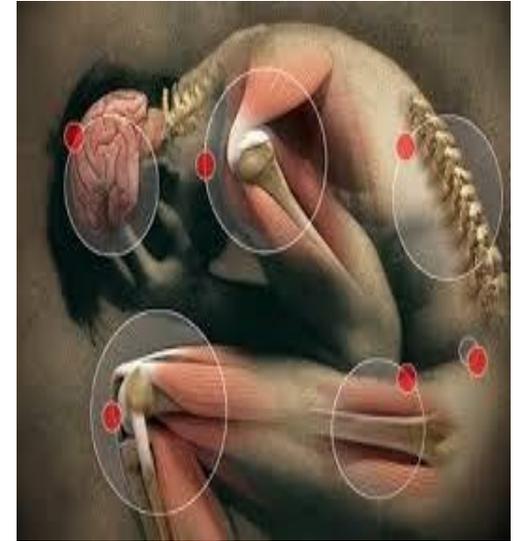


PM

Role of Medication in Recovery

General Recommendations for Acute Pain Control

- Uninterrupted methadone maintenance treatment
- Aggressive pain management with behavioral interventions, and use of non-opioid pain-relief medications (e.g., acetaminophen)
- Adjust the dose of opioid pain relief medications to achieve adequate pain relief (generally higher doses of opioid pain relief medications administered at shorter intervals)
- Reduce anxiety of patient and treatment team with clear open communication (especially important in patients with post-traumatic stress disorder as fear of pain is elevated in adults with co-occurring trauma-related stress and social anxiety symptoms)



Role of Medication in Recovery

Breastfeeding in Methadone-Stabilized Mothers



- Methadone detected in breast milk in very low levels
- Methadone concentrations in breast milk are unrelated to maternal methadone dose
- The amount of methadone ingested by the infant is low
- The amount of methadone ingested by the infant remains low even 6 months later
- Several studies show relationships between breastfeeding and reduced NAS severity and duration
- Hepatitis C is not a contraindication for breastfeeding
- Contraindications: HIV+, unstable recovery

Role of Medication in Recovery

Research focusing on the effects of prenatal exposure to methadone has been inconsistent



- ▲ **Long-term effects on physical growth have not been demonstrated**
- ▲ **Although some research has shown that methadone-exposed school-age children to be less interactive, more aggressive, and showing poorer achievement than children not so exposed, other research has failed to show any differences in either cognitive or social development**
- ▲ **The issue is confounded by the fact that children exposed to methadone in utero may experience a nutritional, family, and parenting history quite different than children not so exposed**
- ▲ **2014 meta-analysis showed “no significant impairments for cognitive, psychomotor or observed behavioural outcomes for chronic intra-uterine exposed infants and pre-school children compared to non-exposed infants and children.”**

Role of Medication in Recovery

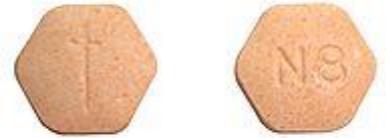
40 years of documented benefits of methadone during pregnancy



- Induction is relatively simple
- Adequate doses are needed to prevent withdrawal and other opioid use
- Indicators of fetal well-being are less compromised with split-dosing
- Breastfeeding is compatible with methadone

Role of Medication in Recovery

- **Buprenorphine mono product**
- **Buprenorphine + naloxone**
- **2 mg and 8 mg sublingual tablets**
- **2 mg/0.5 mg and 8 mg/2 mg sublingual film strips**
- **1.4/0.36 mg and 5.7/1.4 mg sublingual tablets**



Role of Medication in Recovery

- **Patient must already be in withdrawal or buprenorphine may precipitate withdrawal**
- **Patients dependent on short-acting opioids (e.g., heroin, most prescription narcotics) will not take as long to enter withdrawal as patients dependent on long-acting opioids (e.g., methadone)**
- **Induction typically then takes places over a 3-day period, beginning with either 2 mg or 4 mg, with a maximum dose of:**
 - **8 mg – 12 mg on Day 1**
 - **12 mg – 16 mg on Day 2**
 - **16 mg up to 32 mg on Day 3**

Role of Medication in Recovery

- Since 1995, over 40 published reports of prenatal exposure to buprenorphine maintenance
- Approximately 750 babies prenatally exposed to buprenorphine (number of cases per report ranged from 1 to 159; *Median=14*)
- Dose range 0.4 to 32 mg
- 88% reported concomitant drug use

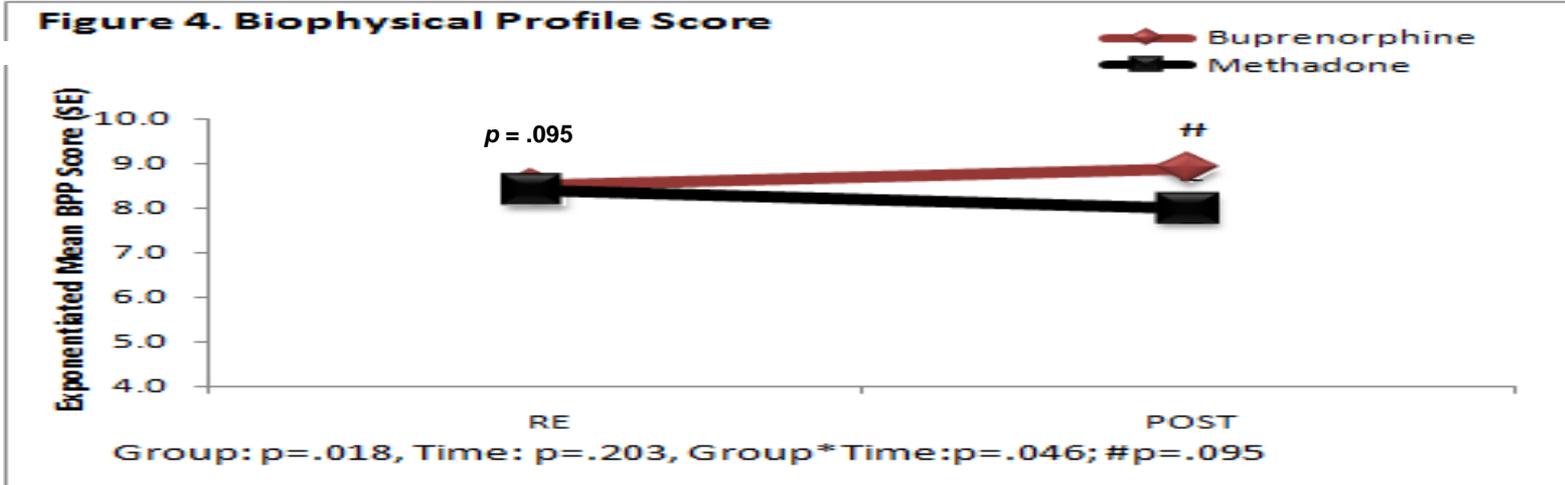
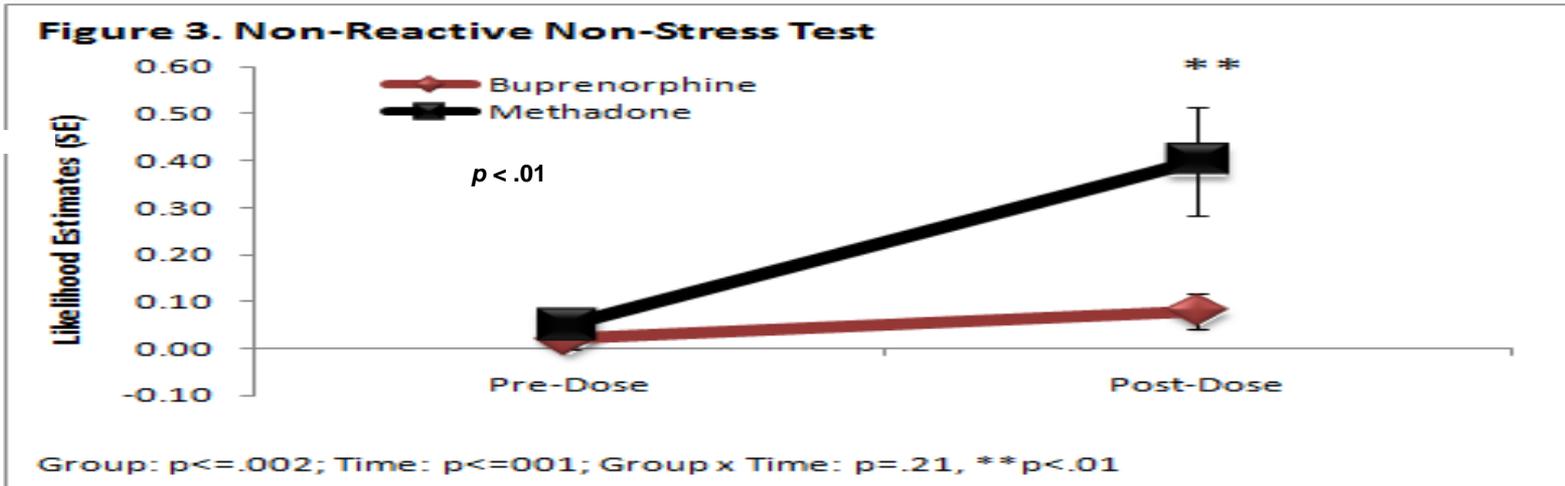


Role of Medication in Recovery



- ✦ Research with buprenorphine not as extensive as with methadone
- ✦ Well-tolerated and generally safe
- ✦ In contrast to the research with methadone, little research has compared buprenorphine to an untreated control group
- ✦ Rather, buprenorphine has been compared in both retrospective and prospective studies to methadone
- ✦ Majority of research would suggest that maternal outcomes are not in any way different than for methadone

Role of Medication in Recovery



Role of Medication in Recovery

- **Incidence rate for NAS is estimated to be 50% – about the same as for methadone**
- **NAS onset approximately 48 hours**
- **Peaking within approximately 72-96 hours**
- **Exceptions to this onset history have been the few neonates with NAS onset of 8-10 days postnatal age**
 - **such a protracted withdrawal syndrome may be due to withdrawal from concomitant drug exposure (e.g., benzodiazepines) rather than a direct effect of buprenorphine withdrawal**
- **Correlation between buprenorphine dose and NAS severity has been inconsistent**
- **Time of first dose of NAS treatment medication has been shown to be later with buprenorphine than methadone (71 hrs vs 34 hrs, respectively)**

Role of Medication in Recovery



- **Medications that are full agonist opioids can effectively treat pain in patients stabilized on either methadone or buprenorphine**
- **These results are consistent with data from non-pregnant surgery patients**
- **The importance of uninterrupted methadone or buprenorphine treatment in these patients is critical**
- **Each patient needs a pain management plan before delivery**

Role of Medication in Recovery

- **Buprenorphine is found in breast milk 2 hours post-maternal dosing**
- **Concentration of buprenorphine in breast milk is low**
- **Amount of buprenorphine or norbuprenorphine the infant receives via breast milk is only 1%**
- **Most recent guidelines: “the amounts of buprenorphine in human milk are small and unlikely to have negative effects on the developing Infant”**
- **“The advantages of breast feeding prevail despite the risks of an infant opiate intoxication caused by methadone or buprenorphine.”**



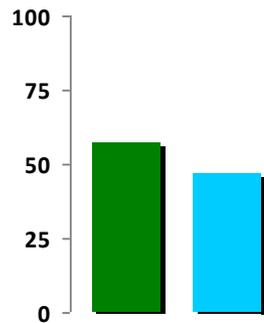
Role of Medication in Recovery



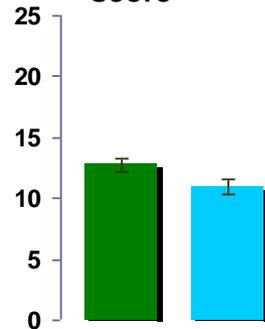
- Research on the neonatal consequences of prenatal exposure to buprenorphine is quite limited
- Not enough births have been followed for a sufficient period of time to collect convincing data regarding factors such as cognitive and social development
- Same issue of confounding parental and family factors in teasing apart developmental effect

Role of Medication in Recovery

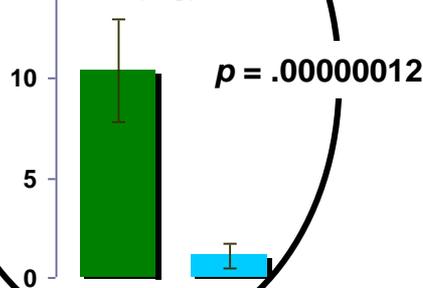
Treated for NAS
[Yes]



NAS peak
score



Total amount of
morphine for
NAS (mg)

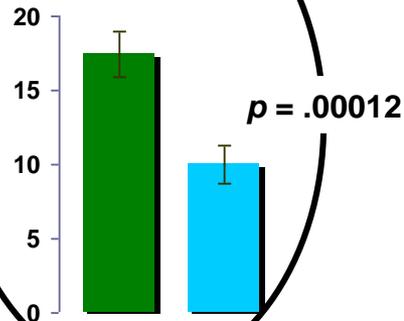


- Compared with methadone-exposed neonates, buprenorphine-exposed neonates

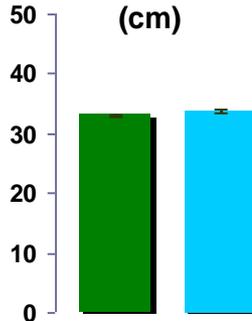
- Required 89% less morphine to treat NAS
- Spent 43% less time in the hospital
- Spent 58% less time in the hospital being medicated for NAS

- Both medications in the context of comprehensive care produced similar maternal treatment and delivery outcomes

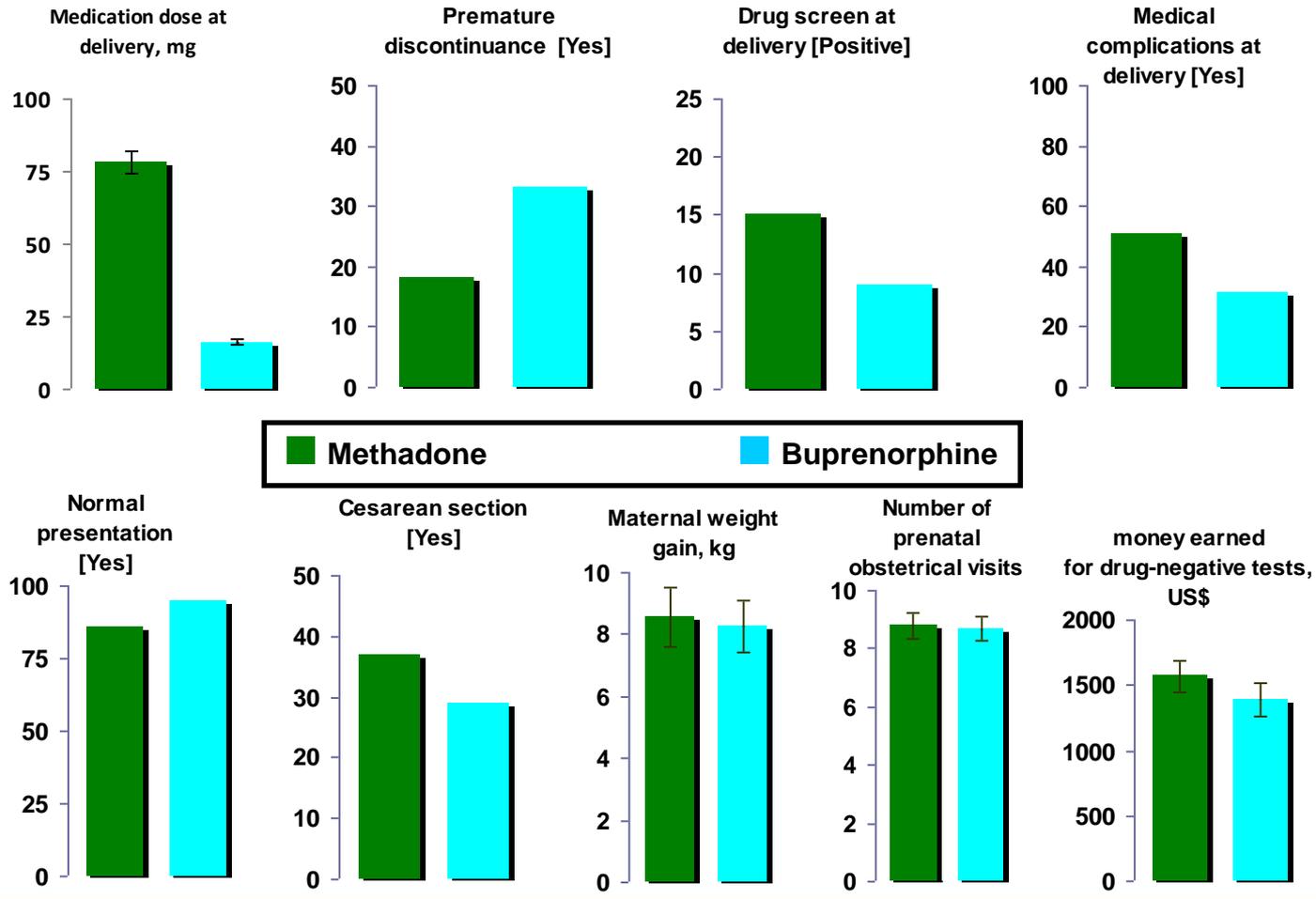
Days of infant
hospital stay



Head
circumference
(cm)



Role of Medication in Recovery



- Clinically meaningful attrition rate in buprenorphine condition
- Low rates of illicit drug use during pregnancy and at delivery
- Maternal outcomes similar in the 2 study conditions

Note: Bonferroni's principle was used to set familywise $\alpha = .003125$ (nominal $\alpha = .05/16$) for the secondary outcome measures.

Role of Medication in Recovery

- **MOTHER provided the first randomized controlled trial data to support the safety and efficacy of methadone**
- **Maternal outcomes are similar between medications**
- **Pain management and breastfeeding recommendations are similar between medications**
- **In terms of NAS severity, buprenorphine can be a front-line medication option for managing opioid-dependence for pregnant women who are new to treatment or maintained on buprenorphine pre-pregnancy**
- **NAS, its treatment and elucidating factors that exacerbate and minimize it, remains a significant clinical issue for prenatally opioid-exposed neonates**
- **Currently there is great variation in terms of medications and use of tools**

Role of Medication in Recovery

Other factors that contribute to severity of NAS in neonates exposed to opioid agonists in utero:

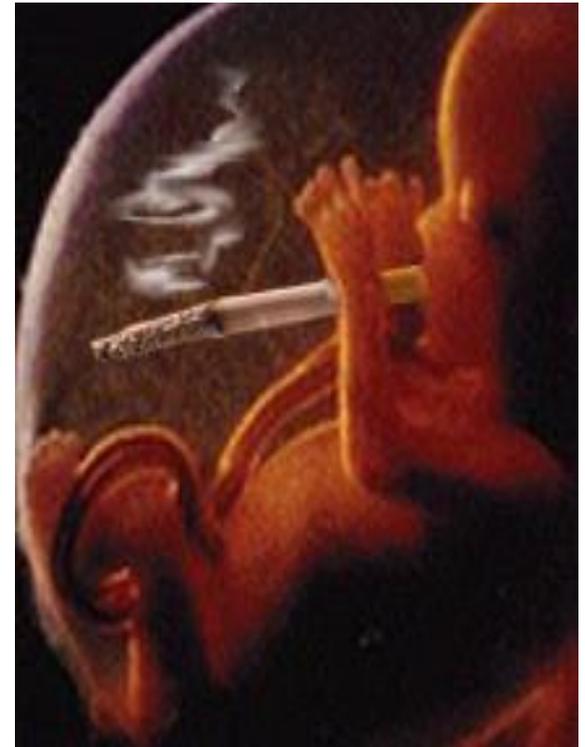
➤ **Genetics**

➤ **Other Substances**

- Cigarette smoking
- Benzodiazepines
- SSRIs

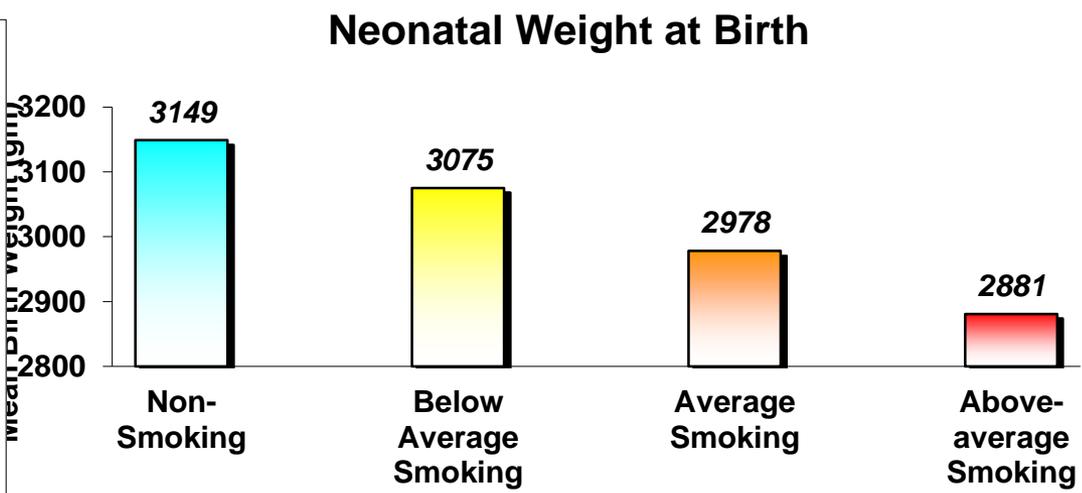
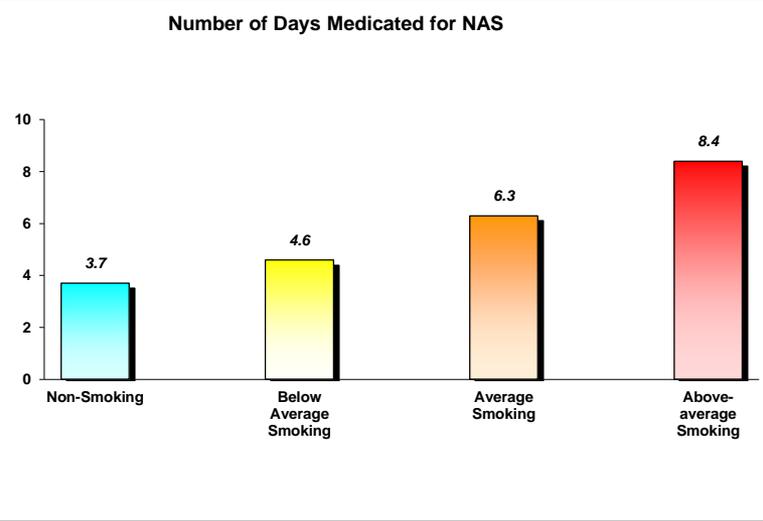
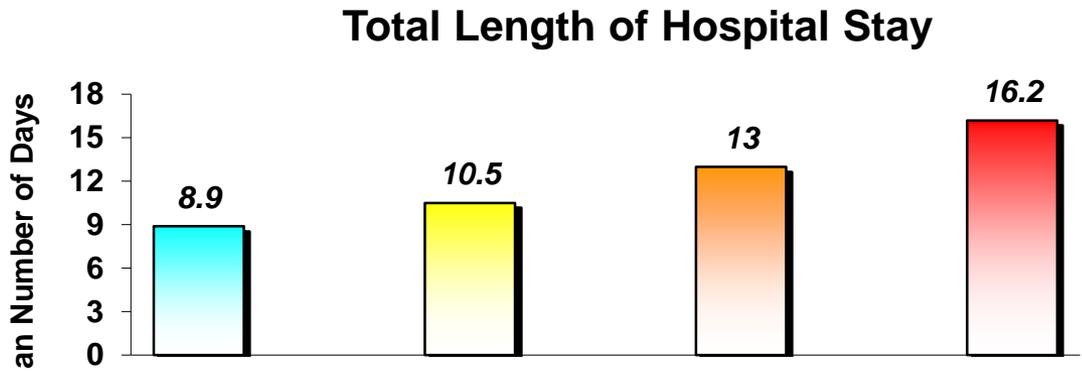
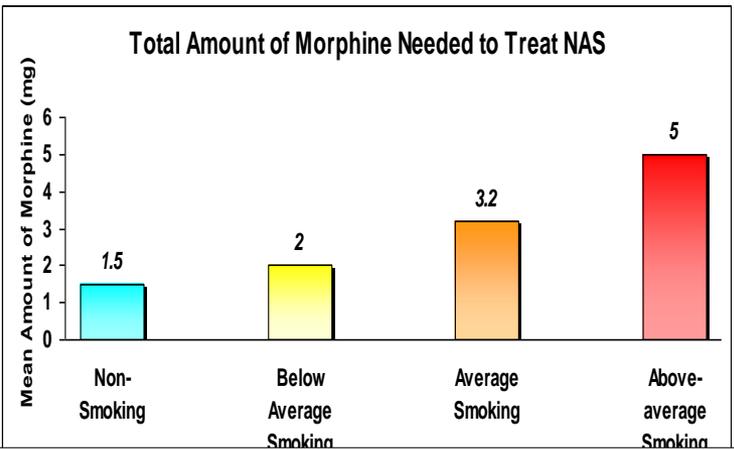
➤ **Hospital Protocols**

- The NAS assessment and medication initiation and weaning protocols
- Not breastfeeding
- Rooming in or separating mother and baby



MOTHER: Smoking and NAS

Self-reported past 30-day daily average number of cigarettes smoked, measured at study entry, was used to predict neonatal and maternal outcomes in 131 pregnant participants in the MOTHER study.



OLS and Poisson regression analyses were used to test average daily number of cigarettes smoked in the past 30 days at $\alpha = .05$, adjusting for both Medication Condition and Site. Below-average cigarette smoking was defined as 6 cigarettes/day (-1 SD), average cigarette smoking as 14 cigarettes/day (Mean), and above-average cigarette smoking as 21 cigarettes/day (+1 SD). Jones et al., DAD, 2013

Role of Medication in Recovery

- ◆ **NAS occurs in the majority of all prenatally opioid-exposed neonates**
- ◆ **NAS is an expectable and treatable condition**
- ◆ **Medication to treat NAS is required in approximately 50% of the cases**
- ◆ **NAS following prenatal exposure to an opioid agonist is best assessed with a standard scoring tool and best treated with an opioid medication**
- ◆ **Patients and the providers who treat them will be best served through having a range of medication options from which to tailor treatment**

Maternal and Neonatal Outcomes (N=10)

	<i>f (%)</i>	<i>M (SD)</i>
• <u>Maternal</u>		
Maternal weight gain (kg)		7.8 (3.9)
Cesarean section [yes]	1 (10%)	
Analgesia during delivery [yes] †	6 (67%)	
Urine drug screening at delivery [positive] ‡	0 (0%)	
Days of maternal hospital stay		4.1 (4.5)
Began breastfeeding after delivery [yes]	3 (30%)	
• <u>Neonatal</u>		
Gestational age at delivery (in weeks)		37.5 (3.5)
Preterm (< 37 weeks)	2 (20%)	
Apgar score at 1 min / 5 min		8.0 (2.5) / 8.6 (1.3)
Head circumference (cm)		32.8 (1.2)
Birthweight (gm)		2816.1 (368.3)
Infant length (cm)		46.3 (2.2)
Treated for NAS [yes]	4 (40%)	
Total amount of morphine for NAS (mg)		3.5 (2.6)
Days treated for neonatal abstinence syndrome		6.9 (10.1)
Days of infant hospital stay		10.1 (9.8)

Buprenorphine v. Methadone

Newborn Outcomes

<i>Infant Characteristics</i>	<u>Methadone (n = 248)</u>		<u>Buprenorphine (n = 361)</u>		<i>p</i>
	<i>n</i>	<i>M (SD) or n (%)</i>	<i>n</i>	<i>M (SD) or n (%)</i>	
Male	248	111 (45%)	361	177 (49%)	.299
EGA at Delivery (weeks)	248	38.2 (2.5)	361	39.2 (2.2)	<.001
Preterm (EGA < 37 weeks)	248	43 (17%)	361	36 (10%)	<.001
Birthweight (g)	248	2899.7 (583.1)	361	3143.3 (578.9)	<.001
Standardized, z score	248	-0.59 (.93)	361	-46 (.98)	.089
< 5th percentile	248	32 (13%)	361	40 (11%)	.494
Head circumference (cm)	209	33.0 (2.0)	279	33.6 (2.1)	<.001
Standardized, z score	209	-.50 (.80)	279	-46 (.98)	.669
Treated for NAS	245	106 (42%)	358	82 (23%)	<.001
Days of NAS treatment	106	133 ± 83	79	83 ± 60	<.001
Length of Stay (EGA ≥ 37 weeks)	205	5.6 (2.8)	325	4.2 (12.6)	.107
Breast Milk at Discharge	247	156 (63%)	358	267 (75%)	.003
Discharged to Mother/Family	248	237 (96%)	360	351 (98%)	.189

Neonatal outcomes in 7 published studies: Comparing Buprenorphine+naloxone (B+N) to Buprenorphine (B), Methadone (M), and Methadone-assisted withdrawal (MAW)

- **Mean head circumference was significantly higher in B+N neonates than in the MAW neonates**
- **Birth length for B+N neonates was shorter on average compared to B neonates, although both groups were within the normal range according to the World Health Organization (WHO) international standards of child growth**
- **Mean Apgar scores at 5 minutes was significantly lower in the B+N group than in the B group – with scores in the 7-10 range being considered normal.**

Methadone

Example Pros:

- More than 60 years of effectiveness in treating opioid use disorder
- Daily visits give more structure to patients who need it
- Cost is usually less and may be calculated on a sliding scale based on income
- Chance to interact with peers in group counseling
- It is an opioid so it is able to stop the withdrawal symptoms
- It lasts for at least 24 hours
- There is no legal limit to how many patients a methadone clinic can treat
- Without a ceiling effect doses can be increased as the patient becomes tolerant
- Option for patients in need for chronic pain management

Methadone

Cons:

- **Addictive and severe withdrawals if stopped**
- **It is possible to use illicit opioids while on methadone**
- **Strict protocol - some patients feel no control over their own treatment**
- **Shows up in urine testing for employment**
- **Daily visits to the methadone clinic may be difficult**
- **Daily visits make overnight travel difficult for both business and pleasure**
- **Some people find it difficult to overcome self-esteem issues in a clinical environment**
- **Poor option for clients seeking to come off or taper off the drug**
- **Not all states allow methadone treatment for opioid addiction**
- **Methadone, if misused can lead to overdose**

Buprenorphine

Pros:

- Possible to gradually taper and weaning off less severe withdrawal
- Long acting allowing for every other day dosing during the taper period
- Monthly visits for compliant patients
- Well tolerated even at high doses with a low likelihood of overdose
- Not usually a part of employment drug screening tests
- Prevents illicit drug usage during treatment by eliminating euphoria
- Associated with less stigma of drug abuse than Methadone
- Less potential for dependence to, and withdrawal from, the medicine
- Covered by most insurance carriers
- Can transition from Methadone

Buprenorphine

Cons:

- Can be more expensive for out of pocket paying clients
- Unpleasant taste sometimes reported
- May potentially be abused and diverted
- It is an opioid agonist, so dependence can develop during the course of therapy and withdrawals occur if treatment is abruptly stopped
- Typical, albeit mild, opioid side effect profile
- Strictly regulated drug by DEA, hence requiring treatment by specialized physicians only

Compare and Contrast

Exercise

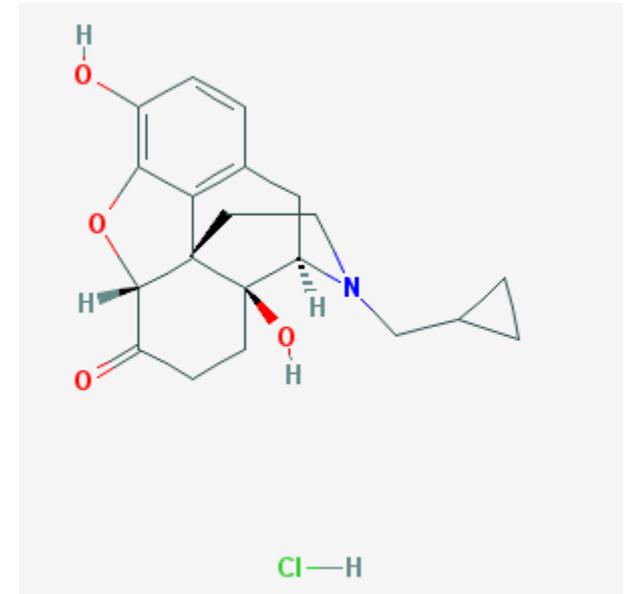
Divide into groups and develop an information sheet for non-pregnant and/or pregnant patients that compares and contrasts methadone and buprenorphine. Topics to cover:

- **How does the medication work in your body?**
- **Cessation of opioid use**
- **Retention in treatment**
- **Safety profile (overdose risk)**
- **Induction comfort**
- **Pros and Cons**
- **Other Issues (NAS, breastfeeding, pain control post-partum for pregnant women)**



Role of Medication in Recovery

- Naltrexone is a thebaine-derivative
- Schedule III opioid
- Pure antagonist at the μ opioid receptor with no intrinsic agonist effects
- A single oral dose reaches peak plasma concentration in 1-2 hours with an apparent half life of about 14 hours
- Ability to effectively antagonize heroin use has been clearly established, but the exact level required is still in question



Role of Medication in Recovery

Two forms:

- oral daily form
- injectable monthly extended-release form

▪ Oral tablets of naltrexone were not readily used due to adherence issues.

▪ The FDA-approved injectable form of naltrexone (taken monthly), however, helps address this issue.



Role of Medication in Recovery

- **Naltrexone is an opioid antagonist**
- **It's another option of medication that can be prescribed in primary care settings.**
- **Medical personnel with prescribing powers may prescribe naltrexone.**
- **SAMHSA has released an advisory outlining more specifics on the drug: <http://store.samhsa.gov/shin/content//SMA12-4682/SMA12-4682.pdf>.**

Naltrexone and Opioid Use

A recent review of naltrexone implants found:

- **Five randomized trials of 576 patients and four non-randomized studies of 8,358 patients**
- **The quality of the studies were highly variable**
- **Naltrexone implants were superior to placebo implants and oral naltrexone in reducing opioid use**
- **No difference in opioid use was observed between naltrexone implants and methadone maintenance treatment did not differ on the reduction of opioid use – *however, no conclusion should be reached here, as it was based on a single study***

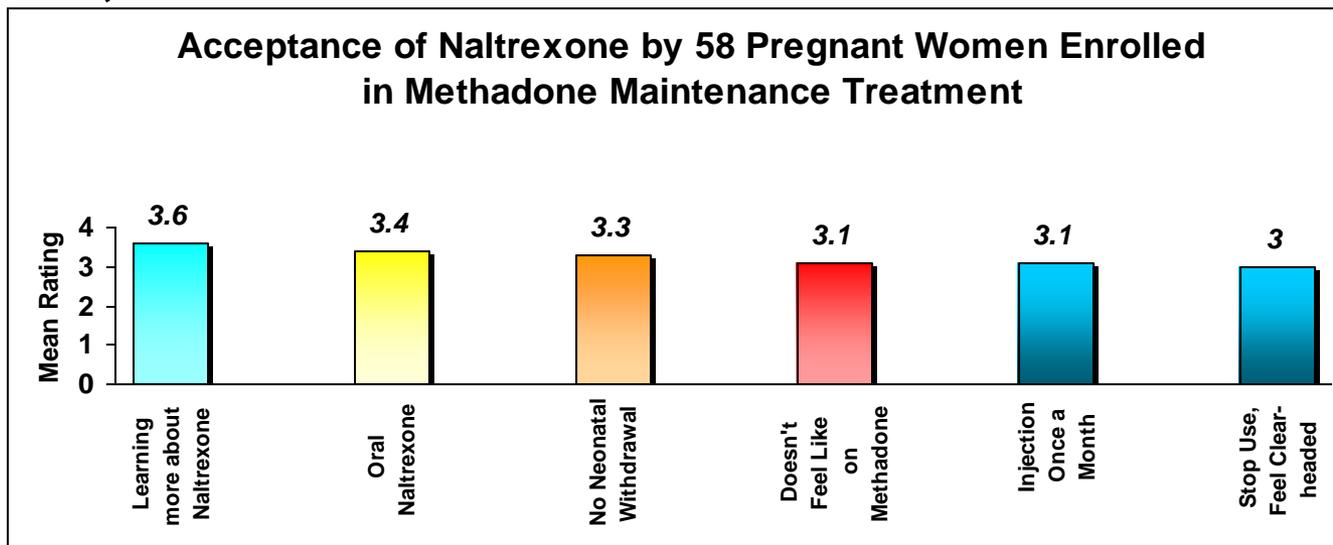
Naltrexone in Probationers/Parolees

- **Participants:** 51 Federal probationers or parolees with a history of opioid addiction randomly assigned to a 6-month program of probation plus naltrexone and brief drug counseling, or probation plus counseling alone
- **All therapy and medication were administered in an office located adjacent to the federal probation department.**
- **Results:**
 - **Treatment Completion:** 52% in the naltrexone group, 33% in the control group continued for 6 months
 - **Opioid use:** 8% urine-positive tests in the naltrexone group versus 30% for control group
 - **Probation revocation:** 56% of the controls and 26% of the naltrexone group

Role of Medication in Recovery

Are Pregnant Women Seeking Treatment for Opioid Dependence Willing to Take Naltrexone?

- Initial survey regarding the potential interest in naltrexone treatment by pregnant women enrolled in comprehensive treatment for substance use disorders, of whom 58 were in methadone maintenance treatment



Rating scale: 1 = "not at all" | 2 = "a little" | 3 = "somewhat" | 4 = "a lot" or "extremely"

Role of Medication in Recovery

25 published cases of prenatal exposure to implanted naltrexone

- All showed normal birth outcomes
- Outcomes for 17 neonates showed mean gestational ages (38 weeks for both groups) and mean birth weights (3037 v. 2888 gm) similar to a historical sample of 90 methadone-treated pregnant patients.
- Significantly fewer naltrexone- than methadone-exposed neonates were born before 37 weeks (6% v. 24%, respectively), or at less than 2500 g (12% v. 23%, respectively)
- naltrexone-exposed infants had higher mean 1-minute APGAR scores (9 v. 8, respectively)
- As an opioid antagonist rather than an opioid agonist such as methadone and buprenorphine, naltrexone does not produce NAS

Role of Medication in Recovery

Naltrexone precludes use of opioids for pain relief

- **Opioids are the most common analgesics used for pain control during labor and delivery**
- **The endogenous opioid system appears to modify the perception of pain**
- **Pre-clinical naltrexone administration can prevent pregnancy-induced hypoalgesia**
 - ↳ ***Human maternal exposure to naltrexone during pregnancy may decrease the pain threshold and require responsive and tailored pain management practices***
 - ↳ ***Pain management efforts might include using non-opioid medications such as high-dose non-steroidal anti-inflammatory medications and/or local anesthesia (e.g., nerve blocks, epidurals)***

Role of Medication in Recovery



- The extent to which naltrexone might alter breastmilk production is currently unknown
- The amount of naltrexone and its metabolites that might be transferred to the infant through breastmilk are currently unknown
- The effects on the nursing infant are unknown



Role of Medication in Recovery

Animal Models

- Animal models examining the impact of naltrexone on development have produced conflicting results (e.g., no effects, stimulatory or inhibitory effects on growth shown)
- Data show differences in pain response, activity levels, accelerated development and sensitivity to opioids
- No experimental studies of sustained-release naltrexone

Human Research

- ◆ Limited to an extremely small number of cases followed after maternal treatment with oral or sustained-release naltrexone of varying lengths
- ◆ While neonatal outcomes were unremarkable, many questions remain about children born to mothers using naltrexone- To what extent are pain sensitivity, respiration, response to stress and/or emotional responses (particularly fear and ability to experience pleasure) altered? Are they more or less susceptible to the pain-relieving and addiction-related effects of opioids?

- **Do they use the American Society of Addiction Medicine (ASAM) standards for opioid treatment with opioid medications in all decisions regarding the initiation and continuation of the medication for substance use treatment?**

- **Do they use evidence-based instruments which include at a minimum:**
 - **the member's report of physical and emotional comfort**
 - **an instrument to assess for possible withdrawal symptoms**
 - **urine toxicology screen results and any other laboratory findings**
 - **an instrument for assessing impairment**

- **Do they perform regular toxicology screening:**
 - **A minimum of eight (8) tests per year will be performed per patient**
 - **Random testing for each patient**
 - **Requires specific drugs/classes will be tested including methadone and SHAs (sedatives, hypnotics, anxiolytics); testing should also include those substances in the member's personal history and those common in the region**
 - **Use certified labs and accepted technologies for appropriate interpretation of results will be used to validly interpret test results**

- **Can they show you a staffing plan for recruitment, training and development?**
- **What standards can they show to document that they are facilitating recovery?**
- **Do they have a plan for case management in place? What are its main features?**

The case management factors are linked to successful outcomes:

- ▲ Assigned case manager to individual patient**
- ▲ Clarity about the role of the case managers**
- ▲ Interventions recommended meet identified care needs**
- ▲ A schedule for the patient to meet with the case manager**
- ▲ The case manager actively collaborating with the other providers**
- ▲ The case manager empowers patients to be an active participant in her care**

What to look for in a medication-assisted treatment program

LEVEL 1: Services for women. Treatment plan includes family issues, treatment with family involvement. Goal: Improved outcomes for women.

LEVEL 2: Children accompany women to treatment. Women's children participate in child care but receive no treatment with therapeutic services. Only women have children present treatment plans. Goal: Improved outcomes for women.

LEVEL 3: Children accompany women to treatment. Women's and women and attending children have treatment children's plans and receive appropriate services. Goals: Services improved outcomes for women and children, better parenting.

LEVEL 4: Children accompany women to treatment. Family services women and children have treatment plans. Some services are provided to other family members. Goals: Improved outcomes for women and children, better parenting.

LEVEL 5: Family-centered treatment. Each family member has a treatment plan and receives individual and family services. Goals: Improved outcomes for women, children, and other family members; better parenting and family functioning.

Substance Use Disorders: Family Effects

- ▲ **Parental substance use increases the likelihood that a family will experience financial problems, shifting of adult roles onto children, child abuse and neglect, violence, disrupted environments, and inconsistent parenting.**
- ▲ **70% of women and 50% of men entering substance use treatment report having children.**
- ▲ **Drug misuse or addiction is not a guarantee of child neglect nor does it prove inadequate parenting.**
- ▲ **Women seeking help for her substance use disorder may become involved with legal and child welfare agencies, possibly resulting in loss of custody of her children.**
- ▲ **Treatment that supports the family as a unit has been proved to be effective for maintaining maternal drug abstinence and child well-being.**
- ▲ **A woman must not be unnecessarily separated from her family in order to receive appropriate treatment.**

Program Components for Women

- **Considers the needs of women in all aspects of program design and delivery, including location, staffing, program development, program content, and program materials**
- **Provides safe and comfortable environments in which women develop supportive relationships that allow them to address their recovery needs**
- **Services need to include:**
 - ▲ **Outreach and engagement**
 - ▲ **Screening**
 - ▲ **Detoxification**
 - ▲ **Crisis intervention**
 - ▲ **Assessment**
 - ▲ **Treatment planning**
 - ▲ **Case management**
 - ▲ **Substance use counseling and education**
 - ▲ **Trauma specific and informed services**
 - ▲ **Medical and mental health care**
 - ▲ **Pharmacotherapy**
 - ▲ **Drug monitoring**
 - ▲ **Continuing care**

Program should be accredited by an outside body like CARF or JHACO

Models of Care for Men

Drug use treatment programs were traditionally developed by men for men.

The increasing attention over the past 20 years regarding women-centered treatment has led to the development of tailored drug use treatment for men.

Although research on its effectiveness is limited, *Time Out! for Men* has been one of the most frequently utilized such programs.

In a randomized controlled trial with 122 men mandated to residential treatment program, compared to men in a psychoeducational group, men in *Time Out! for Men* showed increased social conformity, and decreased rigid socialization and gender-role conflict.

Models of Care for Men

Time Out! for Men is an 8-session program for drug-using men who are interested in improving their relationships. Topics covered include: Communication skills, self-esteem, sexual health, and conflict resolution skills. In addition, gender stereotypes, sexual myths, and societal pressures on men and women are discussed.

Topics covered:

- ▲ A new outlook on relationships
- ▲ An assertive attitude
- ▲ Listening
- ▲ Talk it over: Feelings and needs
- ▲ Talk it over: Conflict resolution
- ▲ Man talk: It's more than plumbing
- ▲ Loving relationships
- ▲ Making relationships work

Applying Learning

Exercise- How do you respond?

Each group will develop an empathetic response and treatment plan for their assigned case- Discuss WHAT you say to the patient and HOW you came to your treatment plan recommendations

Case 1: a 22 year old male; using IV heroin for 12 months, he drinks alcohol 3 times a week, is unemployed, smokes marijuana daily and complains of feeling sad all the time

Case 2: a 45 year old woman; using oral opioids for 5 years for back pain – her doctor tried to wean her off and try other pain relief- she left that doctor and has been “doctor shopping” – she says her opioid use is out of control and she needs help

Case 3: a 18 year old woman; regular panic attacks, snorts opioids daily for 2 years, has a positive pregnancy test



Take-home Messages



- ▶ Opioid use disorder is a treatable illness
- ▶ Having more medications given *in the context of comprehensive services* to treat opioid-use disorders in men, women and pregnant women will optimize care
- ▶ It is important to look for programs that provide person-centered and trauma-informed comprehensive care to men as well as women



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