# Re-Thinking Addiction in an Opioid Epidemic

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***Where Do We Need to Go From Here? TODAY!***

**We have the science**

***WE need to Advance the knowledge and…***

***Erase the STIGMA***

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# Number of Deaths in New England in 2017 Data

| State | Age adjusted | Number of Deaths |
|---|---|---|
| #3 New Hampshire | 37 | 467 |
| # 7 Massachusetts | 31.8 | 2,168 |
| # 8 Rhode Island | 31 | 320 |
| #10 Maine | 34.4 | 424 |
| #11 Connecticut | 30.9 | 1,072 |
| #22 Vermont | 23.2 | 134 |
| | | Total is 4,585 people |

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## Top 11 States for Overdoses for 2017

#1. W. Virginia-52.1 per 100,000
#2. Ohio-39.2 per 100,000
#3. New Hampshire-39.0 per 100,000
#4. Pennsylvania-37.9 per 100,000
#5. Kentucky-33.5 per 100,000
#6 Maryland- 33.2 per 100,000
#7 Massachusetts-33.0 per 100,000
#8 It's a tie-Rhode Island
and Delaware-30.8 per 100,000
#10 Maine-28.7 per 100,000
#11 Connecticut-27.4 per 100,000

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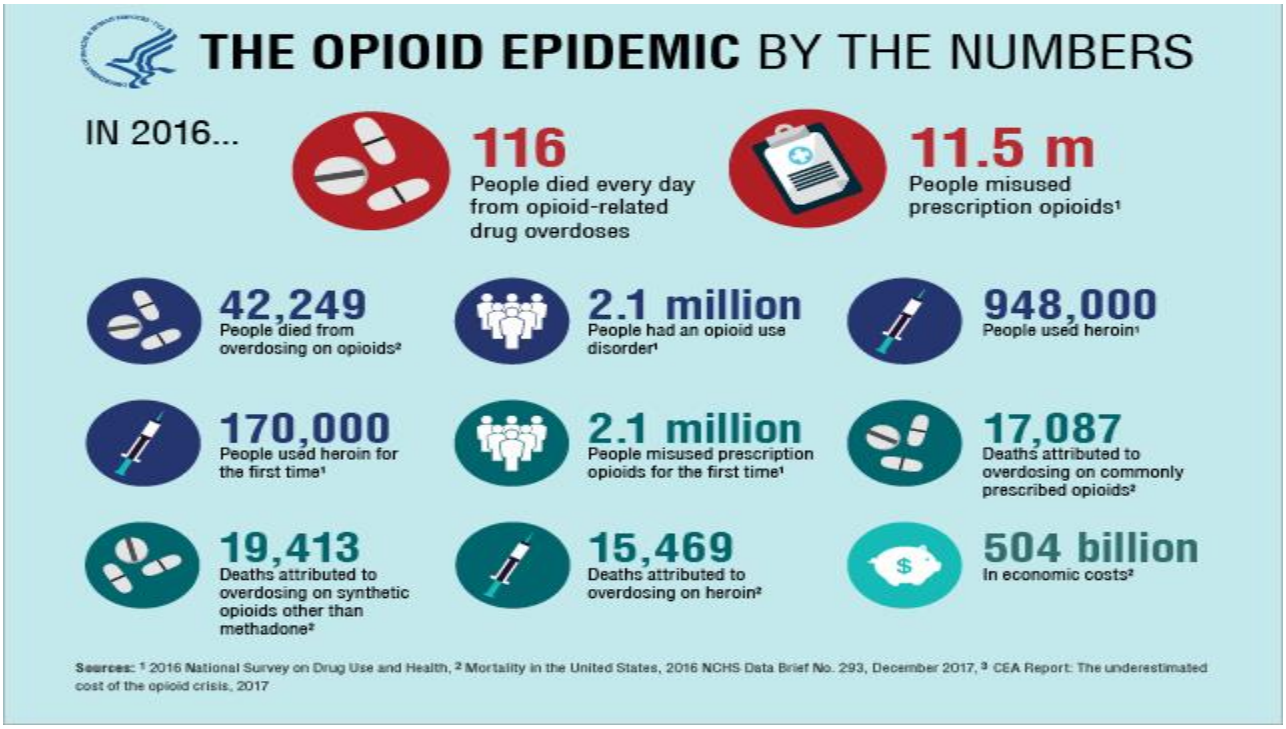


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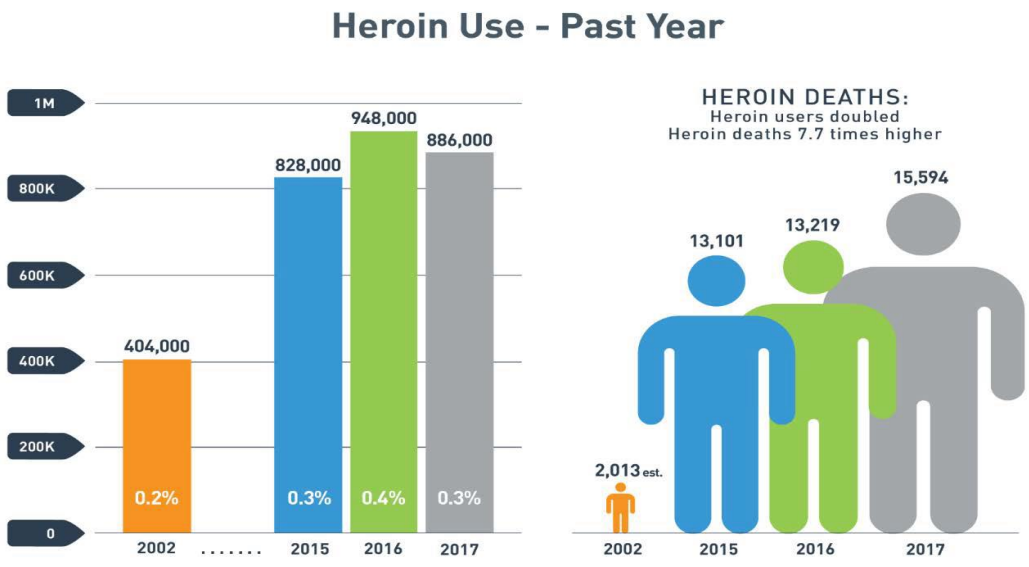


See table 7.2 in the 2017 NSDUH detailed tables for additional information and the 2017 CDC Mortality Data.
**PAST YEAR, 2002 AND 2015-2017, 12**

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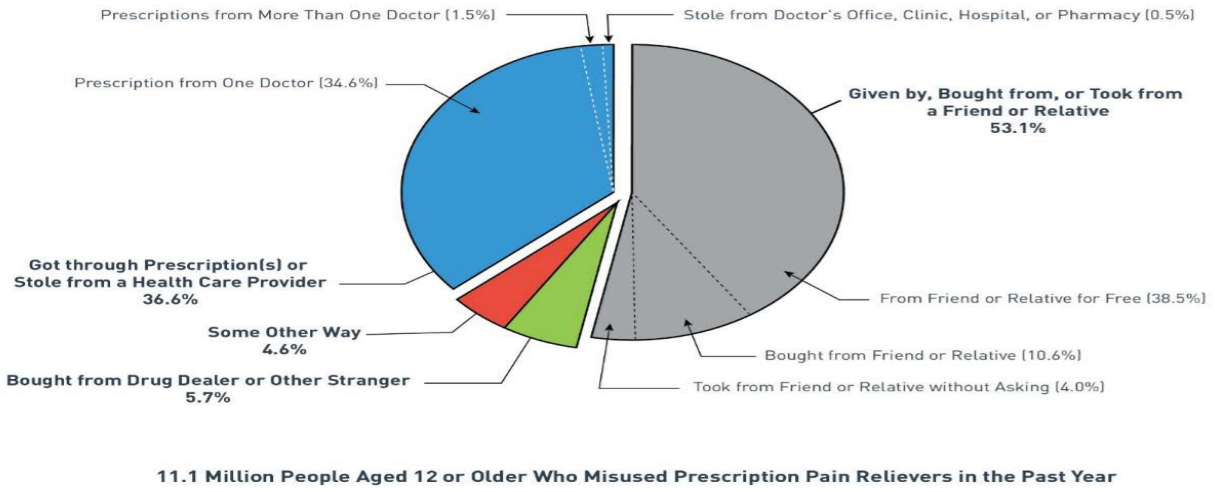


**11.1 Million People Aged 12 or Older Who Misused Prescription Pain Relievers in the Past Year**

See figure 26 in the 2017 NSDUH Report for additional information.

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# What is already known on this topic?

The rate for drug overdose deaths has increased approximately 140% since 2000, driven largely by opioid overdose deaths.

After increasing since the 1990s, deaths involving the most commonly prescribed opioid pain relievers (i.e., natural and semisynthetic opioids) declined slightly in 2012 and remained steady in 2013, showing some signs of progress.

Heroin overdose deaths have been sharply increasing since 2010.

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# 23.5 Million Americans currently have an Addiction

Only 10% in treatment

23 Million in people in recovery

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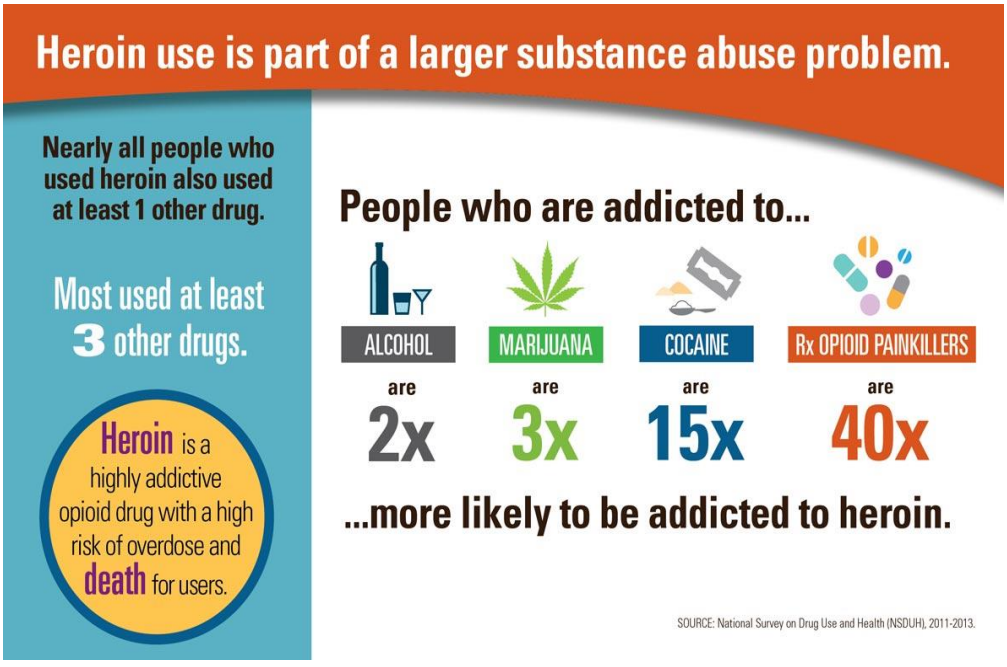


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## American Society for Addiction Medicine says physicians need to lead the nation in changing the tide of this epidemic

As clinical treatment staff we have to lead as well:

1. Decreasing stigma
2. Increase access to evidence-based care, including Medication Assisted treatment
3. Supporting expanded use of naloxone
4. Recognize and provide screening, brief intervention and referral to treatment (SBIRT)

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## Reducing Stigma among our profession and in community

- Know the facts
- Beware of your own attitudes and behaviors
- Choose words carefully
- Educate others
- Focus on the positive

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# The Science of Addiction

- There is a growing body of evidence of structural vulnerability of brains to the effects of intoxicating substances
- Several factors contribute to this Vulnerability:
  - Genetics
  - Early developmental influences and environmental factors
  - Effects of stressful life events across the life cycle
  - Mental disorders-principally depression and anxiety

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# Who is Vulnerable?

- Persons most  at risk for substance abuse and more so dependence, generally have higher rates of impulsivity, more difficulty managing negative affects-their moods and feelings
- The drug dependent person, even before ever using drugs, has brain characteristics that may predispose a vulnerability to the effects of mind-altering drugs.
- After a long period of using drugs, the addicted person ends up with a substantial altered brain-chemically and even anatomically
- Some people are born with “imbalances” of certain nuerotransmitters such as serotonin

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# Brain functioning under other insults-similarity to addiction

- The  long term effects of substance use and even long term untreated depression can reduce frontal lobe functioning in the human brain
- The frontal lobes are where planning, executive functions, emotion management, and reasoning occurs-  AND this is the area of that brain most needed for recovery activities
- In addition, head injuries can produce similar effects on the frontal lobes.

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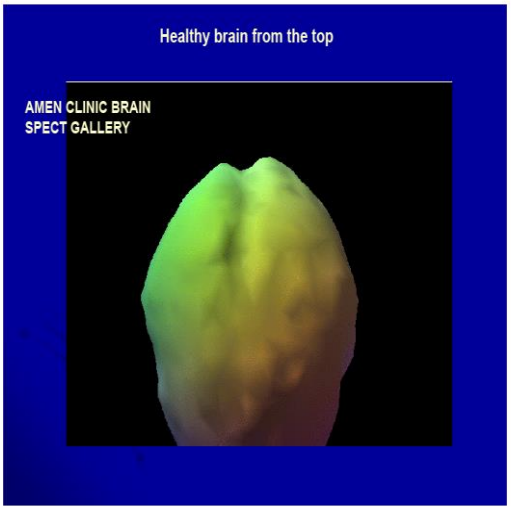



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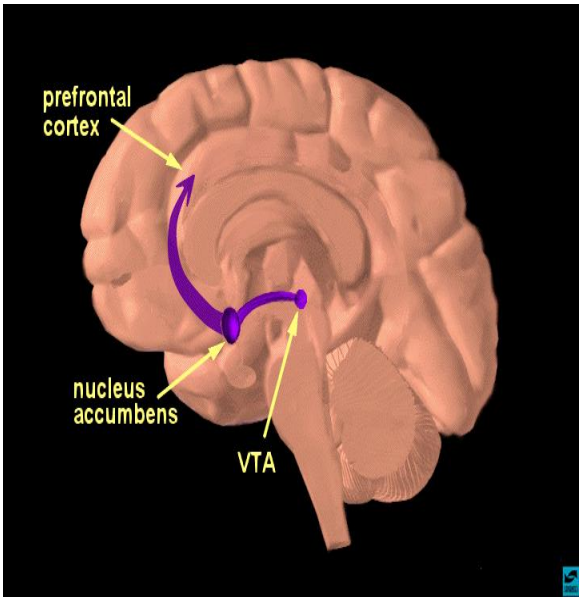
## Reward Pathway




- Important part of the reward system are shown
- Information travels from the ventral tegmental area (VTA) to nucleus accumbens the to prefrontal cortex
- Activated by rewarding stimuli

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## Natural Rewards

- Food
- Sex
- Excitement
- Comfort

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# The bottom line from the scientific point of view

- Just say “no” is unrealistic
- It would be comparable to telling someone with diabetes, to just ”get over it”
- Treatment may be need and may include medications to help the brain re-establish its equilibrium
- In fact, some people will need long term medications to offset genetic neurochemical problems or to help the brain to compensate for the lost substance.
- Some will need newer generation of anti-craving medications or replacement medications such as buprenorphine or Methadone
- Science suggests that the idea of “moral deficiency” is inappropriate and stigmatizing

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# What is required for recovery?

An understanding of co-occurring conditions
- Victimization
- Mental health problems
- Deprivation of capacity

Accessibility of providers

Availability of resources

Respect for even the limited autonomy

Wrap-around services and goods

Patience with relapse

Active use of recovery supports

An understanding of a long term process

An appreciation of how extraordinarily difficult recovery is


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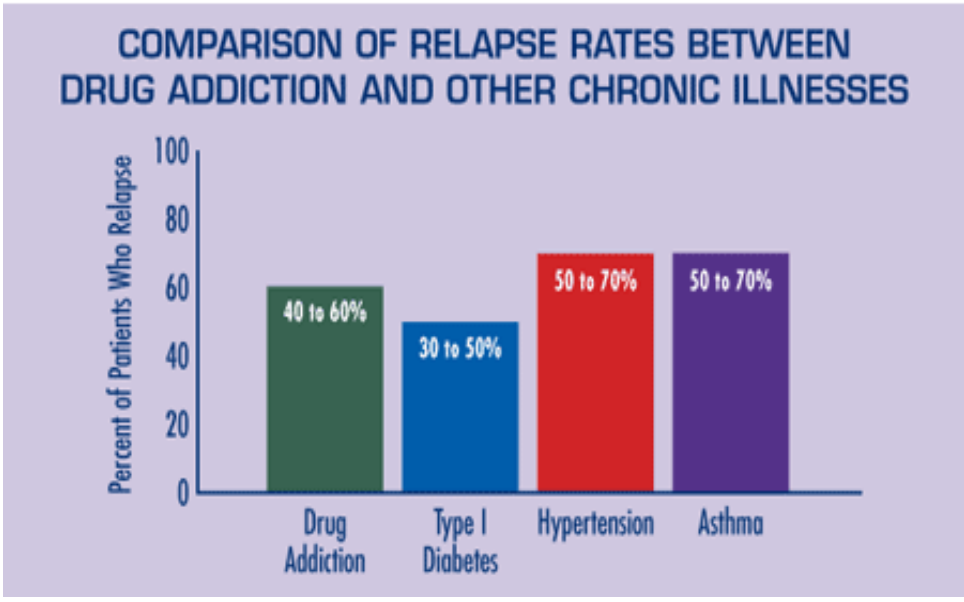


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# SBIRT Goals

- Increase **access to care** for persons with substance use disorders and those at risk of substance use disorders
- Foster a **continuum of care** by integrating prevention, intervention, and treatment services
- **Improve linkages** between health care services and alcohol/drug treatment services

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# SBIRT: Core Clinical Components

- **Screening:** Very brief screening that identifies substance related problems
- **Brief Intervention:** Raises awareness of risks and motivates client toward acknowledgement of problem
- **Brief Treatment:** Cognitive behavioral work with clients who acknowledge risks and are seeking help
- **Referral:** Referral of those with more serious addictions

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## SBI Could Have a Major Impact on Public Health

There are grounds for thinking SBI may:

- **stem progression** to dependence.
- **improve medical conditions** exacerbated by substance abuse.
- **prevent medical conditions** resulting from substance abuse or dependence.
- **reduce** drug-related infections and **infectious diseases**.
- **identify those at higher risk** of abusing prescription drugs.
- **identify abusers** of prescription drugs or OTC drugs.
- have **positive influence on social function**.

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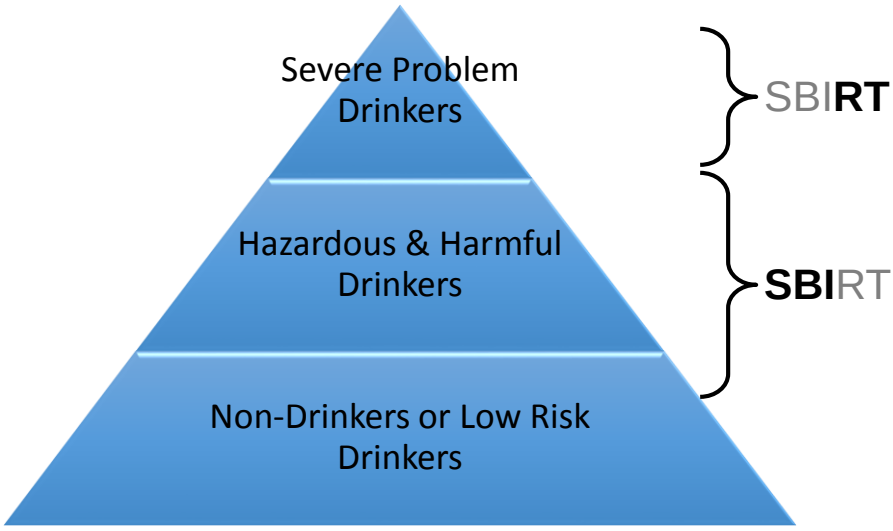
# Use of SBIRT Among At-Risk Patients

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# Brief Intervention

## Based on Motivational Interviewing (MI) Approach

- People are ambivalent about change
- People continue their drug use because of this ambivalence
- Resolving ambivalence in the direction of change is key element of motivational interviewing
- Motivation for change can be fostered by an accepting, empowering, and safe atmosphere

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# Treatment of Addiction

A host of evidence-based approaches has been developed. Most of the practices build from what has been learned about addiction from neuroscience.

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# Evidence based/best practices


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## Effective treatment generally requires many facets. Treatment providers are important in helping the patients to:

- Manage physical withdrawal symptoms
- Understand the behavioral and cognitive changes resulting from drug use
- Achieve long-term changes and prevent relapse
- Establish ongoing communication between physician and community provider to ensure coordinated care
- Engage in a flexible treatment plan to help them achieve recovery

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# Opiate/Opioid : What's the Difference?

**Opiate**

- A term that refers to drugs or medications that are derived from the opium poppy, such as heroin, morphine, and codeine.

**Opioid**

- A more general term that includes opiates as well as the synthetic drugs or medications, such as buprenorphine, methadone, meperidine (Demerol®), fentanyl—that produce analgesia and other effects similar to morphine.

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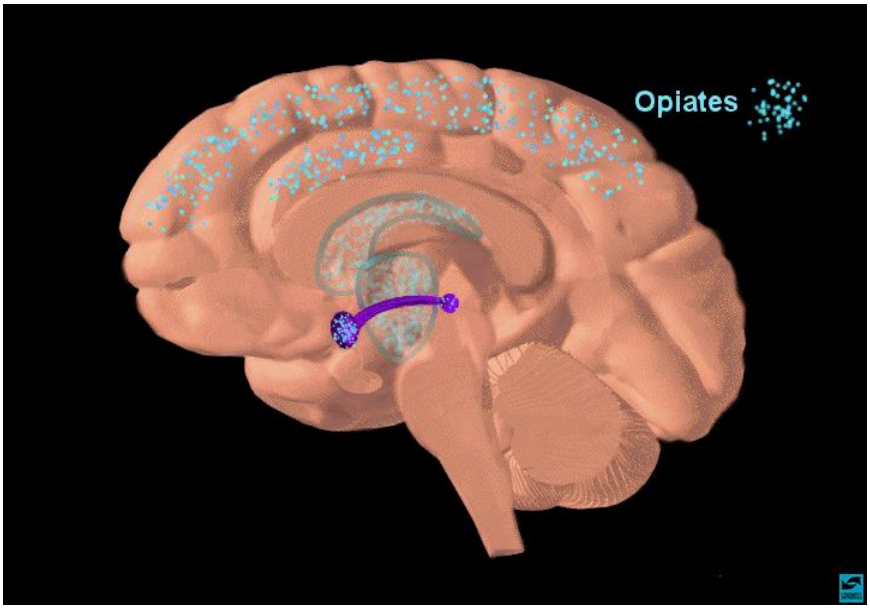


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# Opioid Receptors

Major types of opioid receptors

Mu

Kappa

Delta

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# Definitions

**Agonist** is a medication that blocks:

- Symptoms of opioid withdrawal
- Cravings and urges to use (drug hunger)
- Euphoria from the drug

**Antagonist** is a medication that:

- Triggers withdrawal syndrome

**Partial Agonist** is a medication that possesses both agonist and antagonist properties. They have ceiling effect (increasing dose only has effects to a certain level)

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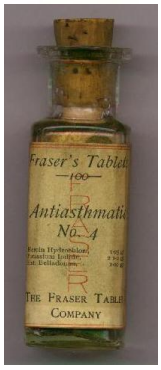
## History of Opioid Use


1895 Bayer Co. manufactures heroin

1905 Congress bans opium

1930's "China White"

1971 Janis Joplin dies of

"accidental heroin overdose"

1973 Creation of DEA

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## History of Opioid Use

1970's "Mexican Mud"

1980's Golden Crescent: Iran, Afghanistan and Pakistan

1990's High-grade from Columbia

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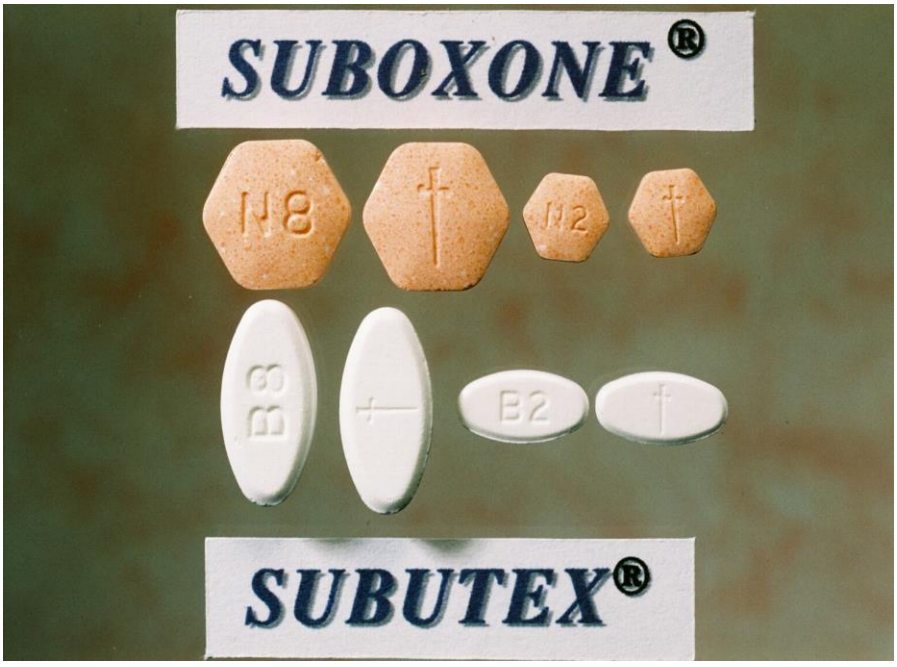


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## Patient Selection: Issues Involving Consultation with the Physician

Several factors may indicate a patient is less likely to be an appropriate candidate, including:

- Patients taking high doses of benzodiazepines, alcohol or other central nervous system depressants
- Significant psychiatric co-morbidity
- Multiple previous opioid addiction treatment episodes with frequent relapse during those episodes (may also indicate a perfect candidate)
- Nonresponse or poor response to buprenorphine treatment in the past

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# Partial Agonist Therapy

**Buprenorphine**

- Approved in 2003 for use in opiate/narcotic dependence treatment
- Not recommended for methadone patients who were stabilized on more than 60 mg's.
- Partial agonist
  - blocks the symptoms of withdrawal
  - blocks the euphoria
- Partial antagonist
  - can trigger withdrawal symptoms at critical dose levels
  - There is a 'ceiling effect' that limits the amount that can be prescribed.

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# Advantages of Buprenorphine/Naloxone in the Treatment of Opioid Addiction

Discourages IV use

Diminishes diversion

Allows for take-home dosing

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## What is the Ratio of Buprenorphine to Naloxone in the Combination Tablet?

- Each tablet contains buprenorphine and naloxone in a 4:1 ratio
  - Each 8 mg tablet contains 2 mg of naloxone
  - Each 2 mg tablet contains 0.5 mg of naloxone
- Ratio was deemed optimal in clinical studies
  - Preserves buprenorphine's therapeutic effects when taken as intended sublingually
  - Sufficient dysphoric effects occur if injected by some physically dependent persons to discourage abuse.

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## Why Combining Buprenorphine and Naloxone Sublingually Works

Buprenorphine and naloxone have different sublingual (SL) to injection potency profiles that are optimal for use in a combination product.

| SL Bioavailability | Injection to Sublingual Potency |
|---|---|
| **Buprenorphine 40-60%** | **Buprenorphine ≈ 2:1** |
| **Naloxone 10% or less** | **Naloxone ≈ 15:1** |

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## Buprenorphine/Naloxone: What You Need to know

- Basic pharmacology, pharmacokinetics, and efficacy is the ***same*** as buprenorphine alone.
- Partial opioid agonist; ceiling effect at higher doses
- Blocks effects of other agonists
- Binds strongly to opioid receptor, long acting

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## The Use of Buprenorphine in the Treatment of Opioid Addiction

**Induction**

**Maintenance**

**Tapering Off/Medically-Assisted Withdrawal**

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## Methadone Treatment: Six findings were noted from Dr. Dole's research team

- No euphoric/analgesic effects
- Doses between 80-120mg held at level to block their euphoric and tranquilizing effects
- No change in tolerance level over time
- Could be taken once a day
- Relieved craving attributed to relapse
- Medically safe and nontoxic

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## Agonist Therapy: Methadone

- Proper dose lasts between 24 - 36 hours
- Does not create euphoria, sedation or analgesia
- Duration of treatment individualized
- Most significant long term effects on health is marked improvement
- Side effects usually subside within a month

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## MMTP: Criteria for Admission

- Verified one year of addiction
- Voluntary choice and consent of patient
- Patient education
  - Duration of treatment
  - Adverse effects
  - Program expectations

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## MMTP: Exceptions to Current Dependence

- Recently released from correctional facility
- Recent discharge from chronic facility
- Pregnant patient
- Previously treated patients
- Minors

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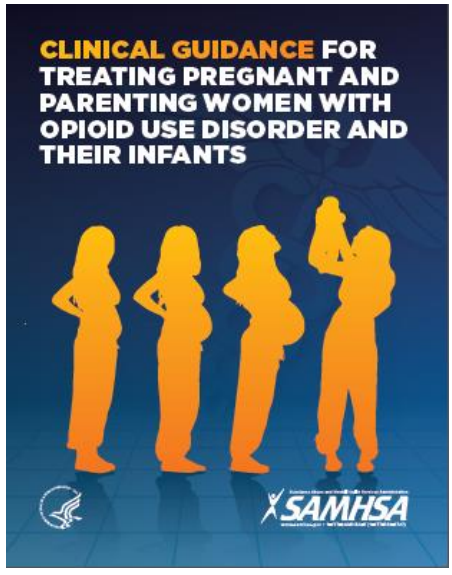
**Overarching Recommendations**

- ❑ Buprenorphine and methadone are the safest medications for managing OUD during pregnancy
- ❑ Medically supervised withdrawal is not recommended during pregnancy
- ❑ Transitioning from methadone to buprenorphine or from buprenorphine to methadone is not recommended
- ❑ Breastfeeding is recommended for women on buprenorphine and methadone
- ❑ NAS should not be treated with dilute tincture of opium




https://store.samhsa.gov/product/SMA18-5054

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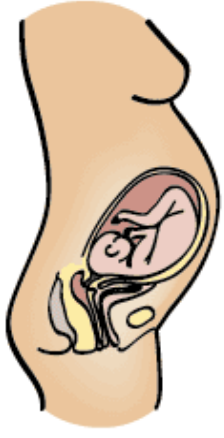
# Methadone Maintained Pregnancy



- Methadone: synthetic opioid which reduces craving and blocks the euphoric effects if supplemental narcotics are taken
- Recommended since 1970's
- Prevents erratic opioid levels in mother and fetus
- Associated with improved fetal growth and longer duration of gestation
- As pregnancy progresses, require higher doses of methadone
- Lowering dose during pregnancy will promote illicit drug use

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# Neonatal Abstinence Syndrome

- A generalized disorder presenting as CNS irritability, GI dysfunction, autonomic symptoms
- Usually due to withdrawal from opioids (iatrogenic or maternal use)
- 50-75% of infants born to mothers on opioids will need treatment
- Infants born to mothers on methadone will often have a delay in the onset of symptoms and may have more severe and prolonged symptoms
- Severity of symptoms has not been shown to correlate with methadone dose

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Growing evidence suggests that women should receive continuous medical attention during what is now call:

The Forth Trimester(the year after childbirth)

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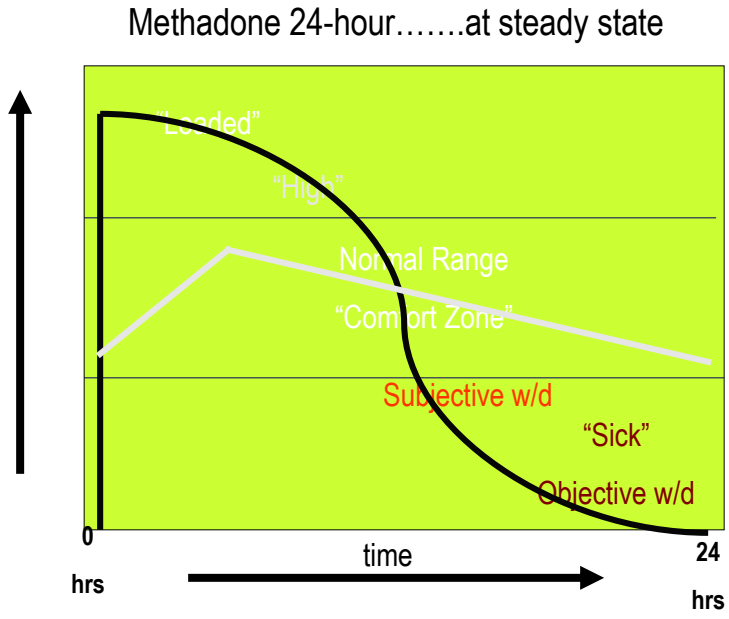


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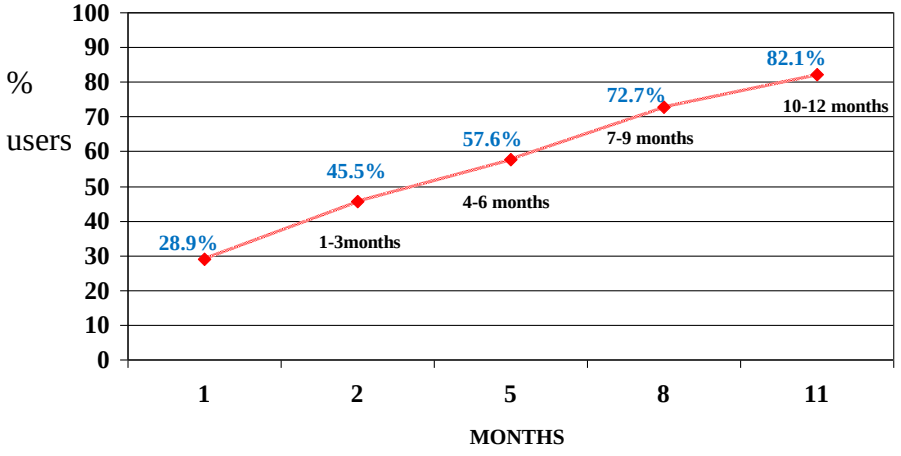
# Rapid Return to IV Drug Use Following Premature Termination of MM TX

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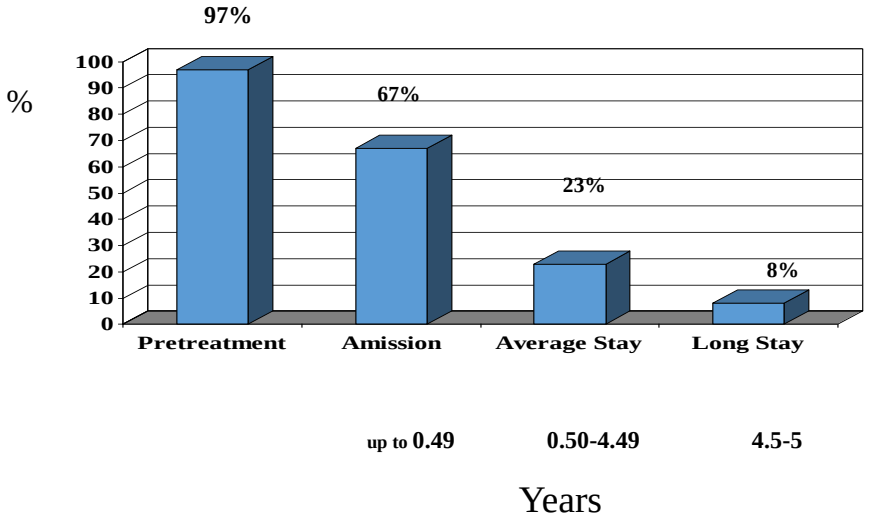
## Reduction of Heroin Use by Length of Stay in MMTP (Ball and Ross, 1991)

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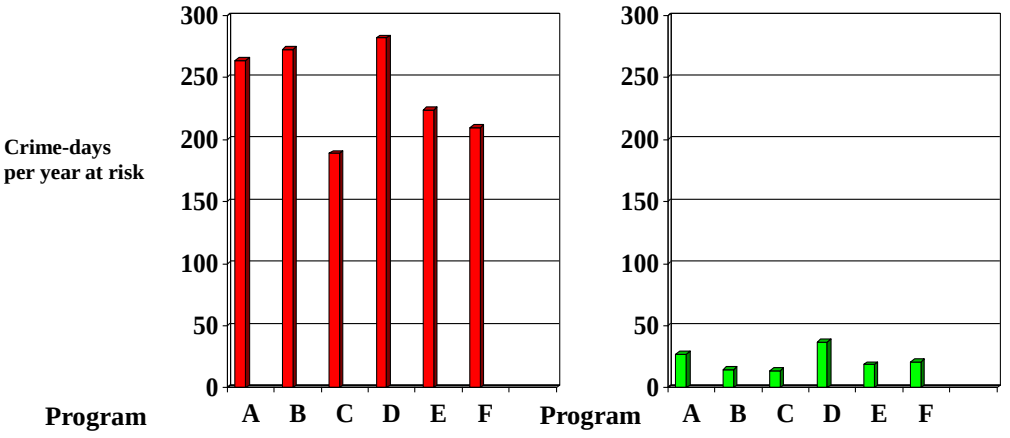
## Crime Before and During MM Treatment at 6 Programs

(Ball and Ross, 1991)

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## Barriers to Effective Use of Opiate Agonist in the Treatment of Opiate Addiction in the United States

- Misperceptions and stigmas
- Unavailability of effective services
- Lack of trained physicians and other health care professionals
- Unnecessary Regulation

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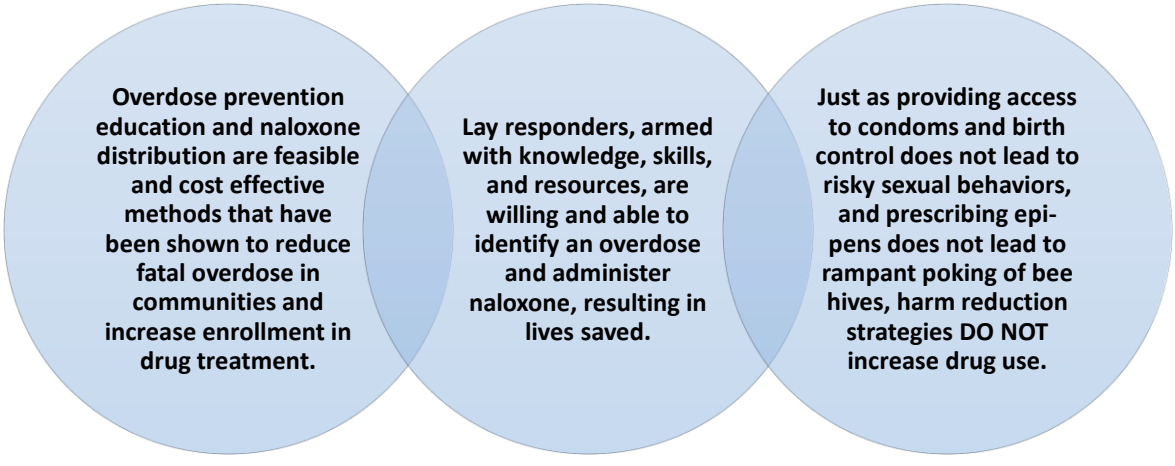
## Harm Reduction

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**Naloxone distribution and other harm reduction programs are not the solution to the opioid addiction epidemic; They help keep individuals alive so that they can work towards recovery.**

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