

# Opiate Substitution Treatment - An Overview

Ron Jackson, M.S.W.

Evergreen Treatment Services, Seattle, WA

## Medication Assisted Treatment for Opioid Addiction: A Brief Overview

**Ron Jackson, M.S.W.**  
**Evergreen Treatment Services**  
**Seattle, WA**

## ADDICTION

**"Addiction is a brain disease shaped by behavioral and social context."**

Dr. Alan Leshner, Former Director  
National Institute on Drug Abuse

**"Drug addiction is associated with altered cortical activity and decision making that appears to overvalue reward, undervalue risk, and fail to learn from repeated errors."**

Dr. Nora Volkow, Director  
National Institute on Drug Abuse

**"It's like I've got a shotgun in my mouth, my finger's on the trigger and I like the taste of gun metal."**

Robert Downey, Jr., Actor

## Drug Dependence: A Chronic Medical Illness

- Genetic Heritability – twin studies
  - ✓ Hypertension – 25-50%
  - ✓ Diabetes – Type 1: 30-55%; Type 2: 80%
  - ✓ Asthma – 36-70%
  - ✓ Nicotine – 61% (both sexes)
  - ✓ Alcohol – 55% (males)
  - ✓ Marijuana – 52% (females)
  - ✓ Heroin – 34% (males)
- Voluntary Choice – shaped by personality and environment
- Pathophysiology – neurochemical adaptations
- Treatment Response
  - ✓ Medications – effectiveness and compliance
  - ✓ Behavioral interventions

McLellan, A.T., et al., Drug Dependence, a Chronic Medical Illness *Journal of the American Medical Association* 284:1689-1695, 2000.

# So?

## If addiction is a chronic disease:

Addiction treatment doesn't cure the disease.

The goal of treatment is to:

- Provide patients the tools to help them manage their addiction – *and medications are among those tools*
- Teach them how to use those tools to achieve and maintain recovery

## NIH Consensus Panel on Effective Medical Treatment of Opiate Addiction

- 12 member multi-disciplinary panel, Nov. 1997
- heard testimony from 25 experts
- reviewed 941 research reports published over the period Jan. 1994 - Sept. 1997

**"Of the various treatments available, MMT, combined with attention to medical, psychiatric, and socioeconomic issues, as well as drug counseling, has the highest probability of being effective."**

Adapted from: JAMA, Dec. 9,  
1998, 280 (22), 1936-1943

# Opiate Substitution Treatment - An Overview

Ron Jackson, M.S.W.

Evergreen Treatment Services, Seattle, WA

## RESPECT

- **R** – Retention-enhancing
- **E** – Evidence-based
- **S** – Salience shifting
- **P** – Public health benefits
- **E** – Effectiveness in many domains
- **C** – Cost effectiveness/offsets
- **T** – Treatment, not just medication

## Retention-enhancing

- Opioid dependent patients stay in methadone treatment significantly longer than outpatient psychosocial
  - ✓ In King County study, retention for primary opioid dependent patients at 90 days in psychosocial was 45%; in MMT it was 78%
- Longer retention in treatment is associated with improved treatment outcomes.

## Evidenced-Based

Since the NIH consensus panel in 1997:

- 745 references to MMT from 1998-2008, including articles, books, book chapters (UW ADAI Library database)
- Since 1998 there are an average of 45 federally-funded biomedical research projects per year on methadone maintenance. (NIH CRISP database)

## Opioid Maintenance Therapy Saves Lives

**Gibson A, et al. *Addiction*. 2008;103(3):462-468.**

**Summary by Peter D. Friedmann, MD, MPH**

[www.aodhealth.org](http://www.aodhealth.org)

## Objectives/Methods

- People who are opioid dependent are 13 times more likely to die than age- and sex-matched peers.
- To examine predictors of long-term mortality, researchers in Australia conducted a 10-year follow-up study of 405 heroin-dependent patients.

## Results

- Overall mortality was 8.8 deaths per 1000 person-years of follow-up (0.66 during opioid maintenance treatment [OMT] and 14.3 while out of OMT).
- Participation in additional OMTs lasting >7 days decreased mortality by 28%.
- Subjects using more heroin at baseline had a 12% lower mortality rate overall.

# Opiate Substitution Treatment - An Overview

Ron Jackson, M.S.W.

Evergreen Treatment Services, Seattle, WA

## Comments

- This study highlights that OMT saves lives.
- The selection of the treatment episode as >7 days strongly suggests that OMT, not detoxification, reduces mortality.
- Therefore, OMT should be the standard-of-care for treatment of opioid dependence.

## Salience Shifting

### But aren't they still addicted?

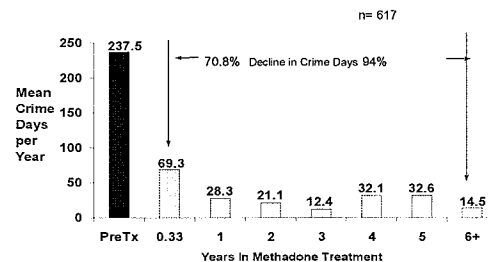
- What is the definition of addiction?
  - ✓ Is it simply physical dependence?
- How does the change of lifestyle and psychosocial stability associated with long-term methadone treatment fit with that definition?

## Effectiveness: Effect Size Matters

Most behavioral addiction treatment interventions have an effect size ( $d$ ) of 0.2-0.4 (moderate):

- Recent meta-analysis described effect size for MMT of 0.90 for retention, 0.61 for opioid abuse and 0.35 for reduction of criminality (Johansson, Berglund & Lindgren, 2007)
- Another recent meta-analysis found that there was inadequate evidence to prove the effectiveness of psychosocial interventions alone for the treatment of opioid dependence or that they are superior to any other type of treatment. (Mayet, et. al. Cochrane Review 2004)

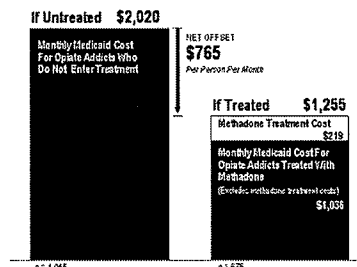
## The Effects of Methadone Treatment on Crime Days



Adapted from: Ball & Ross, 1991.

## Cost Effectiveness

## Methadone Treatment For Opiate Addiction Lowers Health Care Costs



Source: State of Washington, DSHS, Research & Data Analysis Division, Report 4.49fs, June, 2004

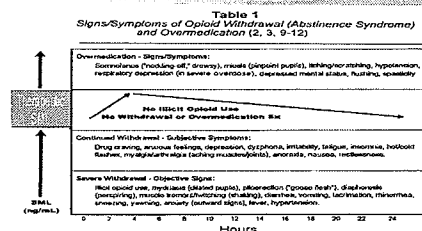
# Opiate Substitution Treatment - An Overview

Ron Jackson, M.S.W.

Evergreen Treatment Services, Seattle, WA

## Treatment Not *Just* Medication

### Methadone Dose: How much is enough?



Leavitt, SB, et al., When "Enough" is Not Enough, Mt Sinai Journal of Medicine 2000; 67(5&6): 404-411.

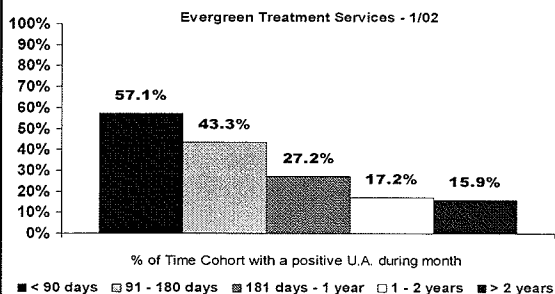
### Treatment Requirements

- Attendance for observed dosing 6 days a week for the first 90 days
- Take-home doses permitted after 90 days but only to those patients meeting a number of criteria
- At least once per month observed urinalysis
  - ✓ Some clinics have contingencies; some don't
  - ✓ Some agencies administer alcohol breath tests; some don't
- Primary counselor assigned; weekly counseling for at least the first 90 days
- Additional education, i.e., HIV/HCV, family planning

### Opiate Substitution Treatment Goals

- **Primary Goals:**
  - ✓ Reduction in of illicit opiate use.
  - ✓ Retention in treatment for 1-2 years or more.
- **Secondary Goals:**
  - ✓ Reduction in cocaine, alcohol, and other drug abuse.
  - ✓ Reduction in transmission of infectious diseases by unsterile injection equipment.
  - ✓ Reduction in criminal activity.
  - ✓ Increase in pro-social activity — employment, education, child care, etc.

### Drug Use & Length of Time in Methadone Treatment



### Methadone & Pregnancy

- Fetal outcomes better on MMT than heroin
- Detoxification from opiates risky for fetus
- Methadone dose adjustments during pregnancy
  - ✓ May need "split" dosing to improve serum stability
- Attention to prenatal care during pregnancy
- Some infants have abstinence syndrome within 72 hrs. of birth; may require pharmacotherapy
  - ✓ NAS may be associated with mothers' level of smoking during pregnancy (Choo, et.al., 2004)
- Breastfeeding OK with MMT unless otherwise contraindicated, e.g., blood-borne infections

# Opiate Substitution Treatment - An Overview

Ron Jackson, M.S.W.

Evergreen Treatment Services, Seattle, WA

## Methadone Maintenance vs. 180 Day Detoxification

12 month study of 179 opioid dependent patients randomly assigned to:

- **Methadone Maintenance**

- ✓ mean dose=85.3mg
- ✓ for 14 months

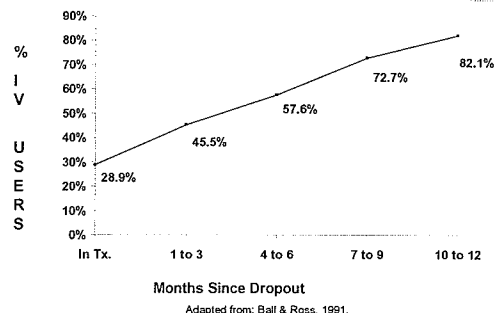
- **180 Day Methadone Detoxification**

- ✓ mean dose=86.3 mg prior to taper at 120 days
- ✓ followed by psychosocial Tx for 8 months

➤ "Methadone maintenance therapy resulted in greater treatment retention and lower heroin use rates than did detoxification."

K.L. Sees et al., JAMA 2000

## Return to I.V. Drug Use Following Premature Termination of Treatment



## Characteristics of Successful Methadone Treatment Programs

- ✓ **Adequate Dosing Policies**
  - ✧ Average Dose Between 60 & 120mg.
- ✓ **Comprehensive Services**
- ✓ **Well-trained & Stable Staff**
- ✓ **Individualized Treatment**
- ✓ **Coordinated Services**
  - ✧ Medical, Counseling & Administration

Adapted from: Ball & Ross, 1991.

## BUPRENORPHINE

- Partial agonist at  $\mu$ -opiate receptor
  - less subjective "high"
  - "ceiling effect"
- Slowly dissociates from those receptors
  - slow onset & offset
- Once-a-day dosing
- Sublingual administration
  - compounded with naloxone (Suboxone®) which will precipitate abrupt withdrawal if injected

## Physician-Based vs. Clinic-Based Treatment

- In clinic-based treatment there are many rules (observed dosing, counseling, urinalysis), imposed by regulatory authorities (federal & state); physician-based treatment has no such rules, only guidelines.
- Physician-based perhaps more geographically available and certainly more private.

## Resources

- TIP 43, *Medication-Assisted Treatment for Opioid Addiction in Opioid Treatment Programs* – [www.health.org](http://www.health.org)
- TIP 40, *Clinical Guidelines for the Use of Buprenorphine in the Treatment of Opioid Addiction* – [www.health.org](http://www.health.org)
- Addiction Treatment Forum: [www.atforum.com](http://www.atforum.com)
- Web sites:
  - ✓ [kap.samhsa.gov](http://kap.samhsa.gov) – CSAT's Knowledge Application Program
  - ✓ [www.aatod.org](http://www.aatod.org) – AATOD
  - ✓ [buprenorphine.samhsa.gov/index.html](http://buprenorphine.samhsa.gov/index.html) – CSAT's buprenorphine Web site, including FAQs
  - ✓ [www.drugpolicy.org](http://www.drugpolicy.org) – Drug Policy Alliance
    - ✓ About Methadone
  - ✓ [www.nida.nih.gov](http://www.nida.nih.gov) – NIDA

