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PAIN TREATMENT SERVICES

YALE UNIVERSITY SCHOOL OF MEDICINE

DEPARTMENT OF PSYCHIATRY

DIVISION OF SUBSTANCE ABUSE

Psychology and Addiction

Declan T. Barry, Ph.D.

Injured Workers and Opioid Use Symposium
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No conflicts of interest to report

Aims of Today's Talk

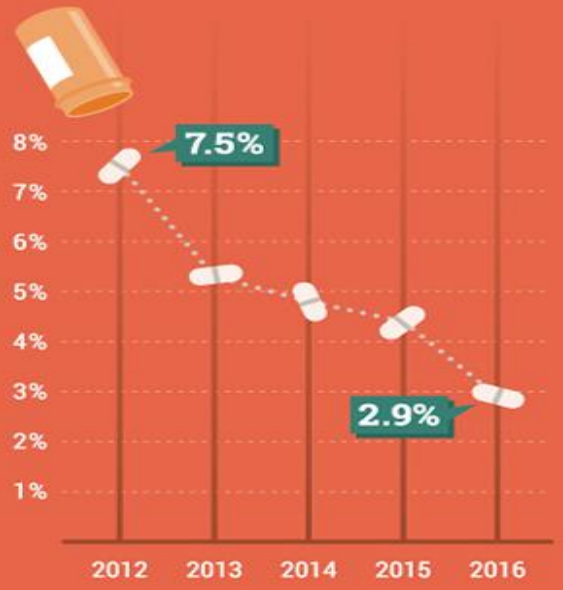
- Societal context of addiction
- Adolescence
- Experience of opioid addiction
- Evidence-based treatments
- Psychological factors in addiction experience and treatment

Societal Context

- Meaning of substance ingestion
- Norms/expectations (e.g., celebration)
- TV advertisements
- Patient expectations: medication
- Provider attitudes
- Adolescence
- Societal message: use but don’t lose control or use too much

PRESCRIPTION/OVER-THE-COUNTER VS. ILLICIT DRUGS

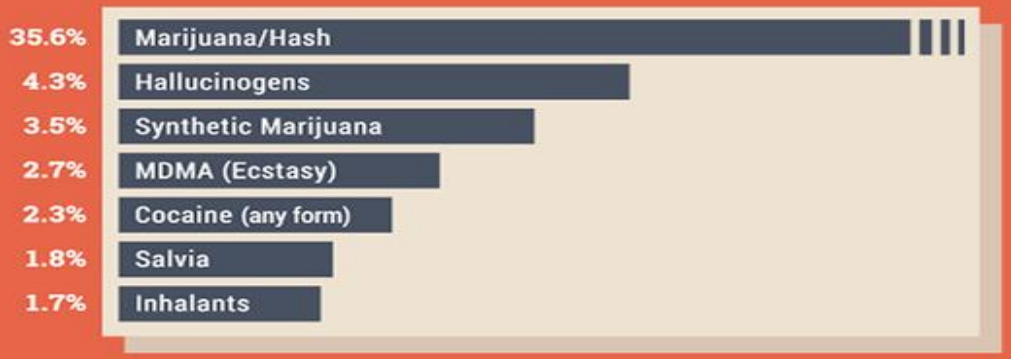
VICODIN®



Past-year misuse of Vicodin® among 12th graders has dropped dramatically in the past 5 years. So has misuse of all Rx opioids among 12th graders despite high opioid overdose rates among adults.

PRESCRIPTION/OTC

ILLICIT DRUGS



Past-year use among 12th graders

STUDENTS REPORT LOWEST RATES SINCE START OF THE SURVEY

Across all grades, past-year use of inhalants, heroin, methamphetamine, alcohol, cigarettes, and synthetic cannabinoids are at their lowest by many measures.

NIH National Institute on Drug Abuse

DRUGABUSE.GOV

How “Addictive” are different drugs?

CS Study (Anthony et al. 1994, 2002)

Lifetime Dependence		Conditional Dependence	
Marijuana	4.2%	Heroin	23%
Cocaine	2.7%	Cocaine	17%
Stimulants	1.7%	Stimulants	11%
Heroin	0.4%	Marijuana	10%
Tobacco	24.1%	Tobacco	32%
Alcohol	14.1%	Alcohol	15%

General Principles

- Earlier the use, the worse the prognosis
- Risk factors for addiction
  - Family history of addiction
  - Psychiatric history
- Feeling the effects of a substance quickly poses less of a risk factor
- Chronic medical disorder
- Perceived danger of substance
- Speed and intensity of reinforcement

Heroin

- Smack, H, Ska, Junk
- Injected, snorted/sniffed, or smoked
- White or brown powder, “black tar”





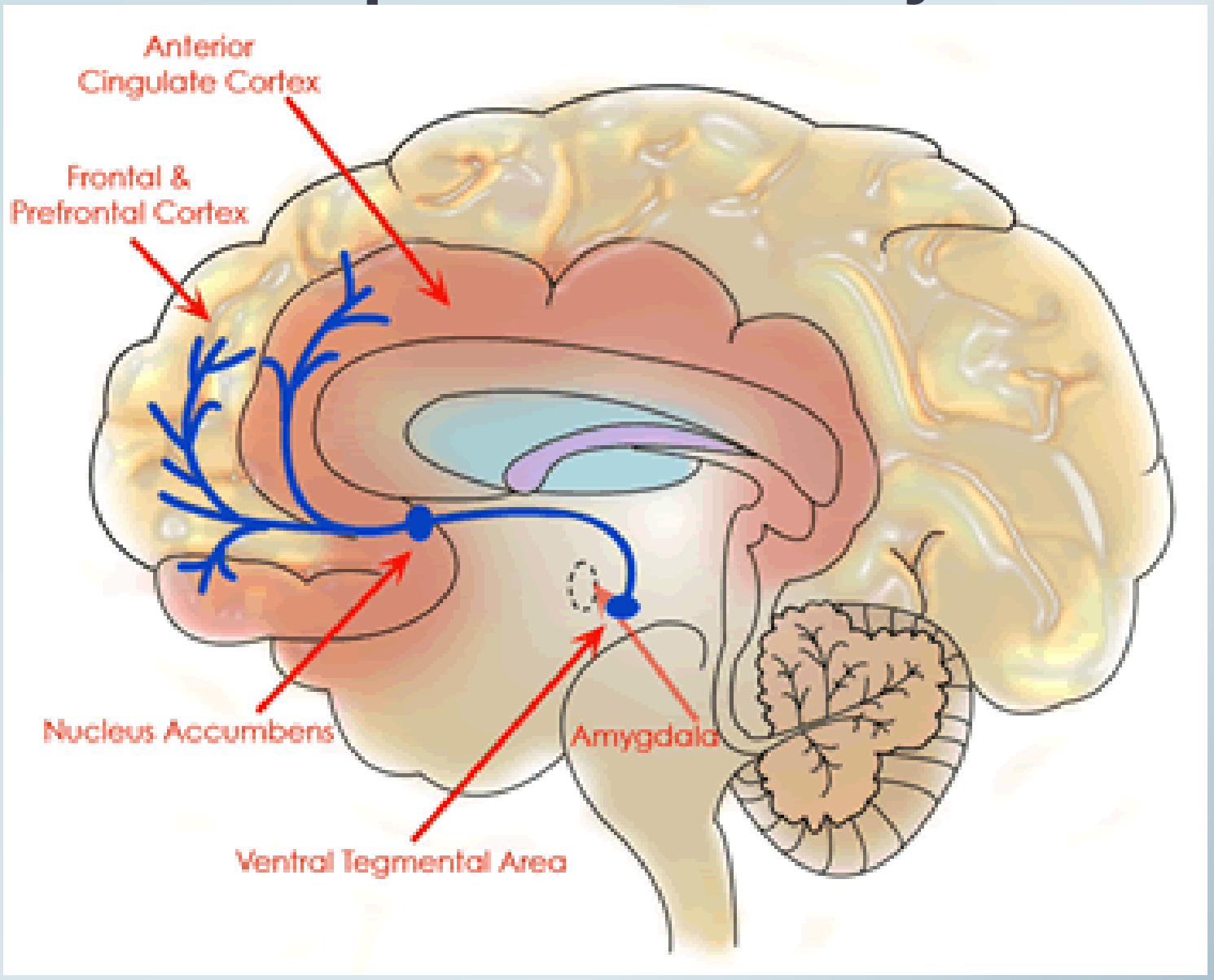
Prescription Opioids

- Oxycodone

- Percocet

- Vicodin

Dopamine Pathway



Opioid Use Disorder: Prevalence and Burden

- Major public health concern
  - Between 2000 and 2013, estimated number of individuals with opioid use disorder quadrupled[1,2]
  - Chronic relapsing disorder[3]
  - Elevated risk of mortality, HCV and HIV transmission[4-6]
  - Costs to US annually exceed $53 billion[7]

1. *Office of Applied Studies. National and state estimates of the drug abuse treatment gap: 2000 National Household Survey on Drug Abuse. SAMHSA. 2002.*
2. *SAMHSA. Results from the 2013 national survey on drug use and health: summary of national findings. 2014.*
3. *McLellan et al. Drug dependence, a chronic medical illness. JAMA. 2000;284(13):1689-95.*
4. *Hser et al. A 33-year follow-up of narcotics addicts. Arch Gen Psychiatry. 2001;58:503-8.*
5. *Nelson et al. Global epidemiology y of hepatitis B and hepatitis C in people who inject drugs. The Lancet. 2011;378(9791):571-83*
6. *Mathers et al. Global epidemiology of injecting drug use and HIV among people who inject drugs. The Lancet. 2008;372(9651):1733-45*
7. *Birnbaum et al. Societal costs of prescription opioid abuse, dependence, and misuse in the United States. Pain Med. 011;12(4):657-67.*

DSM-5 Opioid Use Disorder

Mild 2-3; Moderate 4-5; Severe at least 6

- Tolerance
  - need more of drug to get same effect or same amount of drug gives less effect
- Withdrawal
  - compensatory changes in brain and body in response to (acute) drug abstinence
- Larger amounts or longer time than intended using
- Unsuccessful efforts to cut down or control use
- A great deal of drug-related time
- Craving
- Results in major role obligation failure
- Continued opioid use despite social problems
- Social/occupational/recreational activities diminished
- Recurrent opioid use despite being physical hazardous
- Continued opioid use despite physical/psychological problem

Addiction

- Primary, chronic, neurobiologic disease, with genetic, psychosocial, and environmental factors influencing its development and manifestations
- Includes ≥ 1 following behaviors:
  - impaired control over drug use
  - compulsive use
  - continued use despite harm
  - craving

(APS/AAPM/ASAM)

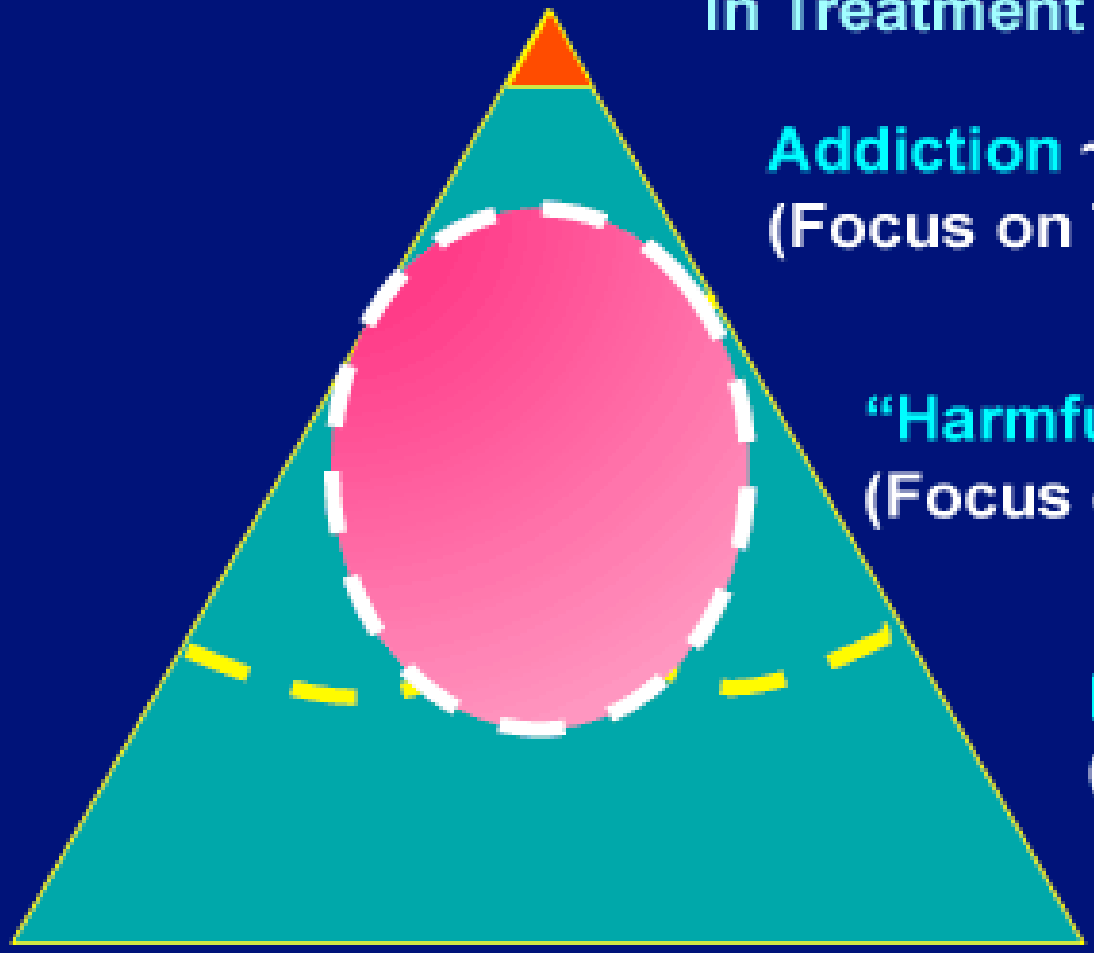
Medication-Assisted Treatment

- Methadone
- Buprenorphine
- Naltrexone

Taper/Detox

- Commonly offered
  - Little empirical support

Substance Abuse

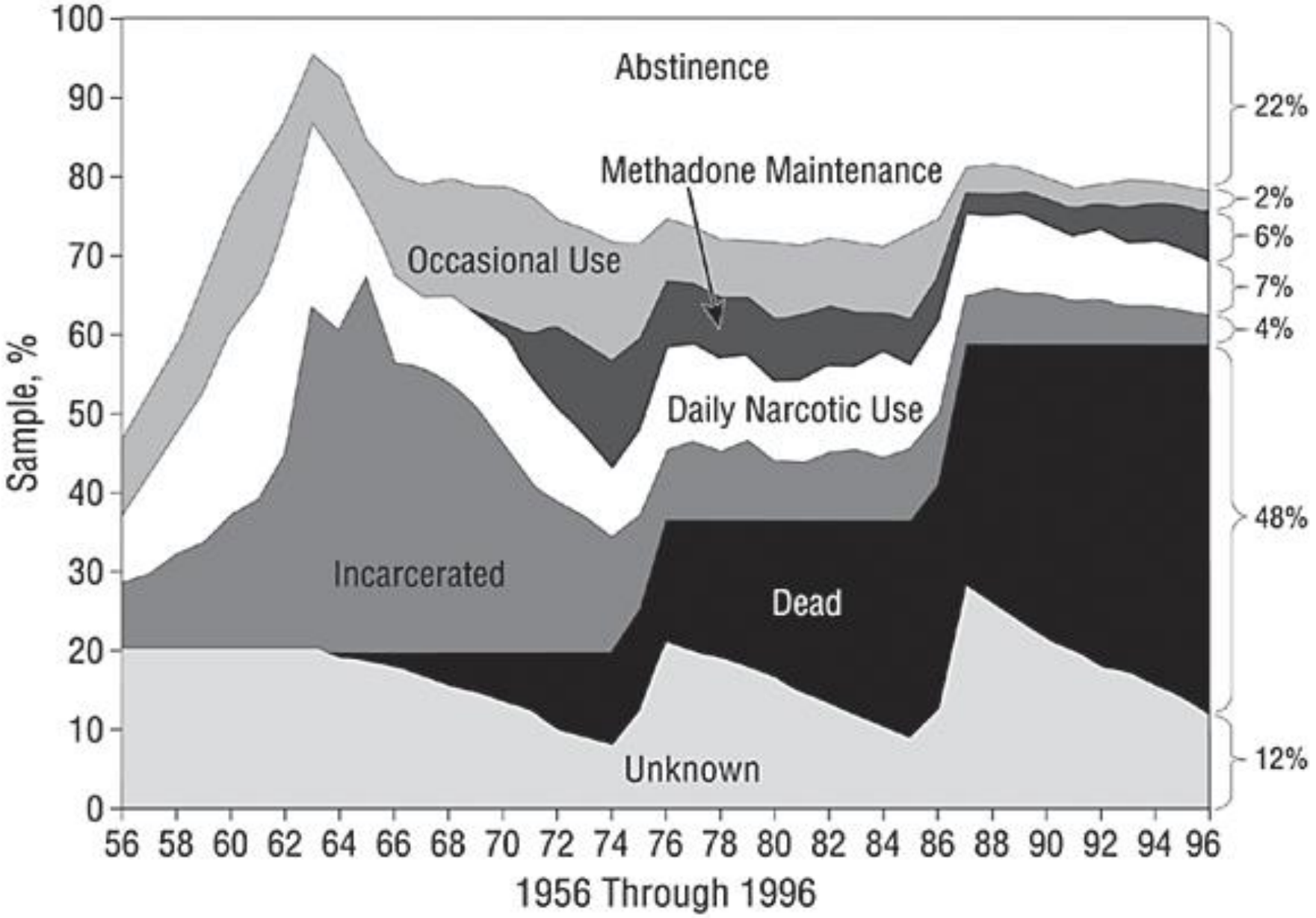


In Treatment ~ 2,300,000

Addiction ~ 25,000,000
(Focus on Treatment)

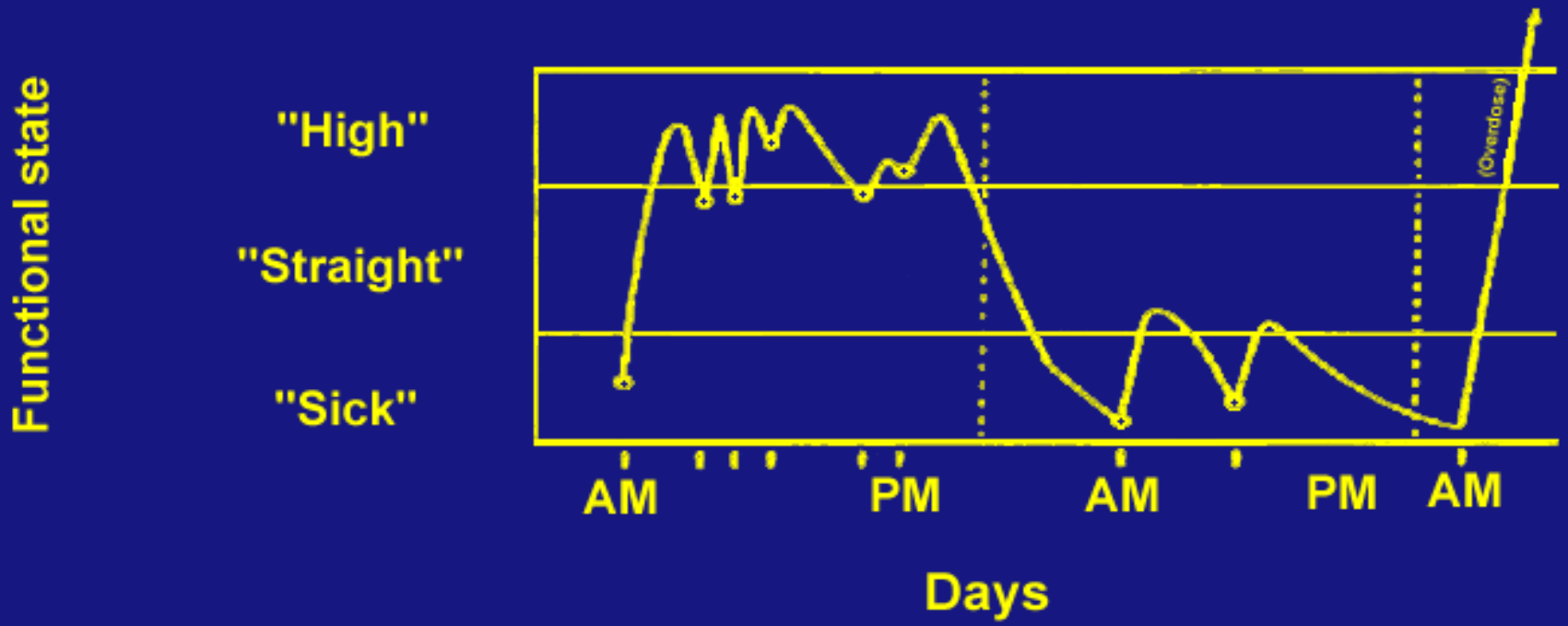
"Harmful Use" – 68,000,000
(Focus on Early Intervention)

Little or No Use
(Focus on Prevention)



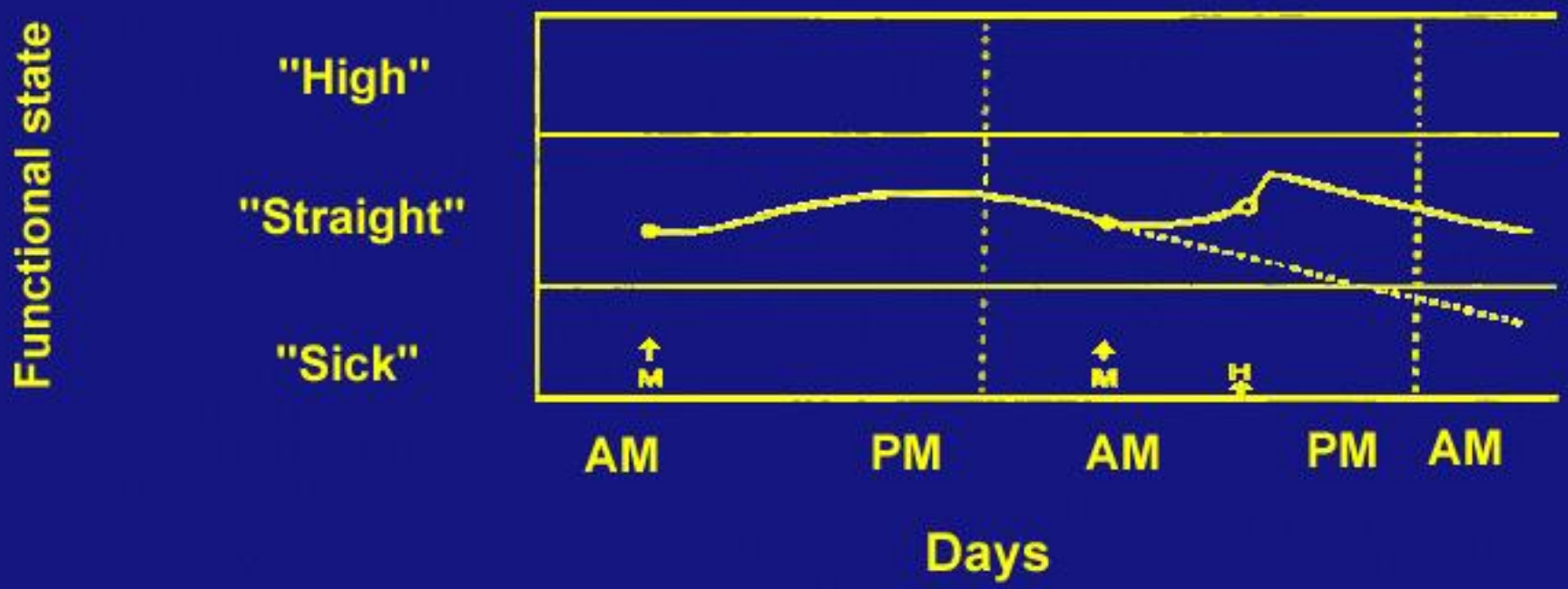
The natural history of narcotics addiction among a male sample (N = 581).
From: Yih-Ing, et. al., 2001. A 33-Year Follow-up of Narcotics Addicts. Archives of General Psychiatry, 58:503-508)

What is it like to be opioid dependent?



Diagrammatic summary of functional state of typical "mailine" heroin user. Arrows show the repetitive injection of heroin in uncertain dose, usually 10 to 30 mg but sometimes much more. Note that addict is hardly ever in a state of normal function ("straight").

From "Narcotic Blockade," by V. P. Dole, M. E. Nyswander, and M. J. Kreek, 1966, Archives of Internal Medicine, 118, p. 305.

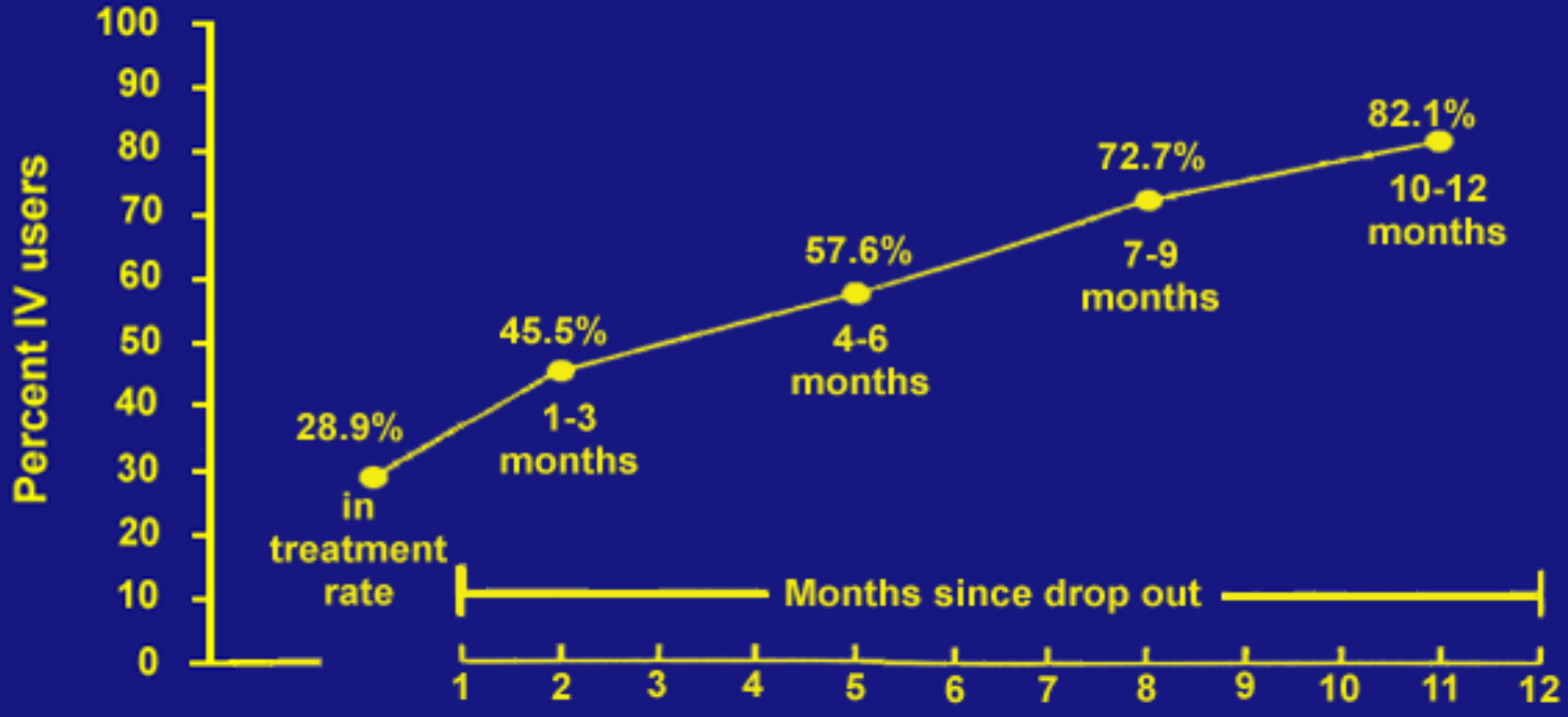


Stabilization of patient in state of normal function by blockade treatment. A single daily oral dose of methadone prevents him from feeling symptoms of abstinence ("sick") or euphoria ("high"), even if he takes a shot of heroin. Dotted line indicates course if methadone is omitted.

From "Narcotic Blockade," by V. P. Dole, M. E. Nyswander, and M. J. Kreek, 1966, Archives of Internal Medicine, 118, p. 305.

Opioid Agonist Treatment

- Rationale
- Cross-tolerance
  - prevent withdrawal
  - relieve craving for opioids
- Narcotic blockade
  - block or attenuate euphoric effect of exogenous opioids



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

Treatment vs. Addiction

	Methadone or buprenorphine	Heroin or prescription opioids
Route	Oral, sublingual	IV, IN
Onset	30 minutes	Immediate
Duration	24-36 hours	3-6 hours
Euphoria	Absent	Marked

Psychological Treatments

- Learning
  - Association
  - Consequences
- Availability
- Stress

Main Psychosocial Treatments

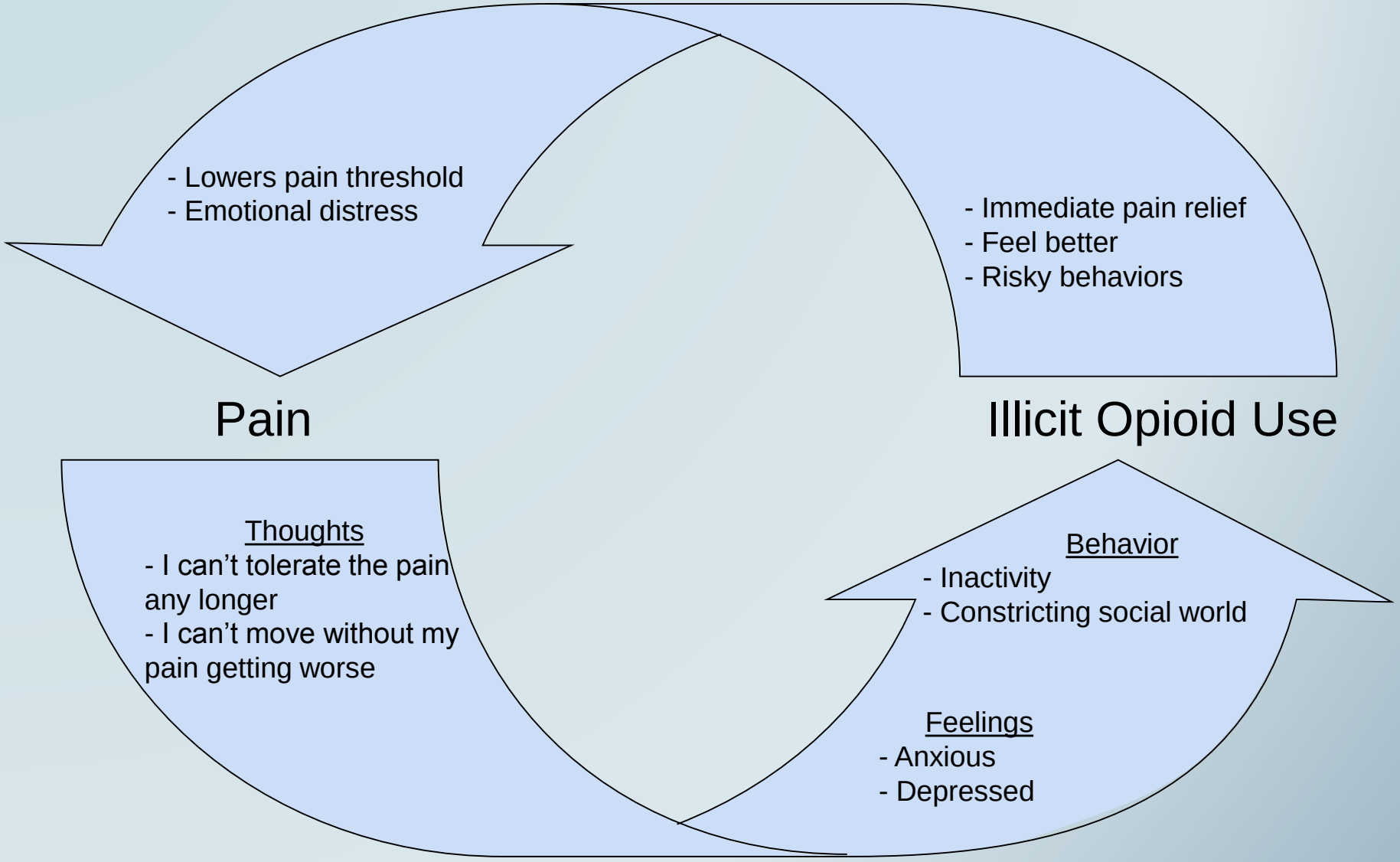
- Behavioral treatments
  - Time-limited
  - Goal directed
  - Observable behavior
  - Classical and operant conditioning

- Cognitive-behavioral therapy
  - In addition to behavioral treatment principles, consider what's going on inside the person (i.e., thoughts, feelings)

Cognitive-Behavioral Therapy Modules

- Education
- Exercise and Behavioral Activation
- Relaxation Training
- Distress Tolerance
- Functional Analysis of Behavior
- Resilience Training

Pain-Opioid Addiction Dysfunction Cycle



Other Psychosocial Treatments

- Motivational interviewing
  - Patient-centered
  - Addresses ambivalence about change
    - “rolling with resistance”
    - open-ended questions
    - reflective listening

12-step groups

- Paucity of research
- 12-step facilitation has empirical support
- Free, opportunity to socialize
- May hold negative view of pharmacotherapy

Summary and Conclusions

- Current epidemic of opioid use disorders
- Evidence-based treatment
  - Medication-assisted treatment
- Psychological factors
  - Important in development and maintenance of opioid use disorder
  - Play a role in treatment-seeking
  - Useful to address in treatment