SPAULDING REHABILITATION NETWORK

The Opioid Crisis and Brain Injury

Massachusetts Brain Injury Association
Annual Conference
3/24/16

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The Problem

Heroin epidemic exacts a savage toll in Massachusetts town

By Bran MacQuarrie, The Boston Globe 05.25.15

Truth in death: Shedding the stigma of heroin addiction in obituaries More families are saying how their loved ones died in their death notices.

By Allison Manning, The Boston Globe 08.03.15

The Problem

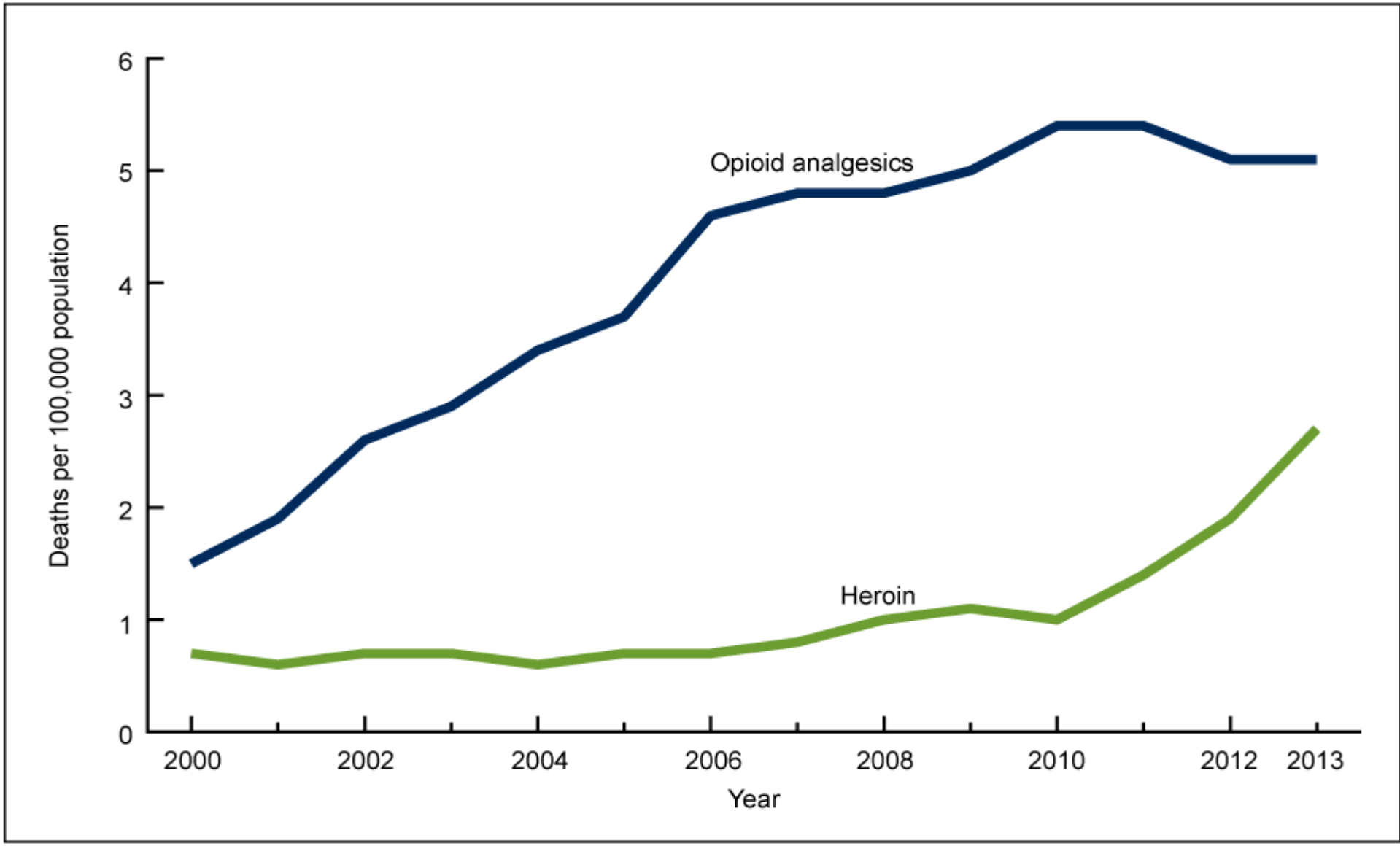
The explosion of drugs like OxyContin has given way to a heroin epidemic ravaging the least likely corners of America - like bucolic Vermont, which has just woken up to a full-blown crisis

The New Face of Heroin
David Amsden *Rolling Stone* 4.3.14

Ten years ago, prescription painkiller dependence swept rural America. As the government cracked down on doctors and drug companies, people went searching for a cheaper, more accessible high. Now, many areas are struggling with an unprecedented heroin crisis

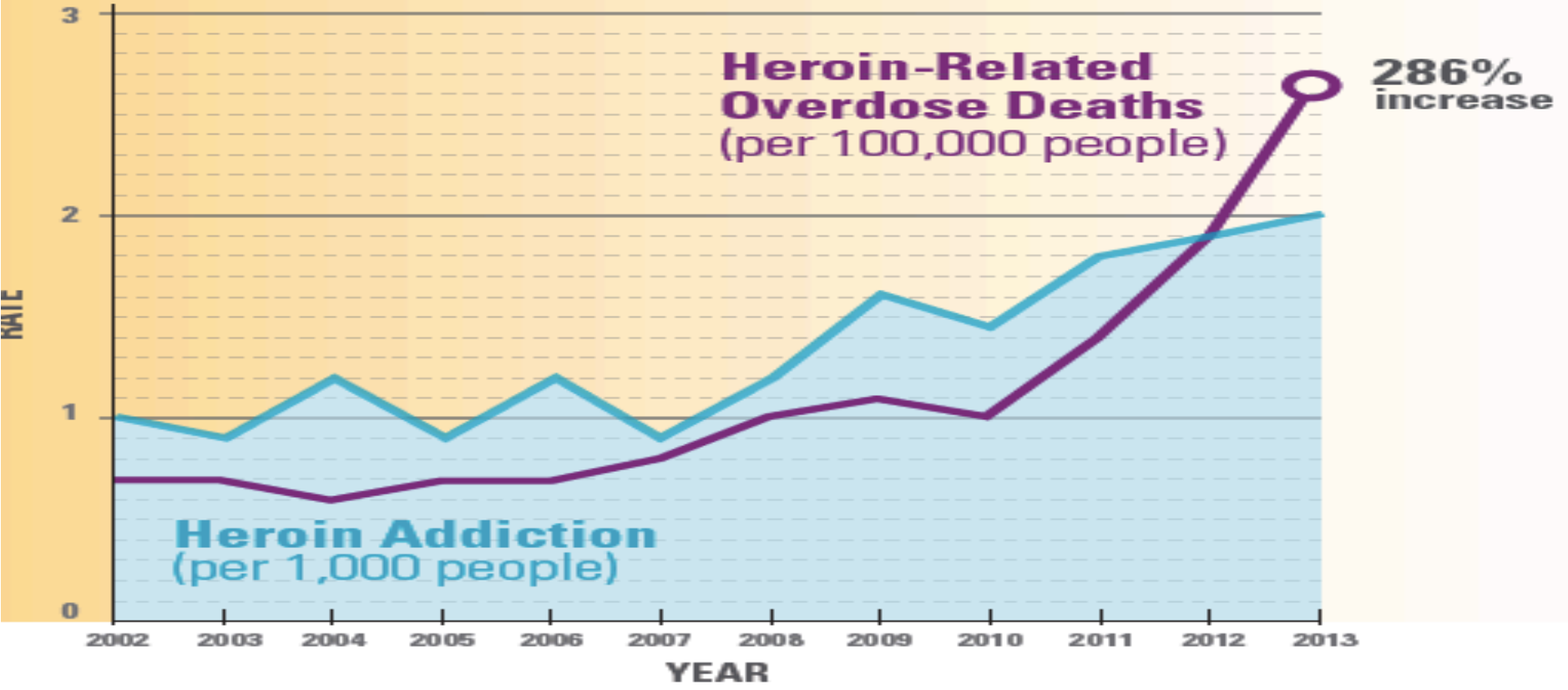
The New Heroin Epidemic
Olga Kazhan *The Atlantic* 10/30/14

Figure 1. Age-adjusted rates for drug-poisoning deaths, by type of drug: United States, 2000–2013



NOTES: The number of drug-poisoning deaths in 2013 was 43,982, the number of drug-poisoning deaths involving opioid analgesics was 16,235, and the number of drug-poisoning deaths involving heroin was 8,257. A small subset of 1,342 deaths involved both opioid analgesics and heroin. Deaths involving both opioid analgesics and heroin are included in both the rate of deaths involving opioid analgesics and the rate of deaths involving heroin. Access data table for Figure 1 at: http://www.cdc.gov/nchs/data/databriefs/db190_table.pdf#1.
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality.

Heroin Addiction and Overdose Deaths are Climbing

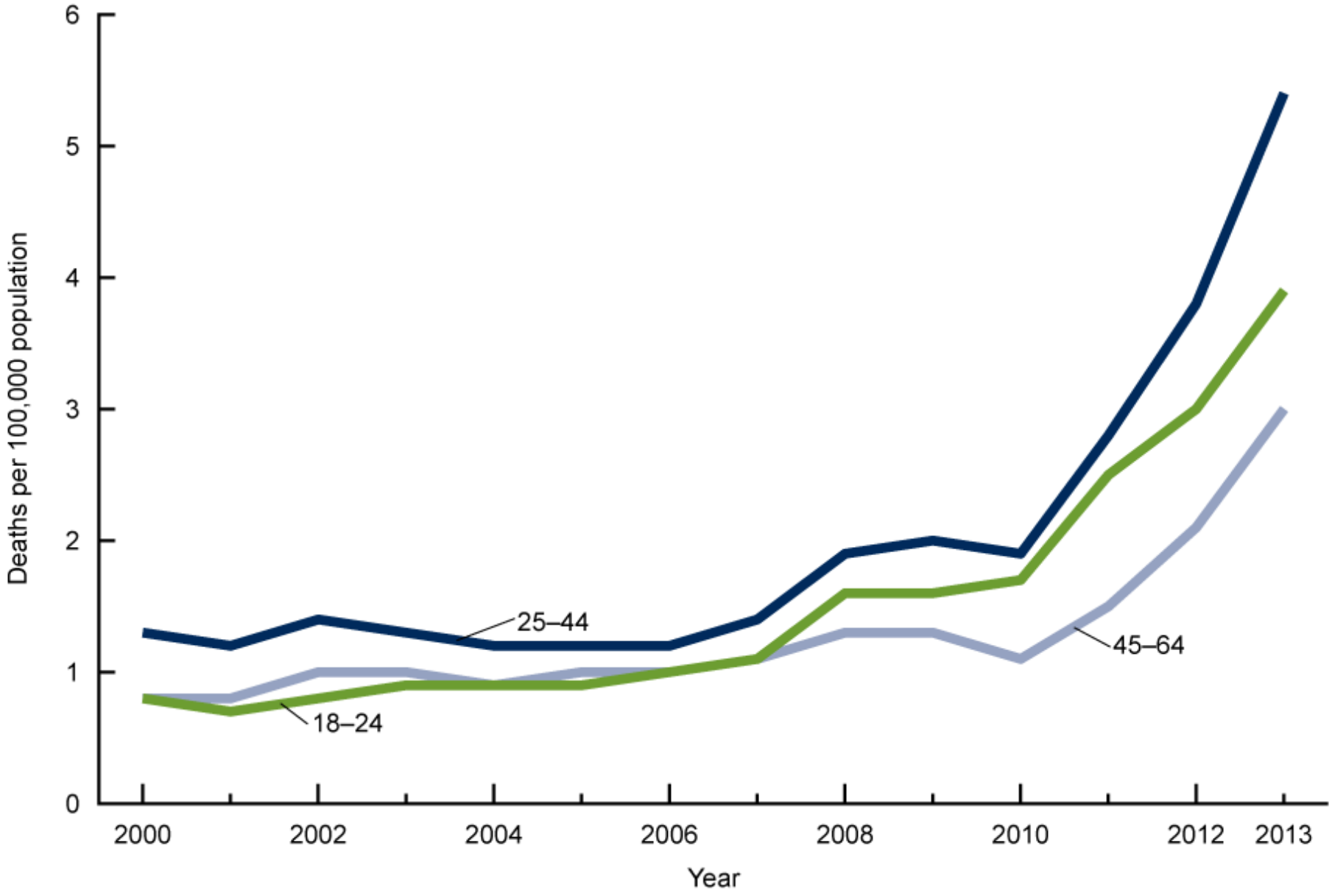


SOURCES: National Survey on Drug Use and Health (NSDUH), 2002-2013.
National Vital Statistics System, 2002-2013

SPAULDING REHABILITATION NETWORK

Find your strength.

Figure 3. Rates for drug-poisoning deaths involving heroin, by selected age groups: United States, 2000–2013



NOTE: Access data table for Figure 3 at: http://www.cdc.gov/nchs/data/databriefs/db190_table.pdf#3.
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality.

The Problem

39%
Sharp Rise in Heroin-Related Deaths 2012-2013

90%
Of First-Time Heroin Users Are White

75%
Of Heroin Addicts Used Prescription Opioids Before Turning to Heroin

THE NUMBERS BEHIND AMERICA'S HEROIN EPIDEMIC
A guide to the drug's spread and impact
New York Times OCT. 30, 2015

The Problem

45%
of people who used heroin between 2011 and 2013 were also addicted to prescription painkillers.

People who are dependent on prescription opioids are 40 times more likely to abuse or be dependent on heroin. C.D.C data

THE NUMBERS BEHIND AMERICA'S HEROIN EPIDEMIC
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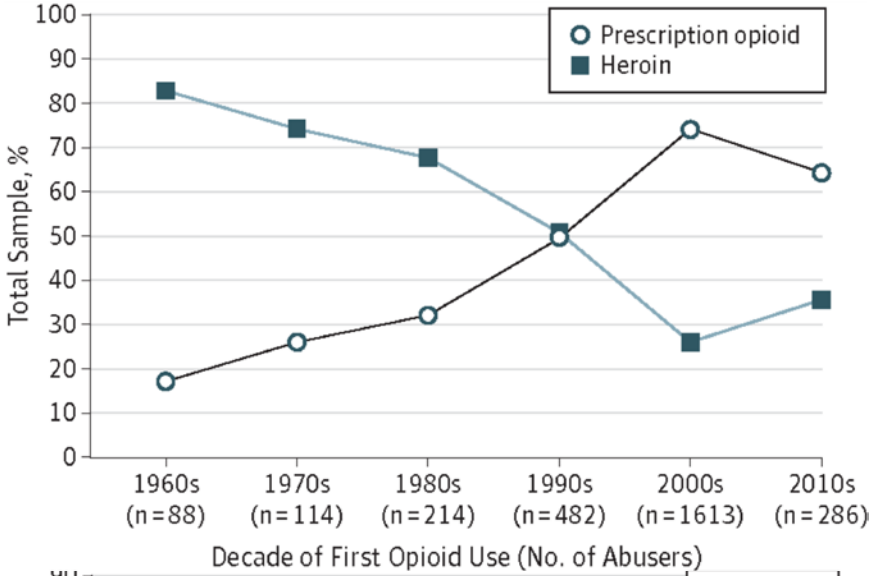
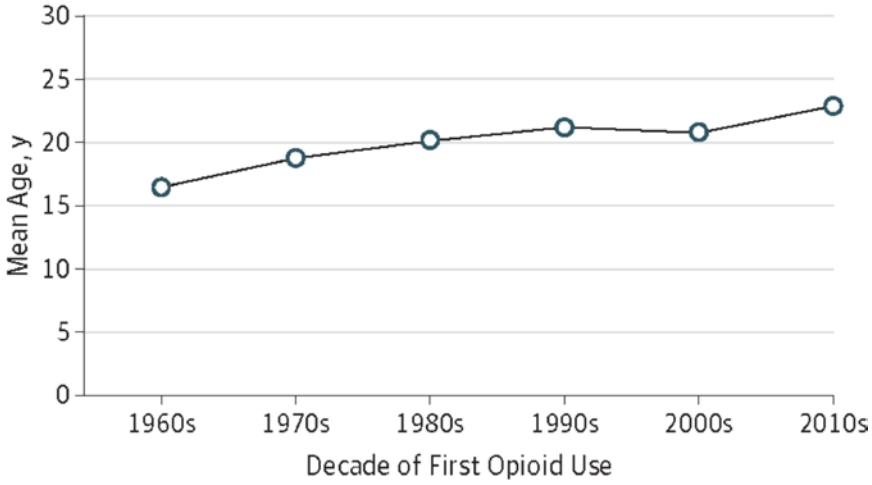
New York Times OCT. 30, 2015

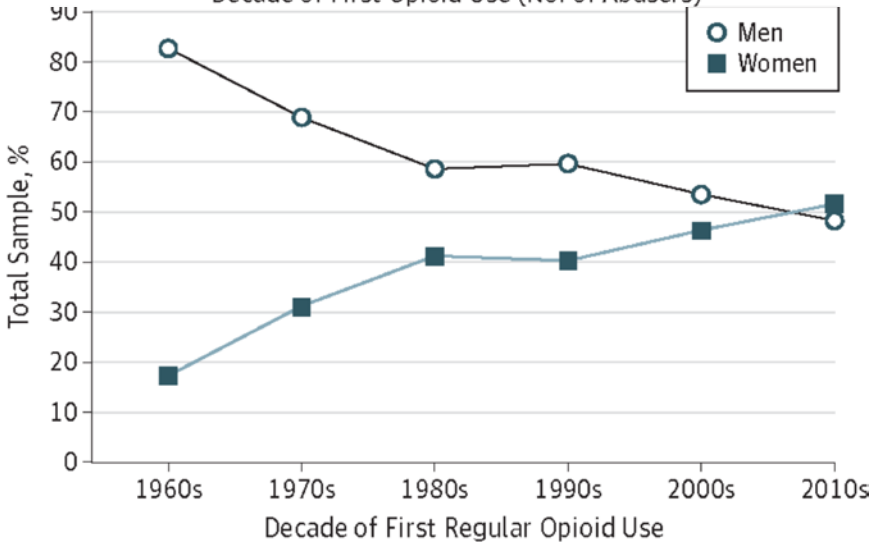
The Problem

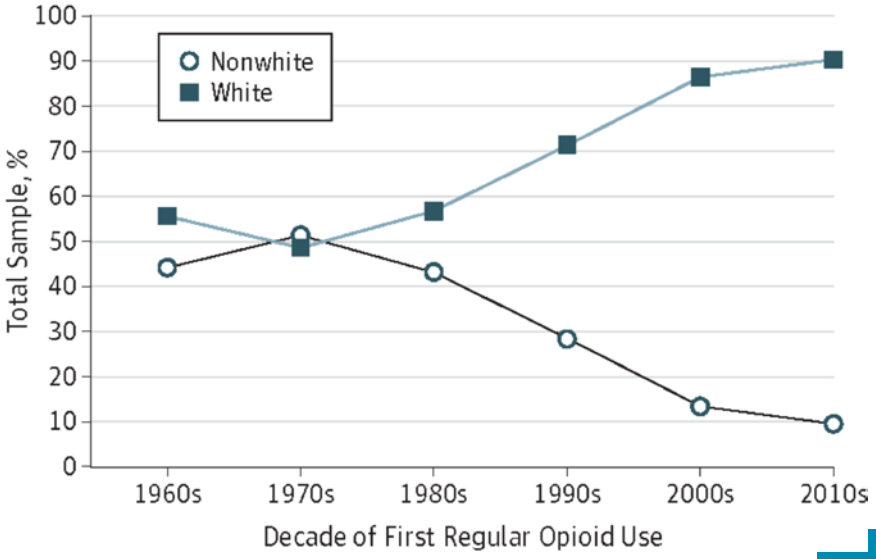
- Heroin use more than doubled among young adults ages 18-25 in the past decade
- More than 9 in 10 people who used heroin also used at least one other drug
- 45% of people who used heroin were also addicted to prescription opioid painkillers

The Changing Face of Heroin Use in the United States: A Retrospective Analysis of the Past 50 Years Cicero,Ellis, Surratt, Kurtz 2014









Obama announces new steps to combat heroin, prescription drug abuse

By Steven Mufson and Katie Zezima
Washington Post 10.21.15

Facing epidemic, Baker seeks to limit opioid prescriptions

By Joshua Miller
Boston Globe 10.15.15

What is Addiction

- Primarily an acquired chronic brain disease characterized by compulsive drug use *despite harmful consequences*
- *Not* a matter of choice
- *Not* a lack of character or morality

What is Addiction

- Primary chronic neurobiological disease with genetic, psychosocial and environmental factors influencing development and manifestation

- 4 C's
  - Impaired Control over drug use
  - Compulsive use
  - Continued use despite harm
  - Craving

Risk Factors

- Family History
  - Genetic predisposition
  - Modeling
- Gender
  - Men more at risk
  - Women develop addition more quickly
- Age of first use
- Having another mental health disorder
- Peer pressure
- Lack of family involvement
- Loneliness
- Taking a highly addictive drug

Mayo Clinic @mayoclinic.org

Pathways

- Initial prescription opioids for pain
  - Liberal prescription of OxyContin, Percocet, Vicodin
  - Drug action: Dopaminergic effects

- Expectations
  - Influenced by personality and internal states of mind, depression, stress and anxiety,

- Setting
  - Environmental, social and cultural context in which use takes place.

Opiate Addiction and Brain Injury

Source of Neurologic Damage

- Motor vehicle accidents, falls, assaults
- Stroke
  - Infective endocarditis
  - Hypoxia, hypotension
- Anoxia from respiratory/cardiac arrest following overdose
- Chronic use damages white matter centers associated with problems with depression and memory

BI as a Cause of Addiction

- Limited research to support new substance abuse problems following BI in individuals with no history prior to injury

- Opiate use/dependence more typically a cause of BI than a result

Increased Risk For Addiction or Relapse Post BI

- Chronic pain
  - Headaches
  - HO
  - Co-morbid physical injuries

- Cognitive impairments
  - Decreased learning and memory
  - Decreased insight
  - Decreased problem-solving
  - Poor impulse control and self-regulation
  - Reduced coping strategies

Increased Risk For Addiction or Relapse Post BI

- Affective Disorders
  - Depression
  - Anxiety
  - PTSD
- Other SA (ETOH)

Increased Risk For Addiction/Relapse Post BI

- Environmental changes
  - Social isolation
  - Reduced vocational and recreational functioning
  - Reduced access to non-drug related activities and reinforcers

- Disrupted Neurocircuitry
  - Disordered incentive-motivation dopamine pathways

Assessment of Risk

- Past History
  - Medical
  - Social
  - Family
  - Drug Use
  - Patterns of Use
- Pain complaints and treatment
- Expectations for drug effects
- Non-opioid drug use
- High-risk situations

Assessment of Risk

- Screening Tools
  - CAGE (Cutting down, Annoyance by criticism, Guilty feelings, Eye-openers)
  - CAGE Aid (Adapted for opiate abuse)
  - ORT (Opioid Risk Tool)
  - PADT (Pain Assessment and Documentation Tool)
  - SOAPP (Screener and Opioid Assessment for Patients with Pain)
  - SOAPP-R (Revised Screener and Opioid Assessment for Patients with Pain)
- Skills Repertoire (Stress management, Conflict resolution, Emotional regulation, Craving management)
- Reinforcers for abstinence
- Neuropsychological profile
- Motivational level

Warning Signs

Prescription requests

- Demands for more medications or early refills
- Lost prescriptions, lost pills
- “Doctor shopping” or seeing multiple physicians
- Visits to the emergency room to obtain opioids
- Obtaining opioids from non-medical sources (including taking drugs prescribed to other people)
- Canceled or missed appointments or showing up at the clinic without an appointment
- Requesting refills rather than a clinic visit, excessive phone calls to the clinic

Warning Signs

Use of medications for non-prescribed purposes

- The use of prescription opioids to treat symptoms such as anxiety or depression
- Illicit drug use
- Patient's admitting that he or she desired euphoric effects from the opioids

Illegal behaviors

- Stealing drugs,
- Selling prescription drugs
- Motor vehicle accident
- Prescription forgery, theft or other tampering

Warning Signs

Other signs or behaviors

- Multiple dose escalations without prior authorization or even despite physician warning
- Concurrent use of alcohol
- Resisting changes to prescribed medications despite adverse side effects,
- Asking for drugs by brand name or street names
- Hoarding drugs
- Injecting an oral formulation
- Escalating tolerance in the absence of objective signs of uncontrolled pain
- Deteriorating ability to function at work, school, or home that seems related to the prescription opioid
- Third party asked to manage the patient's medication (May be appropriate for BI pts)
- Purposely over-sedating oneself
- Concern expressed by another party about the patient's opioid use

Motivational Interviewing

- Method for enhancing intrinsic motivation to change by exploring and resolving ambivalence

Miller and Rollnick 1991

Motivational Interviewing

Five Basic Principles

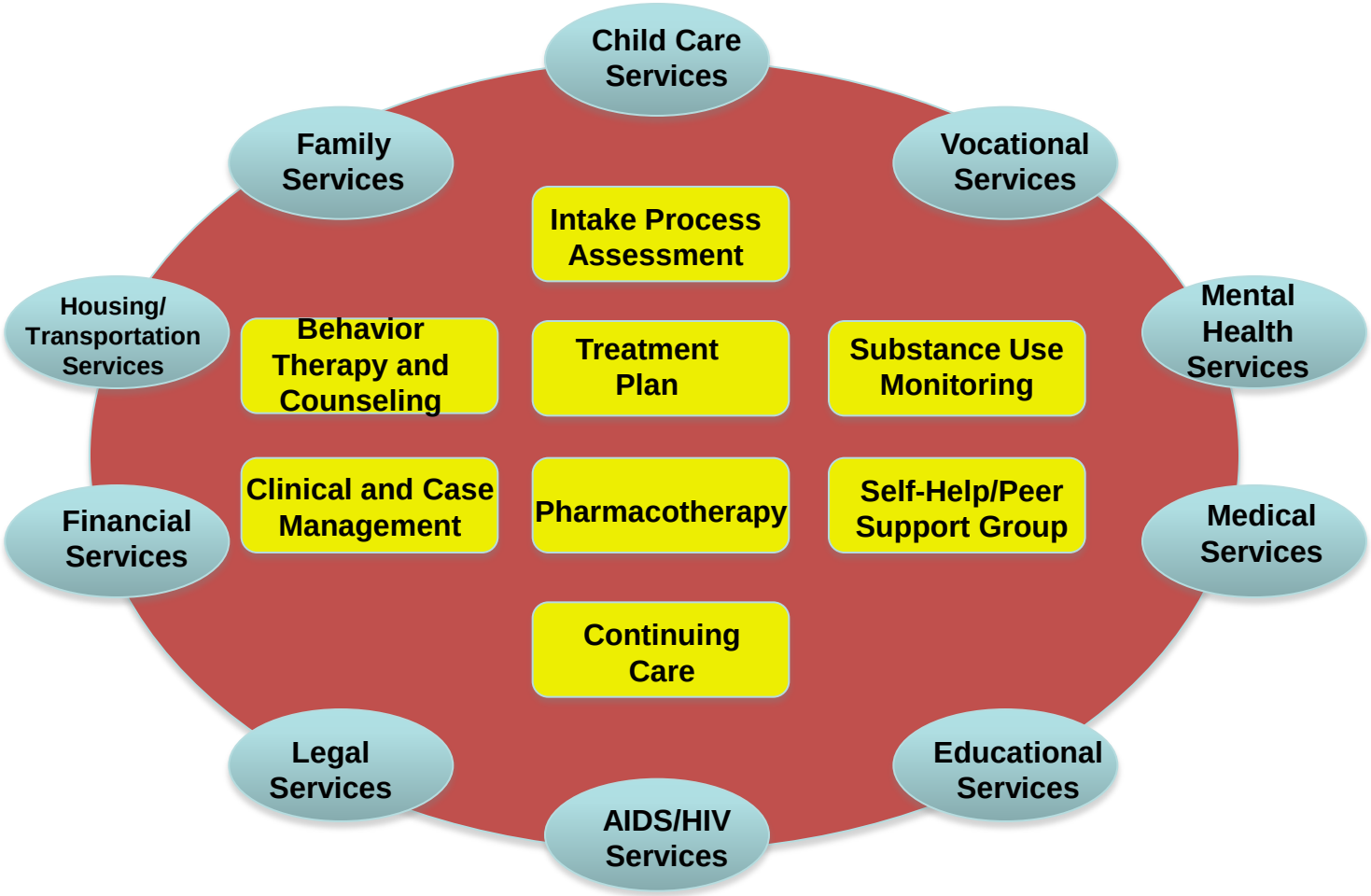
1. Express empathy
2. Develop discrepancy
3. Avoid argumentation
4. Roll with resistance
5. Support self-efficacy

Motivational Interviewing

Stages of Change

1. Pre contemplation
2. Contemplation
3. Determination
4. Action
5. Maintenance, Relapse, and Recycling

Components of Comprehensive Drug Addiction Treatment



Factors That Promote Recovery

- Individualized treatment plans
- Family and community support, regardless
- Network of care providers in contact
- Chronic disease model
  - Relapse is expected
  - Active treatment for at least 90 days, likely up to 2 years
  - Community-based corrdinated care
- Mutual aid, e.g. peer support: AA, NA, etc.

Treatment

- Pain Management
- Coping Skills Training
- Stress and anger management
- Mindfulness/Relaxation
- Living with Brain Injury
- Problem-solving skills

Treatment

Medications

- Opiate Replacement
  - Methadone
    - Used by 20-255 of opioid-dependent individuals
    - 20-70% effectiveness rate
  - Suboxone: Buprenorphine+naloxone
    - Less physical dependende
    - Less dysphoric effects than Methadone
  - Naltrexone
    - Long acting injections or implants
    - Blocks euphoric effects
    - No tolerance effects, but increases risk of overdose with relapse

Treatment

Medications

- SSRI's
- Mood stabilizers
  - Buspirone for anxiety
  - Depakote
  - Litihium
- Avoid anxiolytics and benzodiazepines due to risk for abuse

Components of CBT for Addictions

9 core topics

1. Building and maintaining motivation to change
2. Identifying and dealing with stimulus conditions
3. Coping with craving
4. Refusal skills, handling confrontations and building
5. Assertiveness
6. Wise decisions taken at choice points
7. Problem solving
8. Adapting Lifestyle
9. Managing boredom

Cognitive-Behavioural Therapy in the Treatment of Addiction: A Treatment Planner for Clinicians
Christos Kouimtsidis, Martina Reynolds, Colin Drummond, Paul Davis & Nicholas Tarrier

Components of CBT for Addictions

Relapse prevention

1. Mood disorders – depression, worry and anxiety
2. Low self-esteem
3. Anger, aggression and impulse control
4. Trauma and abuse
5. Relationship problems
6. Compliance with treatment
7. Risk behaviours/injecting behaviours
8. Repeated criminal behaviour
9. Sleep management

Cognitive-Behavioural Therapy in the Treatment of Addiction: A Treatment Planner for Clinicians Christos Kouimtsidis, Martina Reynolds, Colin Drummond, Paul Davis & Nicholas Tarrier

Treatment

- Craving management
- Social skills training
- Time-management
- Developing alternative leisure activities/reinforcers
- Identifying and resisting triggers

Treatment Accommodations for TBI Patients

- Smaller groups
- Memory Books/Journals/Recording Devices
- Increased processing time
- Information presented in smaller chunks

Treatment Accommodations for TBI Patients

- Repeated presentation of key information
- Use of multiple formats - verbal, visual, auditory
- Role-play
- In-vivo rehearsal

Community Supports

- Individual counseling
- Family education/counseling
- NA/ALANON
- TBI support groups

BI and Opiate Abuse Bibliography

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