Treating Addiction as a Chronic Disease

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64,070 Overdose Deaths vs Other Major Causes in 2017

Drugs Involved in U.S. Overdose Deaths, 2000 to 2016

- Synthetic Opioids other than Methadone, 20,145
- Heroin, 15,446
- Natural and semi-synthetic opioids, 14,427
- Cocaine, 10,619
- Methamphetamine, 7,663
- Methadone, 3,314

U.S. No. of Deaths by Cause and Year

Comparison of relapse rates between substance use disorders and other chronic illnesses

- Diabetes: 30-50%
- SUD: 40-60%
- Hypertension: 50-70%
- Asthma: 50-70%

Why is Addiction Treatment Evaluated Differently? 
Both Require Ongoing Care.
No single factor determines whether a person will develop a SUD

Some contributing factors

- Genetics
- Structure of brain
- Psychological influences
- Environmental influences
- Age of first substance use

The National Center on Addiction and Substance Abuse. (2013). Addiction Medicine: Closing the Gap between Science and Practice
Spectrum of Unhealthy Substance Use

**Drugs**
- Any illicit drug use
- Any prescription medication use for non-medical reasons

**Alcohol**
- Daily limit
  - Men: 5 or more drinks in a day
  - Women: 4 or more drinks in a day
- Weekly limit
  - Men: >14 drinks in a week
  - Women: >7 drinks in a week
- Any use <21y/o or pregnant

**Of persons who exceed daily and weekly limits, almost 1 in 2 with meet criteria for SUD**
Sure that felt good, but we should not do that again...dangerous stuff...

That must be critical for survival!

Whatever I choose I’m doing it above all else
Natural History of Opioid Use Disorder

Using to feel good

Needing to use more to feel normal

Using to keep from getting sick
Natural Trajectory of Substance Dependence

- Euphoria
- Baseline
- Withdrawal

Tolerance and Physical Dependence

Acute use

Chronic use
Addiction Changes Brain Structure and Function

Decreased Heart Metabolism in Coronary Artery Disease

Decreased Brain Metabolism in Addiction

Healthy heart

Diseased Heart

Healthy Brain

Diseased Brain

www.mghcme.org

NIDA
Substance Use Careers Last for Decades

Median duration of 27 years (IQR: 18 to 30+)

Source: Dennis, Scott, Funk & Foss (2005) (n=1,271)
Most people do achieve abstinence

Median duration of 9 years (IQR: 3 to 23) and 3 to 4 episodes of care

Source: Dennis et al 2005 (n=1,271)
Although nearly half of deaths among people with opioid use disorder are due to direct effects of the substance, more than 40% are due to common health problems, highlighting the importance of comprehensive medical care.

Evans et al., 2015
Substance use disorders

Primary, progressive, permanent, predictable, terminal (1956)

Compulsive seeking and use, despite harmful consequences

Pathological pursuit of reward and/or relief...with biological, psychological, social and spiritual manifestations. Characterized by periods of relapse and remission.
Health Economics of Treatment

• Substance use disorders cost the US > $600 billion annually and unquantifiable human suffering
• Every dollar invested in addiction treatment programs yields a return between $4 - $7 in reduced drug-related crime and criminal justice costs
• When savings related to healthcare are included, total savings can exceed costs by a ratio of 12 to 1.
• Average cost for 1 year of methadone maintenance treatment $4,700
• Average cost 1 year imprisonment $30,000-50,000

NIDA, 2018
A word about detoxification treatment for OUD:

- Detox = short course of treatment (+/- 5 days) to manage acute intoxication and withdrawal
- Detox is not recommended as stand-alone treatment
  - Relapse rate >90%
  - Increased rates of overdose due to decreased tolerance
  - Protracted abstinence syndrome
  (ASAM, 2015)
Goal of Medication Treatment for OUD

- Withdrawal Baseline
- Euphoria
- Acute use
- Tolerance & Physical Dependence
- Chronic use
- MAT
Medications for OUD before and after overdose

- Buprenorphine
- Methadone
- Naltrexone

% receiving medication over time:

<table>
<thead>
<tr>
<th>Months from index overdose</th>
<th>Buprenorphine</th>
<th>Methadone</th>
<th>Naltrexone</th>
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<tbody>
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<td>-12</td>
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Overdose survivors who receive medication have better survival.
The good news: Medication treatment saves lives!

In Baltimore, 1995 - 2009, increased availability of methadone and buprenorphine was associated with \~50\% decrease in fatal overdoses.

98% of patients receive aspirin after a heart attack. Only 30% receive MOUD after an overdose.

**Methadone And Buprenorphine Are Associated With Reduced Mortality After Nonfatal Opioid Overdose**

<table>
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<th>RETROSPECTIVE COHORT, MASSACHUSETTS PUBLIC HEALTH DATASET, 2012-2014</th>
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<tr>
<td>17,568 opioid overdose survivors</td>
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<td>with ambulance or hospital encounter</td>
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| Only 3 in 10 receive MOUD*                                   |
| over 12 months of follow-up                                 |

| Mortality at 12 months:                                     |
| 4.7 deaths / 100 person-yrs                                |

Association of MOUD* with mortality:

- Methadone: ↓ 53%
- Buprenorphine: ↓ 37%
- Naltrexone**: ↔

**Medication for Opioid Use Disorder**

**limited by small sample**

- Buprenorphine appears to be a strong protective factor against mortality.
- Being out of treatment was associated with a markedly increased risk of death (hazard ratio = 29.04; 95% CI, 10.04-83.99).
Value of Medication for addiction treatment

- Medicaid medical costs decreased by 33 % over 3 years following engagement in treatment
  - Decline in expenditures: hospitals, emergency departments, and outpatient services
- Baltimore study 50% decrease mortality with buprenorphine and methadone treatment
- Massachusetts decrease ED, and hospital admissions with retention in treatment

Chronic Disease Management

• No cure

• Goal is prevention of acute and chronic complications

• Individualized treatment plan patient centered

• Treatment includes:
  – Medication
  – Lifestyle changes
  – Regular monitoring for complications
  – Behavioral support
How Long Should Treatment Last?

• So, how long should maintenance treatment last?

• Patient Centered Approach

• Long enough
Patient-centered care

- Relationship-based health care with an orientation toward the whole person
- Respects each patient’s unique needs, culture, values, and preferences
- Supports patients in learning to manage and organize their own care at the level the patient chooses

Agency for Healthcare Research and Quality
http://pcmh.ahrq.gov/page/defining-pcmh
How has addiction treatment changed?

- **Short-term acute interventions vs. chronic disease management model**
- Relapse is a part of the disease, **NOT** a failure
  - Similar to 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
Collaborative Care: Effective treatment requires a multidisciplinary approach

- Evidenced based practices
- Integrated, well coordinated treatment
- Medication and behavioral treatment

Counseling Goals:
- Building and maintaining motivation for recovery
- Understanding relapse triggers
- Developing coping and problem solving skills
- Overall improvement in functioning
- Connection to community
A substance use disorder is a chronic medical condition that responds best when treated with evidence-based, patient-centered, ongoing, comprehensive medical care.

Patients with substance use disorders deserve to be treated with dignity and respect.

The goals of treatment include:

- cessation or reduction in harmful substance use
- active participation and engagement in treatment,
- restoration physiologic functions and
- improvement in one’s quality of life.

We strive for lowest possible barrier, treatment on demand
174 people die in our country each day from a drug overdose.
Discussion and Questions

Thank you for your time, attention, and commitment.

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