THE HEROIN/OPIOID EPIDEMIC
A CALL TO ARMS

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LOTS TO TALK ABOUT

• Current Heroin/Opioid Epidemic: Causes & Solutions
• SUD = bio-psycho-social disease: Words Matter
• Role of brain’s reward center: SUD = Chronic Illness
• Holistic/Integrated Care: Treat the Whole Person
• Indications for Medication Assisted Treatment (MAT)
• Stigma: Medical, Behavioral & Societal - NIMBY
• Costs of SUD: Financial & Community: Accessible Treatment
• Adolescents & SUD: Alternative Approach
• Strategies to make a difference:
  • It Takes a Village / 1000 points of Light
A PUBLIC HEALTH CRISIS

- 25% of population reports binge drinking
- 18% of population used illicit drug or misused prescription drugs
- 64,000 died of drug OD in 2016
- Alcohol misuse → 88,000 deaths/yr

Only 1 in 10 w/ SUD Receive Treatment
MOST PREVALENT DISEASES
UNITED STATES

Founded in 1992 by former U.S. Secretary of Health, Education & Welfare, Joseph A. Califano, Jr,
Overdose Deaths

Age adjusted death rates by state – U.S. 2015

https://www.cdc.gov/nchs/products/databriefs/db273.htm
TOP CAUSE OF ACCIDENTAL DEATHS

Drugs now kill more people than cars, guns

Number of deaths from drug poisonings vs. other causes, 1999-2014

- Drug overdoses
- Car accidents
- Shootings

Source: CDC
TOTAL U.S. DRUG DEATHS


New York Times, Archives.gov, and iCasualties.org
TOTAL U.S. DRUG DEATHS

Drugs Involved

Heroin and fentanyl-related deaths are not mutually exclusive. Several deaths involved both drugs.

OVERDOSE DEATHS - 2016

NEW HAMPSHIRE
DRUG OVERDOSE DEATHS
by Age & Sex - 2016

Source: NH Bureau of Drug & Alcohol Services, 2016
Figure 1. Percent of high school students who have used heroin or prescription drugs without a doctor's prescription in their lifetime

Source: Youth Risk Behavioral Survey, 2013

Source: NH Bureau of Drug & Alcohol Services, 2016
MA vs. US - Opioid Deaths

Age-Adjusted Opioid-related Death Rate by Year

Comparing the opioid-related death rate of Massachusetts to the nation overall.

Sources: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2014 on CDC WONDER Online Database, released 2015. Massachusetts Registry of Vital Records and Statistics. Massachusetts Department of Public Health.

View the dataset powering this visualization.
Annual Opioid Deaths - MA

Average Annual Opioid-related Death Rate per 100,000 People\textsuperscript{1,2,3,4,5}

The maps below, representing average annual rates of opioid-related deaths across five-year spans, demonstrate the increase in both the spread and intensity of the problem across Massachusetts.

View the dataset powering this visualization.

Sources: Massachusetts Registry of Vital Records and Statistics, Massachusetts Department of Public Health
Heroin Use - MA

Percentage of Patients in Treatment Listing Heroin as their Primary Substance of Use

At admission, clients identify a primary substance of use for which they are seeking treatment. Below, view maps at five-year intervals which show the increase in the percentage of admissions identifying heroin as their primary substance of use.

2000

2005

2010

2015

View the dataset powering this visualization.

Sources: Massachusetts Bureau of Substance Abuse Services, Massachusetts Department of Public Health
FENTANYL & CARFENTANIL

A photo from the New Hampshire State Drug Lab: deadly dose of heroin, fentanyl and carfentanil

Fentanyl: > powerful than heroin or morphine - 50 - 100 x more potent than morphine

Carfentanil: 10,000 times stronger than morphine
FENTANYL DEATHS IN NEW HAMPSHIRE

Fentanyl Combination Related Drug Deaths 2016*

<table>
<thead>
<tr>
<th>Drug Combination</th>
<th># of Deaths</th>
</tr>
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<tbody>
<tr>
<td>Fentanyl</td>
<td>198</td>
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<tr>
<td>Acetyl Fentanyl, Fentanyl</td>
<td>32</td>
</tr>
<tr>
<td>Cocaine, Fentanyl</td>
<td>25</td>
</tr>
<tr>
<td>Ethanol, Fentanyl</td>
<td>16</td>
</tr>
<tr>
<td>Fentanyl, Heroin</td>
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<tr>
<td>Fentanyl, Oxydone</td>
<td>8</td>
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<tr>
<td>Fentanyl, Methamphetamine</td>
<td>4</td>
</tr>
<tr>
<td>Fentanyl, Morphine</td>
<td>4</td>
</tr>
<tr>
<td>Acetyl Fentanyl, Cocaine, Fentanyl</td>
<td>3</td>
</tr>
<tr>
<td>Cocaine, Ethanol, Fentanyl</td>
<td>3</td>
</tr>
<tr>
<td>Cocaine, Fentanyl, Heroin</td>
<td>3</td>
</tr>
<tr>
<td>Acetyl Fentanyl, Cocaine, Fentanyl, Heroin</td>
<td>2</td>
</tr>
</tbody>
</table>

*2016 Numbers are based on analysis as of 8 April, 2017
Source: NH Medical Examiner's Office
Massachusetts Overdose Deaths

http://www.mass.gov/chapter55/
People choose to use drugs
They do not choose to become addicted
MOVING PAST SOUND BITES TO DEMYSTIFY & DESTIGMATIZE

To Tell the Real Story of Addiction
Based on Medical & Legal Truths

Sex — Drugs — Rock & Roll
MEET JIMMY SEDGWICK
&
DR. CARTER ADAM SEDGWICK

What’s it like to be:

Heroin addict in withdrawal and in jail
or
Parent receiving the call from your son
MEET SHAWN MARKS

What’s it like to be:

*Attorney trying to get to the truth*

*Addicts don’t rat on one another*
Meet Travis Bomer
Scalloper & Heroin Addict
West Haven Harbor, MDI

Can a heroin addict save a life on the high seas?
Meet Mr. and Mrs. Bomer
Travis’ Parents

What is it like to be:

*Child of an Addicted Parent*

or

*Co-Dependent (Enabling) Spouse*
Meet Annette Fiorno
Travis’ Fiancée – Waitress – Cocaine Addict

Can a cocaine addict actually keep a job?

Found dead at the bottom of the ravine
Did Jimmy kill Annette?
Meet Saul Tolson

Jimmy’s Psychotherapist

FICTION
ADDICTION
ON TRIAL

Dr. Steven Kassels

“Put aside your current opinion of addiction. Give me your cleansed minds for just a brief time. At the end of my presentation you may accept, reject, or modify anything I say, but please start now with a clean slate.”
Reward Pathway

- Prefrontal cortex
- Nucleus accumbens
- Ventral tegmental area
- Glutamate
- Dopamine
Activation of the reward pathway by addictive drugs

cocaine
heroin
nicotine

alcohol

PFC

VTA

NA

heroin
Annual Cost of Treatment
Heroin / Opiate Addiction

Thousands

- Outpt Rx
- Residential
- Department of Correction

$50,000 +
+$20,000
+$5,000

$50,000
Annual Cost to Society
Alcohol & Drug Addiction

$400 Billion spent related to:

- Crime
- Health Care
- Lost Worker Productivity

“You can pay now or you can pay later, but you’re gonna pay.”
Who or What to Blame - Heroin Epidemic

- Injudicious Prescribing by MD’s → Prescription Monitoring Program
- Physician Training & Biases
- Patient Expectations
- Big Pharma: Oxy Reconstitution & Heroin Purity
- War in Afghanistan → History repeating itself
- NIMBY: Public Service Announcements
- Supply & Demand - “War on Drugs”
- Mental Health Treatment
- Public Officials
- Revolving Door of Incarceration
- Internet Sale of Pain Pills
Internet Sale of Opiates

- $60 **Reasonable** OxyContin (hard to crush) 60 mg Hartford, CT
- $25 **Cheap** OxyContin (old OC-crushable) 20 mg Wiscasset, ME
- $3.75 **Reasonable** Methadone 10 mg Hartford, CT
- $15 **Pricey** Oxycodone 15 mg Burlington, VT
- $3 **Overpriced** Oxycodone 5 mg Providence, RI
- $10 **Overpriced** Dilaudid 2 mg Worcester, MA
“Improving Access to Mental Health Care”

Overwhelming ranked as the most important issue requiring NH Medical Society focus

Released by NHMS – August 17, 2017
NOT JUST THE DOCTORS

SOURCE, AMONG THOSE AGED 12 OR OLDER, WHO USED PAIN RELIEVERS NONMEDICALLY (2012-2013)

- Prescribed by 1 doctor, 21.2%
- Bought from a friend or relative, 10.6%
- Obtained free from friend or relative, 53.0%
- Got from a drug dealer or stranger, 4.3%
- Internet, 0.1%

Source: Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings, U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality
Fatal Opioid & Heroin Overdoses

Source: United States Center for Disease Control
Alcohol and other drugs claim a life every 4 MINUTES and cost us $400 billion every year

www.shatterproof.org
22 MILLION

Americans struggle with addiction every day

and more than 100 million family members share their pain

SECOND HAND DRINKING & DRUGGING

www.shatterproof.org
THE RACIAL DIVIDE
OVERDOSE DEATHS


https://www.cdc.gov/nchs/products/databriefs/db273.htm
Percent Adults Reporting Current Illicit Drug Use by Income Level

Source: BRFSS - Massachusetts
Percent Adults Reporting Current Illicit Drug Use By Educational Level

Source: BRFSS – Massachusetts
Addiction as a Disease Model

Chronic Relapsing Disorder
An Equal Opportunity Disease

• Bio-psychosocial disease

• Self inflicted illness w/genetic predisposition

• Self medication of underlying disease (psychiatric, pain)

• Family illness/dysfunction

• Secondary/complicating illnesses (medical & psychiatric)

• 50% of all patients w/ SUD → psychiatric illness
Tolerance
Less bang for the same buck

Dependency
Symptoms in the absence of a drug

Addiction
Not just current or prior dependency
Related to behavior
*Drug seeking behavior & use despite harm to self or others*
Opioid Addiction is a Brain Disease

Common Pathway to Addiction

- opioids both stimulate & suppress release of neurotransmitters → pleasure & addiction
- changes in brain structure and function from prolonged use
- change in endogenous opiate receptor sensitivity (mu, kappa, delta receptors)
Addiction

The continued engagement in a behavior despite adverse consequences

Starting to use a drug is a choice

but

Addiction is not a choice!

Drug seeking behavior and use despite harm to self or others
What is Methadone?

- Synthetic opiate to treat/prevent withdrawal in opioid addicted pts
- Does NOT create a high
- Used for more than 50yrs to treat chronic opioid addiction
  - Safety and effectiveness: documented by research studies around the world

Methadone is **NOT** Methamphetamine!
Methadone Treatment and Crime

Crime Before and During Methadone Maintenance Treatment at 6 Programs

Adapted from Ball & Ross - The Effectiveness of Methadone Maintenance Treatment, 1991
MEDICATION ASSISTED TREATMENT
CHRONIC ILLNESSES

- **DIABETES:**
  - *Disease of the Pancreas: Lack of Insulin or body not responding to Insulin*
    - Replacement medication:
      - Oral medication
      - Insulin
      - Counseling and psychosocial support are essential aspects of treatment

- **ADDISONS DISEASE:**
  - *Disease of the Adrenal Glands: Decreased production of Cortisol (steroid)*
    - Replacement medication:
      - Oral steroids
MEDICATION ASSISTED TREATMENT

- METHADONE:
  - Full Agonist
  - Approved for "clinic" use only to treat addiction
  - Better for patients who need more structure

- BUPRENORPHINE:
  - Partial Agonist
  - Approved for both Office Based & Methadone Clinics
  - Better for patients with lower levels of dependency/addiction

- NALTREXONE ("Long Acting Naloxone")
  - Pure Antagonist
    - Danger of Overdose

Counseling & psychosocial support are essential aspects of treatment
Methadone vs Buprenorphine

Exhibit 3-3

Intrinsic Activity of Full Agonist (Methadone), Partial Agonist (Buprenorphine), and Antagonist (Naloxone) Therapy


Suboxone better for patients at lower levels of dependency/addiction
TREATMENT GOALS

Medication Assisted Treatment ("MAT"):

- medication in combination with counseling and behavioral therapies
- A “whole-patient” approach to treat substance use disorders
- Includes Methadone and Suboxone treatment
- NOT replacing one drug for another

What Defines Successful Treatment?

- same as BP, DM, Cancer, CAD
- How long does pt need meds for any chronic illness ???
- Arbitrary limits of med treatment: not evidence based medicine
- End Game = quality of life & minimizing symptoms
- All chronic illnesses share same medication criteria: Risk vs. Benefit
RELAPSE RATES
ADDICTION & OTHER CHRONIC ILLNESSES

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percent of Patients Who Relapse</th>
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</thead>
<tbody>
<tr>
<td>Drug Addiction</td>
<td>40 to 60%</td>
</tr>
<tr>
<td>Type II Diabetes</td>
<td>30 to 50%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>50 to 70%</td>
</tr>
<tr>
<td>Asthma</td>
<td>50 to 70%</td>
</tr>
</tbody>
</table>

NIDA
Prevention programs have been estimated to save taxpayers an average of $16 for every $1 invested. (Studies by Washington State Institute for Public Policy - 2016)
Lifetime Model & Methadone Treatment

- Tracked methadone patients age 18 – 60
- Factors measured included:
  - heroin use
  - treatment of addiction
  - crime
  - employment
  - healthcare secondary illnesses

Each $1 dollar spent on methadone treatment yields $38

Research Triangle Institute (RTI): Health Economics, November 2005
93% Use Illicit Substances
Outcomes from Admission to Annual Update Methadone Treatment

- 91% ↓ Arrests
- 59% ↓ Psychiatric Admissions
- 50% ↓ Homelessness

Outcomes based on data run on 3/24/15 for fiscal year 2015 using Maine’s Treatment Data System
Outcomes from Admission to Annual Update Methadone Treatment

- 37% ↑ Employment
- 52% ↑ Dependents Living with Patient

Outcomes based on data run on 3/24/15 for fiscal year 2015 using Maine’s Treatment Data System
CAN’T HIDE FROM THE TRUTH
“Drug addiction is a brain disease that can be treated.”

Nora D. Volkow, M.D.
Director
National Institute on Drug Abuse
HOLOSTIC APPROACH

TREATMENT OF SUD IS MULTIFACTORIAL
INDIVIDUALIZED TREATMENT IS ESSENTIAL

- Integrated Medical Care
- Counseling
  - Individual/Group/Family
- Self-help Groups
- Acupuncture
- Meditation
- Diet
- Medication to Treat:
  - Acute/Prolonged Withdrawal
  - Mental Illness
- Recovery Coaches
- Therapeutic Communities
- Hospitalization: Partial/Inpatient
Teenage years:
• adolescence is exciting, important, and potentially dangerous
• significant risk period for mental health disorders.

Three main concepts:
➢ The adolescent brain does not fully develop until at least age 25.
➢ Most mental health disorders have onset before 24.
➢ Encouraging understanding of adolescent mental health through education and anti-stigma programs will change lives.

This report explores specific issues including:
• smartphones and social media
• substance use and abuse
• anxiety and depression
• ADHD
• psychotic episodes and schizophrenia
• suicide and self-harm
• unique challenges in adolescent mental health care
• evidence-based educational and therapeutic approaches for adolescents

https://childmind.org/report/2017-childrens-mental-health-report/
THE AGONY OF ADOLESCENCE

A Few Pearls to Remember

- Impulsivity is not uncommon
- Set realistic goals/expectations
- Peer pressure is real (snort heroin)
- Social media: 2 edged sword

Strategies  ➔ Individualize Approach

- Monitor without being oppressive
- Limit setting
- Busy teenager is a happy teenager (hopefully)
- Won’t listen to an old guy
  - Alex’s Story
  - The Hungry Heart
  - Role playing
- Keep meds out of medicine cabinet
- Keep pediatrician involved
  - Screen for mental illness/SUD
- SBIRT in schools
- Diet/Exercise/Family Dinners/Weekend Activities
PREVENTION - SBIRT
Saves Lives and Cuts Healthcare Costs

Identify – Reduce – Prevent:
Problematic Use & Dependence on Alcohol and Illicit Drugs

1. Screening:
   • location: any healthcare setting
   • assess risky substance use behaviors
   • standardized screening tools

2. Brief Intervention:
   • engage pt w/ risky substance use behaviors
   • short conversation, w/ feedback & advice

3. Referral to Treatment:
   • brief therapy
   • specialty care as needed
Medical Education & Barriers

- Non-resident Physicians < 35 y/o = 7.8% of workforce:
  - 2.6% of the Bup prescribers
  - Rural America: FP & Internists - only 3% have Bup waiver

- Low rate of young physicians with Bup waivers:
  - Insufficient residency training in opioid use disorders
  - Encourage Bup waiver during residency:
    - future doctors more likely treat opioid use disorder

- Barriers to Bup treatment:
  - Complexity & stigma of pts w/ opioid use disorders
  - Lack of institutional support
  - Inadequate support from nursing and office staff
  - Lack of mental health practitioners
  - Payment issues
  - Opposition from practice partners

*Geographic and Specialty Distribution of US Physicians Trained to Treat Opioid Use Disorder*
*ANNALS OF FAMILY MEDICINE, JANUARY/FEBRUARY 2015*
DIG DEEPER
GET INVOLVED
Destigmatize & Demystify

• Education:
  • Patients & Families
  • Schools & Neighbors
  • Elected & Appointed Officials; Police/Fire
  • Medical School and Residency (Join “COPE”)

• Talking Points:
  • NIMBY (suburban; purity; nasal use – no needles)
  • Who/What to Blame for Heroin Epidemic
  • Naloxone & Good Samaritan Laws
  • Medication Assisted Treatment Works
  • Chronic Relapsing Illness
  • Good vs Bad Addictions
  • Advocate for MAT in Jails

• Creativity (“Novel” Approaches):
  • Talks: Library, Schools, Police/Fire
  • Facebook, Twitter, LinkedIn
  • Op-eds
• Library started naloxone training after two employees used the Naloxone to a woman with OD in a restroom of the library

• Library staff offers training in administering naloxone (Narcan)

• Give patrons access to a database of ebooks, audiobooks and other resources on addiction, recovery and the opioid epidemic

• Make libraries a greater resource for people confronting drug abuse

NH residents can get naloxone kits for themselves or someone else:

1. PCP writes a prescription for naloxone to purchase at a pharmacy.
2. Buy naloxone at a pharmacy with standing orders: Anyone. Anytime pharmacy page, that has a list of every NH pharmacy with standing orders for naloxone.
3. Free kits for patients of a state-contracted-health center or treatment provider, at risk for opioid overdose and don’t have insurance that covers the cost or cannot afford to purchase naloxone.
4. Attend an event held by your Regional Public Health Network, where the state’s free naloxone kits are distributed.

**GOOD SAMARITAN LAW**

Signed into Law - July, 2015
The Angel Program

Starting October 1st

Operation HOPE

In Partnership with Portland Recovery Community Center
There should be just as many public service announcements about addiction as there are Viagra and Cialis commercials. In addition, expansion of addiction treatment services in jails would help to mitigate much of the revolving door phenomenon. Furthermore, we should demand that our medical schools and hospitals improve addiction training of our physicians. While there is plenty of blame to go around, let’s focus on the solutions. The scourge of addiction is in all of our yards. The solution is to decrease the demand with bold public initiatives and a change in attitude. It is both the humanitarian and fiscally responsible thing to do.
MEET VENLA HUJANEN
Prosecuting Attorney

Closing Arguments

Will Jimmy be Convicted of Murder?
ADDICTION ON TRIAL

Steven Kassels

Steven Kassels, MD

Author/Medical Discussion Groups and Book Club Gatherings

Author Proceeds Support
SUBSTANCE USE EDUCATION/PREVENTION/TREATMENT
&
HOMELESS SHELTERS
A Special Thanks to:

GIBSON'S Bookstore

Concord's indie bookstore since 1898

Owner
Michael Herrmann
Author Proceeds

Families in Transition
Providing a home. Building hope.

Donate! Volunteer! Attend Events!

Everybody Has a Story.

ENDING HOMELESSNESS.