Science = Solutions

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ADDITION INVOLVES MULTIPLE FACTORS

Biology/Gene

Environment

Brain Mechanisms

Addiction

DRUG
There are Multiple *Environmental Influences*

- Laws/Culture
- Neighborhood/Community
- Family/Peers
- Biology
- Individual/Genes

Time/Age
Marked *Increases in Prescription Opioid and Heroin Overdose Deaths* in the USA 2000 to 2014

**USA 2014 Overdose Deaths:**
- 47,055 Any Drug
- 27,119 Any Opioid
- 18,893 Rx opioid
- 10,574 Heroin

Source: CDC, NVSS 2000-2014
Increasing Neonatal Abstinence Syndrome

NICU Admissions for NAS
(Number per 1000 Admissions)

Outbreak of HIV Linked to IDU of Oxymorphone in Indiana, 2015

162 HIV Infections in a Community of 4200
- 84.4% 114 co-infected with Hepatitis C
- Injection Drug Use: 80% 108
- No Injection Drug Use: 3% 4
- Status Not Determined: 17% (23) 112

All reported injecting tablets of oxymorphone as drug of choice

Reported average of 9 syringe-sharing partners, sex partners, or other social contacts at risk for HIV infection

230 tested
- 61.7% 142 HIV-
- 4.6% 10 HIV+

121 HIV-
- 53% 65 HIV-
- 47% 56 HIV-

109 HIV+
- 57.8% 63 HIV+
- 42.2% 46 HIV+

74 syringe-sharing or sex partners
- 57.8% 44 syringe-sharing or sex partners
- 42.2% 30 syringe-sharing or sex partners

128 not located
- Social contacts regarded as at high risk for HIV

373 contacts
- 57.8% 221 contacts
- 42.2% 152 contacts
High Levels of Opioid Prescriptions have Facilitated Diversion & Contributed to Opioid Crisis

Near Tripling of Opioid Prescriptions from U.S. Retail Pharmacies, 1991-2013

Total Rx Opioid Tablets Dispensed in Retail Pharmacies in the USA:

- 2013 15,972,304,698
- 2014 15,606,882,755

Heroin “Market” Has Changed: Heroin Price Has Been Lower in Recent Years

"Retail" Price Per Pure Gram

Adolescent Brain Cognitive Development (ABCD) Study

An NIH Collaboration: NIDA, NIAAA, NCI, NIMH, NIMHD, NICHD, NINDS, OBSSR

Source: www.abcdstudy.org
Natural course of recovery for four substances

Lopez-Quintero et al., 2011
Longitudinal Trends in Recovery

It takes a year of abstinence before less than half relapse.

Even after 3 to 7 years of abstinence about 14% relapse.

3+ years of abstinence the odds of relapse change dramatically.

After 5 years – if you are sober, you probably will stay that way.


Longitudinal Research: Chestnut Health Systems Studies
Switching Addictions?

Data are from NESARC Waves 1 and 2
Blanco et al., JAMA Psychiatry 2014
Improvement in MH Leads to Improvement in Sustaining Sobriety

Psychiatric ASI scores and self-reported abstinence data were collected from 174 male and female addiction patients with improving MH trajectories at 6 months, 1, 5, 7, and 9 years.

Percent Abstinent Past Month

Causal relationship remains unclear.

Outcomes can be improved by:

- Increasing the delivery of existing effective treatments (EBP)
- Developing new, more effective interventions
- Because addiction involves multiple factors, we can intervene at multiple levels
We developed it.

Where is everyone?
## EBP Adoption in Drug Treatment

<table>
<thead>
<tr>
<th>Service</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV testing</td>
<td>29.7%</td>
<td>27.9%</td>
</tr>
<tr>
<td>HepC screening</td>
<td>22.9%</td>
<td>23.1%</td>
</tr>
<tr>
<td>TB screening</td>
<td>33.9%</td>
<td>35.5%</td>
</tr>
<tr>
<td>HIV education/counseling</td>
<td>53.1%</td>
<td>57.8%</td>
</tr>
<tr>
<td>Transportation assistance</td>
<td>35.3%</td>
<td>39.4%</td>
</tr>
<tr>
<td>Psychiatric meds</td>
<td>34.0%</td>
<td>36.3%</td>
</tr>
<tr>
<td>Nicotine replacement</td>
<td>12.9%</td>
<td>20.5%</td>
</tr>
<tr>
<td>Naltrexone</td>
<td>12.8%</td>
<td>17.3%</td>
</tr>
<tr>
<td>Buprenorphine</td>
<td>11.0%</td>
<td>19.6%</td>
</tr>
</tbody>
</table>

Source: N-SSATS 2006 and 2011 results
Little Training and Supervision on EBPs in Clinic Settings

N=345 programs, surveyed in 2007

Olmstead et al, 2011, Drug Alcohol Depend; 120(1-3):149-54
Staff Turnover as Context

• HR Manager Records of 27 treatment programs
  – Counselor turnover: 0-58%, average 33.2%
  – Clinical supervisor turnover: 0-75%, average 33.4%

• Of counselors enrolled in research study:
  – 25% turnover after 1 year
  – 39% after 2 years
  – 47% after 3 years

Eby et al., JSAT 2010, 39:264-271
Eby et al., JSAT 2012, 42:151-158
Treatment Elements

✓ **Medications** are an important element of treatment for many patients, especially when combined with counseling and other behavioral treatments.

✓ **Behavioral therapies**—including individual, family, or group counseling—are the most commonly used forms of drug abuse treatment.

✓ **Drug use** during treatment must be monitored continuously, as lapses during treatment do occur.

✓ Comorbidity: Treatment programs should test patients for the presence of **HIV/AIDS, Hepatitis B and C, Tuberculosis, and other infectious diseases**, as well as **psychiatric disorders**.
Service System

✓ Treatment needs to be **readily available**

✓ Treatment does **not need to be voluntary** to be effective

✓ Medically assisted **detoxification is only the first stage** of addiction treatment and by itself does little to change long-term drug abuse

✓ Remaining in treatment for an **adequate period of time** is critical

✓ Treatment barriers: insurance, stigma, distance, lack of training of providers
Individualized Care

✓ **No single treatment** is appropriate for everyone

✓ Many drug-addicted individuals also have **other mental disorders**

✓ Effective treatment attends to **multiple needs** of the individual, not just his or her drug abuse

✓ An individual’s treatment and services plan must be assessed continually and modified as necessary to ensure that it meets his or her **changing needs**

✓ **Personalized treatment: Treatment Preference**
Summary

• Multiple Evidence Based Practices are available
  – Medications for Opioids, Tobacco, Alcohol
  – Behavioral Treatments
  – Infectious Disease Testing and Treatments
  – Overdose Intervention

• Yet, Few Evidence Based Practices are Widely Used