ADDICTION MEDICINE:
The Urgent Need for Trained Physicians

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Overdose Death Rates

1999

2016

Opioid morphine milligram equivalents (MME) dispensed fell by over 15% from 2010-2015

IMS’s Source Prescription Audit (SPA) & Vector One®: National (VONA)

Source: IMS Health, U.S. Outpatient Retail Setting
Fentanyl-Related Deaths Surpassed Heroin or Rx Opioids in 2016

Graphs from NY Times Article based on CDC MMWR Report, 2017
Medication Assisted Treatment (MAT)  OUD Cascade of Care in USA

**Opioid Effect**
- Full Agonist (Methadone: Daily Dosing)
- Partial Agonist (Buprenorphine: 3-4X week)
- Antagonist (Naltrexone: ER 1 month)

**DECREASES:**
- Opioid use
- Opioid-related overdose deaths
- Criminal activity
- Infectious disease transmission

**INCREASES**
- Social functioning
- Retention in treatment

But MAT is highly underutilized!
Relapse rates are very high!

**Current estimates**
**Treatment gap 90% goal**

*Williams AR, Nunes E, Olfson M. Health Affairs Blog, 2017*
Improving Implementation of MAT

% Treatment Programs Offering FDA-approved SUD Medications

- Buprenorphine: 9%
- Methadone: 25%
- Tablet naltrexone: 17%
- Injectable naltrexone: 9%
- Disulfiram: 16%
- Acamprosate: 19%

% OTP patients receiving methadone, buprenorphine, or vivitrol

- Methadone: 26.4%
- Buprenorphine: 3.9%
- Vivitrol: 0.3%

69.4% Not receiving Methadone, Buprenorphine, or Vivitrol

2012 N-SSATS Data, SAMHSA
Improving Treatments for Addiction: Implementing Medication-Assisted Treatment

- Emergency department-initiated buprenorphine
- Reduced self-reported, illicit opioid use
- Increased engagement in addiction treatment; decreased use of inpatient addiction treatment services

**Self-Reported Illicit Opioid Use in the Past 7 Days**

<table>
<thead>
<tr>
<th>Days</th>
<th>Baseline</th>
<th>30 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buprenorphine</td>
<td>5.4</td>
<td>0.9</td>
</tr>
<tr>
<td>Referral</td>
<td>5.4</td>
<td>2.3</td>
</tr>
<tr>
<td>Brief Intervention</td>
<td>5.6</td>
<td>2.4</td>
</tr>
</tbody>
</table>

*D’Onofrio G et al., JAMA April 28, 2015.*
Integrating Buprenorphine Treatment Into Federally Qualified Health Centers (FQHC):

Integrating BT in a large FQHC network increased retention rates to levels similar to those reported by clinical trials.

Prescription of psychiatric medication and on-site substance abuse counseling improved retention whereas cocaine use decreased it.

Haddad MS et al., DAD 2013 Jul 1;131(1-2):127-135.
Integrating BMT into primary care settings could also improve co-morbid disease diagnosis and management of chronic diseases

Improving Treatments for Addiction in Health Care Settings: Infectious Disease Clinics

Infectious Clinic’s-Based Buprenorphine of Opioid-Dependent HIV+ Patients vs Tx Referral

![Bar chart showing average estimated participation in opioid agonist therapy (%).]

- Clinic-Based BUP: 74%
- Referred Tx: 41%

P<0.001

Extended Release Formulations

Vivitrol®

IM Injection q 4 weeks for 24 weeks
Median % Opioid-Negative Urines

Placebo: N=124
XR-NTX: N=126

Krupitzky et al., Lancet 2011

PROBUPHINE®

FDA approval – May 26, 2016

Rosenthal et al., Addiction 2013;105.

Opportunities for Partnership in the Development of Longer Acting Formulations and/or Drug Combinations to Improve Treatment Compliance and Retention
In 2016 An Estimated 20.1 Million Americans 12 or Older Were Dependent On Any Illicit Drugs or Alcohol

But...Only 3.8 Million (19%) of These Individuals Had Received Some Type of Tx In the Past Year and very few involved Health Care Systems

Goal:
Improve pain treatment through education

Education

NIH Pain Consortium Centers of Excellence in Pain Education

Goal:
Prevent SUD and improve outcomes in addiction through education of health care providers

SUD