Co-Occurring Physical and Mental Health Disorders in patients with OUD

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* Harm Reduction Counseling and Injectable Naltrexone in Homeless persons with Severe Alcohol Dep.
* Preventing Addiction Related Suicide
* PTSD Treatment in Persons with Severe Cannabis Dep
* Contingency Management of Alcohol in Mentally Ill
* Comparing CAMS to TAU after recent suicide attempts
Department of Defense
* Suicide Prevention in Active Duty Soldiers

Dr. Chambers
* Enfoglobe: Medical data analytics and education software
* Indigobio: Biological Fluids testing and data analytics.
* Proniras: Biotech start up.
Medical co-occurring disorders:

Opioid Addiction is a potentially lethal disease that causes many forms of secondary organ disease, injury and death
Medical co-occurring disorders (caused by opioid Addiction):

PAIN:
- Pharmacologic
- Accidental
- Infectious
- Neuropsychiatric
Medical co-occurring disorders (caused by opioid Addiction):

Pharmacologic:

- Gastrointestinal Motility decrease/irregularity
- Respiratory Depression (lethal overdose)
  near lethal overdose
Medical co-occurring disorders (caused by opioid Addiction):

**Accidental:**

Motor Vehicle Accidents
Physical/Sexual Assault Victimization
Falls
Medical co-occurring disorders:

**Infections:**
- Hepatitis C
- Hep B
- HIV
- Endocarditis
- Pneumonia

**Organ Damage:**
- Liver (Cirrosis, Cancer)
- HIV (Immune, Brain, multi-organ)
- Endocarditis (Heart, Brain)
- Lungs
Medical co-occurring disorders:

**Neuropsychiatric:**
- Chronic Pain Syndrome
- Traumatic/Hypoxic Brain Injury
- Depression
- Anxiety
- PTSD (e.g. if assaulted)
- Insomnia
- Obesity
- Suicide
- Chronic Pain Syndrome
- Iatrogenic (Over-interventionalism/ Injury)
- Secondary Addictions
Medical co-occurring disorders: Opioid addiction generates a web of comorbidities in which there are many ways to die.

Very EXPENSIVE ILLNESSES TO TREAT MEDICALLY!!
HCV Deaths and Deaths from Other Nationally Notifiable Infectious Diseases,* 2003-2013

One case HEP C costs $75,000 PLUS to treat!!!!

*TB, HIV, Hepatitis B and 57 other infectious conditions reported to CDC

Hepatitis C Prevalence in the United States

- NHANES (2003-2010)
  - 3.6 million chronically infected (anti-HCV)
  - 2.7 million currently infected (82% of anti-HCV positive)
- Populations not included in NHANES:

<table>
<thead>
<tr>
<th>Population</th>
<th>Estimated Size</th>
<th>Prevalence (anti-HCV, %)</th>
<th>Number Chronically Infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incarcerated</td>
<td>2,186,230</td>
<td>23.1</td>
<td>505,350</td>
</tr>
<tr>
<td>Homeless</td>
<td>691,899</td>
<td>32.1</td>
<td>222,100</td>
</tr>
<tr>
<td>Hospitalized</td>
<td>478,054</td>
<td>15.6</td>
<td>74,576</td>
</tr>
<tr>
<td>Nursing homes</td>
<td>1,446,959</td>
<td>4.5</td>
<td>65,113</td>
</tr>
<tr>
<td>Active-duty military</td>
<td>1,404,060</td>
<td>0.5</td>
<td>7,020</td>
</tr>
<tr>
<td>Indian reservations</td>
<td>1,069,411</td>
<td>11.5</td>
<td>123,224</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>997,384</strong></td>
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</tbody>
</table>

Co-Occurring Psychiatric and Substance Use Disorder in OUD

Brant Hager MD, University of New Mexico
Richard Ries MD, University of Washington

Andy Chambers, MD, IUSM, Indianapolis
Co-Occurring Addictions and Mental Illness: “Dual Diagnosis Disorders”

Key Pearls:

1. With Opioid Addiction, having Complex Co-morbidities of Mental illness and Addiction is the Rule and not the exception

2. Causality between the Addiction and Mental illness is bidirectional.
   Opioid Use Disorders Biologically pre-dispose to Mental Illness
   Mental Illness Biologically pre-disposes to Acquiring addiction
Dual Diagnosis: Scope of the Problem

Lifetime Prevalence Substance Use Disorders

- General pop, schizophrenia, bipolar, unipolar, dysthymia (ECA data early 1980's) Regier et al. (JAMA, 1990)
- PTSD (NCS data early 1990's) Kessler et al. (Arch. Gen Psy, 1995)
- All smoking data (1980 local outpt study), Hughes et al. (Am J Psy, 1986)

Dual Dx
- Majority
- Sickest
- Most homeless
- Most incarcerated
- Least adequately studied
- Least adequately treated

MI

SUDs
Lifetime Prevalence of Psychiatric Disorders: General Population vs OUD

Lifetime Prevalence of Substance Use Disorders: General Population vs OUD

Psychiatric Disorders and Opioid Dependence Reciprocally Increase Risk

- Pre-existing psychiatric disorders:
  - Generalized anxiety disorder: 11x risk of developing opioid dependence
  - Bipolar I disorder: 10x risk of developing opioid dependence
  - Panic disorder: 7x risk of developing opioid dependence
  - Major depression: 5x risk of developing opioid dependence

- Pre-existing opioid dependence:
  - 9x risk of developing panic disorder
  - 5x risk of developing major depression
  - 5x risk of developing bipolar I disorder
  - 4x risk of developing generalized anxiety disorder

Martins et al 2009
How does Mental illness generate Addiction Risk?

Adapted From: Chambers “The 2 x 4 Model”, Routledge/CRC press, New York, 2018
Complex Comorbidities:
A Clinical DATA EXAMPLE From Midtown in Indianapolis

A clinical Sample of N=69 patients: all receiving Injectable NTX of OP and/or ETOH Addiction

- OP only: n=19
- ETOH only: n=36
- OP and ETOH: 13

<table>
<thead>
<tr>
<th>Comorbidity</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzodiazepine abuse/dependence</td>
<td>14 (21)</td>
<td></td>
</tr>
<tr>
<td>Cannabis abuse/dependence</td>
<td>24 (35)</td>
<td></td>
</tr>
<tr>
<td>Nicotine dependence</td>
<td>40 (59)</td>
<td></td>
</tr>
<tr>
<td>Stimulant (cocaine/amph) dependence</td>
<td>20 (29)</td>
<td></td>
</tr>
</tbody>
</table>

Sajid et al. (2016) “Prescription Drug Monitoring Program Data Tracking of Opioid Addiction Treatment Outcomes in Integrated Dual Diagnosis Care Involving Injectable Naltrexone”, AM J Addictions, 25: 557-564
Treating Co-occurring Disorders Requires Integrated Addiction and Mental Health Treatment:

The 2 x 4 Model: An integrated clinical design where Mental Illness and Addiction Diagnosis and Treatment occur in an integrated way (using meds and psychotherapies) by one team under one roof

Adapted From: Chambers “The 2 x 4 Model”, Routledge/CRC press, New York, 2018
The 2 x 4 Model: A Neuroscience-based Blueprint for the Modern Integrated Addiction and Mental Health Treatment System

Adapted From: Chambers “The 2 x 4 Model”, Routledge/CRC press, New York, 2018
Points of Attack in 2 x 4 Model Treatment

Direct:
- Targeting MI
- Targeting SUD

Indirect:
- Targeting Effects of SUD To Drive MI
- Targeting Effects of MI To Drive SUD

Adapted From: Chambers “The 2 x 4 Model”, Routledge/CRC press, New York, 2018
Summary

• Opioid Addiction causes many often deadly secondary medical and neuropsychiatric complications

• Mental Illness is a primary causal risk factor for acquiring opioid and other addictions

• Complex Comorbidities of Opioid, Mental illness and other addictions are the Rule; solo opioid addiction is rare

• The evidence-based standard of care for co-occurring disorders is *integrated* Addiction/Mental Health Care:
  Team Care that provides and *integrates multiple* diagnostic/psychotherapeutic and pharmacological treatment tools for opioid addiction and comorbid disorders
A Neuroscience-Based Blueprint for the
Modern Integrated Addiction and Mental Health Treatment System

RA Chambers “The 2 x 4 Model”, Routledge/CRC press/Taylor and Francis, New York, 2018

Available ON Line (AMAZON/ Barnes and Noble/Routledge):

https://www.amazon.com/Model-Neuroscience-Based-Blueprint-Integrated-Addiction/dp/1138563854/ref=mt_paperback?_encoding=UTF8&me=&qid=

Or directly from the author (RA Chambers) with a 30% discount.
robchamb@iupui.edu
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