

Addiction = Chronic Disease

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Agenda

- Stigma vs. Health
- Genetics role in addiction
- Addiction = Chronic Brain Disease
- Addiction is treatable
- Models for treating addiction in Primary Care
- Panel discussion

The Stigma of Addiction

“Addiction is primarily a social problem, not a health problem.”

Reality... Addiction is a Medical Disease



Genetic Heritability

Twin and adoption studies confirm a genetic role

- Account for between $\frac{1}{2}$ and $\frac{3}{4}$ of the **risk for addiction.**
- Twins (Monozygotic) > Dizygotic

Genetic factors appear to be stronger drivers than environmental factors for initiation of substance use at an early age.



Genetic Heritability

“Traditional” Medical Diseases

- HTN → 0.25-0.5
- Diabetes Type 1 → 0.30 to 0.55
- Diabetes Type 2 → 0.80
- Adult-onset Asthma → 0.36-0.70

Substance Use Disorders

- Heroin → 0.34
- Marijuana → 0.52
- Alcohol → 0.52
- Cigarette → 0.61

Monozygotic > Dizygotic



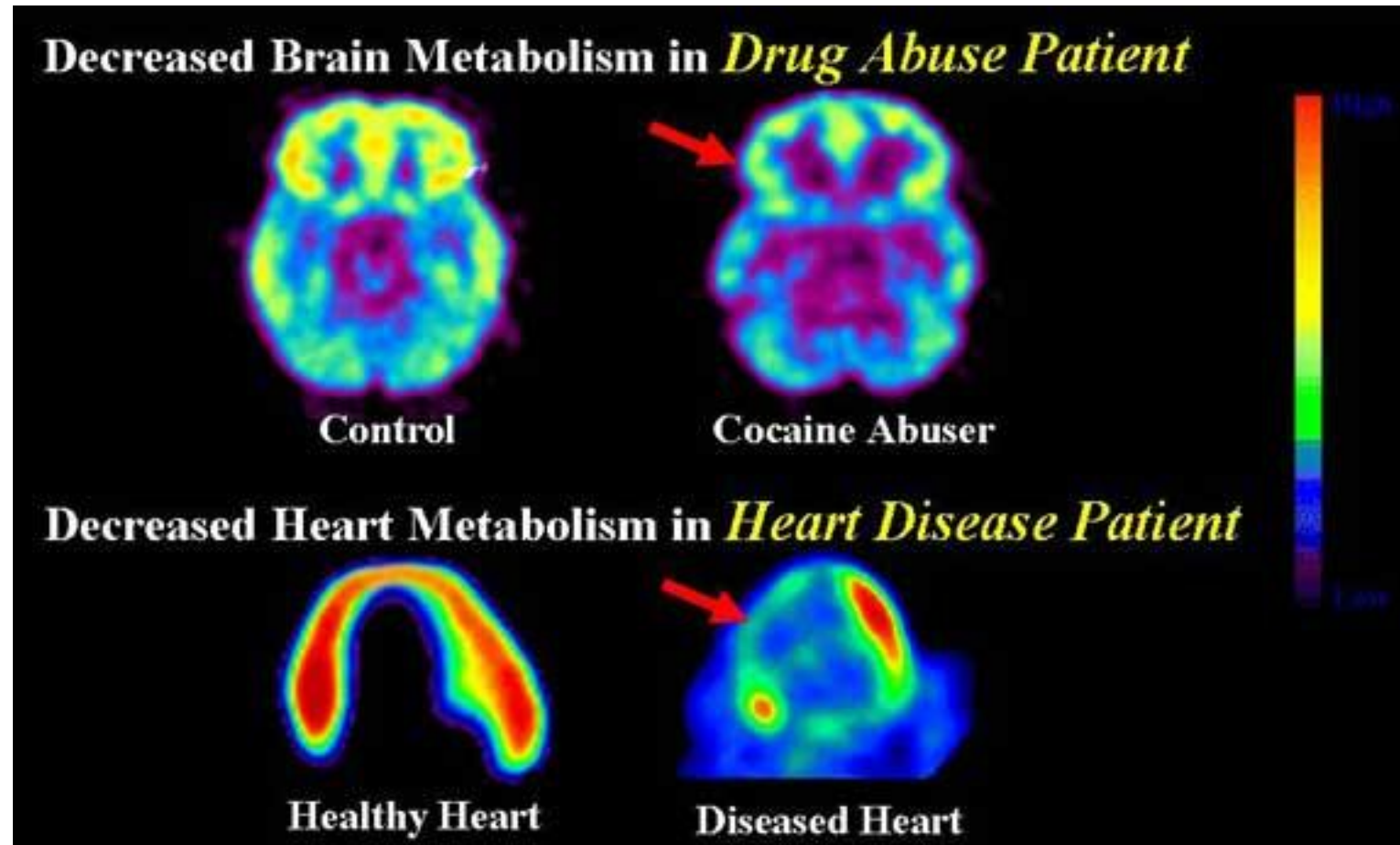
*0.0 = genetics are not a contributing factor at all

** 1.0 = genetics are the only factor

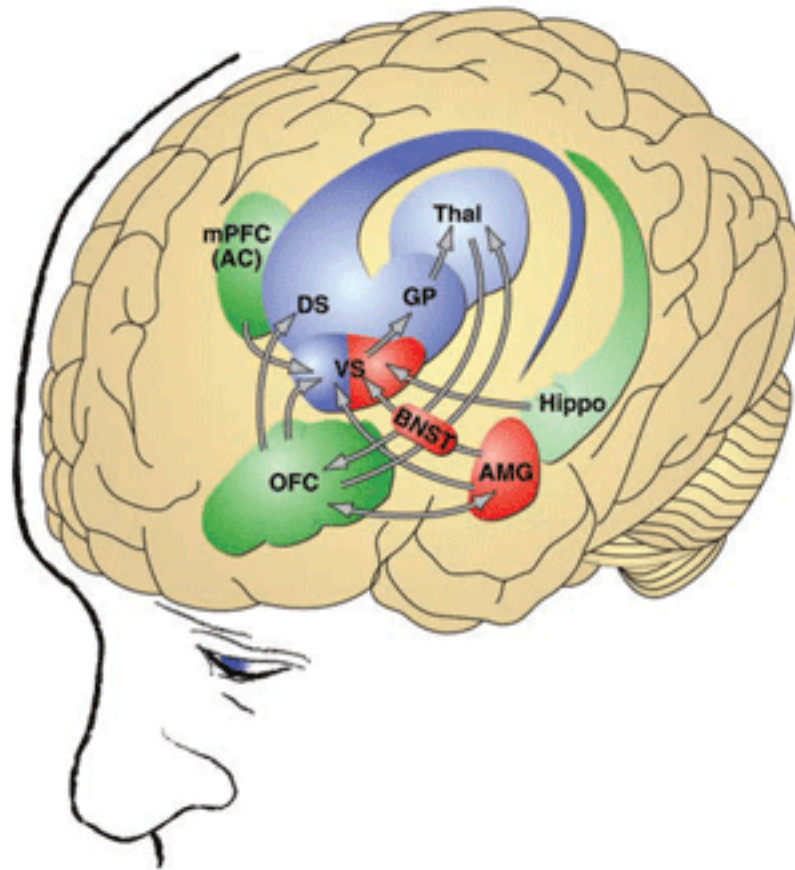
Addiction = Chronic Brain Disease

1. Brain diseases → some form of behavioral expression
 - Alzheimer's = memory loss
 - Schizophrenia = unusual perceptions of reality and mood changes
 - Opioid addiction = cravings which lead to uncontrollable compulsion
2. Precipitated by fundamental, long-term, changes to the biological structures and functioning of this organ

Addiction and Changes to biological structures



Neurobiology of Addiction



Binge/intoxication

- ventral striatum (VS), including nucleus accumbens
euphoria, reward
- dorsal striatum (DS)
habits, perseveration
- global pallidus (GP)
habits, perseveration
- thalamus (Thal)
habits, perseveration

Withdrawal/negative affect

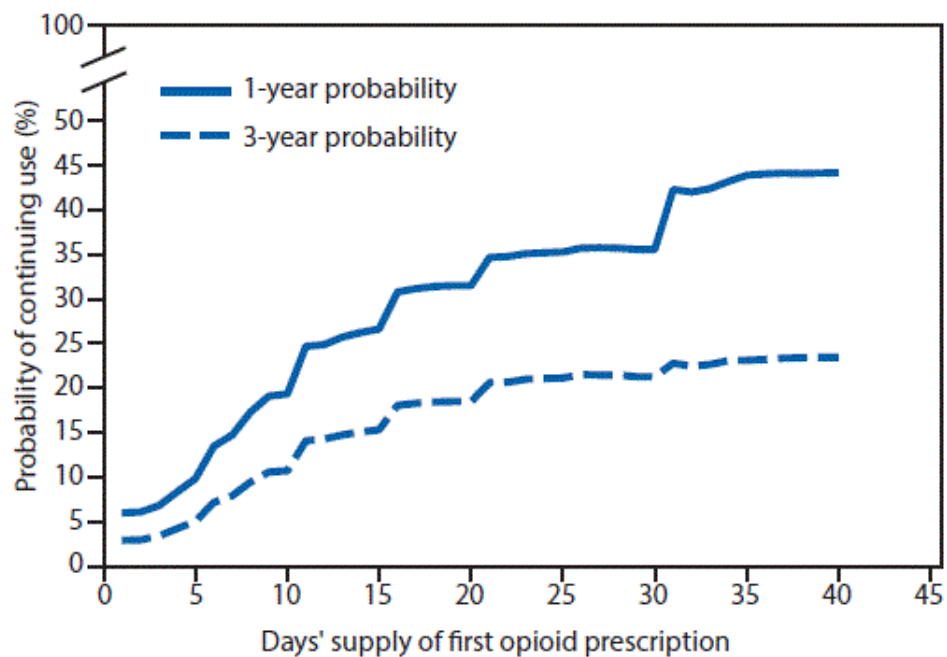
- amygdala (AMG), bed nucleus of the stria terminalis (BNST), together also known as the "extended amygdala"
malaise, dysphoria, negative emotional states
- ventral striatum (VS)
decreased reward

Preoccupation/anticipation

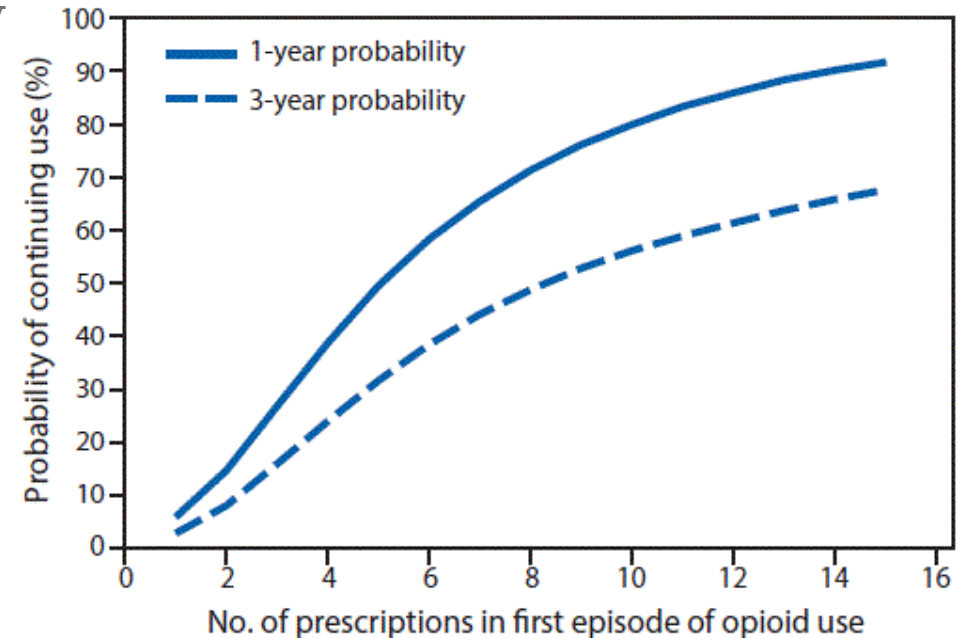
- anterior cingulate (AC)
- prefrontal cortex (mPFC), orbitofrontal cortex (OFC)
subjective effects of craving, executive function
- basolateral nucleus of the amygdala
conditioned cues
- hippocampus (Hippo)
conditioned contextual cues

Addiction can happen to anyone

1. The longer you are prescribed an opioid the greater likelihood you'll develop addiction.
 - Prevalence rates as high as **50%** for an opioid use disorder on chronic opioid therapy
 - Opioid therapy >90 days at >120 MME = **100x's** as likely to develop OUD



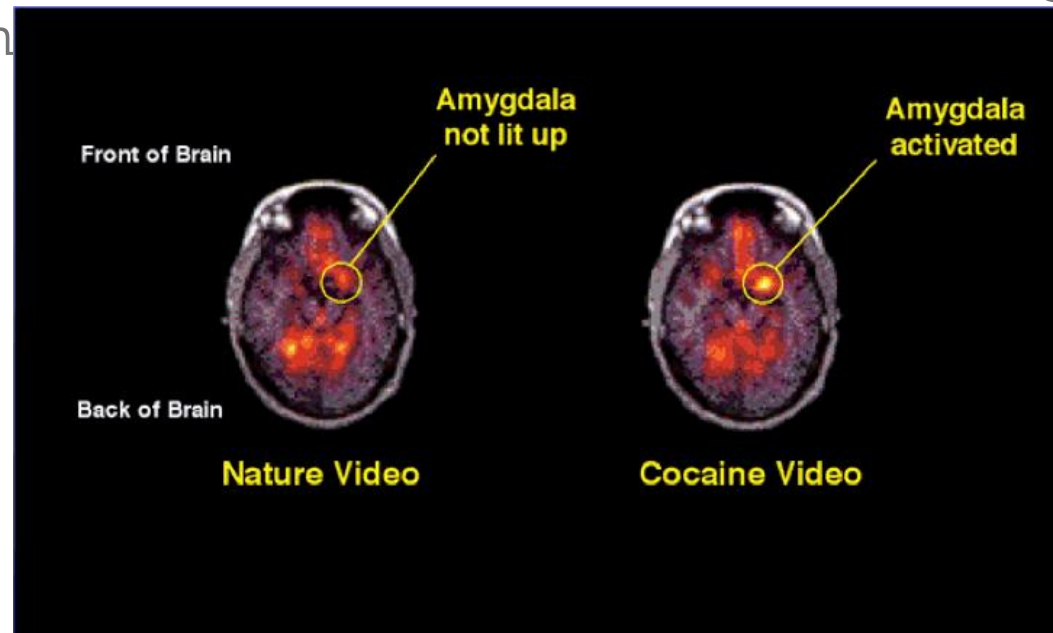
1 90-day



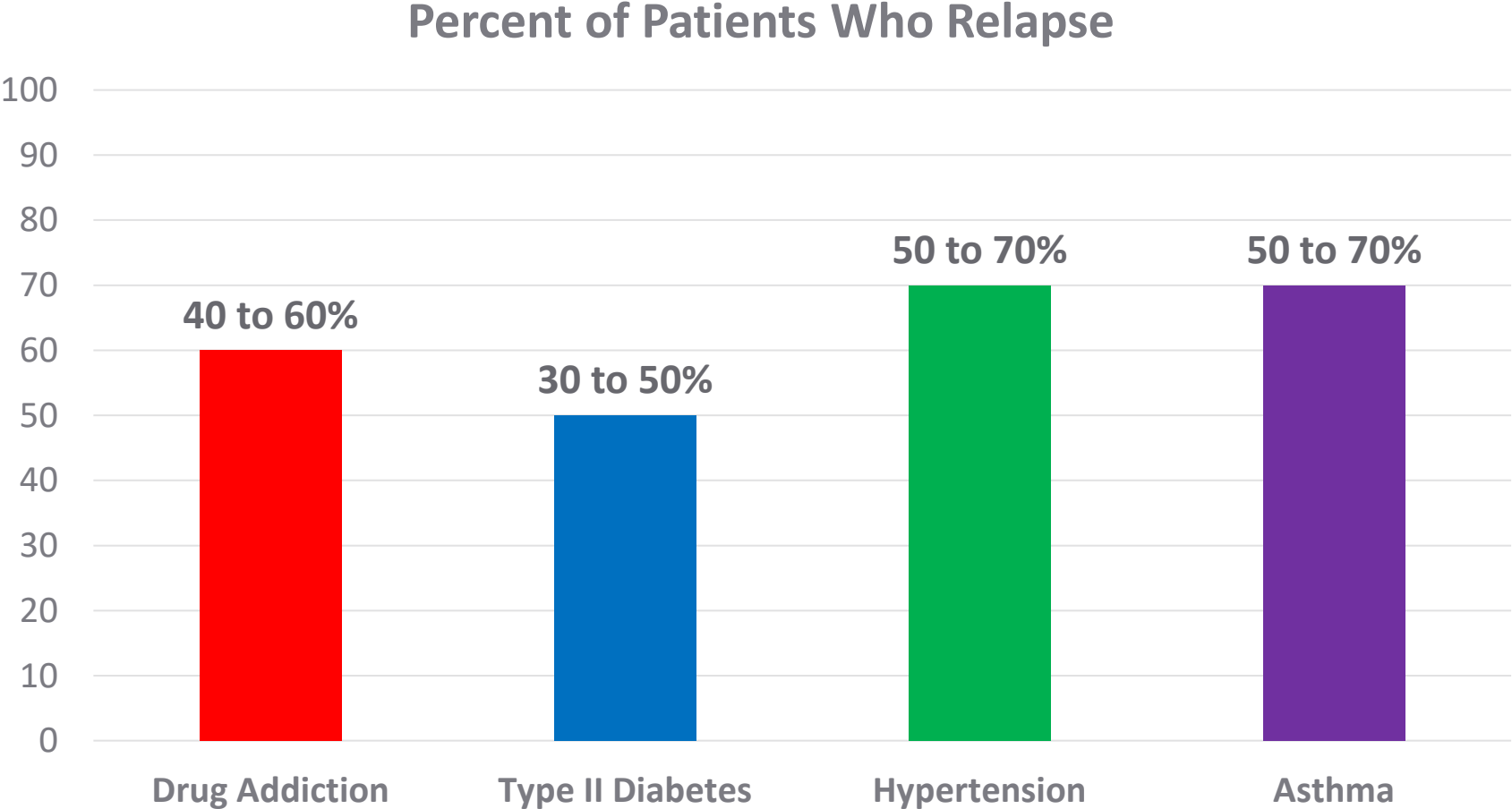
Wait a minute... addiction was a choice

2. ...they chose to try it for the first time = their fault

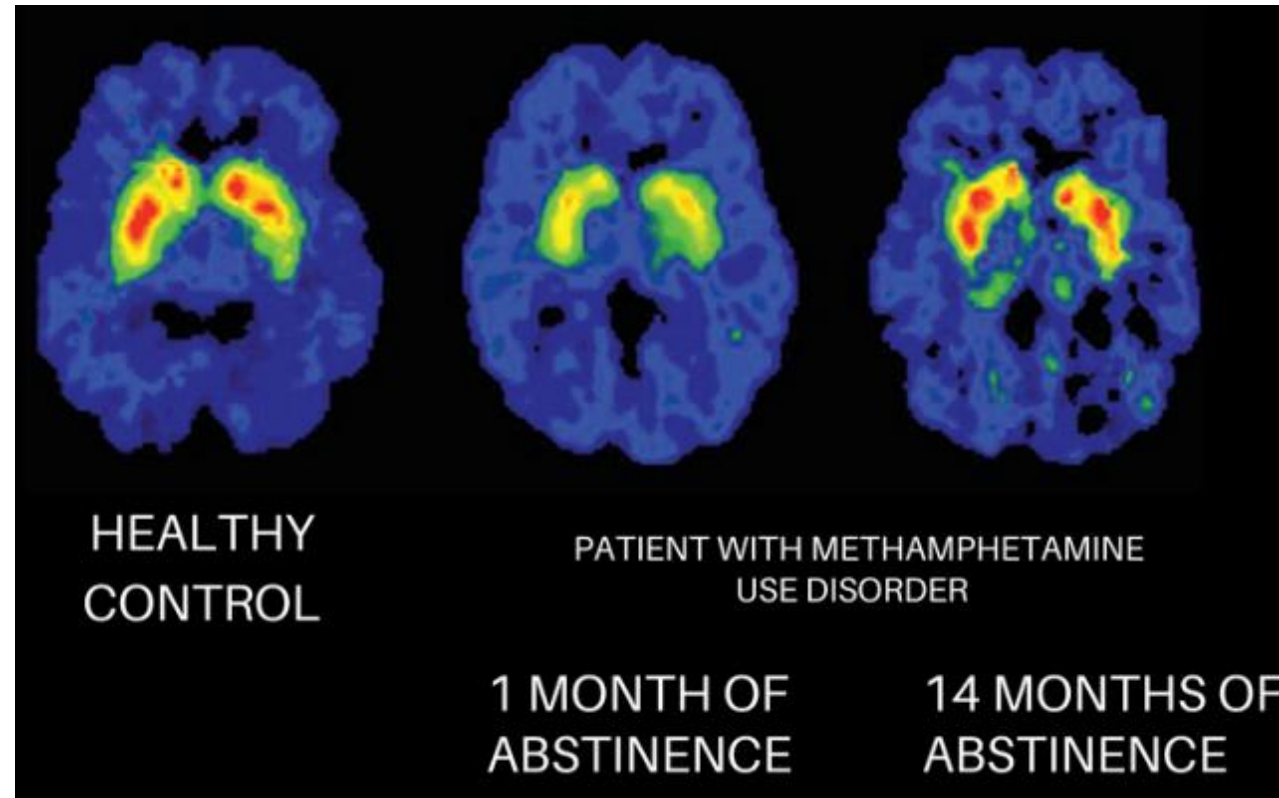
- Initial voluntary misuse does **NOT** make their condition any less the result of disease
- Addiction = INVOLUNTARY COMPULSIVE USE, cravings CANNOT be controlled = Chronic Con



You relapsed = You're not serious or committed



It takes time for your brain to recover



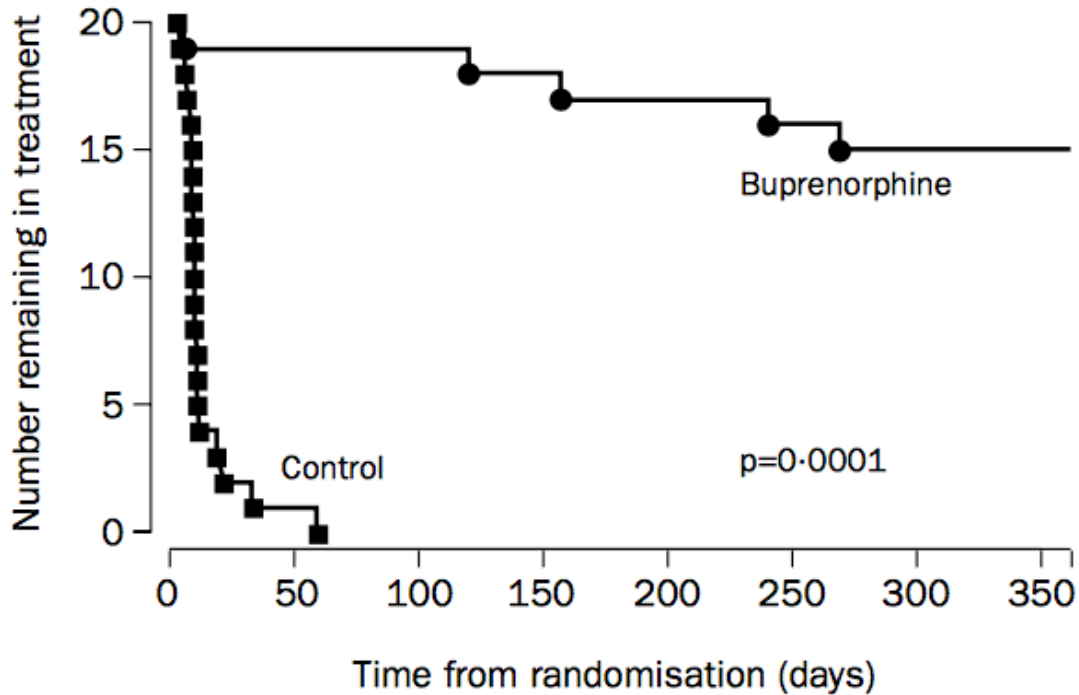
Selective forgiveness and understanding

3. What other choices lead to chronic disease

- Diet and Exercise → Diabetes, Hypertension and Congestive Heart Failure to name a few.



Addiction is a treatable disease—Buprenorphine



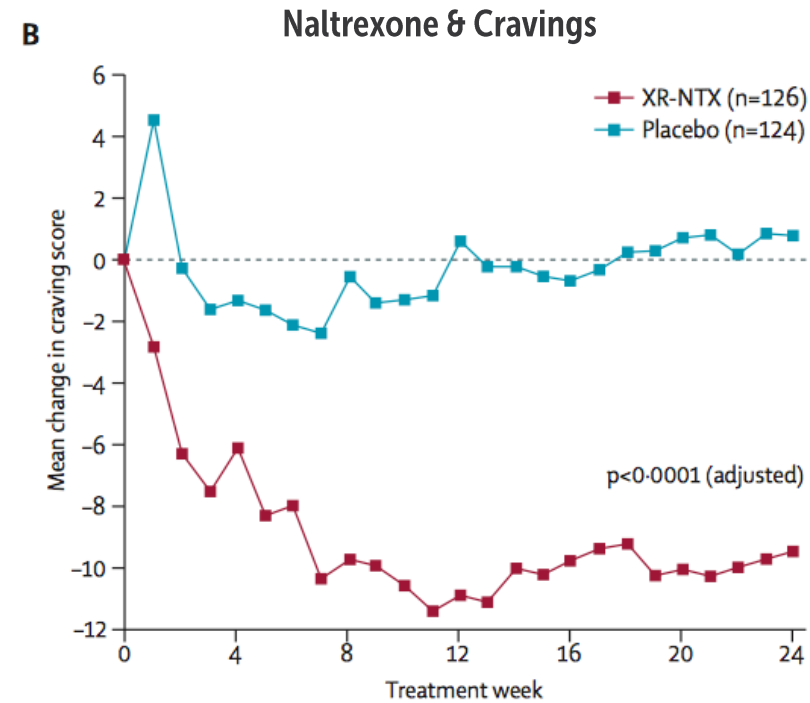
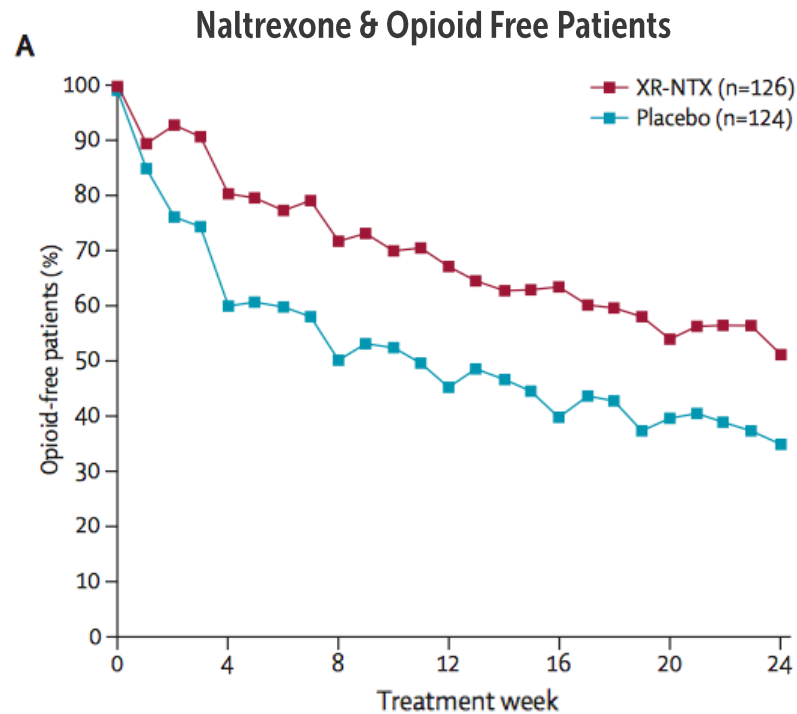
Mortality risk during and after opioid substitution treatment: systematic review and meta-analysis of cohort studies

Luis Sordo,^{1,2,3} Gregorio Barrio,⁴ Maria J Bravo,^{1,2} B Iciar Indave,^{1,2} Louisa Degenhardt,^{5,6} Lucas Wiessing,⁷ Marica Ferri,⁷ Roberto Pastor-Barriuso^{1,2}

THM: Buprenorphine for OUD is associated with a **50% or greater** reduction in the probability of overdose death.

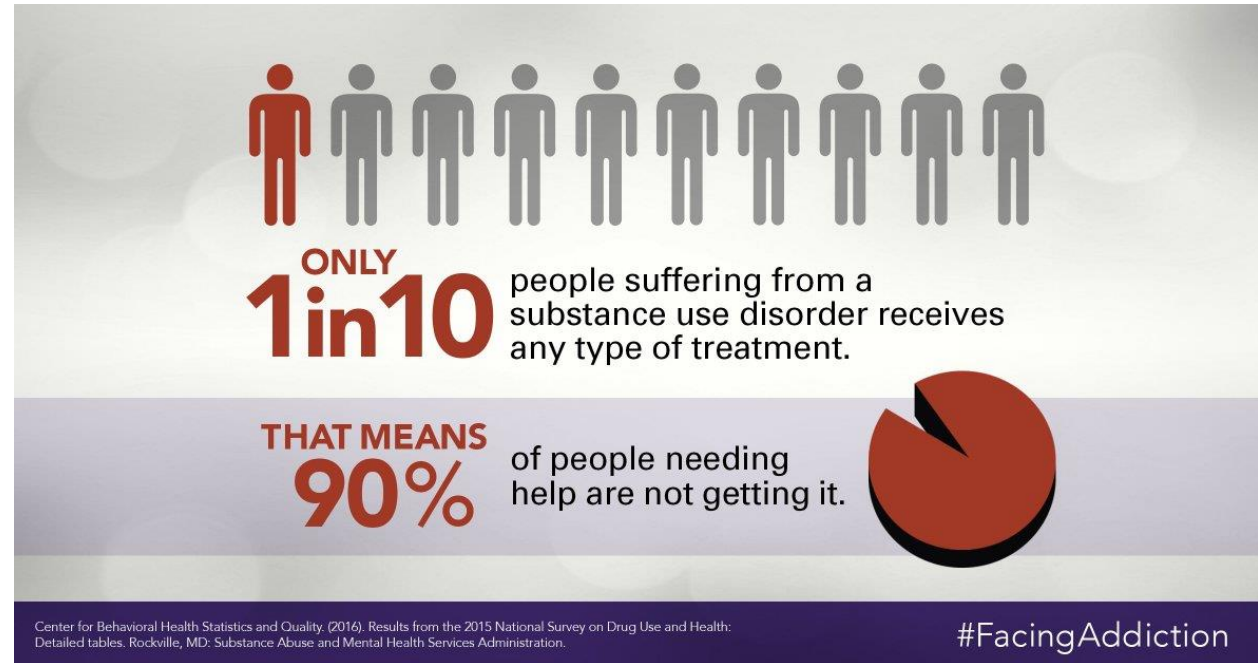
THM: Buprenorphine at all doses is more effective than placebo in retaining patients in treatment

Addiction is a treatable disease—Naltrexone



THM: Naltrexone added to standard federal probation lead to **70%** less opioid use and **50%** less incarceration

Access to treatment is critical



THM: Few receive anything that approximates evidence-based care

THM: In contrast, 70%-80% of people with diseases such as HTN and DM receive care

You are making a big difference

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Why Aren't Physicians Prescribing More Buprenorphine?

Andrew S. Huhn, Ph.D.¹ and Kelly E. Dunn, Ph.D.¹

¹Behavioral Pharmacology Research Unit, Johns Hopkins University School of Medicine, Baltimore MD

Practitioner and Program Data

Total: 73921

275 Patient
Certified

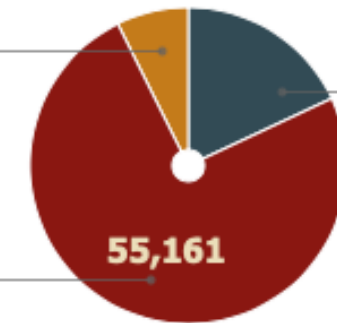
7.3%

100 Patient
Certified

18%

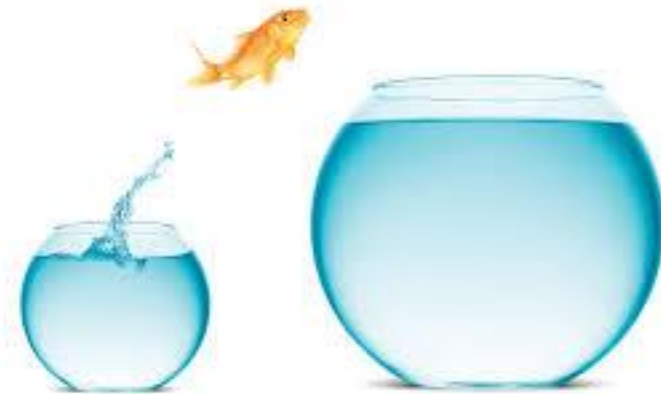
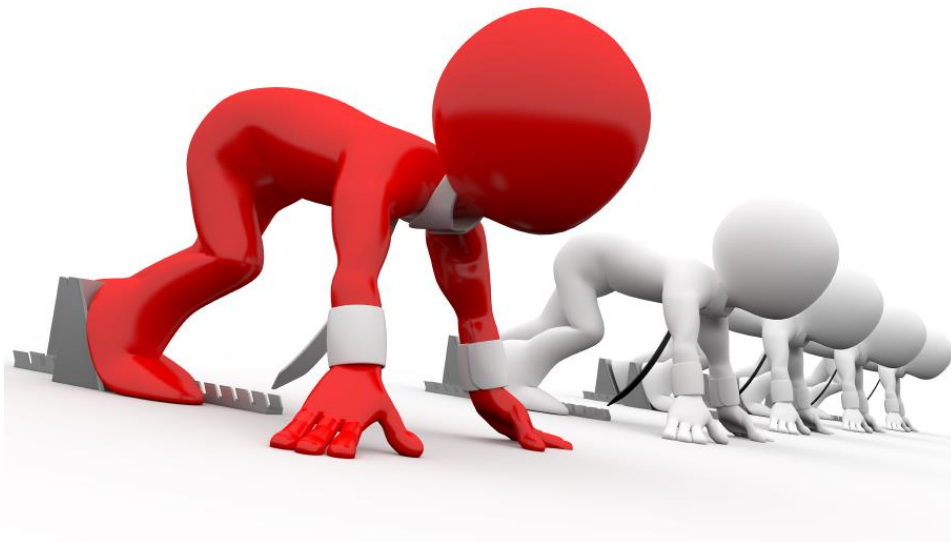
30 Patient
Certified

74.6%



THM: Approx. **48%** of X-waivered physicians prescribe on average **5** patients per provider

Starting or Expanding your MAT Services



The clinical champion



Different MAT clinic types

- Integrated Primary Care Clinic
- Integrated Behavioral Health Clinic
- Group MAT Visits
- Dedicated MAT Clinic
- Walk-In Clinic for MAT



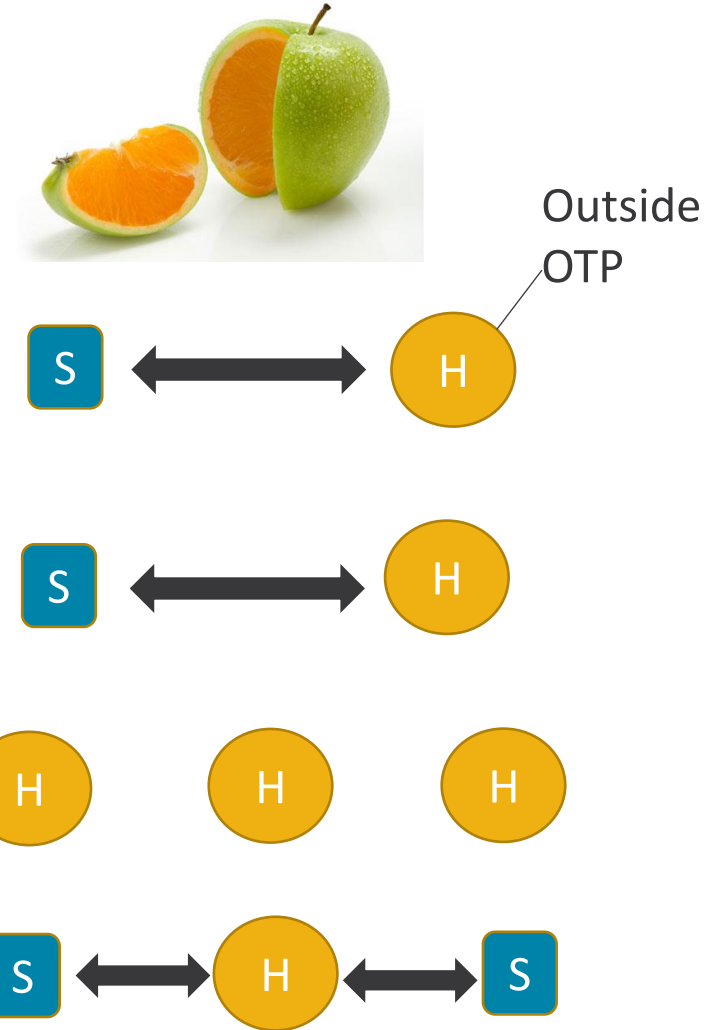
Office inductions



Home inductions

MAT expansion models

- Integrated vs. standalone
- OTP hub your site spoke
- Internal hub and spoke
- Each site a hub
- Strategic hubs with surrounding spokes



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