Opioid Treatment Update

- MOA Conference, October 28, 2023
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- Board Certified in Family Medicine & Addiction Medicine

Disclosures: None

Treating Opioid Use Disorder patients in Northern Michigan since 2005

Presenting on topic of opioid use disorder since 2011

Physician/Owner of Best Medical Services

Best Medical Services was designated as an opioid health home in 2021 ☺

Objectives

- 1.) Provide education that qualifies for Medication Access and Training Expansion (MATE) Act. Credit
- 2.) List common addictions and the effects on the brain
  - Why are people using when they know they shouldn't?
- 3.) Define problem of OUD in the U.S.
  - 2016 data and compare to November 2021 data
- 4.) Emphasize importance of Prevention, Risk Factors and Patient History
- 5.) Provide review of Treatment for OUD
  - Medication for Opioid Use Disorder (MOUD)
  - Harm Reduction
  - Psychosocial treatments
  - Case Studies

Common Addictions

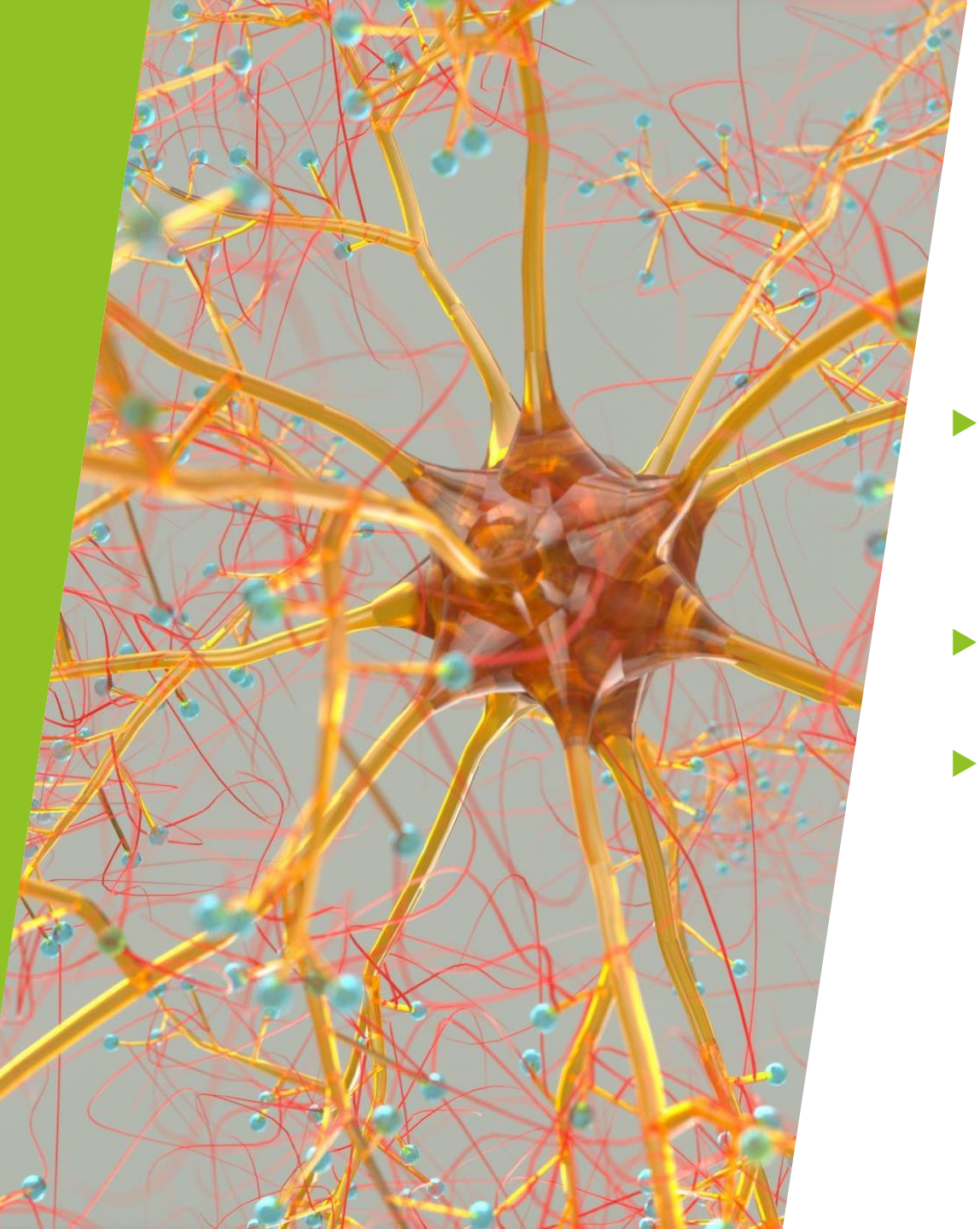
- Alcohol
- Marihuana
- Nicotine
- Caffeine
  - Energy drinks, Coffee, Soda
- Stimulants
- Benzodiazepines
- Opioids
- Other: Kratom, Bath salts, inhalants, dextromethorphan
- Other: Food, gambling, sex

Common Factor of Drugs of abuse

- Raise dopamine levels in brain circuits that control reward and pleasure
- The brain structures that compose the reward system are located primarily within the cortico-basal ganglia-thalamo-cortical loop
- The basal ganglia portion of the loop drives activity within the reward system
- Increased tolerance (down regulation of receptors)

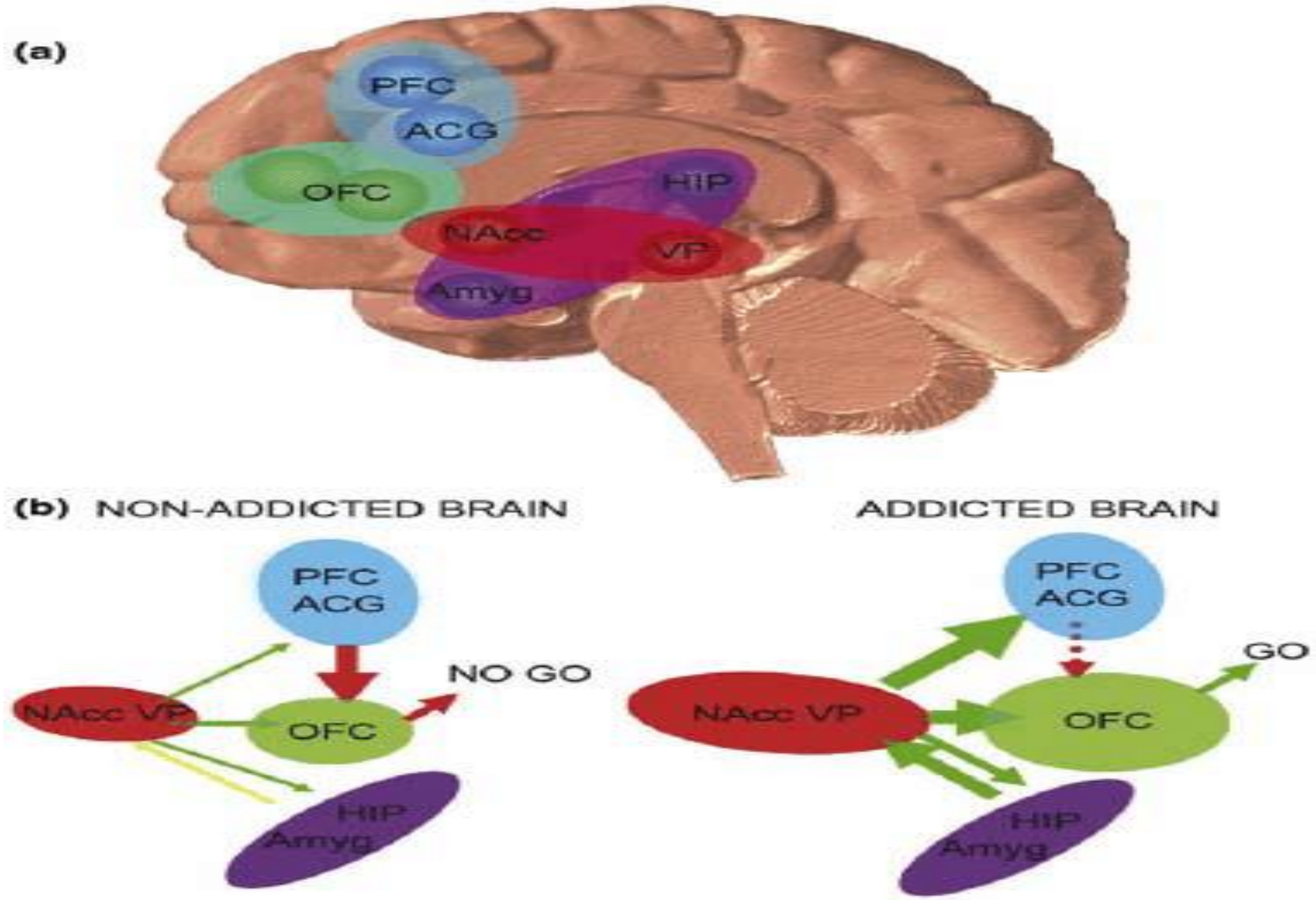
Addiction related structures in the brain

- Limbic System: Involved in our behavioral and emotional responses, especially when it comes to behaviors we need for survival; collection of structures from the cerebrum, diencephalon, and midbrain
- PFC: Pre-frontal Cortex: plays a central role in **cognitive control functions**, and dopamine in the PFC modulates cognitive control, thereby influencing attention, impulse inhibition, prospective memory, and cognitive flexibility
- ACG: Anterior Cingulate Cortex: Has **connections to both the "emotional" limbic system** and the "cognitive" prefrontal cortex.
- Nacc VP: Nucleus Accumbens – Ventral Palladium: Transmission of reward seeking signals



More Structures

- OFC: Orbitofrontal Cortex: Connections with sensory areas as well as limbic structures involved in emotions and memory
- HIP hippocampus: involved with learning and memory
- Amygdala: is responsible for processing strong emotions, such as **fear, pleasure, or anger**.


(a)
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(b) NON-ADDICTED BRAIN
PFC
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ADDICTED BRAIN
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Amyg

The Adolescent Brain

- Is wired to take risks and seek out new experiences
- Want to carve out new identity
- Prefrontal cortex is not developed until mid 20s
  - Part of brain for Decision making, controlling emotions

- National Institute of Drug Abuse; Principles of Adolescent Substance Use Disorder Treatment: A Research Based Guide. January 2014


YOUR BRAIN ON DRUGS
NON-DRUG USER
DRUG ABUSER

“Hijack” of brain function

- Brain is wired to encourage life-sustaining and healthy activities
- Enjoyable activities:
  - Hanging out with friends
  - Listening to music
  - Playing sports
- Drug use can assume importance in adolescent life out of proportion to other rewards
- The developing prefrontal cortex is no match for highly additive substances

Age of first use …

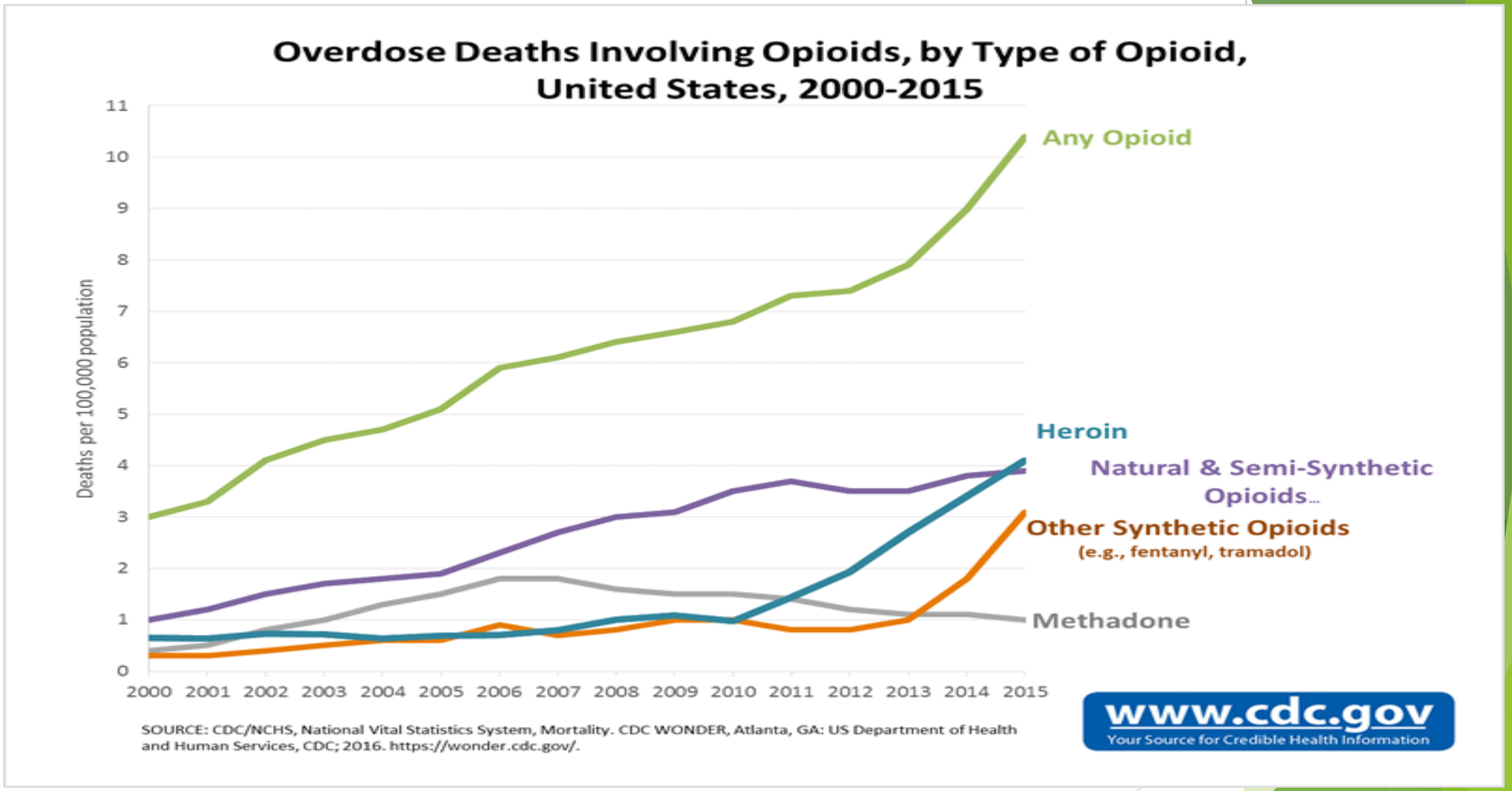
- Drug use at an early age is an important predictor of development of substance use disorder (SUD) later.
- Majority of those who have a SUD started using before 18 and developed their disorder by age 20.

For example …

- 15.2% of people who start drinking by age 14 develop alcohol use disorder (AUD)
- 2.1% of people who start drinking after age 21 develop AUD
- 25% of those who begin abusing Rx drugs at age 13 develop a SUD
- Tobacco, alcohol, marijuana are most commonly used first

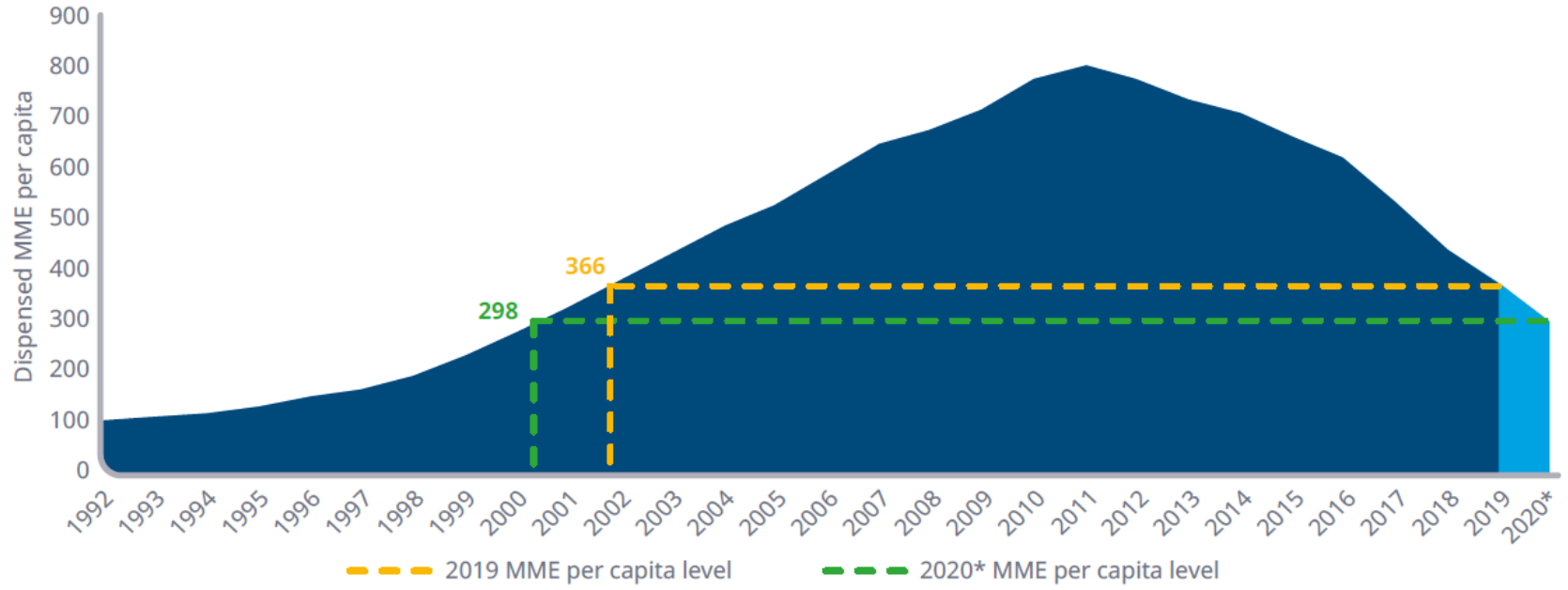
Opioid Use Epidemic is not a new problem

- 10 years ago, prescription and illicit were both the main driver of drug overdose deaths.
- 28,647 opioid involved deaths in 2014
- 33,091 opioid involved deaths in 2015
- 42.249 opioid involved deaths in 2016
  - 27.7% increase in 1 year.
  - 47.5% increase in 2 years.
  - This is on top of the widely reported 400% increase from 1999-2015
- www.cdc.gov


Overdose Deaths Involving Opioids, by Type of Opioid, United States, 2000-2015
Deaths per 100,000 population
0
1
2
3
4
5
6
7
8
9
10
11
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015
Any Opioid
Heroin
Natural & Semi-Synthetic Opioids…
Other Synthetic Opioids
(e.g., fentanyl, tramadol)
Methadone
SOURCE: CDC/NCHS, National Vital Statistics System, Mortality. CDC WONDER, Atlanta, GA: US Department of Health and Human Services, CDC; 2016. https://wonder.cdc.gov/.
www.cdc.gov
Your Source for Credible Health Information

Continued declines have brought normalized per capita prescription opioid use below the 2001 level

Exhibit 2: Prescription Opioid Use in Morphine Milligram Equivalents (MME) per Capita, 1992–2020*



Source: IQVIA Xponent, Mar 2020; IQVIA National Prescription Audit; IQVIA Institute, Nov 2020

Illicit drugs are flooding into our communities

Drug overdose deaths in the US tick up again to another record high, according to CDC data

By Deidre McPhillips, CNN
Published 10:49 AM EDT, Wed April 13, 2022

- The CDC estimates that 106,854 people died due to drug overdose in the 12-month period ending November 2021. Annual drug overdose deaths have more than doubled over the past six years, jumping 16% over the past year alone.
- Synthetic opioids – including fentanyl – were involved in about two-thirds of drug overdose deaths over the past year.

Why are only 2% of doctors providing MOUD?

- Stigma
- Too much drama? Too much risk?
- Family Doctors can certainly do more.
- We have the opportunity to help families and save lives.

- **Podcast in 2021: Ronald Chapman II Discusses CDC Guidelines, DOJ/DEA Investigations Fueling a 'Race to the Bottom' for Physicians and Pain Medicine**
- ***"It's been very easy for federal prosecutors to get quick, snap convictions against doctors by leveraging large datasets. That's a lot easier to do than chasing after drug cartels. That's a lot easier to do than chasing after illicit fentanyl dealers. And they get more bang for their buck, and that's why we've seen this myopic view of prosecutions."***

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Prevention

- CDC prescribing guidelines are a good start
  - For pain management, try non-opioid options first!
  - Assess risk vs. benefit of prescribing; especially to children, adolescents and young adults
  - In my opinion risk will almost always outweigh benefit in children and adolescents.
- Reduce Demand (Better Access to treatment, especially MOUD)
- Reduce Supply (law enforcement, safe med disposal)
- Naloxone availability
- MAPS

Legal claims for increase in MOUD access

- Eighth Amendment to the U.S. Constitution
  - “Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.”
  - Forced detox and stopping clinically necessary medication causes significant distress, increased potential for relapse and death
- Federal Civil Rights Act
- Americans with Disabilities Act

  - Area of emphasis at ASAM Conference 2021

Preventive Factors

- Parenting that is nurturing
- Healthy school environment
- Playing sports; music, art

2 Indicators of a good prognosis

The person is in a healthy environment

The person engages in meaningful activities

Risk Factors

- Family History
- History of anxiety, depression, ADHD, bipolar
- Environment and socioeconomic stressors

Other Risks

- Availability of drugs
- Family Environment where there is violence, physical and/or emotional abuse, mental illness or drug use
  - ACE (adverse childhood experience) Score
- Genetic vulnerability
- Personality traits: poor impulse control, high need for excitement

- National Institute of Drug Abuse; Principles of Adolescent Substance Use Disorder Treatment: A Research Based Guide. January 2014.

Intervention: starts with a thorough history

- Use DSM 5 Criteria for Opioid Use Disorder as a Guide
- Why seek treatment now?
- Past Treatment attempts.
- Environmental factors.
- Family, education and goals.
- Current or past legal involvement.

Chronic Disease Model

- Addiction Treatment faces challenges that other chronic illnesses do not
- Impact of addiction is more visible and less socially acceptable (stigma of OUD).
- (false) Expectation that patients with OUD will remain symptom free after treatment ends

Chapter 31: Quality Improvement for Addiction Treatment; Principles of Addiction Medicine The Essentials; 2011.

Treatment Gap Evident

% of Patients with chronic diseases who receive treatment:

- Hypertension ➔ 77%
- Diabetes ➔ 73%
- Depression ➔ 71%
- Opioid Use Disorder ➔ 10-20%

Need to reduce treatment gap.

Evidence based treatments are not routinely used for alcohol, drug, and mental health conditions.

The IOM has noted that health policy has more impact on patient outcomes than variation in individual practitioner abilities.

Recent examples of improvements in access to care are:

- Mainstreaming Addiction Treatment Act/Medication Access and Training Expansion Act
- Comprehensive Addiction and Recovery Act
- Medicaid Expansion and coverage for buprenorphine
- Mental Health Parity and Addiction Equity Act

Mortality Risk During and After Opioid Substitution treatment

- Data from systemic review and meta-analysis of 122,885 people treated with MMT and 15,831 with BMT
- All cause mortality rate per 1000 person years
  - 11.3 during MMT and 36.1 after MMT
  - 4.3 during BMT and 9.5 after BMT
- Overdose mortality rate per 1000 person years
  - 2.6 during MMT and 12.7 after MMT
  - 1.4 during BMT and 4.6 after BMT
- Note: MMT patients typically with more severe OUD
- BMJ2017:357:j1550 (April 26, 2017)

Treat patient using osteopathic principles

- Treat the whole patient
- Know their history
- Have empathy
- Goal is to restore function
  - In school
  - In Family life
  - In Work

Harm Reduction

- Benefits people who use drugs, their families and the community.
  - Is not mutually exclusive of efforts to promote abstinence.
- Reminds clinicians of the supreme importance of keeping drug users alive and avoiding irreversible damage.
  - Chapter 30, Principles of Addiction Medicine, The Essentials. 2011.

MAT Treatments for OUD

Medication for Opioid Use Disorder (MOUD)

- Methadone Maintenance Treatment, age 18 and over
  - Full opioid agonist
- Buprenorphine Maintenance Treatment, age 18 and over
  - Partial opioid agonist
- Naltrexone oral or injection , age 16 and over
  - Opioid antagonist

- Psychosocial Treatment should be included
  - Cognitive Behavioral Therapy
  - Supportive Counseling (by MAT physician of course)

Behavioral Interventions

- Help adolescents to actively participate in their recovery from substance use disorder and enhance their ability to resist drug use
- Types of Interventions
  - Cognitive Behavioral Therapy
  - Contingency Management
  - Motivational Enhancement Therapy
  - Mutual Self-Help meetings
  - Family Based Approaches

Methadone Maintenance Treatment

- Currently only allowed at an opioid treatment program (OTP).
- Daily methadone dosing at OTP initially and as time goes on patients can earn take home dosing privileges
- Not allowed to prescribe methadone to patient outside of an opioid treatment program for treatment of OUD

What is OBOT?

- Outpatient Based Opioid Treatment
  - Provider no longer required (as of January 2023) to have XDEA number to prescribe buprenorphine to OUD patient
  - Outpatient clinic-based setting for M-OUD
    - Buprenorphine
    - Naltrexone

Buprenorphine Options Include:

- Transmucosal buprenorphine
  - Buprenorphine-naloxone
    - Zubsolv tabs, Suboxone film, Bunavail film, generic tab
  - Generic buprenorphine tablets (“Subutex”)
  - Generally daily to twice daily dosing
- Subcutaneous Injection
  - Sublocade ➔ monthly
  - Brixadi ➔ weekly or monthly

Naltrexone: opioid antagonist

- Oral and IM dosage forms indicated for both alcohol and opioid use disorder.
- Less clear evidence than MMT or BMT
- Potential Benefit for oral formulation vs. placebo for patients who have external mandates (legal requirements)
- Injectable naltrexone trial demonstrates benefit vs. placebo. However, high drop-out rate of 45% at 6 months.
  - ASAM National Practice Guideline, 2015
- IM form with 53% retention in treatment at 6 months
- 20% treatment retention at 1 year with oral naltrexone
  - Bart (2012)

Settings of Care

- Outpatient
- Intensive outpatient
- Partial Hospitalization
- Residential/Inpatient Treatment

Cost Effective

- Opioid use disorder treatment reduces illicit opioid use and its associated health and social costs.
- Estimated every $1 invested in opioid dependence treatment programs may yield a return of as much as $12 due to:
  - Reduced drug-related crime, criminal justice costs
  - Health care savings
    - 2004 WHO/UNODC/UNAIDS position paper. Substitution maintenance therapy in the management of opioid dependence and HIV/AIDS prevention.

Case Study #1

- 32 year-old male seen on 1-17-23 for new patient visit. He is on parole after serving much of last 10 years in prison.
- He was on M-OUD the last couple of years while in prison and had last buprenorphine monthly injection on 12-19-23 and was released from prison just before Christmas.
- Living with his Dad
- Referral from Catholic Human Services
- Drug of choice: heroin and other opioids
  - Using opioid since age 16 when he would use Vicodin recreationally; IV heroin started at age 20

Past Medical history

- PMH: Alcohol Use Disorder (AUD), OUD, History of Hepatitis C (treated in 2021)
- Family History: Dad with AUD
- Smokes 1/2ppd for 10 years
- No alcohol since 2020

Examples of patient goals

- Get Back to Work
- Stop wasting all my time and money on drugs (and chasing drugs)
- Be a better parent and partner
- To not die and get back to “normal life”
- Have integrity

Assessment

- Opioid Dependence on Agonist Therapy (F11.20)
- Tobacco Use (Z72.0)
- Screening of Lipoid disorders (Z13.220)
- History of Hepatitis C (Z86.19)
- History of alcoholism (F10.21)

Buprenorphine injection given

- Procedure: Patient in supine position. Injection site cleansed with alcohol swab. 1cc of 1% lidocaine used for local anesthesia prior to injection. Buprenorphine 100mg injection given without difficulty and patient denies pain from injection. Band-Aid applied to site. No complications.
- PROVIDED: Patient Education
  - Harm reduction approach with buprenorphine maintenance treatment continues to effectively reduce risk of toxic opioid exposure.
  - Offered Naloxone injection kit and discussion about harm reduction.

Plan

- ORDERED/ADVISED: Order Date 01-17-2023
- - CMP (Complete Metabolic Panel) (Z86.19, F11.20, Z13.220)
- - Lipid Panel (Z86.19, F11.20, Z13.220)
- Come in for next buprenorphine monthly injection in 1 month
- Custom Order (Catholic Human Services referral for counseling, recovery coach and life coach services today.) (F10.21, F11.20)

1 month follow-up on 2-17-23

- Telehealth; M-OUD; he was not able to get out of work to come in for buprenorphine injection
- History of Present Illness: Patient denies relapse or cravings. Mood is stable overall.
- Support for recovery includes: CHS. Checks in regularly with parole office. It sounds like he has been adjusting well since getting out of prison last month.
- Working status: Employed at factory and is doing training there now on day shift; He will be starting on 3rd shift within a couple weeks after training is complete. He has been working at a restaurant a couple hours away on weekends and stays down there for that.

Assessment & Plan:

- # Opioid dependence, on agonist therapy (F11.20):
  - He should not need supplemental buprenorphine as the Sublocade is still working and he is not having cravings.
  - He will follow-up at CHS office in 3 weeks for next Sublocade 100mg.

Office visit on 3-7-23

- Patient denies relapse but he has had some cravings the last three days or so. He had last shot 7 weeks ago and would like to get one every 4 weeks again. Mood is stable overall.
- Support for recovery includes: CHS; he is on parole now for another 2 years.
- Working status: Employed at factory where his Dad works and is on 3rd shift; also working at a restaurant and has worked 25 days in a row now.
- Had buprenorphine 100mg injection without difficulty today

Office visit on 4-4-23 Given buprenorphine 100mg injection

History of Present Illness: Patient denies relapse or cravings. Mood is stable overall.

Support for recovery includes: CHS and he is on parole

Working status: Employed and is working 60-78 hours per week.

Glad to have money in the bank and feels secure financially and is looking forward to buying a new car and then being able to give his son a car when his son turns 16 next March.

Office visit on 5-2-23
Given buprenorphine 100mg injection

- History of Present Illness: Patient denies relapse or cravings. Mood is stable overall.
- Support for recovery includes: CHS and he is on parole now in a different county where he is working at a restaurant his girlfriend and her mom own.
- The 12 hour days at the factory, 6 days per week was not leaving him time to spend with family and he was getting burned out. He wants to be available to spend time with his 12, 13, and 15 year-old children (who were adopted by their aunt).
- He is also glad to have a PO now who is not threatening him with going to jail if he missed a recovery coach meeting, a supervision payment, or some other meeting.
- Working status: Employed and works 40-50 hours per week as a cook and he is also doing maintenance and landscaping

Rationale for monthly dosing vs. daily dosing

- Tapering off buprenorphine can be challenging due to withdrawal symptoms, including malaise, anxiety, and dysphoria.
- A single dose of extended-release buprenorphine may facilitate discontinuation of buprenorphine by mitigating prolonged, debilitating opioid withdrawal symptoms.
- Minimal to no withdrawals with several patients I have who had injection prior to being incarcerated.
  - Note: symptoms of OUD usually return upon release and MOUD generally is re-started.

Case Study #2

- 29 year old pregnant female
- New patient visit in October 2011
  - Lives about 70 miles from clinic
- 13 weeks pregnant
- IV Morphine 5 days ago
- Prescribed opiates for back pain from 2002 to 2009

Severe cravings

- Always worried about slipping up. Ashamed about track marks (admits to sometimes shooting up water due to cravings)
- Wants to be able to provide stable home for her children and her fiancée
- PMH – Hepatitis C
- FH: F-alcoholic; sister: opioid abuse
- Social – smokes 1ppd; works as a waitress; on probation now (was in jail for 9 months, got out 5 months ago.)

Early Remission

- After 1 week
  - Going for weekly counseling sessions and weekly NA meetings
  - Taking buprenorphine 8mg bid. Has cravings when at work.
  - UDS at court was positive for opiates; UDS in my office +only for buprenorphine

Recovery

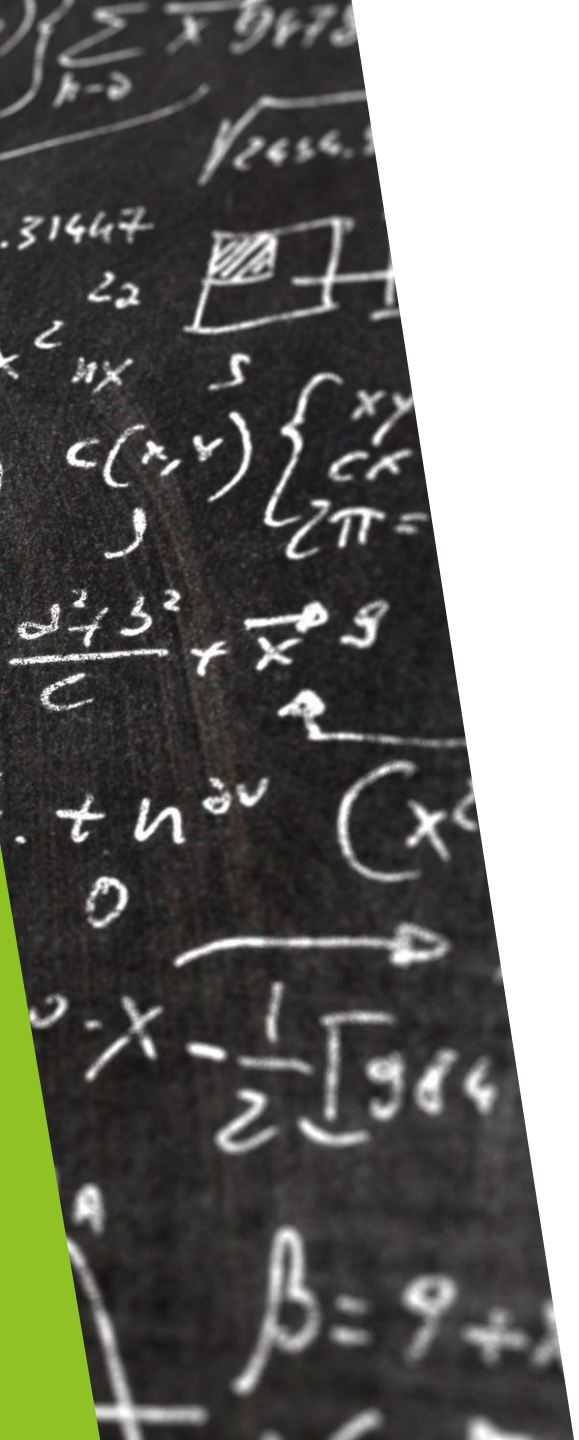
- After 6 weeks
  - Happy to be sober. Brighter affect and more confident. Feels stable with 12mg daily.
  - Had increase cravings after an argument with her fiancée last week. Talking with her sponsor helped.
  - Working full-time.

Success through pregnancy

- At 37 weeks. OB visits going well. Denies cravings with 6mg daily dose.
- For about 6 months after delivery of healthy baby girl she had regular follow-up and consistent drug screens.
  - Had probation violation and went to jail and did not shown up for appointment at my new office (January 2013).

Serenity Prayer

- *God grant me the serenity*
  To accept the things I cannot change;
  Courage to change the things I can;
  And wisdom to know the difference.



Thank you.

- David Best, DO, MS, ABAM
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- www.ASAM.org
- www.aoaam.org

- Suggested Reading:
- “Dopesick” and “Raising Lazarus” by Beth Macy
- “Healing the Addicted Brain” by Harold Urschel, MD
- “Hooked: 5 Addicts Challenge Our Misguided Drug Rehab System” by Lonny Shavelson, MD
- Principles of Addiction Medicine, The Essentials