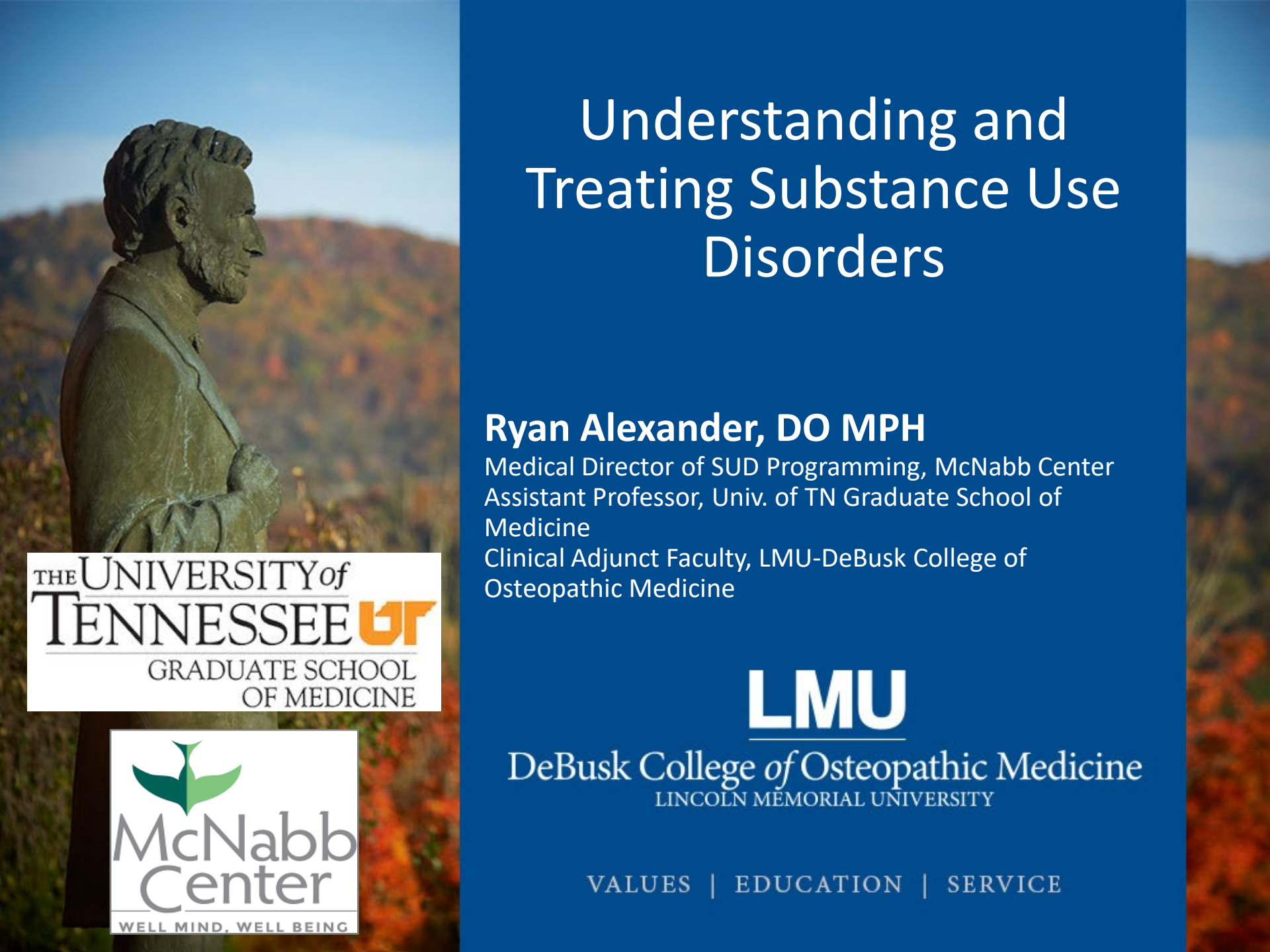

Understanding and Treating Substance Use Disorders

Ryan Alexander, DO MPH
Medical Director of SUD Programming, McNabb Center
Assistant Professor, Univ. of TN Graduate School of Medicine
Clinical Adjunct Faculty, LMU-DeBusk College of Osteopathic Medicine

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VALUES | EDUCATION | SERVICE

Disclosures

- Ryan Alexander, DO MPH, has no financial relationships to disclose relating to the subject matter of this presentation.

Objectives

- Define addiction as a chronic disease
- Recognize how social determinants of health affect risk for substance use disorders
- Review the evidence-based treatment options for opioid use disorder (OUD) and alcohol use disorder (AUD)
- Analyze effectiveness and safety of medication treatment for substance use disorders
- Process underlying stigma and barriers to accessing evidence-based care in the local community

What is Addiction?

- Disease?
- Disorder?
- Behavior?

Is Addiction a Disease?

- Some people think: *"Addiction can't be a disease because it's a 'choice' to use drugs."…*

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THE LANCET
Psychiatry

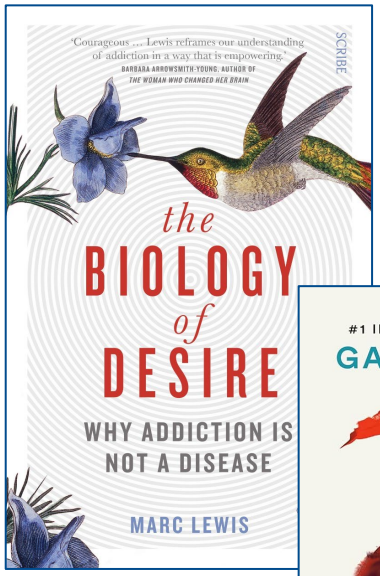
This journal | Journals | Publish | Clinical | Global health | Multimedia | Events | Abou

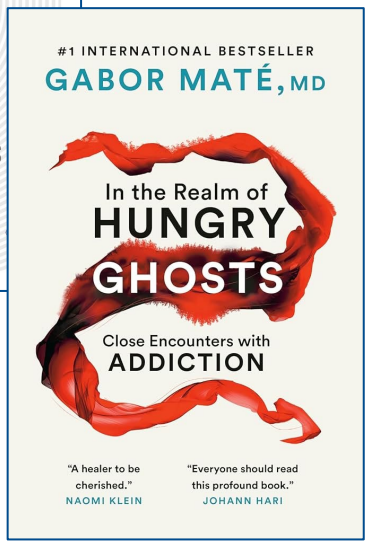
COMMENT | VOLUME 2, ISSUE 8, P677-679, AUGUST 2015 | Download Full Issue

Brain disease model of addiction: why is it so controversial?

Nora D Volkow • George Koob

Published: August, 2015 • DOI: https://doi.org/10.1016/S2215-0366(15)00236-9





nature > neuropsychopharmacology > review articles > article

Review Article | Open access | Published: 22 February 2021

Addiction as a brain disease revised: why it still matters, and the need for consilience

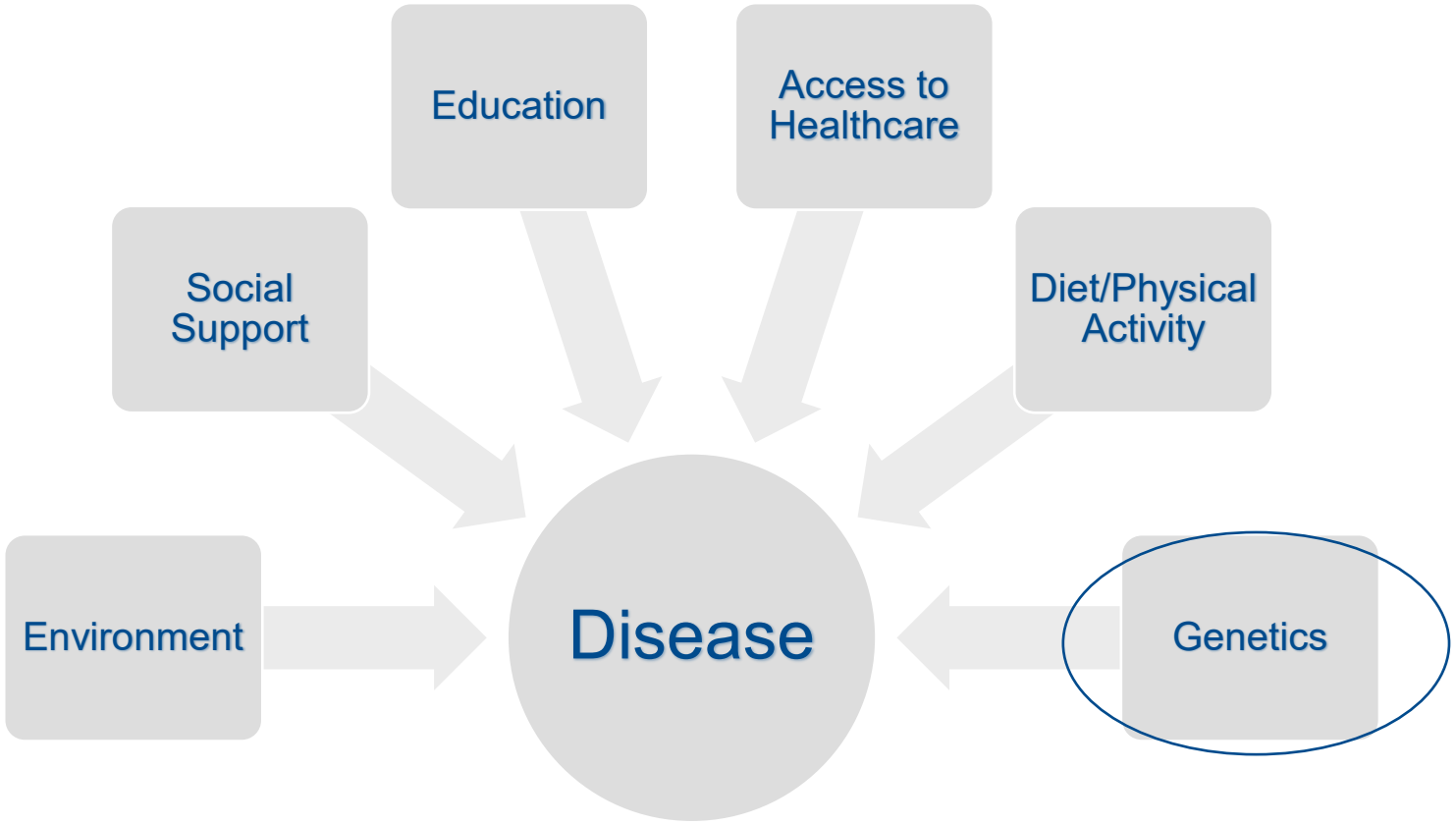
Markus Heilig, James MacKillop, Diana Martinez, Jürgen Rehm, Lorenzo Leggio & Louk J. M. J. Vanderschuren

Is Addiction a Disease?

- What is a disease?

Websters Definition: “a condition of the living animal or plant body or of one of its parts that impairs normal functioning and is typically manifested by distinguishing signs and symptoms”


Genetics
Disease


Education
Access to Healthcare
Social Support
Diet/Physical Activity
Environment
Disease
Genetics

Common Diseases

Leading Causes of Death

Print

Data are for the U.S.

Number of deaths for leading causes of death

- ★ Heart disease: 702,880
- ★ Cancer: 608,371
- ★ Accidents (unintentional injuries): 227,039
- COVID-19: 186,552
- ★ Stroke (cerebrovascular diseases): 165,393
- ★ Chronic lower respiratory diseases: 147,382
- Alzheimer's disease: 120,122
- ★ Diabetes: 101,209
- Nephritis, nephrotic syndrome, and nephrosis: 57,937
- ★ Chronic liver disease and cirrhosis: 54,803

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

2022 data

★ Leading Risk Factors Involve Lifestyle Choices/Behaviors

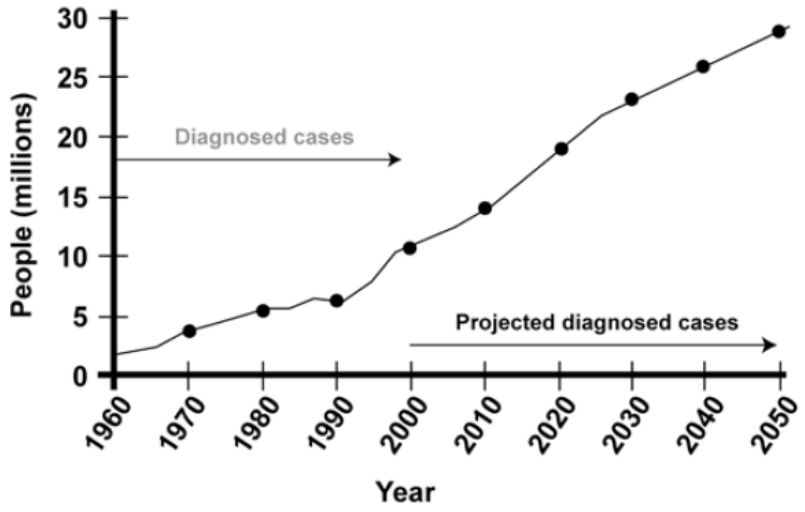
- Smoking
- Unhealthy Diet
- Physical Inactivity
- Substance use

Choice?

- But what shapes our choices?
- Choice availability differs among people

Example: Type 2 Diabetes

Figure 1. Prevalence of Diagnosed and Projected Diagnosed Diabetes Cases in the United States, 1960-2050



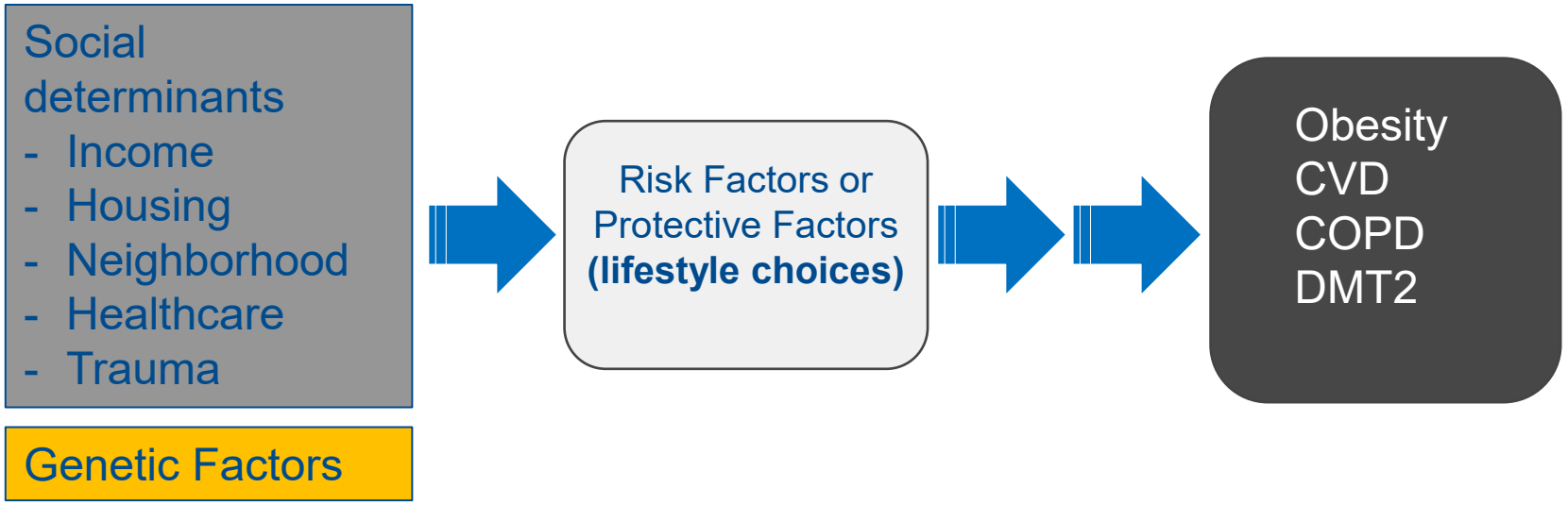
SOURCE: Data for 1960–1998 from the National Health Interview Survey, National Center for Health Statistics (NCHS). Centers for Disease Control and Prevention (CDC) projected data for 2000–2050 from the Behavioral Risk Factor Surveillance System, Division of Diabetes Translation, CDC. (Note: The "Diagnosed cases" arrow refers to the section of the figure that includes diagnosed cases of diabetes versus the section that includes projected cases. The line graph and not the line arrow indicate the number of diagnosed cases.)

Is Addiction a Disease?

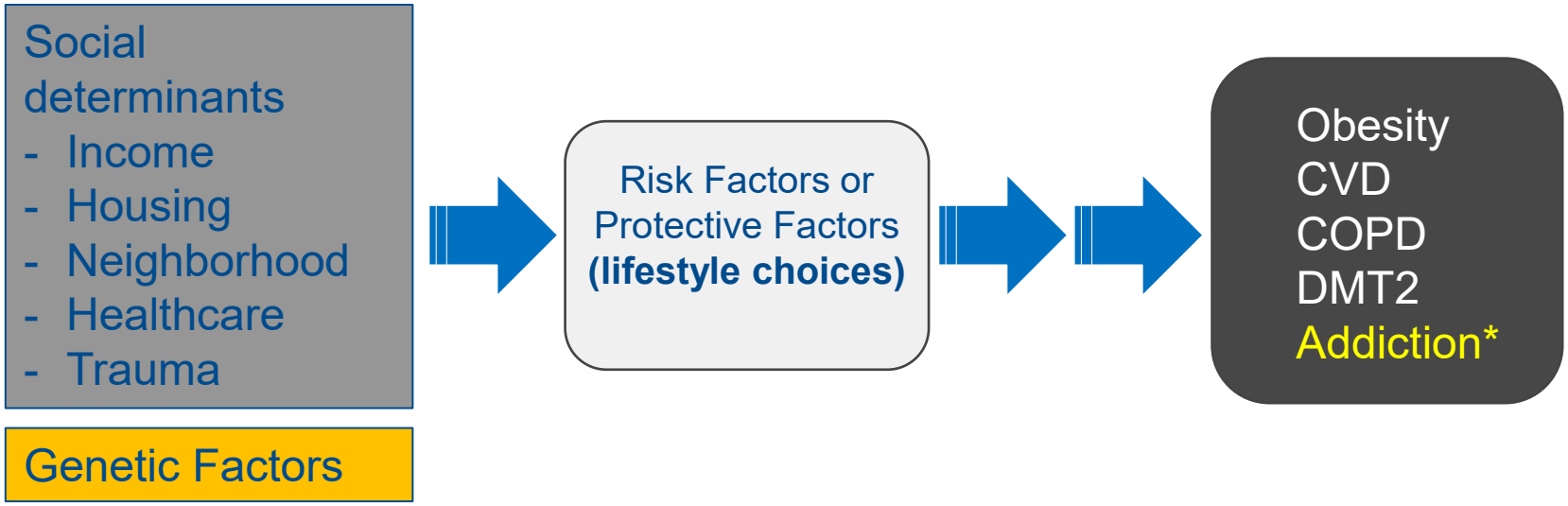
- Some people think: *"Addiction can't be a disease because it's a 'choice' to use drugs."…*

- It's a choice what you eat (Obesity, DMT2, CAD, etc)
- It's a choice to smoke cigarettes (COPD, CAD, cancer, etc.)

Biopsychosocial Model of Disease



Addiction Fits in the Biopsychosocial Model of Disease



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Addiction is a treatable, chronic medical disease involving complex interactions among brain circuits, genetics, the environment, and an individual's life experiences.

- American Society of Addiction Medicine

SAMHSA
Substance Abuse and Mental Health Services Administration

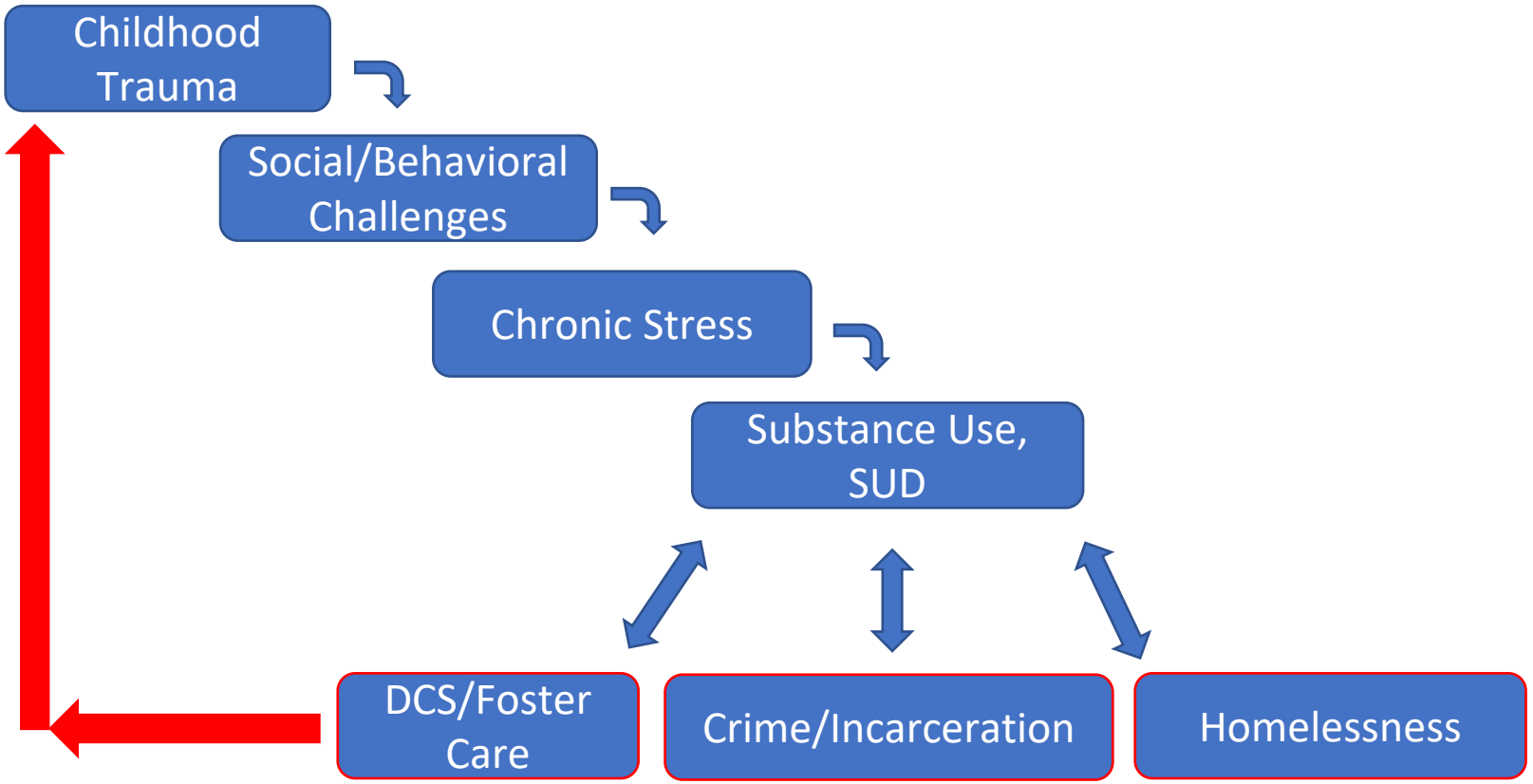
NIH
National Institute on Drug Abuse

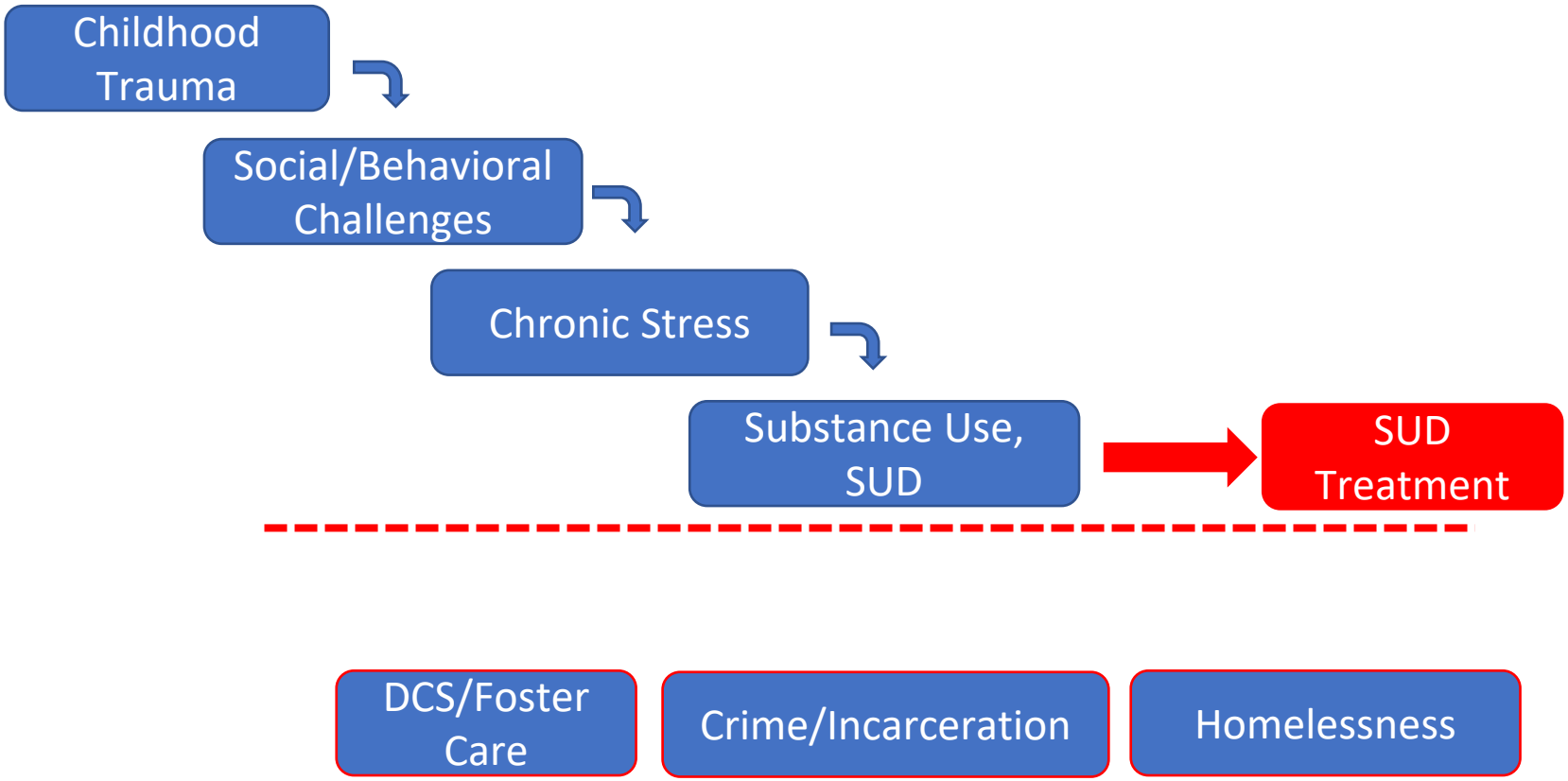
ASAM
American Society of Addiction Medicine

AMERICAN PSYCHIATRIC ASSOCIATION

Why You Should Care

- #1 Leading cause of death among age <45 [1]
- #3 Cause of death in the USA [2]
- #1 Leading cause of incarceration [3]
- #1 Leading cause of foster placement [4]
- #1 Leading cause of years of potential life lost
- A leading cause of unemployment
- A leading contributor to hospitalizations[5]


Childhood Trauma
Social/Behavioral Challenges
Chronic Stress
Substance Use, SUD
DCS/Foster Care
Crime/Incarceration
Homelessness


Childhood Trauma
Social/Behavioral Challenges
Chronic Stress
Substance Use, SUD
SUD Treatment
DCS/Foster Care
Crime/Incarceration
Homelessness

Substance Use Disorders are Under-Treated

Among the 48.7 million people aged 12 or older in 2022 who had an SUD in the past year and were therefore classified as needing substance use treatment, 14.9 percent received substance use treatment in the past year…

2022 NSDUH, SAMHSA

Evidence Based Addiction Treatment

- Historically treatments were limited and based on addiction being a ‘bad behavior’.
- Considering addiction as a disease changes the approach to treatment
- Following evidence based treatments saves lives

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Evidence Based Treatment

Cochrane Library
Trusted evidence.
Informed decisions.
Better health.

[Intervention Review]

Buprenorphine maintenance versus placebo or methador for opioid dependence

Richard P Mattick[1], Courtney Breen[1], Jo Kimber[1], Marina Davoli[2]

[1]National Drug and Alcohol Research Centre, University of New South Wales, Sydney, Australia. [2]Departmer Regional Health Service, Rome, Italy

Original Investigation | Substance Use and Addiction

February 5, 2020

Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder

Sarah E. Wakeman, MD[1,2]; Marc R. Larochelle, MD, MPH[3,4]; Omid Ameli, MD, MPH[5]; et al

» Author Affiliations | Article Information

JAMA Netw Open. 2020;3(2):e1920622. doi:10.1001/jamanetworkopen.2019.20622

JAMA | Review

Diagnosis and Pharmacotherapy of Alcohol Use Disorder
A Review

Henry R. Kranzler, MD; Michael Soyka, MD

Research

JAMA Psychiatry | Original Investigation

Cost-effectiveness of Treatments for Opioid Use Disorder

Michael Fairley, PhD; Keith Humphreys, PhD; Vilija R. Joyce, MS; Mark Bounthavong, PharmD, PhD; Jodie Trafton, PhD; Ann Combs, MHA; Elizabeth M. Oliva, PhD; Jeremy D. Goldhaber-Fiebert, PhD; Steven M. Asch, MD, MPH; Margaret L. Brandeau, PhD; Douglas K. Owens, MS, MD

Treatment Philosophy

Behavioral Modification PLUS Medication

- MEDICATION FIRST (rapidly stabilize)
- BEHAVIOR CHANGE SECOND (long term change is slow)

Medication Treatment is Effective

Opioid Use Disorder

Opioid Withdrawal	Relapse Rate: ~90%
Opioid Withdrawal + Medication Maintenance	Relapse ~30%

Alcohol Use Disorder

Alcohol Withdrawal	Relapse Rate: ~60%
Alcohol Withdrawal + Medication Maintenance	Relapse ~40%

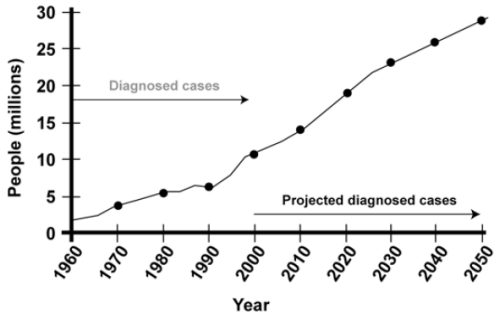
Binger KJ, Ansara ED, Miles TM, Schulte SL. Relapse rates among veterans on maintenance doses of combination buprenorphine and naloxone for opioid use disorder. *Ment Health Clin*. 2020;10(3):80-84. Published 2020 May 7. doi:10.9740/mhc.2020.05.080

Bouza C, Angeles M, Muñoz A, Amate JM. Efficacy and safety of naltrexone and acamprosate in the treatment of alcohol dependence: a systematic review [published correction appears in Addiction. 2005 Apr;100(4):573. Magro, Angeles [corrected to Angeles, Magro]]. Addiction. 2004;99(7):811-828. doi:10.1111/j.1360-0443.2004.00763.x

"Medication First" Example

How do we treat type 2 diabetes?

Figure 1. Prevalence of Diagnosed and Projected Diagnosed Diabetes Cases in the United States, 1960-2050



SOURCE: Data for 1960–1998 from the National Health Interview Survey, National Center for Health Statistics (NCHS). Centers for Disease Control and Prevention (CDC) projected data for 2000–2050 from the Behavioral Risk Factor Surveillance System, Division of Diabetes Translation, CDC. (Note: The "Diagnosed cases" arrow refers to the section of the figure that includes diagnosed cases of diabetes versus the section that includes projected cases. The line graph and not the line arrow indicate the number of diagnosed cases.)

General Approach to Substance Use Treatment

- Two phases:
  - 1. Acute withdrawal management

  AND
  - 2. Relapse prevention (maintenance)

Opioid Use Disorder (OUD)

- Two phases:
  - 1. Acute opioid withdrawal
    - Opioid agonist or partial agonist treatment

  AND

  - 2. Relapse prevention (maintenance)
    - Opioid agonist, partial agonist or antagonist
    - Psychosocial, behavior modification

Opioid Withdrawal Management

- Methadone
  - Full mu opioid agonist
  - Can start immediately
  - Only available at methadone clinic
- Buprenorphine-naloxone
  - Partial mu opioid agonist
  - Cannot start until patient is in significant withdrawal
  - Any provider can initiate for opioid withdrawal

3 FDA Approved Meds for OUD (Maintenance Treatment)

Methadone	"Suboxone" Buprenorphine-naloxone (BUP-NLX)	"Vivitrol" Monthly IM Naltrexone
• Full Mu Agonist • Only available at a "methadone clinic" (OTP) • Risk of OD • Long acting	• Partial Mu Agonist • High affinity at mu receptor = risk of precipitated withdrawal • Ceiling Effect • Long acting	• Mu Antagonist • Does not actively reduce cravings • Must wait 7-10 days with no opioid use prior to initiating

100%

50%

0%

Choosing a Treatment for OUD

Methadone	"Suboxone" Buprenorphine-naloxone (BUP-NLX)	"Vivitrol" Monthly IM Naltrexone
• Full Mu Agonist (reduces cravings) • Only available at a "methadone clinic" (OTP) • Risk of OD • Long acting	• Partial Mu Agonist (reduces cravings) • High affinity at mu receptor = risk of precipitated withdrawal • Ceiling Effect • Long acting	• Mu Antagonist • Does not actively reduce cravings • Must wait 7-10 days with no opioid use prior to initiating
Reduction in OD rates by 80 %	Reduction in OD rates by 80 %	High barrier to initiation
Lethal dose is 40mg for opioid naive person	Lethal dose is 40,000mg for opioid naive person	

Alcohol Use Disorder (AUD)

- Two phases:
  - 1. Acute alcohol withdrawal
    - Benzodiazepines
    - Barbiturates

  AND

  - 2. Relapse prevention (maintenance)
    - Naltrexone, acamprosate, disulfiram
    - Psychosocial, behavioral modification

Alcohol Use Disorder

- Acute alcohol withdrawal
  - Benzodiazepine taper
  - Phenobarbital
- Inpatient
  - Heavy alcohol use, risk for seizures, medical comorbidities, lack of home support/monitoring
- Outpatient
  - Low risk – mild/moderate withdrawal, no history of withdrawal seizures, no medical comorbidities, medically literate, home support/monitoring

3 FDA Approved Medications for AUD maintenance (after detox)

Disulfiram (Antabuse)	Naltrexone	Acamprosate
• Deterrent: Makes patients sick if they drink (disulfiram reaction) • Not first line	• Mu Antagonist (reduces reward from drinking by blocking endorphins) • First line • Once a day pill or once a month injection (Vivitrol)	• Unclear mechanism of action • TID medication (compliance?)

Common Questions or Concerns

1. Am I allowed to prescribe buprenorphine-naloxone (Suboxone)?
2. Is Buprenorphine-naloxone safe?
3. How should I start buprenorphine-naloxone for a patient using fentanyl to avoid precipitated withdrawal?
4. How long should someone be on a medication treatment?

Common Questions or Concerns

- 1. Am I allowed to prescribe buprenorphine-naloxone (suboxone)?

  - The DEA eliminated the X-waiver
  - There is no “special” DEA license or limit on number of patients you can treat with BUP-NLX
  - Every new DEA registrant has to verify they have received buprenorphine training

Dear DEA Registrant,

In 2022, 6.1 million people in the United States had an opioid use disorder (OUD). Among them, only 18.3% received medication-assisted treatment. The removal of the Drug Addiction Treatment Act of 2000 "x-waiver" in December 2022 eliminated a significant barrier to treatment for OUD, dramatically increasing the number of medical professionals who can prescribe buprenorphine from the previously eligible 130,000 prescribers.

The Drug Enforcement Administration (DEA) and the Department of Health and Human Services (HHS) are committed to ensuring safe and ready access to medications for opioid use disorder (MOUD), especially in rural or underserved areas where treatment options have been limited. With the passage of the Consolidated Appropriations Act, 2023,[1] there was an immediate and significant increase in the number of practitioners who can prescribe schedule III MOUD products (e.g., buprenorphine combination products containing buprenorphine and naloxone) for patients with OUD.

As access to treatment increases, it is understood that the use of MOUD products will likely increase at the same time. DEA recognizes that there have been recent increases in demand for certain schedule III MOUD controlled substances as compared to years prior to the Opioid Public Health Emergency, and that there may be a corresponding increase in prescriptions for these medications from medical providers. DEA supports collaboration amongst all DEA registrants to ensure there is an adequate and uninterrupted supply of MOUD products when these products are appropriately prescribed. Distributors should carefully examine quantitative thresholds they have established to ensure that individuals with OUD who need buprenorphine are able to access it without undue delay. DEA has posted a guidance document on its portal related to this issue: https://www.deadiversion.usdoj.gov/GDP/(DEA-DC-065)(EO-DEA258)_Q_A_SOR_and_Thresholds_(Final).pdf.

For more information, please visit www.samhsa.gov and/or www.DEAdiversion.usdoj.gov. It is our sincere hope that the remarkable increase in the number of medical professionals who can prescribe this life-saving medication will not only change the lives of individuals with OUD, but will also stem the escalating rate of opioid-related deaths at a population level.

Please join us in this fight to save lives.

Sincerely,

Anne M. Milgram
Administrator,
Drug Enforcement Administration
Department of Justice

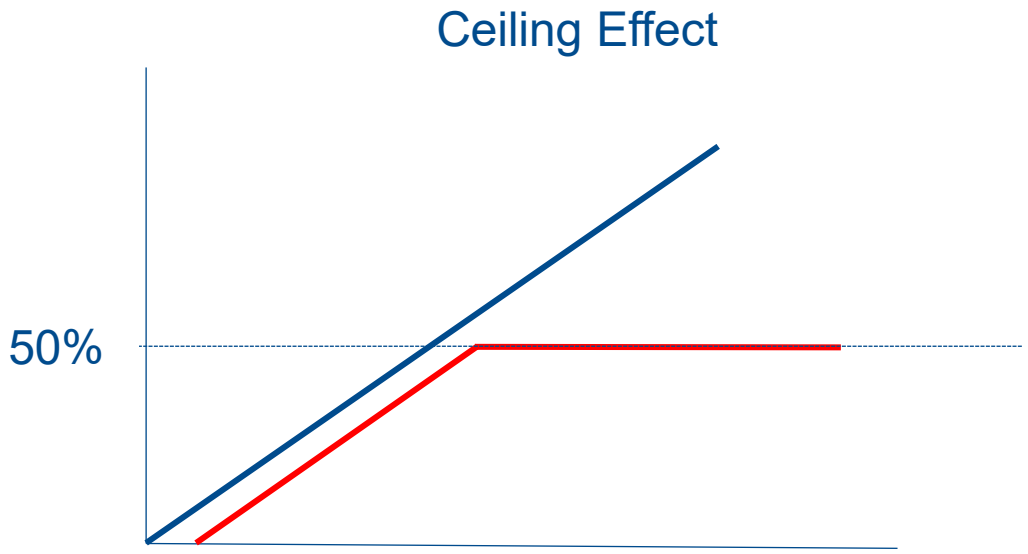
Rachel L. Levine, M.D.
ADM, USPHS
Assistant Secretary for Health
Department of Health and Human

Miriam E. Delphin-Rittmon, Ph.D.
Assistant Secretary for Mental Health and Substance Use
Department of Health and Human Services

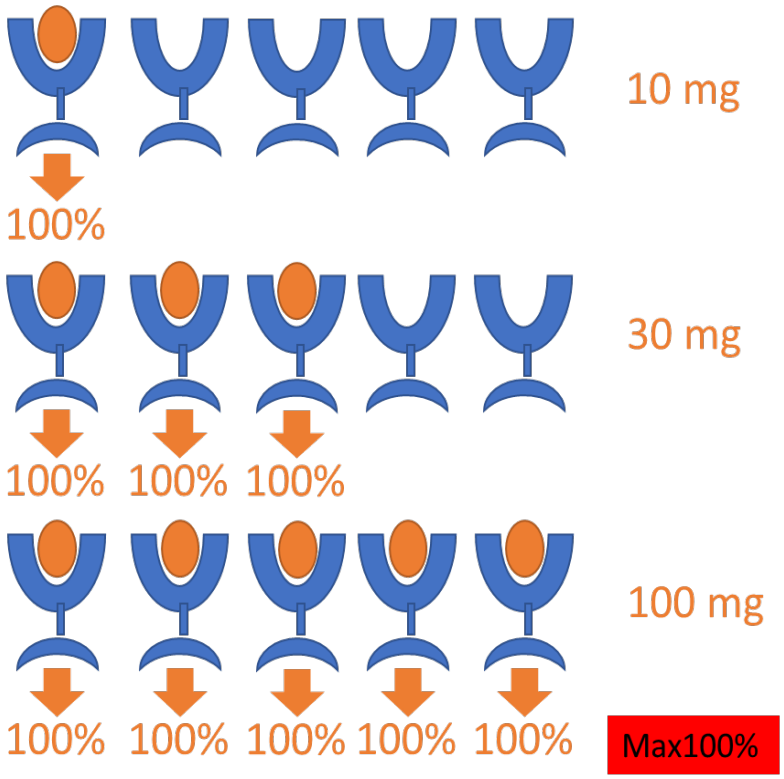
Common Questions or Concerns

- 2. Is Buprenorphine-naloxone safe?

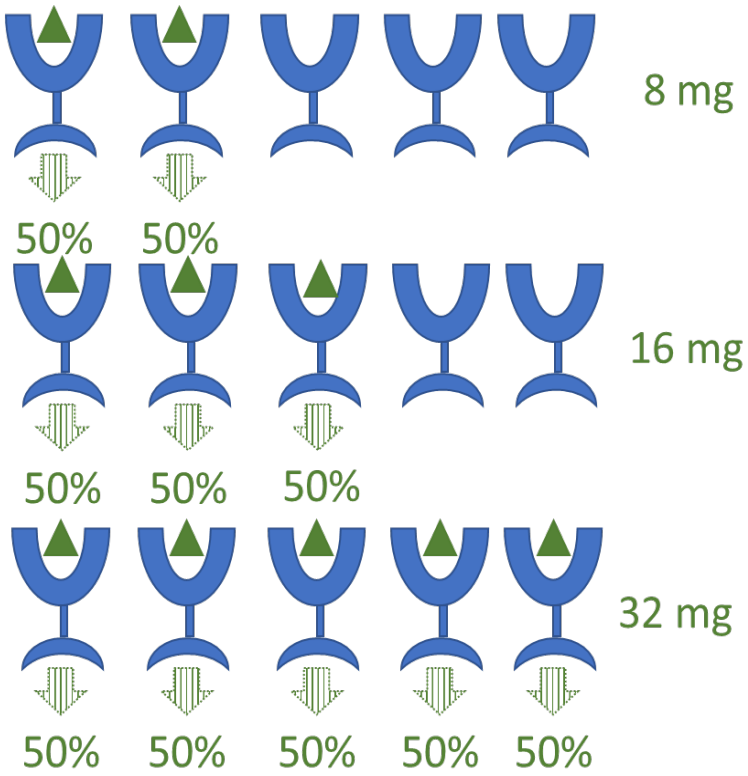
- Buprenorphine is remarkably safe - The LD50 is around 40,000mg
- Risk of precipitated withdrawal



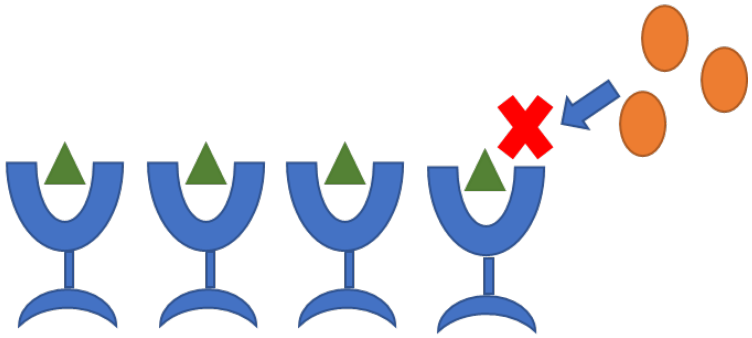
Example: Full Mu Opioid Agonist, eg. Oxycodone



BUP-NLX

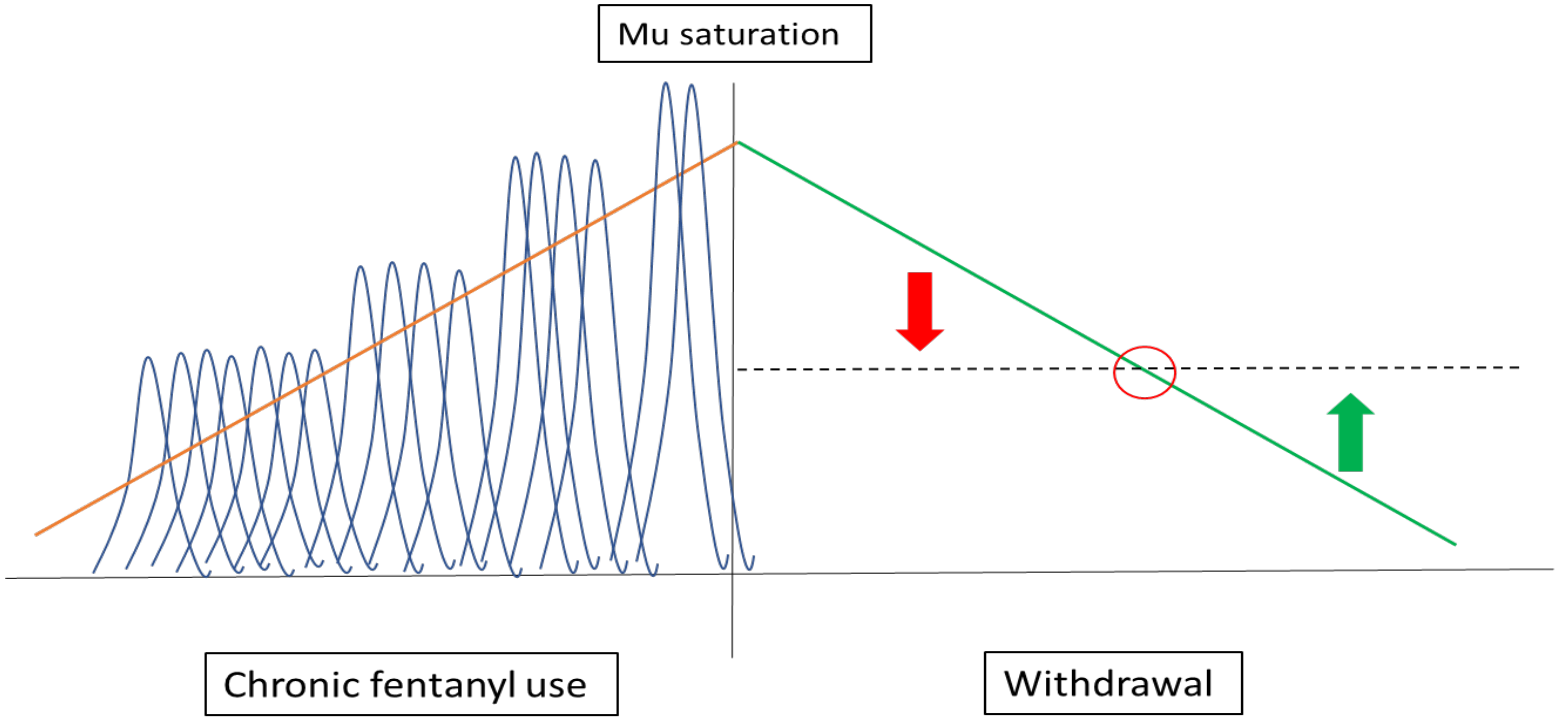


BUP-NLX can displace fentanyl



Fentanyl cannot displace BUP-NLX

Buprenorphine Precipitated Withdrawal



Common Questions or Concerns

- 3. How should I start buprenorphine-naloxone for a patient using fentanyl to avoid precipitated withdrawal?

- Chronic Fentanyl exposure: Start Low (1-2mg) and go slow

- Example:
- Take 1mg (1/8 film) every hour for 8 hours

- Then start maintenance dose of 16mg daily

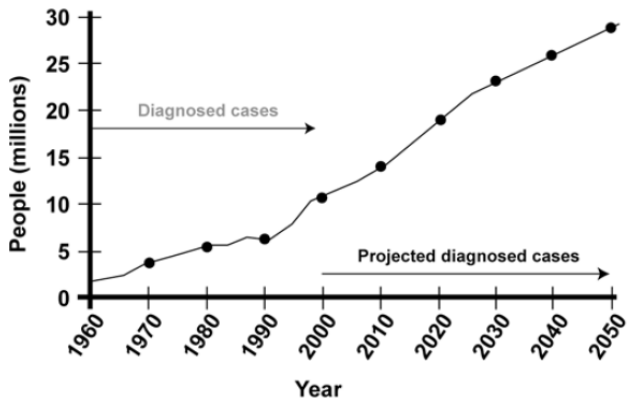
Common Questions or Concerns

- 4. How long should someone be on a medication treatment?

How do we treat type 2 diabetes?

When do you stop someone's metformin?

Figure 1. Prevalence of Diagnosed and Projected Diagnosed Diabetes Cases in the United States, 1960-2050



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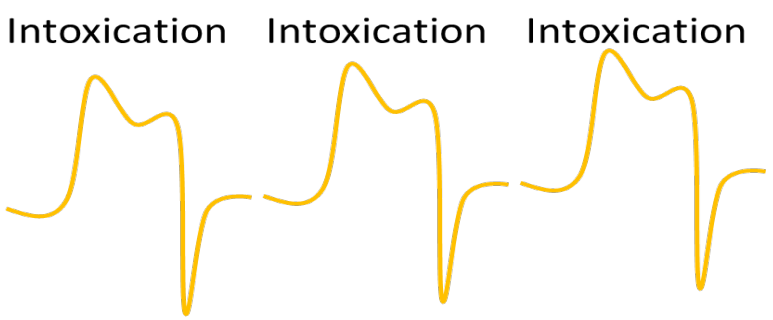
STIGMA

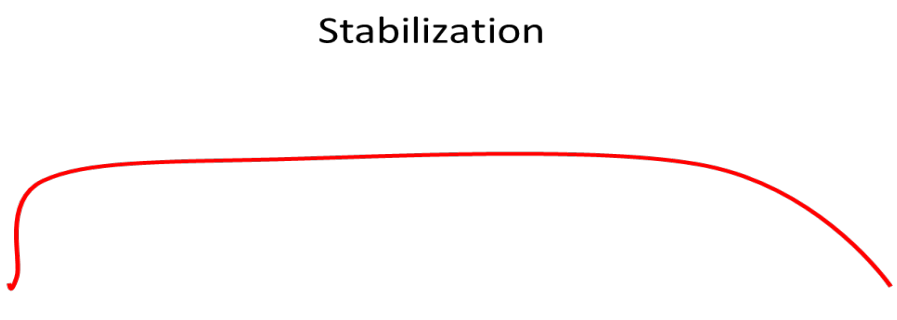
- 1. Isn't taking buprenorphine-naloxone just trading one addiction for another?
- 2. Do patients get 'high' on buprenorphine-naloxone?
- 3. What about diversion?

Isn't taking buprenorphine-naloxone just trading one addiction for another?

Not trading one for another



Vicious cycle impedes functioning



Stabilization Improves Functioning

Do patients get 'high' on buprenorphine-naloxone?

- Not when FDA approved formulation is used as directed in patients with opioid tolerance
  - Ceiling effect

- *Individuals without an opioid tolerance can achieve intoxication with buprenorphine (not indicated in those patients).*
- *BUP without Naloxone is not FDA approved for treating OUD because it can be injected which can cause euphoria - (avoid "Subutex" for patients with OUD)*

What about diversion?

- Many times patients buy/sell BUP-NLX on the street to take when they cannot get any heroin/fentanyl
  - to treat their opioid withdrawal
    - Which is the FDA approved indication
- If patients with OUD had access to *affordable* buprenorphine-naloxone from a reputable medical clinic they would not need to buy it on the street (and would have oversight, accountability, and access to additional resources).

STIGMA-Language

Int J Drug Policy. 2010 May;21(3):202-7. doi: 10.1016/j.drugpo.2009.10.010. Epub 2009 Dec 14.

Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms

John F Kelly [1], Cassandra M Westerhoff

The Real Stigma of Substance Use Disorders

In a study by the Recovery Research Institute, participants were asked how they felt about two people "actively using drugs and alcohol."

One person was referred to as a "substance abuser"

The other person as "having a substance use disorder."

No further information was given about these hypothetical individuals.

STIGMA-Language

Int J Drug Policy. 2010 May;21(3):202-7. doi: 10.1016/j.drugpo.2009.10.010. Epub 2009 Dec 14.

Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms

John F Kelly [1], Cassandra M Westerhoff

THE STUDY DISCOVERED THAT PARTICIPANTS FELT THE "SUBSTANCE ABUSER" WAS:

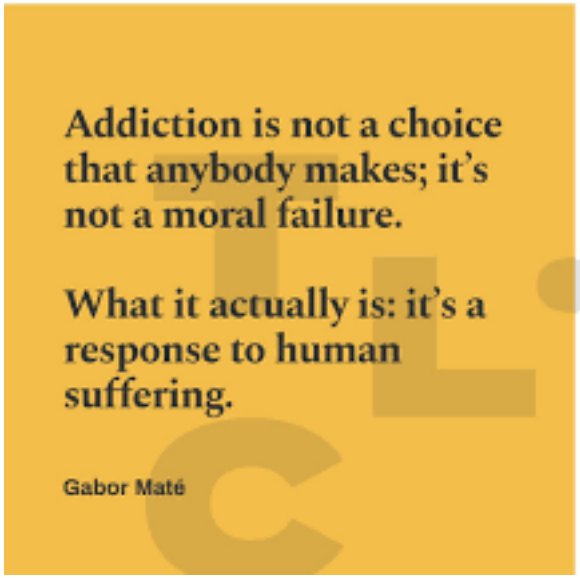
- less likely to benefit from treatment
- more likely to benefit from punishment
- more likely to be socially threatening
- more likely to be blamed for their substance related difficulties and less likely that their problem was the result of an innate dysfunction over which they had no control
- they were more able to control their substance use without help

Language Matters

Say THIS	Don't Say
Positive drug screen	~~Dirty~~
Negative drug screen	~~Clean~~
Person who uses substances or Person with a SUD	~~Drug Abuser~~ or ~~Addict~~
Returned to using	~~Relapsed~~
… Was Abstinent for x years	…Was ~~clean~~ for x years

Opioid Use Disorder NOT Opioid *Abuse*

Sources: JAMA: "Changing the Language of Addiction", Michael P. Botticelli, MEd Howard K. Koh, MD, MPH Language, Substance Use Disorders, and Policy: The need to Reach Consensus on an "Addiction-ary". John F. Kelly PhD, Richard Saitz MD & Sarah Wakeman MD



As long as it is

easier to get fentanyl

than it is to get

mental health treatment and social services

there will continue to be an opioid epidemic.

Key Points

- Addiction is a disease
- Social and environmental pressures significantly influence risk of developing a substance use disorder
- Medication treatment is the gold standard for treating opioid use disorder and alcohol use disorder
- Acute withdrawal management AND maintenance treatment are necessary
- Stigma reduces access to and quality of treatment

References

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