



ADVERSE
CHILDHOOD
EXPERIENCES
PREDICT OPIOID
RELAPSE DURING
TREATMENT AMONG
RURAL ADULTS

Dr. Dan Sumrok

OPIOID USE DISORDER

- Opioid Use Disorder (OUD) is an epidemic in the US
 - Currently, 1.5% of all deaths in the US are attributable to opioids*
- There are large gaps in our ability to treat individuals with OUD
 - Those with OUD may not know that medicine exists/have no resources to get care
 - Not enough physicians are trained and/or waived to treat OUD
 - Even for those who reach treatment: Relapse is extremely high
- Our goal with this research was to examine treatment outcomes in individuals with OUD
 - Relapse
 - Prediction of treatment relapse
 - Prediction of treatment success

* Gomes T, Tadrous M, Mamdani MM, Paterson JM, Juurlink DN. The Burden of Opioid-Related Mortality in the United States. *JAMA Netw Open*. Published online June 01, 2018;1(2):e180217. doi:10.1001/jamanetworkopen.2018.0217

TREATMENT FOR OPIOID USE DISORDER

- How do we treat individuals with OUD?
- Medication Assisted Treatment (MAT)
 - Buprenorphine-naloxone = most widely accepted form of MAT*
 - Reduces cravings but does not make the patient “high”
 - Very good outcomes in scientific research (↓relapse, ↑quality of life)
 - Prescribed on outpatient basis
 - Treatment course: 6 months – indefinitely
- Counseling
 - Federally required practice when a patient receives MAT
 - Medication reduces cravings
 - Counseling helps patients make lifestyle changes

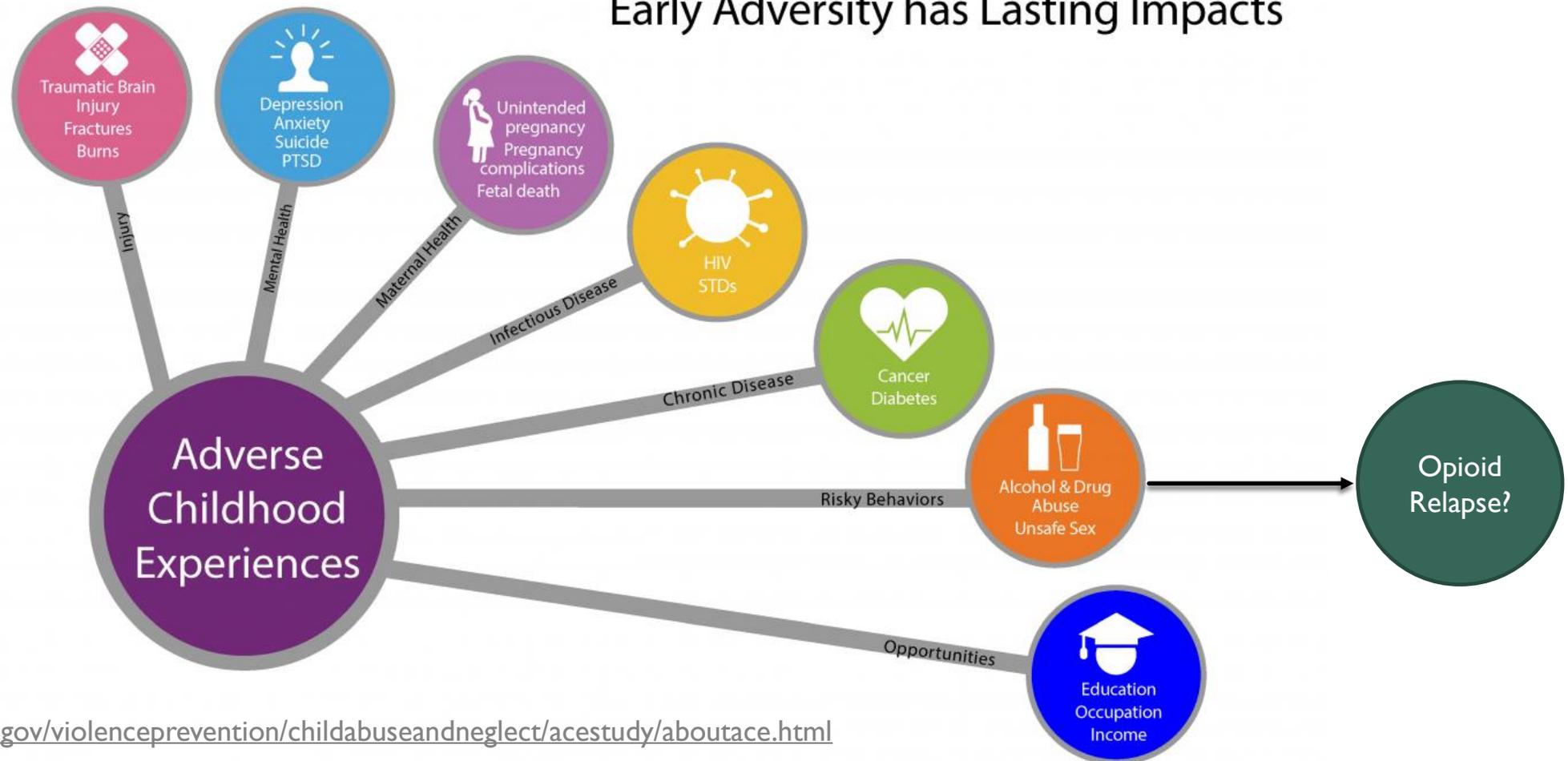
* Main, F., & Kelly, L. (2016). Systematic literature review on buprenorphine/naloxone use in outpatient opioid dependence treatment. *Canadian Journal of Addiction*, 7(1).

ADVERSE CHILDHOOD EXPERIENCES

- We considered what factors may be affecting relapse rates in OUD populations
 - Based upon clinical experiences, identified childhood adverse events as a potential factor
- Adverse childhood experiences (ACEs) is the term used to describe all types of abuse, neglect, and other potentially traumatic experiences that occur to people under the age of 18
- ACE's can include:
 - Abuse
 - Alcoholism in family systems
 - Child Abuse
 - Domestic violence
 - Dysfunctional family
 - Effects of domestic violence on children
 - Neglect
 - Post-traumatic stress disorder
 - Psychological abuse
 - Verbal abuse

IMPACT OF ACE

Early Adversity has Lasting Impacts



METHODS



Study was reviewed and approved by the University of Tennessee Health Science Center Institutional Review Board (IRB)



Data were abstracted from medical charts of patients (N=87) enrolled in buprenorphine-naloxone treatment from 2011 to 2017 at a rural clinic in the southeastern US

Charts included Adverse Childhood Experiences (ACE), number of visits attended, buprenorphine-naloxone prescription data, self-reported opioid use, urine screen results, and prescription drug monitoring database results

Given that patients had multiple office visits, all available visit records (N=2,052) were extracted

Treatment duration ranged from 1 month to 7 years and 10 months



The clinic was open two mornings per week, with group counseling provided first, followed by individual appointments with physicians

RESULTS: DESCRIPTIVE

Sample was 100% Caucasian and 75% male

Age ranged from 21 to 81 years old (M=39.9, SD=9.5)

Number of office treatment visits ranged from 1 to 80 (M=23.6, SD=22)

Majority (91%) of patients were prescribed Suboxone (8mg), 7% were prescribed Bunavail (4.2/0.7mg), and 2% were prescribed Zubsolv (5.7/0.7mg)

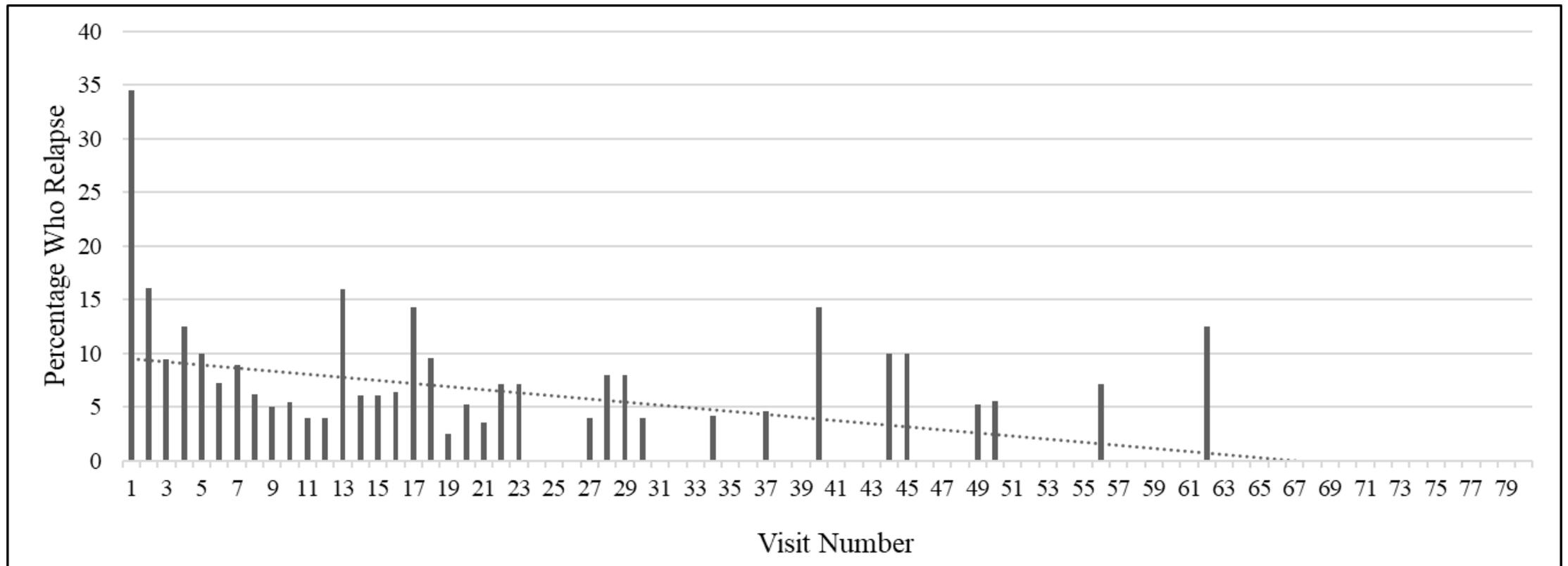
Mean ACE score was 3.5 (SD=2.9)

- 18% of participants reported no ACE
- 46% reported four or more
- Most commonly reported ACE included parent separation/divorce (59%), alcohol abuse by adult in the household (53%), verbal abuse (45%), and emotional neglect (40%)

RESULTS: RELAPSE DURING TREATMENT

- Relapse
 - Of the 87 patients, 47 (54%) relapsed at least once.
 - Of the 2,052 visit observations, 145 (7%) indicated a positive result for opioid relapse
 - The median number of visits to relapse was 1
 - Highest relapse rate (34%) on the first visit

RESULTS: RELAPSE DURING TREATMENT



*Derefinko KJ, Salgado Garcia F, Talley K, Bursac Z, Johnson K, Murphy JG, McDevitt-Murphy M, Andrasik F, & Sumrok DD. (in press). Adverse Childhood Experiences Predict Opioid Relapse During Treatment among Rural Adults. Addictive Behaviors.

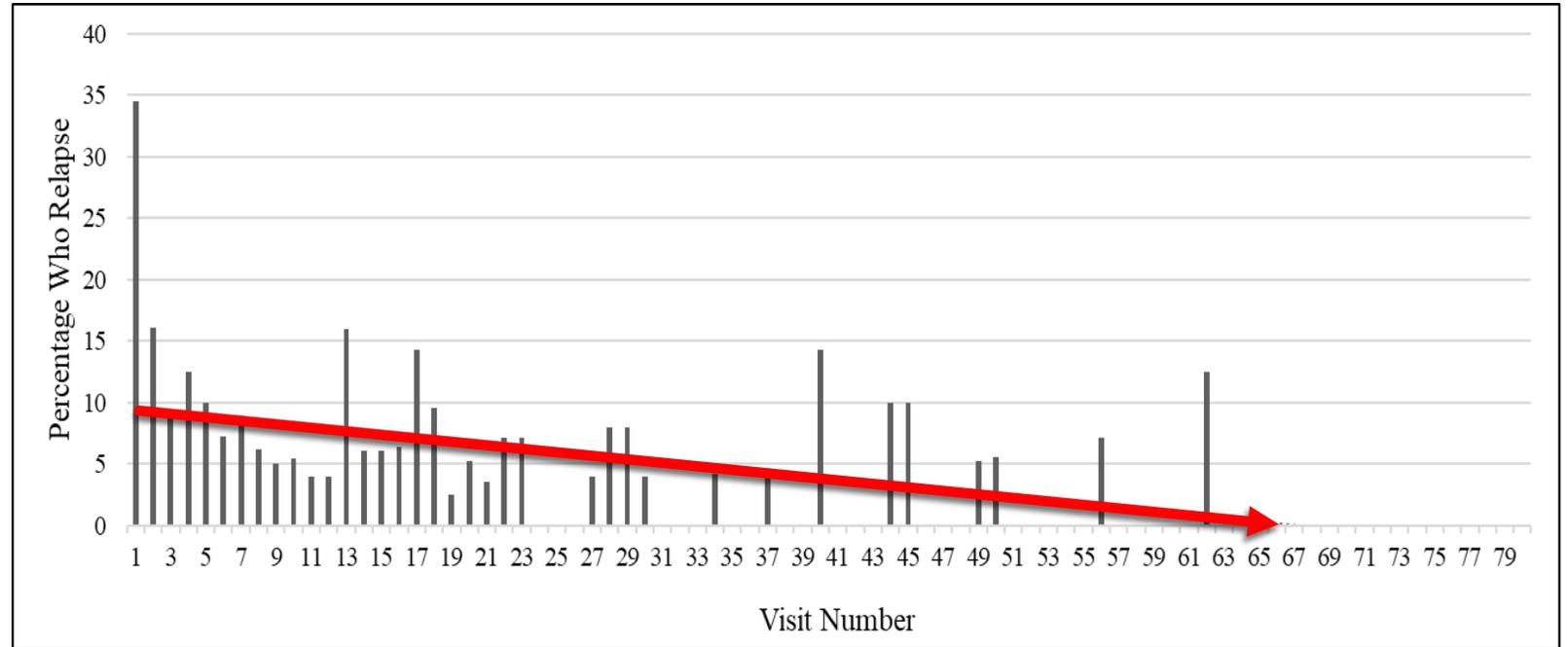
RESULTS: ACE AS A RISK FACTOR

- GEE repeated measures model allowed us to include patients with different numbers of follow-up visits and make use of all available data while adjusting for number of visits for each patient
- Results demonstrated that for every unit increase in ACE score, the odds of opioid relapse were 17% higher
 - (OR=1.17, 95% CI: 1.05-1.30, $p=.005$)

RESULTS: BENEFIT OF STAYING IN TREATMENT

- Odds of opioid relapse were 2% lower for every additional treatment visit
 - (OR=0.98, 95% CI: 0.97-0.99, p=.008)
- Neither gender (OR=1.49, 95% CI: 0.68-3.28, p=.313) nor age (OR=0.99, 95% CI: 0.96-1.02, p=.697) were associated with opioid relapse
 - DFBETA statistics indicated that no observations (individuals with multiple relapses) influenced findings or were out of bounds of normal expectancy

RESULTS: BENEFIT OF STAYING IN TREATMENT



*Derefinko KJ, Salgado Garcia F, Talley K, Bursac Z, Johnson K, Murphy JG, McDevitt-Murphy M, Andrasik F, & Sumrok DD. (in press). Adverse Childhood Experiences Predict Opioid Relapse During Treatment among Rural Adults. Addictive Behaviors.

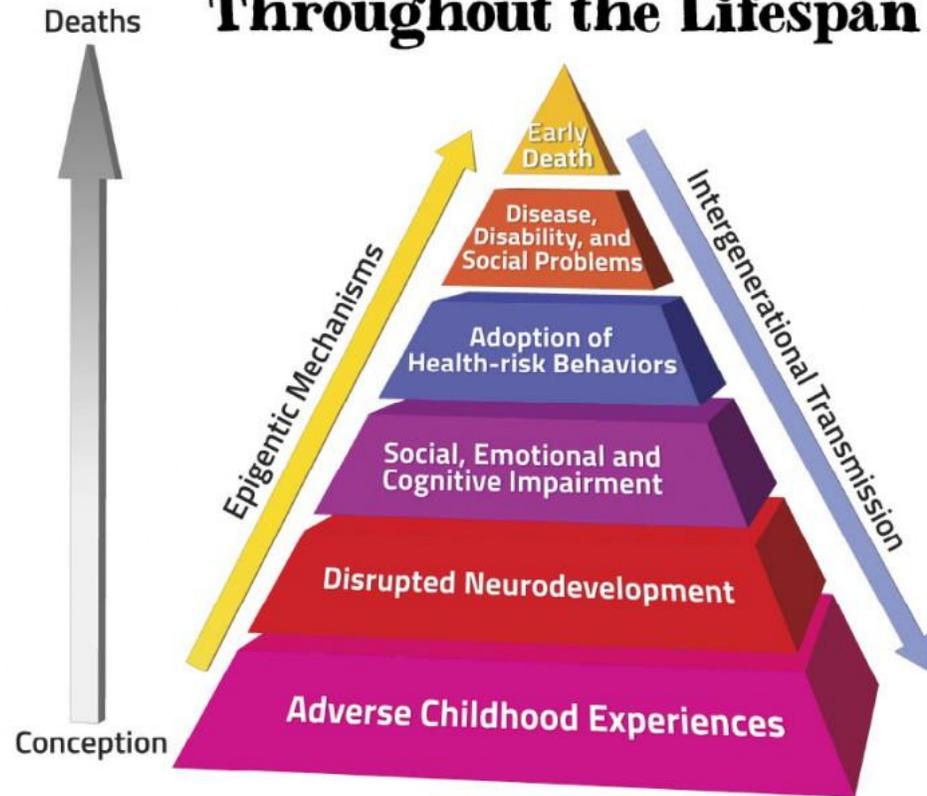
CONCLUSIONS

- This is the first study to evaluate the association between ACE scores and opioid relapse during combined buprenorphine-naloxone treatment and group counseling
- This finding is of concern for rural populations that are at risk for both ACE and opioid use
 - May also suggest that trauma-informed care may be quite relevant for rural individuals with OUD given the relevance of ACES
- Finding that remaining in treatment was related to reduced relapse risk was encouraging
 - Promoting treatment adherence among those who are newly engaged in buprenorphine-naloxone treatment could be beneficial

After ACEs

Where do we go from here?

Mechanisms by which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan



Slide Courtesy of Rob Anda, MD, MS

Daniel D. Sumrok, MD, DFASAM, FAAFP, ABAM, ABPM

Rural

- McKenzie, TN
- Western Kentucky
- Southern Illinois
- Southeast Missouri
- Northern Mississippi

Urban

- Memphis
- Nashville

Legendary substance abuse prevalence

Elvis, Keith Whitley, etc.

Public health legacy of the Vietnam War: post-traumatic stress disorder and implications for Appalachians.

Sumrok, D., Giles, S., & Mitchell-Bateman, M. (1983).
The West Virginia medical journal, 79 9, 191-8 .

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study.

Felitti, Vincent J; Anda, Robert F; et al. (May 1998).
American Journal of Preventive Medicine. 14 (4): 245–258. doi:10.1016/S0749-3797(98)00017-8

Clinical Decision Making

- Role of trauma-informed? It's the complete history.
- (Southern accent) *"Now you know how I got here, and now I know how I got here."*

Asking Patients About Their Trauma Histories

- ACE questionnaire completed at first visit as part of ROS-- self report
- The patient fills this out at registration
- *"A slow reader can do this in a minute and a half."*
- When interviewed in the exam room, I say, "Many of the experiences on the questionnaire are common in the chronic diseases of adulthood. Do any of these experiences sound familiar to you?"
- Item by item review

Explaining Trauma Impact and the Link to Substance Use Disorders

- *“Ritualized compulsive comfort seeking,”*
 - Lance Dodes, MD
- Risky health behaviors
 - Substance Use Disorders
 - Tobacco
 - Alcohol
 - Drugs
 - Process Disorders
 - Risky sex
 - Eating disorders
 - Compulsive over exercise
 - Screens (FB, Gaming, Twitter, etc.)

Dose-Response Relationship (Linear)

- The effect of trauma is cumulative

Trauma Informed Treatment

- Create safety-- physical and psychological
- Respect
 - Cultural values
 - Autonomy
 - Justice
 - Beneficence
 - Nonmaleficence
- *“What happened to you?”*
- *“How were you affected?”*
- *“Who is there for you?”*
- Power imbalances have great potential to retraumatize.
- Kindergarten skills

Medical Encounters are Inherently Stressful

- Expense (insurance or lack thereof)
- Shame and guilt (stigma)
- Reliving the original trauma
- Ambivalence toward treatment
- Intrusive (time off work, travel, childcare, etc.)
- Past treatment failures
- *“Treatment fails patients. Patients don’t fail treatment.”*
- *“Patients will lie, but they’ll also be truthful if you respect their truths.”*

Adverse childhood experiences predict opioid relapse during treatment among rural adults

Karen J. Derefinko, Francisco I. Salgado García, Kevin M. Talley, Zoran Bursac, Karen C. Johnson, James G. Murphy, Meghan E. McDevitt-Murphy, Frank Andrasik, Daniel D. Sumrok
University of Tennessee Health Science Center, 66 North Pauline St., Room 649, Memphis, TN 38163-2181, USA
University of Memphis, Psychology Building, 400 Innovation Dr., Memphis, TN 38111, USA



Highlights

- Relapses occurred in 54% of rural patients at an opioid use disorder clinic.
- Almost half of all participants reported four or more adverse childhood events.
- ACE score was related to an increase in the odds of relapse (17%).
- Each treatment visit reduced the odds of opioid relapse (2%).
- The highest relapse rate was on the first clinic visit.
- *“OUD is a chronic illness.”*

How Am I Affected as a Provider?

- Old dogs can learn new tricks.
 - Group therapy
- I let patients teach me.
 - They are the experts.
- The importance of clinical ethics is reinforced every day.
- New hope for tomorrow.

Links

- <https://acestoohigh.com/2017/05/02/addiction-doc-says-stop-chasing-the-drug-focus-on-aces-people-can-recover/>
- <https://www.psychologytoday.com/us/blog/all-about-addiction/201903/linked-adverse-childhood-experiences-health-addiction>
- <https://www.thefix.com/when-getting-sober-reveals-underlying-illness>
- <https://news.harvard.edu/gazette/story/2017/04/over-nearly-80-years-harvard-study-has-been-showing-how-to-live-a-healthy-and-happy-life/>



“It’s all about the relationships!”

Public health legacy of the Vietnam War: post-traumatic stress disorder and implications for Appalachians.

Sumrok, D., Giles, S., & Mitchell-Bateman, M. (1983).
The West Virginia medical journal, 79 9, 191-8 .

Relationship of Childhood Abuse and Household Dysfunction to Many of the Leading Causes of Death in Adults: The Adverse Childhood Experiences (ACE) Study.

Felitti, Vincent J; Anda, Robert F; et al. (May 1998).
American Journal of Preventive Medicine. 14 (4): 245-258. doi:10.1016/S0749-3797(98)00017-8

Adverse childhood experiences predict opioid relapse during treatment among rural adults

Karen J. Derefinko, Francisco I. Salgado García, Kevin M. Talley, Zoran Bursac, Karen C. Johnson, James G. Murphy, Meghan E. McDevitt-Murphy, Frank Andrasik, Daniel D. Sumrok
University of Tennessee Health Science Center, 66 North Pauline St., Room 649, Memphis, TN 38163-2181, USA
University of Memphis, Psychology Building, 400 Innovation Dr., Memphis, TN 38111, USA

