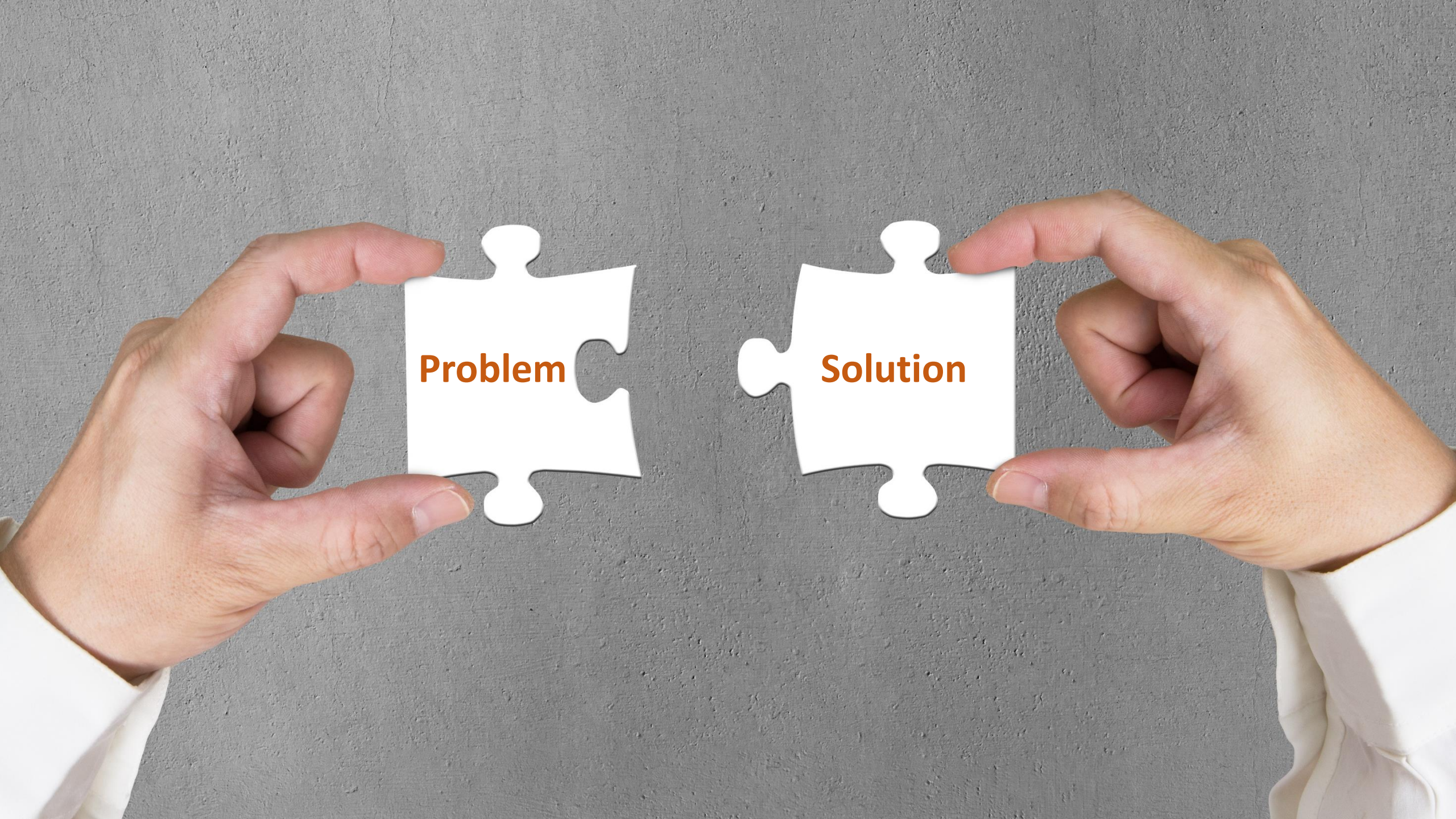
Solution to Addiction

John Fitzgerald, PhD, LPC, CAS


Problem
Solution

Despite the volumes written on the subject, the existence of addiction, its causality, its progression and consequently how one might intervene with addicts remain contested and controversial.

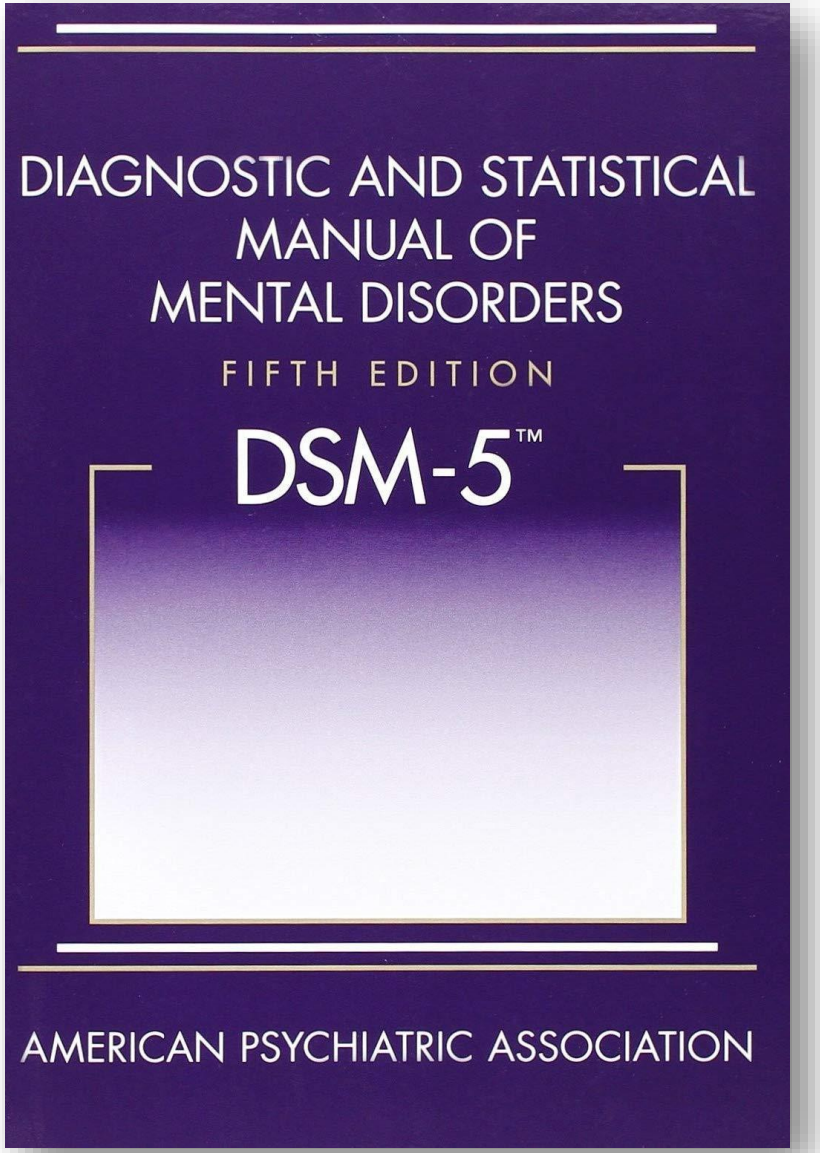
Marilyn Clark, PhD

1980

1. Abuse
2. Dependence

2013

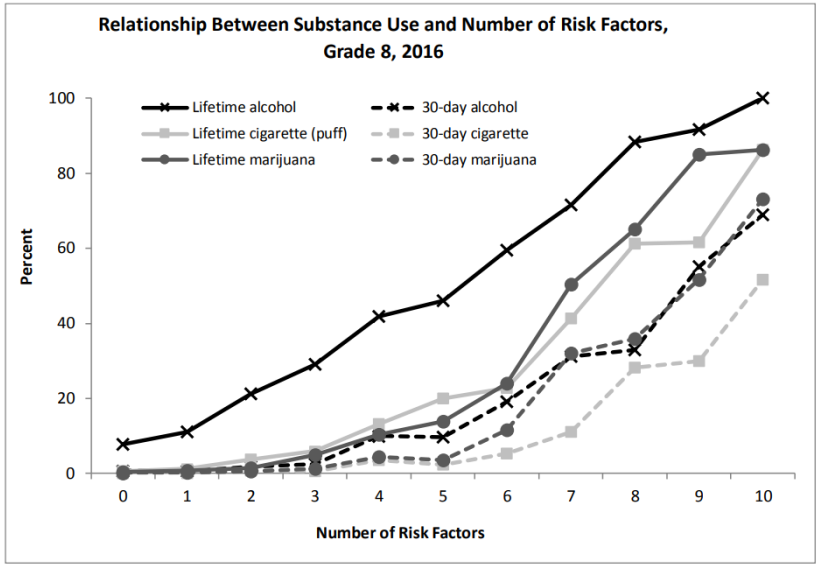
1. Substance Use Disorders



80% < 15 years-old

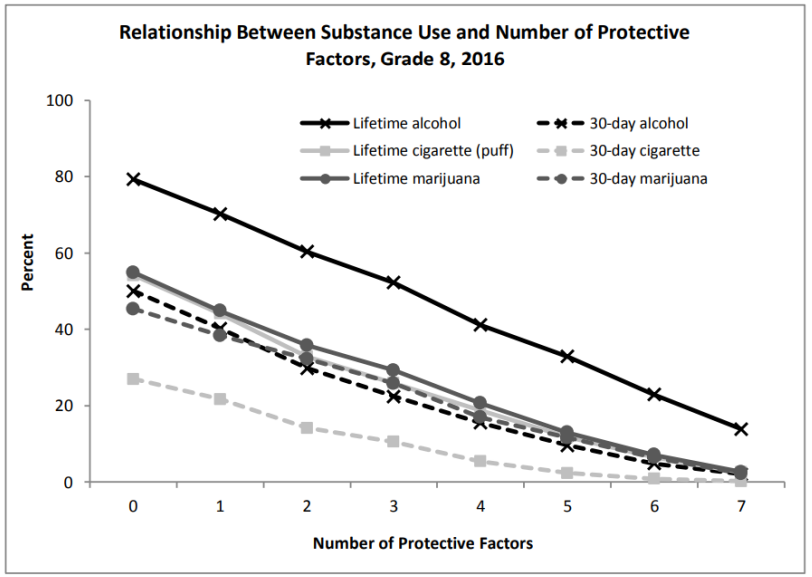
No one sets out to get addicted.

Risk Factors



Domain	Risk Factor
Community	Laws and norms favorable toward drug use
	Perceived availability of drugs
School	Academic failure
	Low commitment to school
Peer-Individual	Perceived risk of drug use
	Early initiation of drug use [S]
	Favorable attitudes toward drug use
	Friends' use of drugs [S]
Family	Poor family management [S]
	Parental attitudes favorable towards drug use [S]

Protective Factors



Domain	Protective Factor
Community	Opportunities for prosocial involvement [S]
	Rewards for prosocial involvement [E]
School	Opportunities for prosocial involvement [S]
	Rewards for prosocial involvement
Peer-Individual	Social skills [S]
	Belief in the moral order [S]
	Interaction with prosocial peers [S]
	Prosocial involvement [E]
Family	Opportunities for prosocial involvement
	Rewards for prosocial involvement [E]

Environment

Genes X

Addiction is Complex

How do genes influence the development of addiction?

Environment

Genes

Addiction

Heritability

0%

100%

Heritable Influences on Addiction

Substance/Behavior	Heritability Estimates
Nicotine	33-71%
Alcohol	48-66%
Marijuana	51-59%
Cocaine	42-79%
Opioid	23-54%
Gambling	49%

Source: Agrawal, A. et al. (2012)

~50%

ACE

STUDY

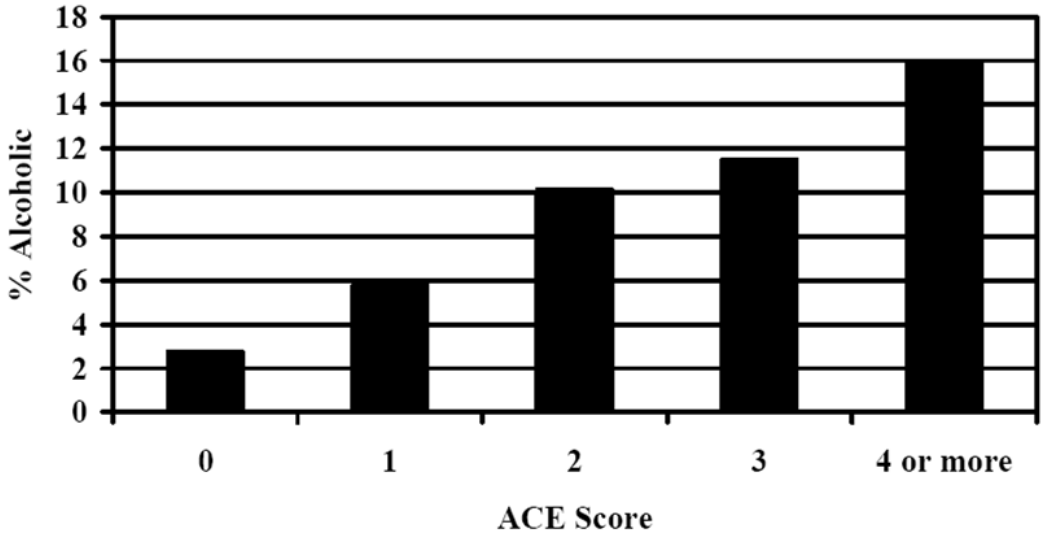
Abuse	Household
1. Psychological (by parents)	6. Substance Abuse
2. Physical (by parents)	7. Mental Illness
3. Sexual (anyone)	8. Parental Separation/Divorce
4. Emotional neglect	9. Battered Mother
5. Physical neglect	10. Criminal Behavior

ACE Score =

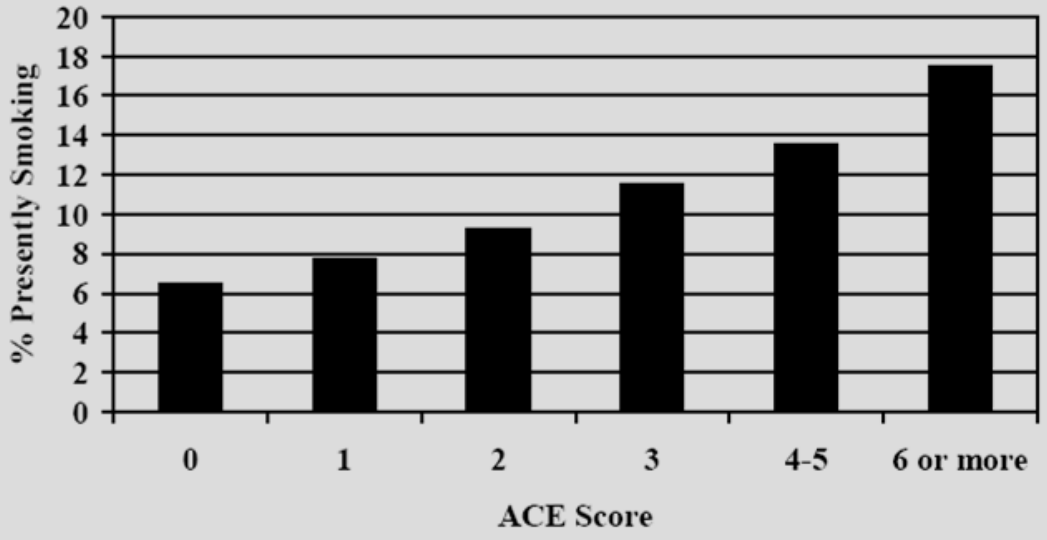
0 to 10

67.3 % reported 1 or more ACEs

ACE Score & **Alcoholism**



ACE Score & **Smoking**



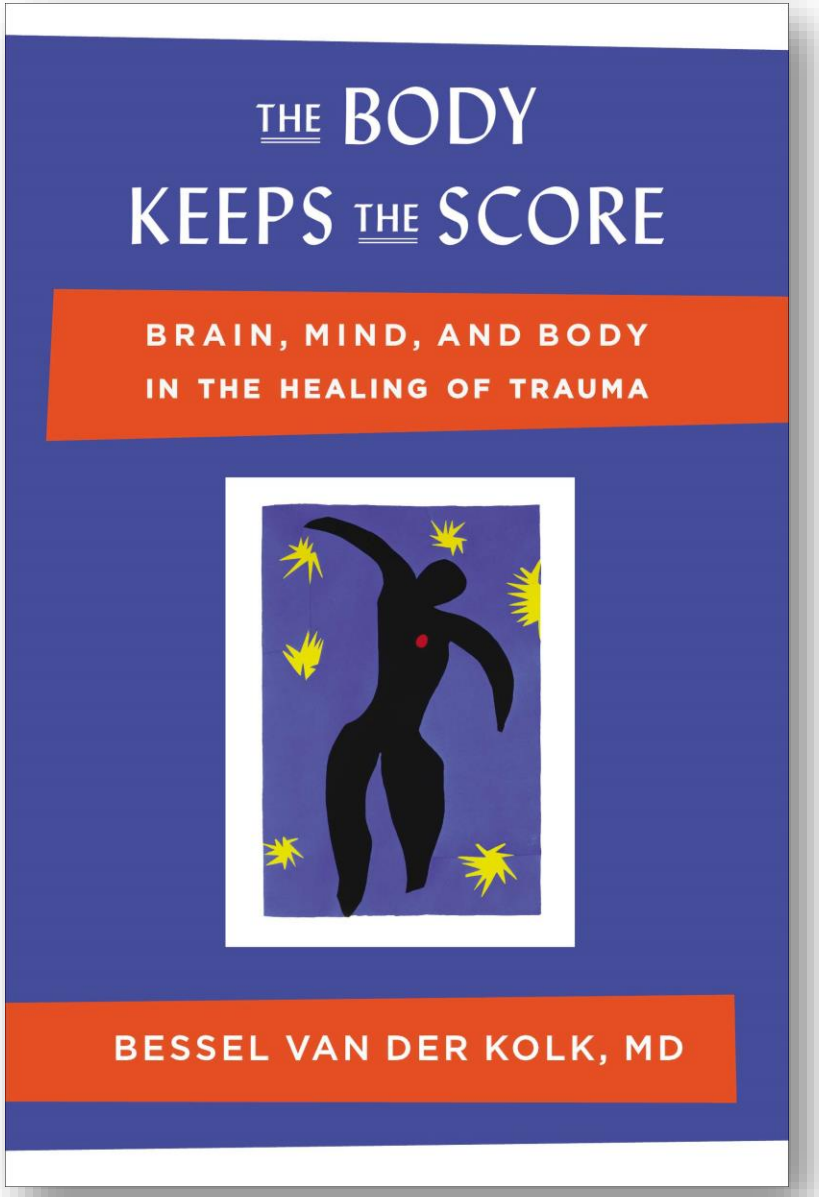
Types of Traumatic Stress

- Community Violence
- Complex Trauma
- Domestic Violence
- Early Childhood Trauma
- Medical Trauma
- Natural Disasters
- Neglect
- Physical Abuse
- Refugee Abuse
- School Violence
- Sexual Abuse
- Terrorism
- Traumatic Grief

Source: NCTSN

Fight
or
Flight

Freeze
or
Collapse



Your Brain on **Trauma**

Speechless Horror

Dr. Linda Meyer Williams

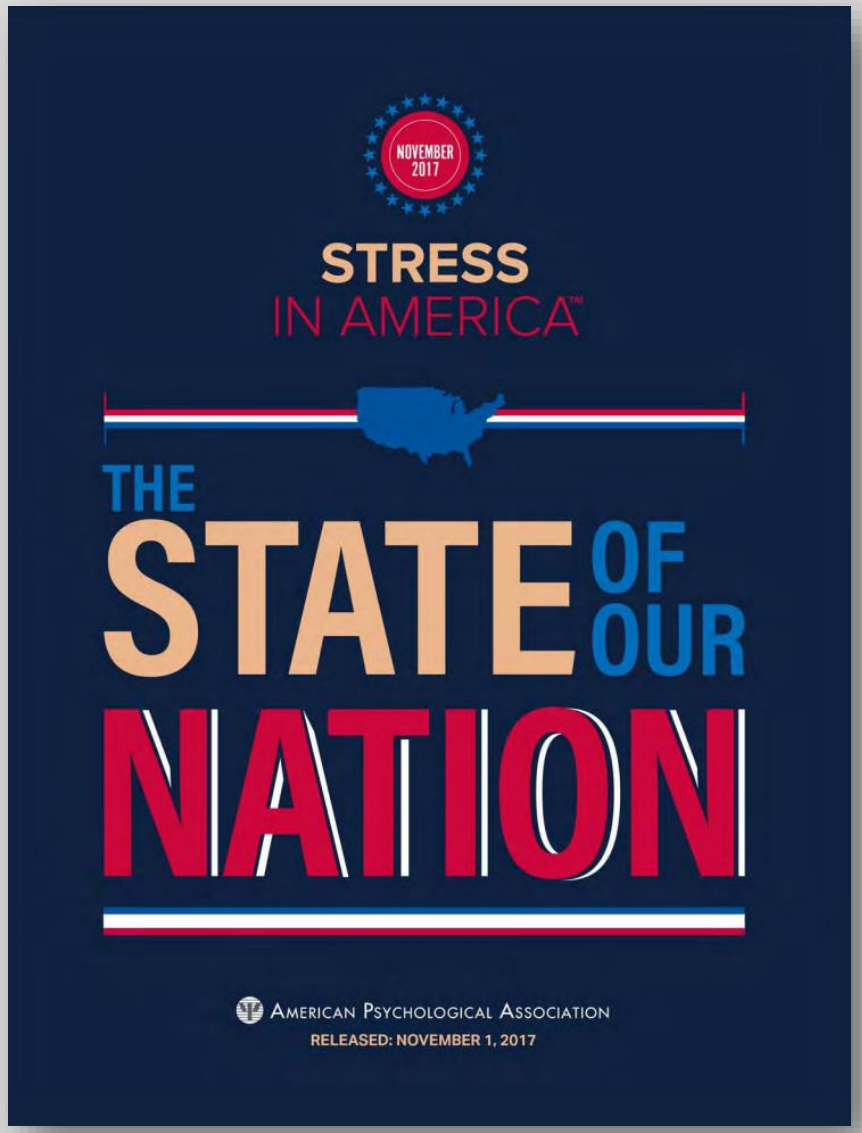
- Early 1970s
- Interviewed 206 girls
- Ages 10 to 12
- Admitted to hospital for sexual abuse
- Confirmed abuse by parents & lab tests

17 years later…
(Located 136 girls)

38% did not recall the abuse

Environment *Matters*

- *Education*
- *Healthcare*
- *Social Life*
- *Neighborhoods*
- *Economy*



63% The Future of Our Nation

62% Money

61% Work

57% Current Political Climate

51% Violence and Crime

Cigna Study

Reveals epidemic loneliness in America

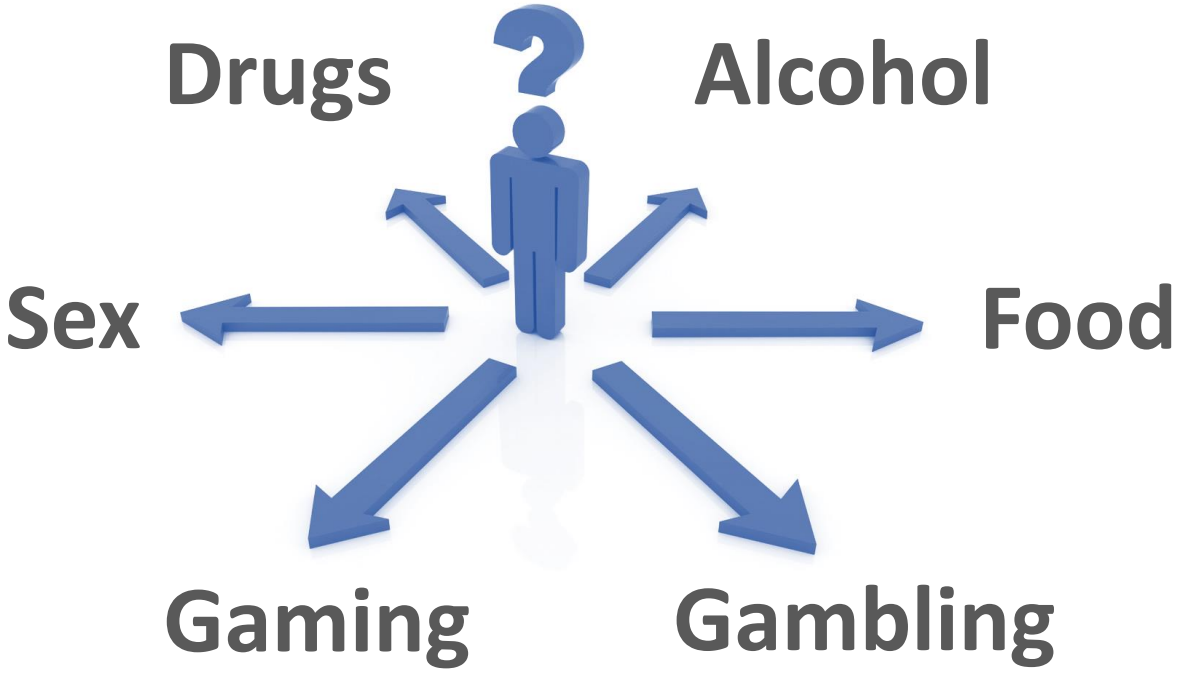
May 1, 2018

- 20,000 adults aged 18 years or older
- Nearly half reported sometimes or always feeling alone (46%) or left out (47%)
- Only 53% have meaningful in-person social interactions
- **Generation Z (adults 18-22) is the loneliest generation**

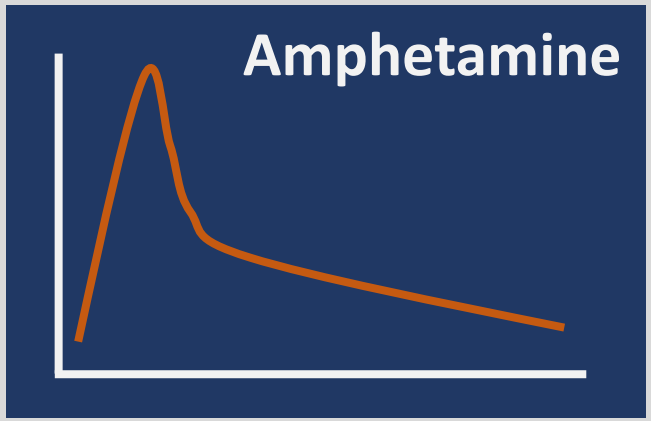
Key Take-home #1

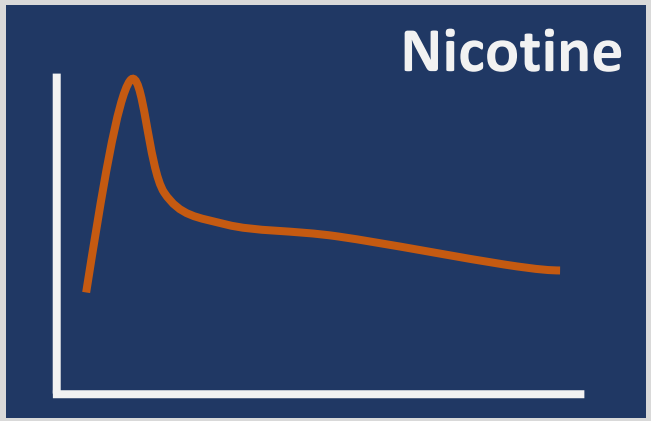
Addiction is a doorway into a **constellation of issues** that must be identified and addressed for treatment to be optimized.

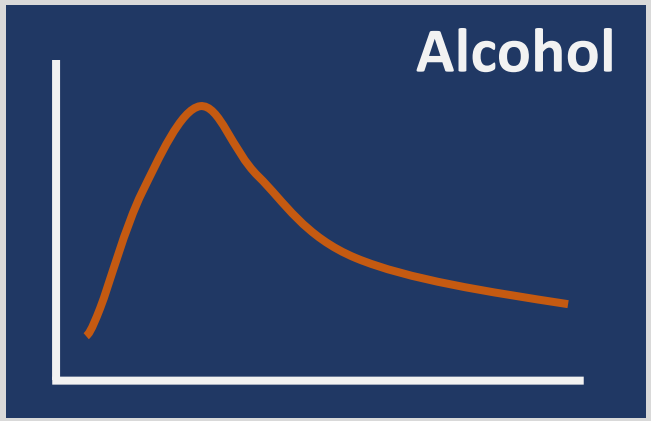
Substances



Behaviors







Source: Di Chara & Imperato, 1988

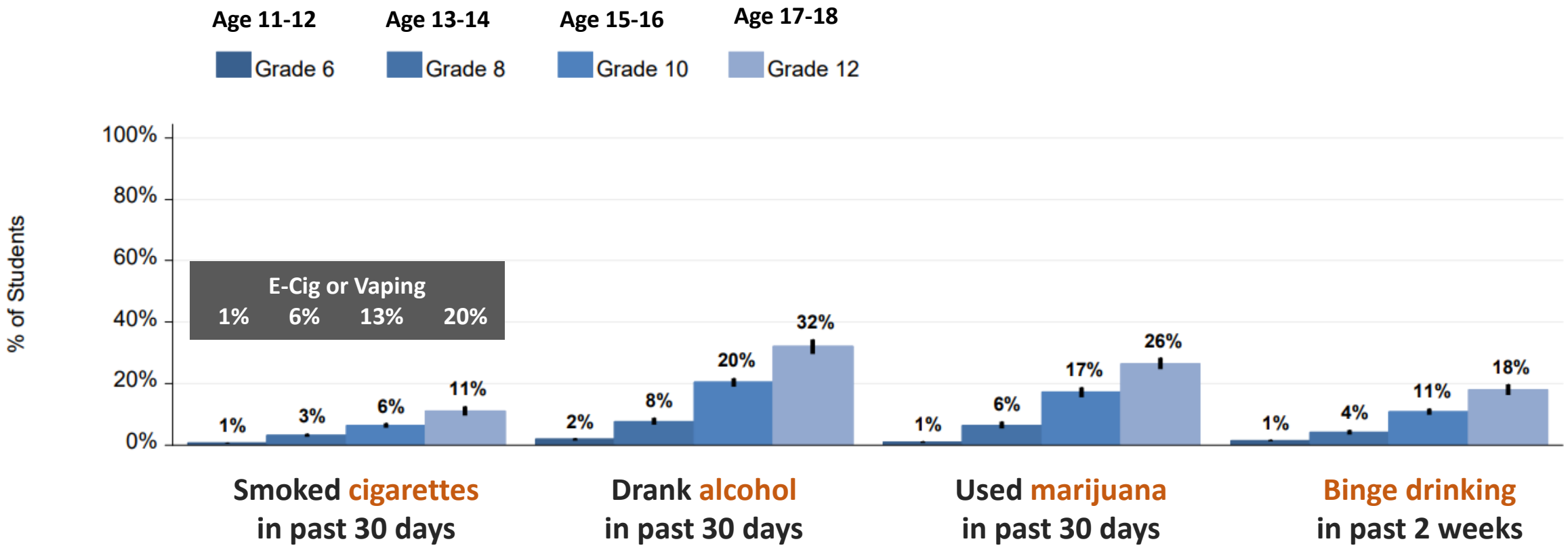
Availability

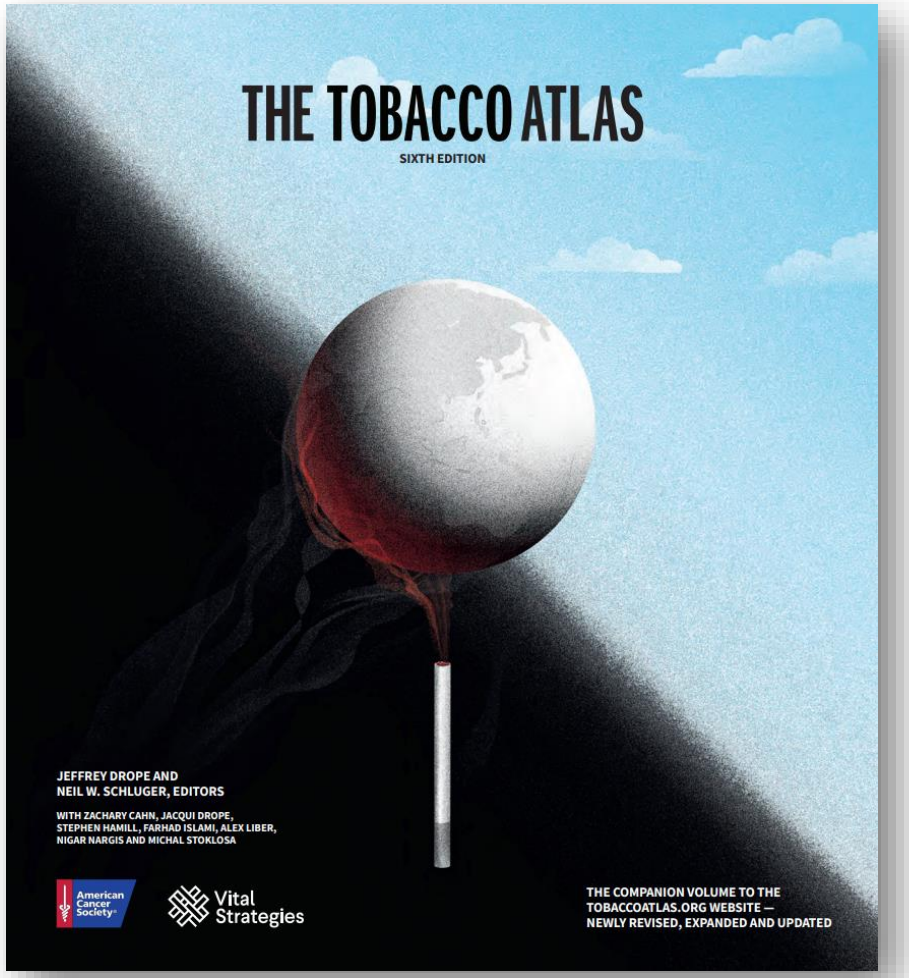
Initial Brain Response

Tobacco	480,000
Alcohol	88,000
Drugs (non-tobacco)	72,000
Behavioral Addictions	?
Total	**640,000**

Source: CDC

Washington Healthy Youth Survey 2016 Results





www.tobaccoatlas.org

Poverty

Below poverty level	**25.3%**
Above poverty level	14.3%

Education

GED Certificate	**40.6%**
Undergraduate degree	7.7%

Disability/Limitation

Yes	**21.2%**
No	14.4%

Serious Psychological Stress

Yes	**35.8%**
No	14.7%

Source: CDC

September 2017

Prevalence of 12-Month Alcohol Use, High-Risk Drinking, and *DSM-IV* Alcohol Use Disorder in the United States, 2001-2002 to 2012-2013

Results From the National Epidemiologic Survey on Alcohol and Related Conditions

Bridget F. Grant, PhD[1]; S. Patricia Chou, PhD[1]; Tulshi D. Saha, PhD[1]; et al

Key Points

Question Have the 12-month prevalences of alcohol use, high-risk drinking, and *DSM-IV* alcohol use disorder increased between 2001-2002 and 2012-2013?

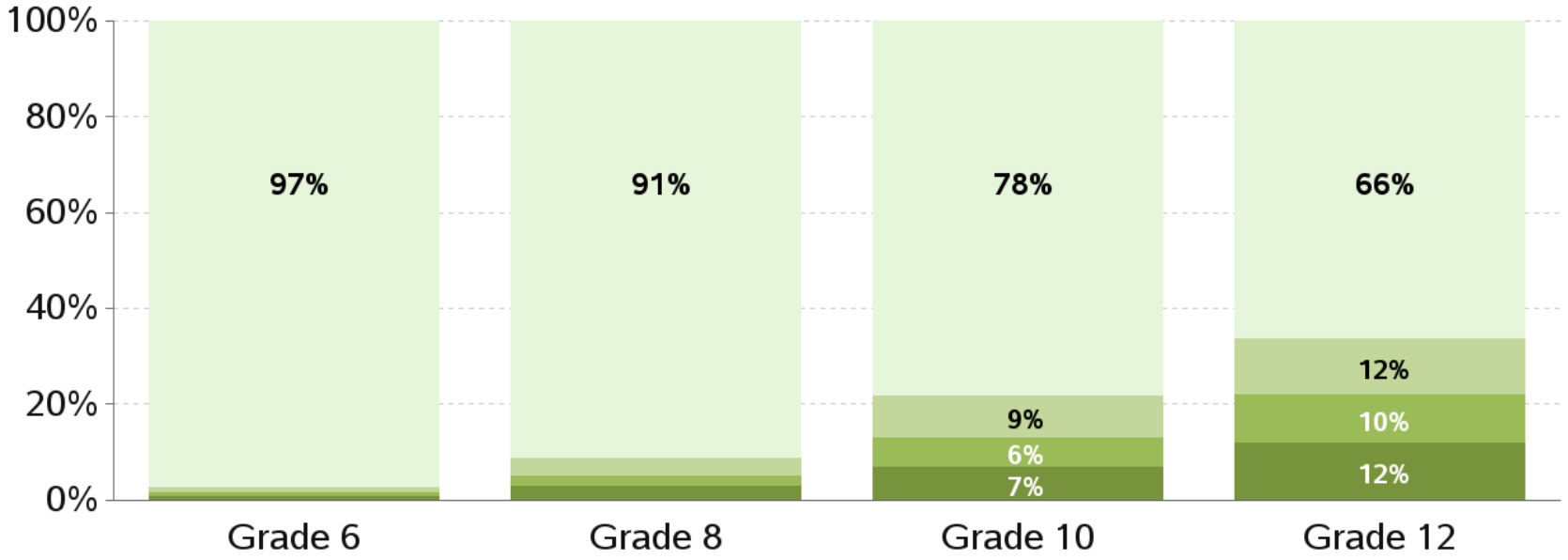
Findings In this study of data from face-to-face interviews conducted in 2 nationally representative surveys of US adults, including the National Epidemiologic Survey on Alcohol and Related Conditions (n=43 093) and the National Epidemiologic Survey on Alcohol and Related Conditions III (n=36 309), 12-month alcohol use (11.2%), high-risk drinking (29.9%), and *DSM-IV* alcohol use disorder (49.4%) increased for the total US population and, with few exceptions, across sociodemographic subgroups.

Meaning Substantial increases in alcohol use, high-risk drinking, and *DSM-IV* alcohol use disorder constitute a public health crisis and portend increases in chronic disease comorbidities in the United States, especially among women, older adults, racial/ethnic minorities, and the socioeconomically disadvantaged.

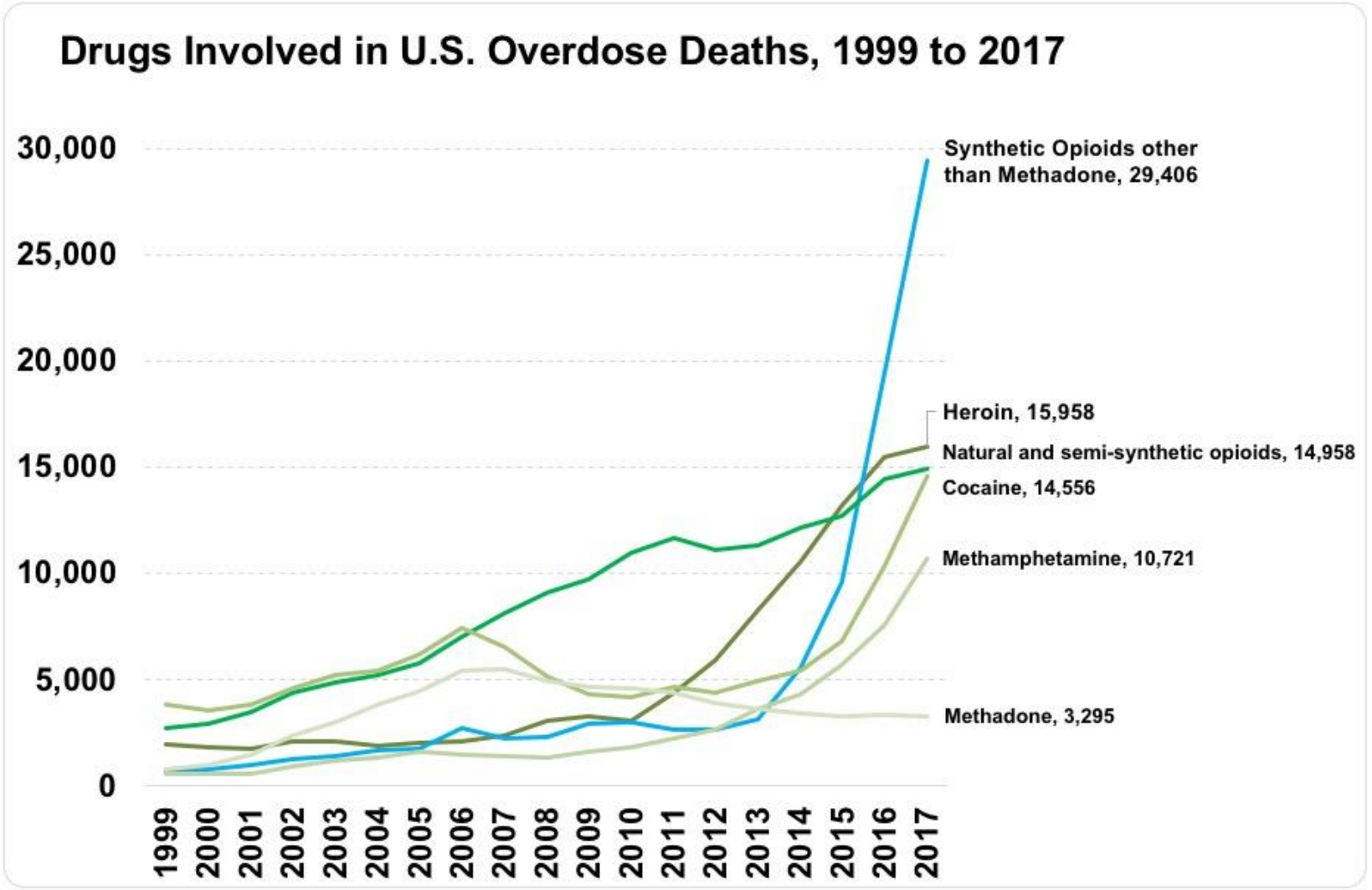
Overall Alcohol Use Disorders (8.5 to 12.7)	49.4%
Women	83.7%
African-American	92.8%
65+ Years-old	106.7%

Levels of Alcohol Use

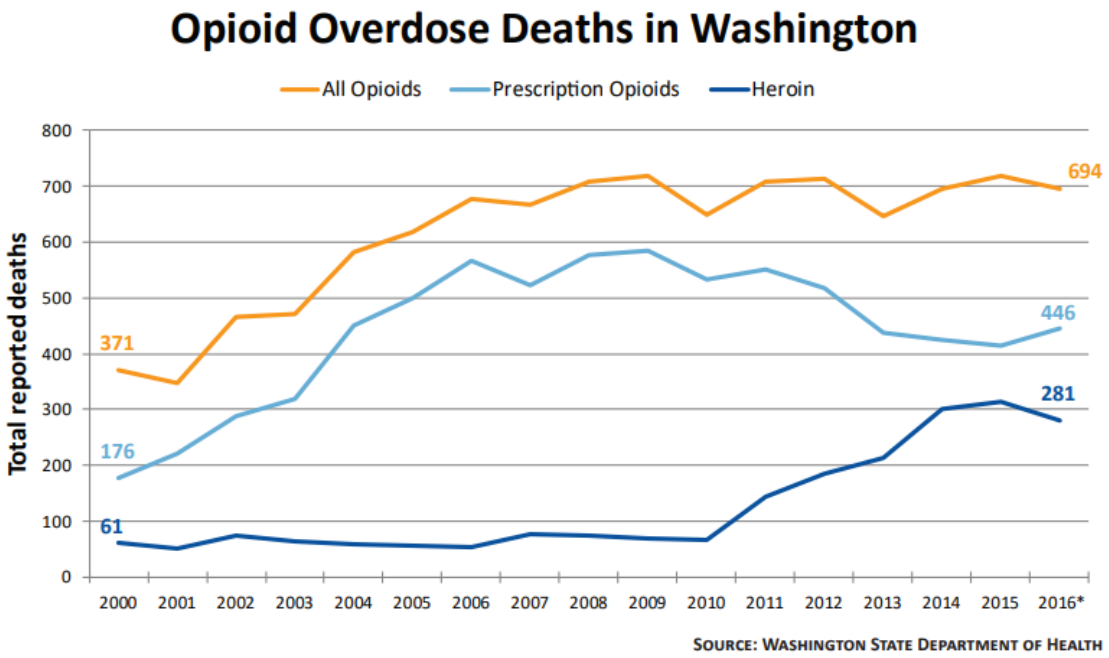
No drinking: (no drinking in the past 30 days)
Experimental drinking: (1-2 days drinking in the past 30 days, no binge drinking)
Problem drinking: (3-5 days drinking in the past 30 days and/or 1 time binge drinking)
Heavy drinking: (6+ days drinking in the past 30 days and/or 2+ binge drinking)



Statewide
- Source: 2016 Healthy Youth Survey



Drugs Involved in U.S. Overdose Deaths* - Among the more than 72,000 drug overdose deaths estimated in 2017*, the sharpest increase occurred among deaths related to **fentanyl and fentanyl analogs** (synthetic opioids) with nearly 30,000 overdose deaths. Source: CDC.



- Heroin deaths **doubled** from 2010 to 2015, higher potency
- **6/10** deaths involved an opioid
- Fentanyl (**50 times** more powerful than heroin) responsible for an **86% increase** in deaths from 2015 to 2016
- Grade 10 = **4%**, Grade 12 = **5%**
  Prescription Opiate (Painkiller)

Level of Confidence in the **Evidence** for Adverse Effects of Marijuana on Health and Well-Being

Effect	Evidence
Motor vehicle accidents	**High**
Addiction to marijuana and other drugs	**High**
Diminished lifetime achievement	**High**
Symptoms of chronic bronchitis	**High**
Abnormal brain development	Medium
Progression to abuse of other drugs	Medium
Schizophrenia	Medium
Depression or anxiety	Medium
Lung cancer	Low

Volkow et al., 2014

Regular Use (6+ days in last 30)

Grade 8 = 8%

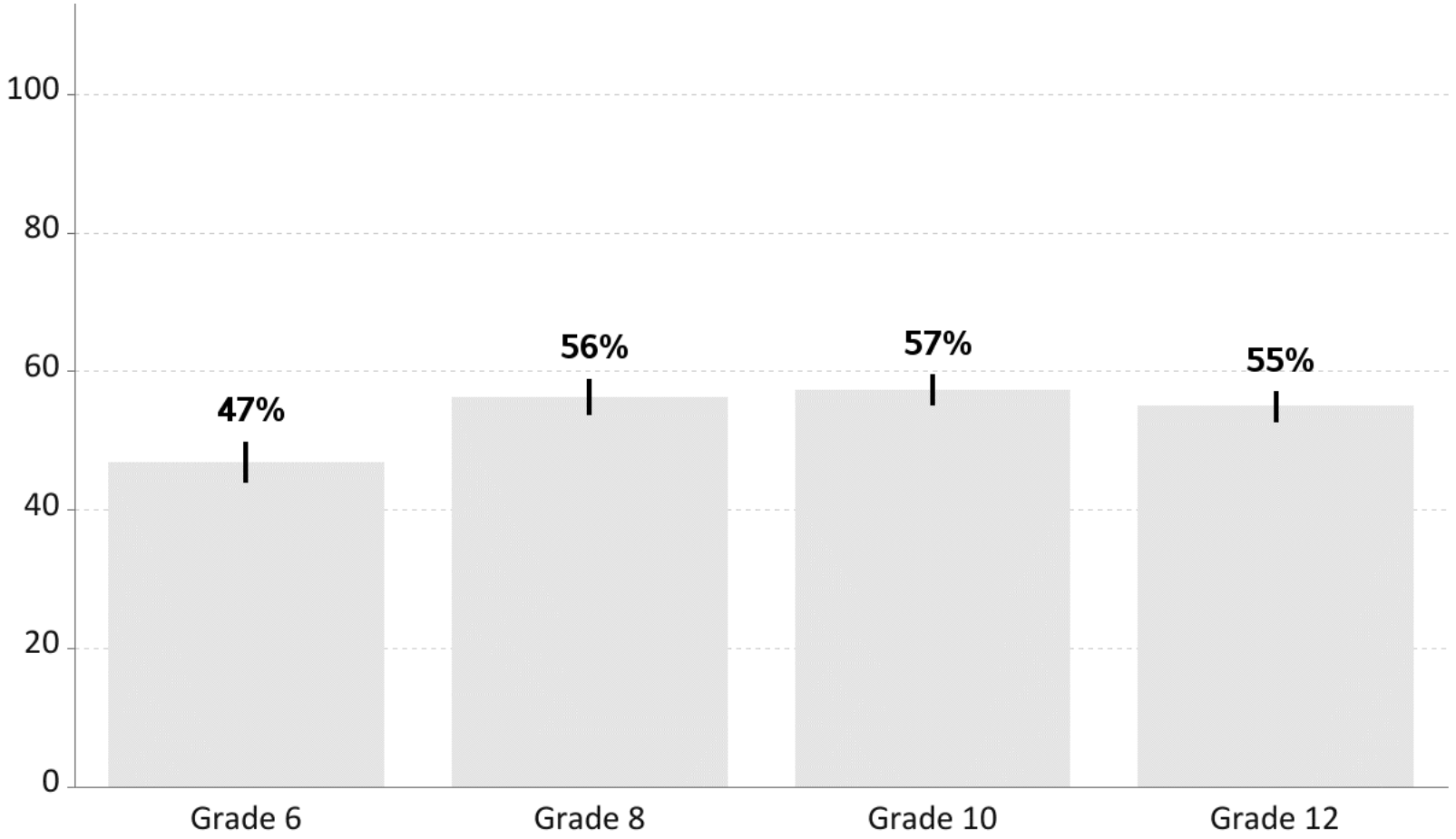
Grade 10 = 11%

Grade 12 = 17%


Jean M. Twenge, PhD
author of Generation Me
iGen
Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy—and Completely Unprepared for Adulthood*
*and What That Means for the Rest of Us
THOMAS KERSTING
DISCONNECTED
HOW TO RECONNECT OUR DIGITALLY DISTRACTED KIDS
"As if to prove his point, Adam Alter has written a truly addictive book about the rise of addiction. Irresistible is a fascinating and much needed exploration of one of the most troubling phenomena of modern times."
—MALCOLM GLADWELL
IRRESISTIBLE
THE RISE OF ADDICTIVE TECHNOLOGY AND THE BUSINESS OF KEEPING US HOOKED
ADAM ALTER
NEW YORK TIMES bestselling author of DRUNK TANK PINK

Excessive Television/Video Game Use

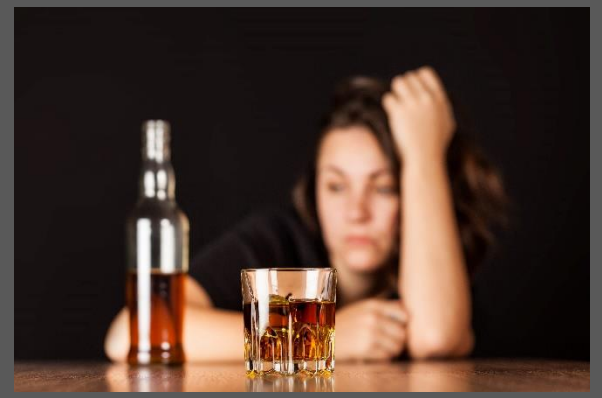
Percent of students who report **3 or more hours** watching television, playing video games or using the computer for fun **on an average school day**



Statewide
- Source: 2016 Healthy Youth Survey

Key Take-home #2

Multiple addictions – substance and behavioral – are the norm, and all must be identified and addressed **as a package** for treatment to be optimized.



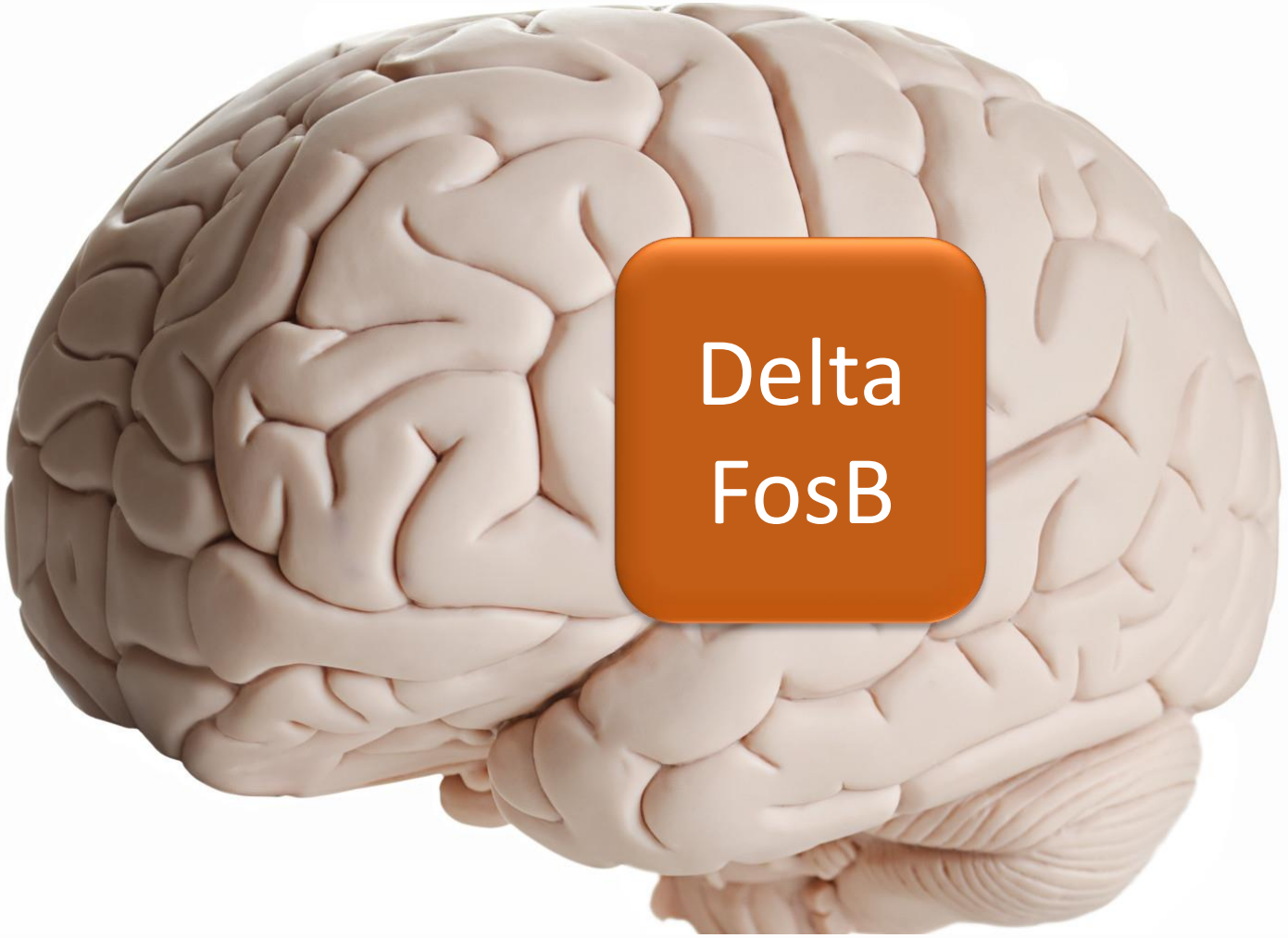
"Addiction **is not a brain disease**, nor is it caused by chemical imbalances or genetics. Addiction is best viewed as an understandable, unconscious, compulsive use of psychoactive materials in response to abnormal prior life experiences, most of which are concealed by **shame, secrecy, and social taboo**."

Vincent J. Felitti, MD
Principle Investigator, Kaiser Permanente

“Drug addiction is a **brain disease**.”

Nora Volkow, MD
Director, National Institute on Drug Abuse

Molecular Addiction Switch



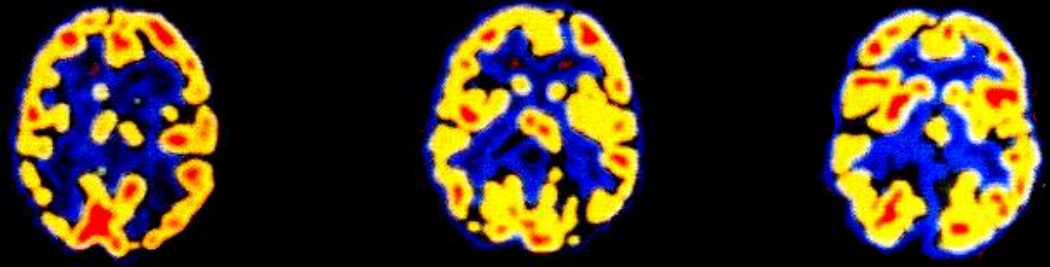
Eric Nestler, MD, PhD

Nestler Laboratory
Nash Family Professor of Neuroscience
Director, The Friedman Brain Institute
Dean for Academic and Scientific Affairs

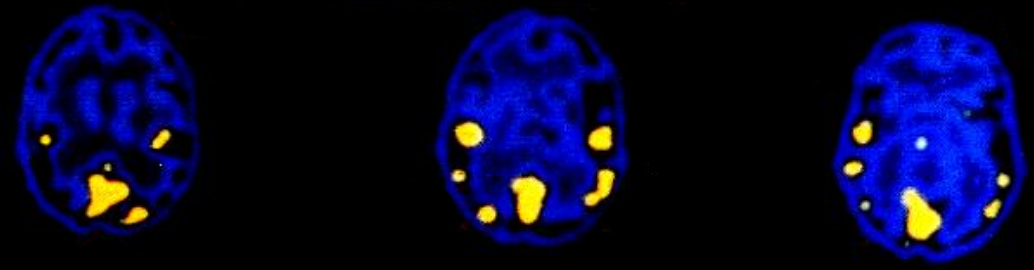
- **Multiple switches** in the brain responsible for addiction
- Brain changes occur for **both** substances and behaviors
- Addiction and mental health disorders are **integrated** in the brain – treatments need to be integrated!
- Environment (SDOH) **matters** - epigenetics

Cocaine Abuse and Brain Glucose Metabolism

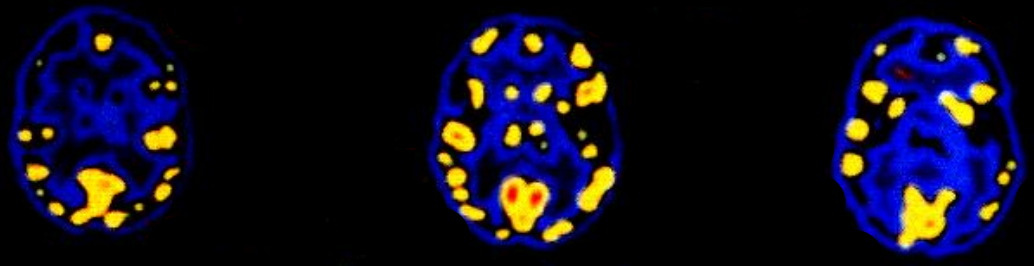
Normal subject



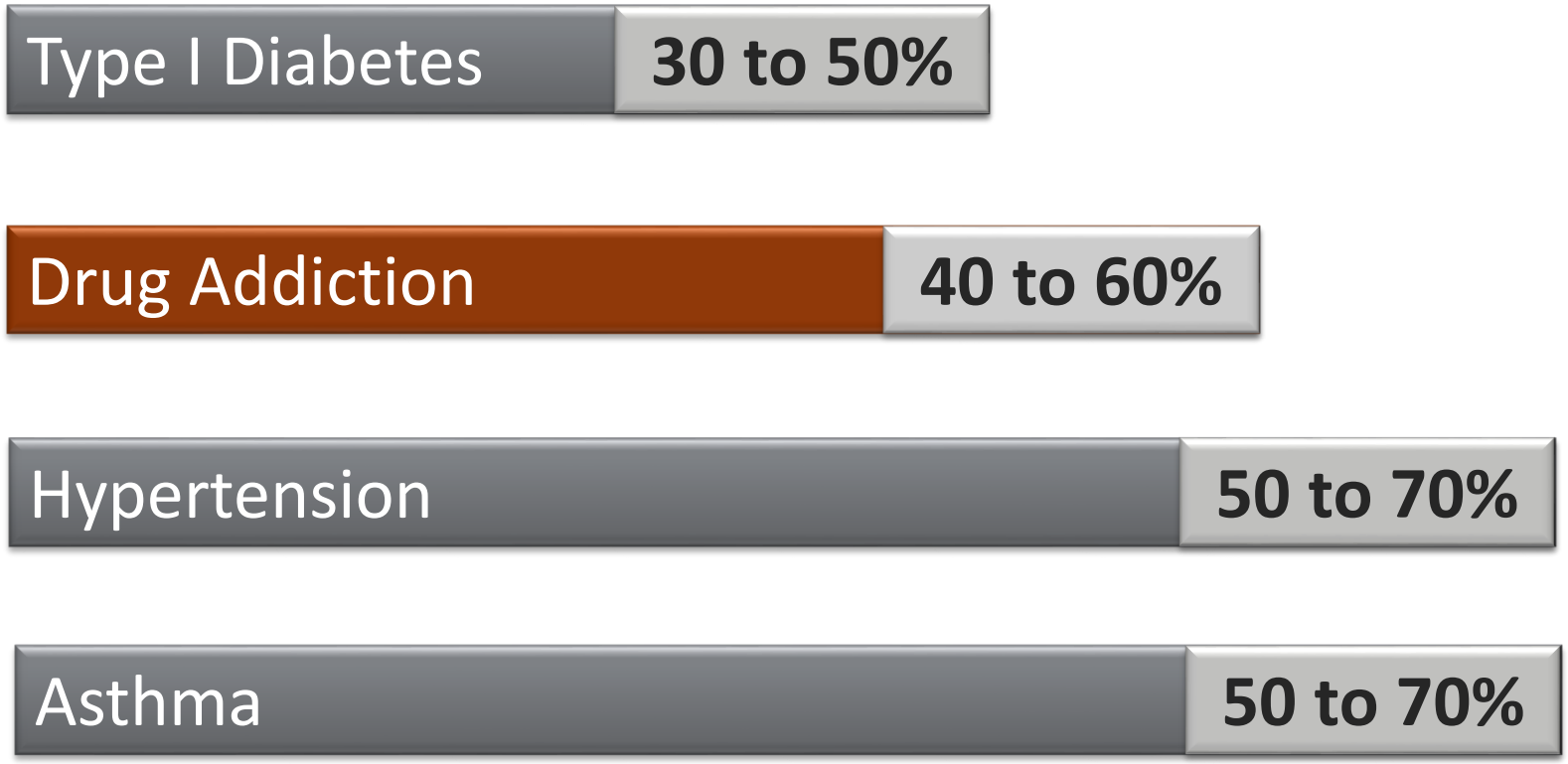
Cocaine abuser
10 days post



Cocaine abuser
100 days post



Percentage Who **Relapse**



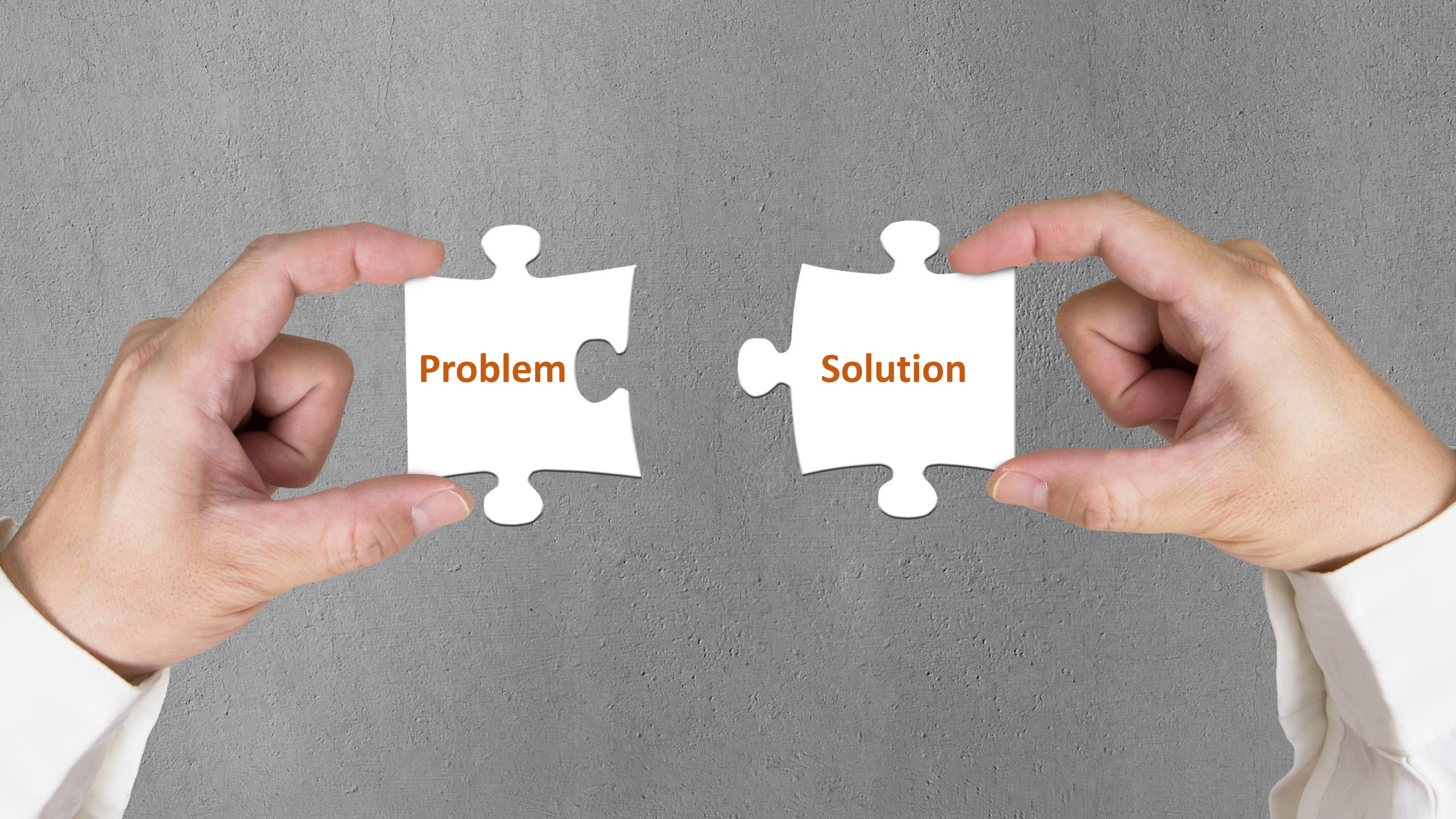
Chronological
Age = 46

Emotional
Age = 12

Addiction: eyes open life

Key Take-home #3

Addiction is a chronic medical (brain-based) condition with psychological, developmental, and spiritual consequences, and **should be treated like other chronic medical conditions.**


Problem
Solution

Outpatient

91% of patients in care

82% of facilities

Residential

8% of patients

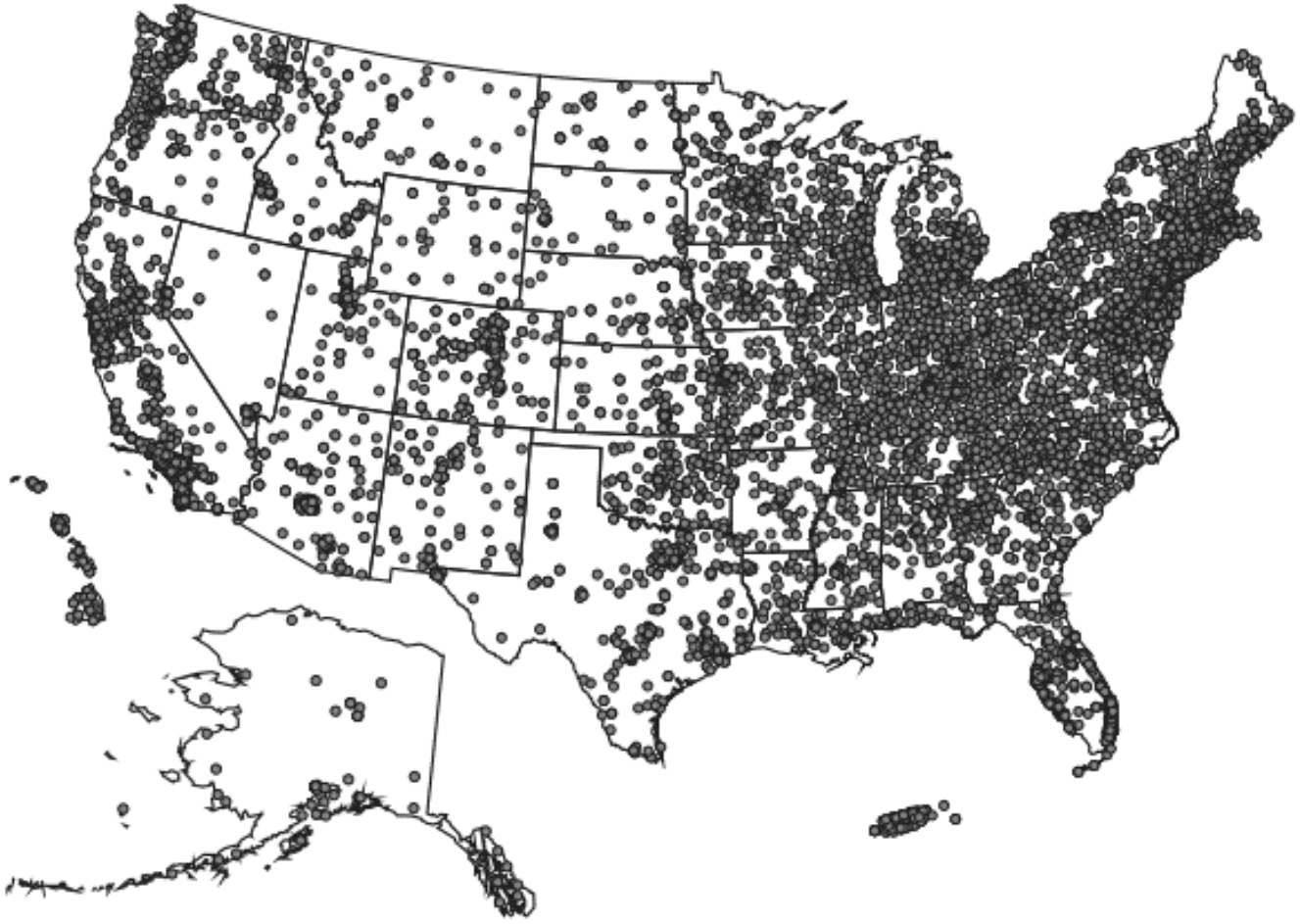
24% of facilities

Hospital

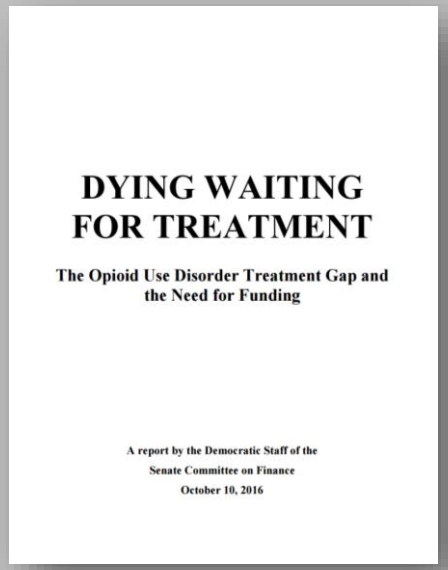
1% of patients

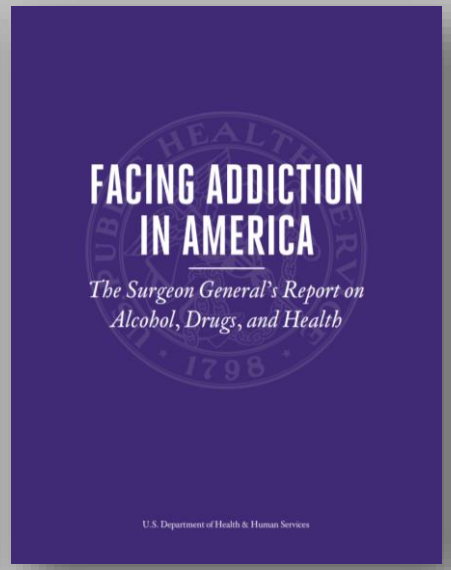
5% of facilities

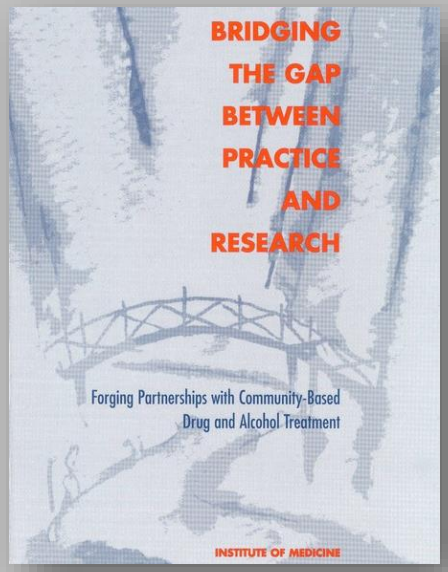
14,148 facilities

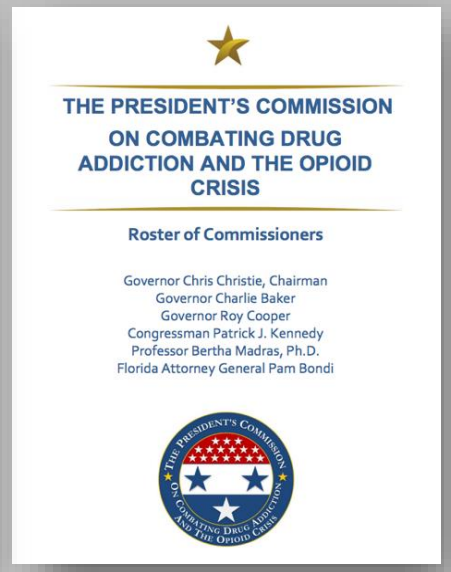


Source: N-SSATS 2016









Some Challenges…

- ~ 90 percent treatment need gap
- Acute care for a chronic problem
- High turnover, diverse staff, too much paperwork, limited resources
- Fragmented system (poor continuity of care, primary care disconnect)
- Underlying drivers of addiction often unaddressed

1. Optimize Treatment **(for all addictions)**

2. Utilize Digital Therapeutics

To **begin with the end in mind** means to start with a clear understanding of your destination. It means to know where you're going so that you better understand where you are now and so that the steps you take are always in the right direction.

Stephen Covey

What accounts for **positive treatment outcomes**?

The Contextual Model (Wampold & Imel, 2015)

Initial Therapeutic Bond

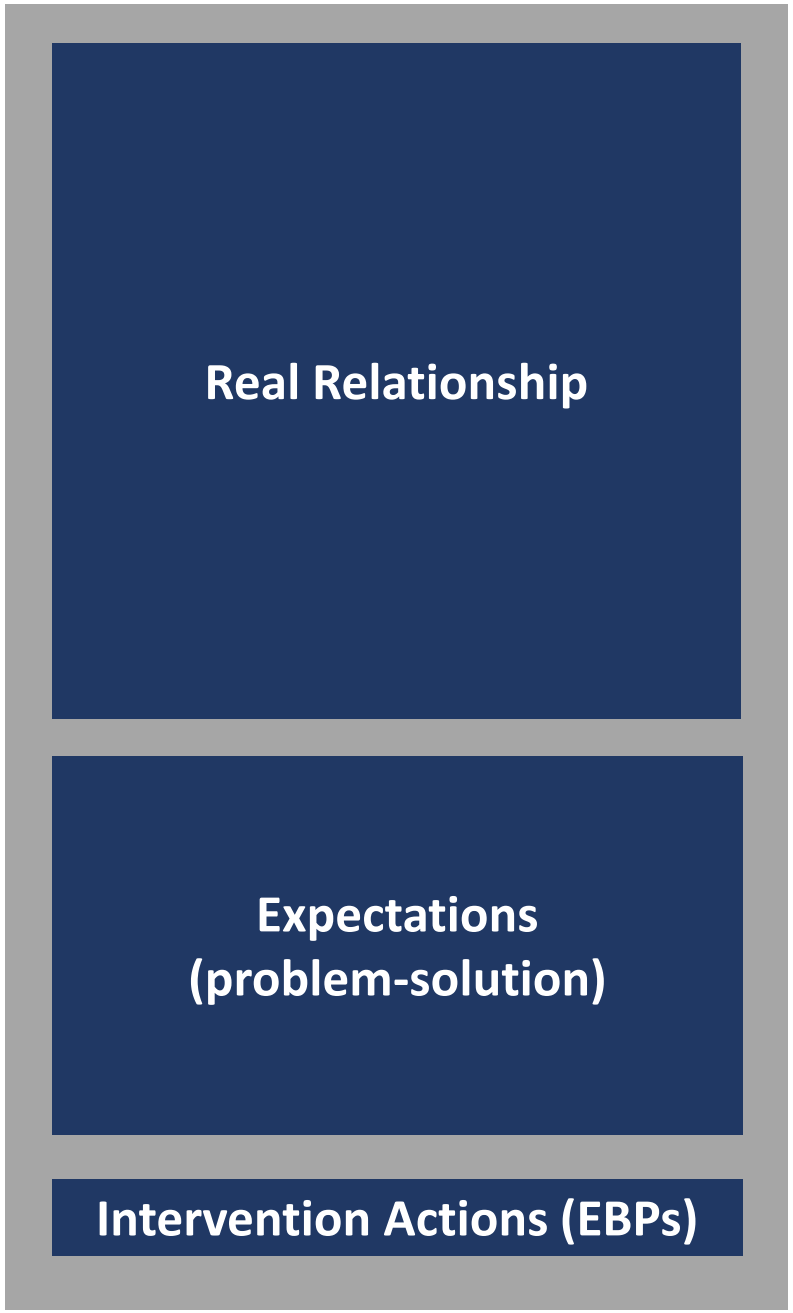
Three Change Pathways

1. Real Relationship
2. Expectations (problem-solution)
3. Intervention Actions (EBPs)

Good Outcomes

Better Quality of Life

Symptom Reduction



The real relationship accounts for at least **65% of the variability in outcomes.**

The real relationship is **13 times more important** than the model, technique, or evidence-based practice used in treatment.

So if you are:

Patient/Client in need of help...

Treatment Director hiring clinicians…

Path 1

Hopefulness

Verbal Fluency

Persuasiveness

Emotional Expression

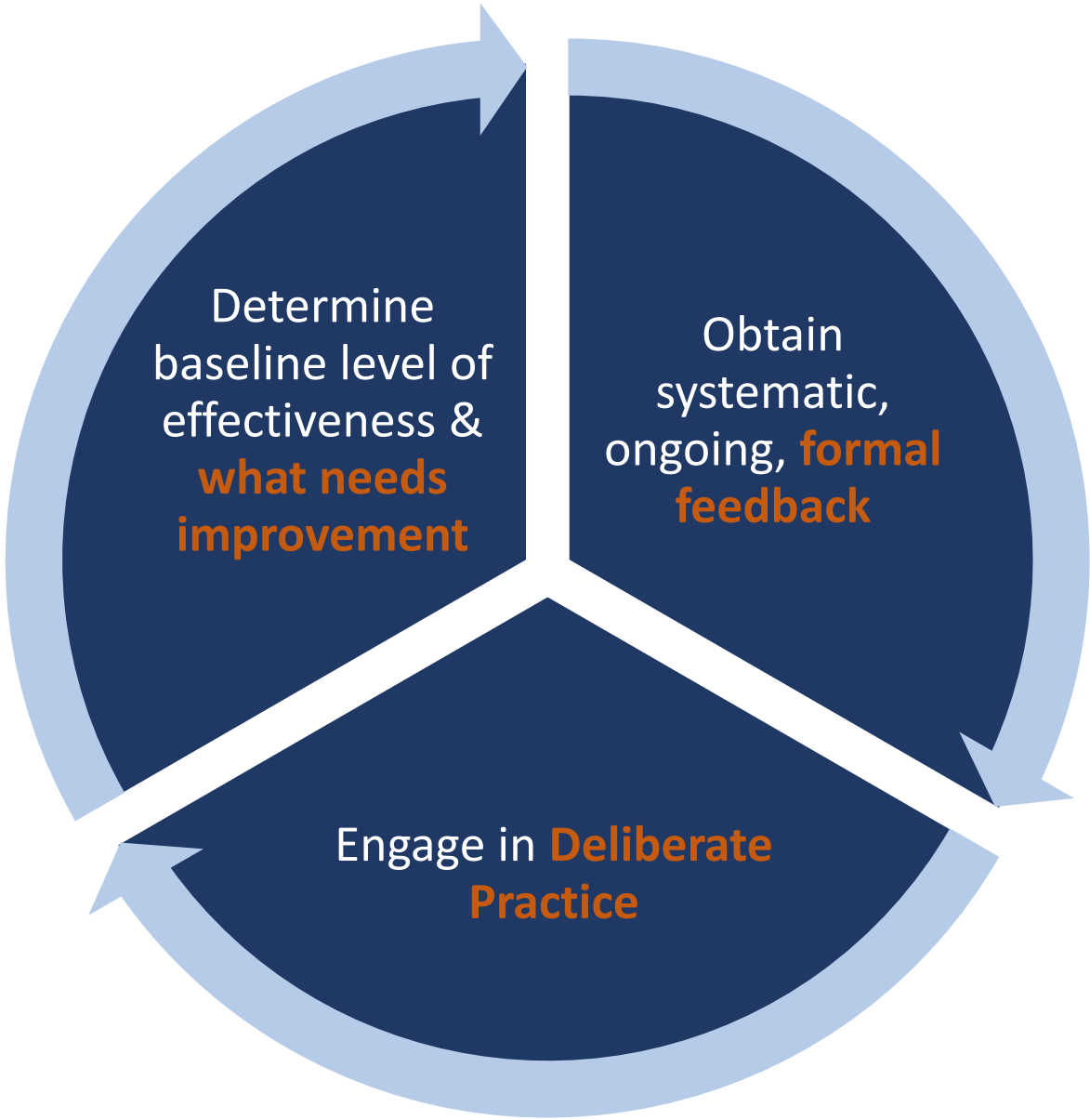
Warmth and Empathy

Path 2

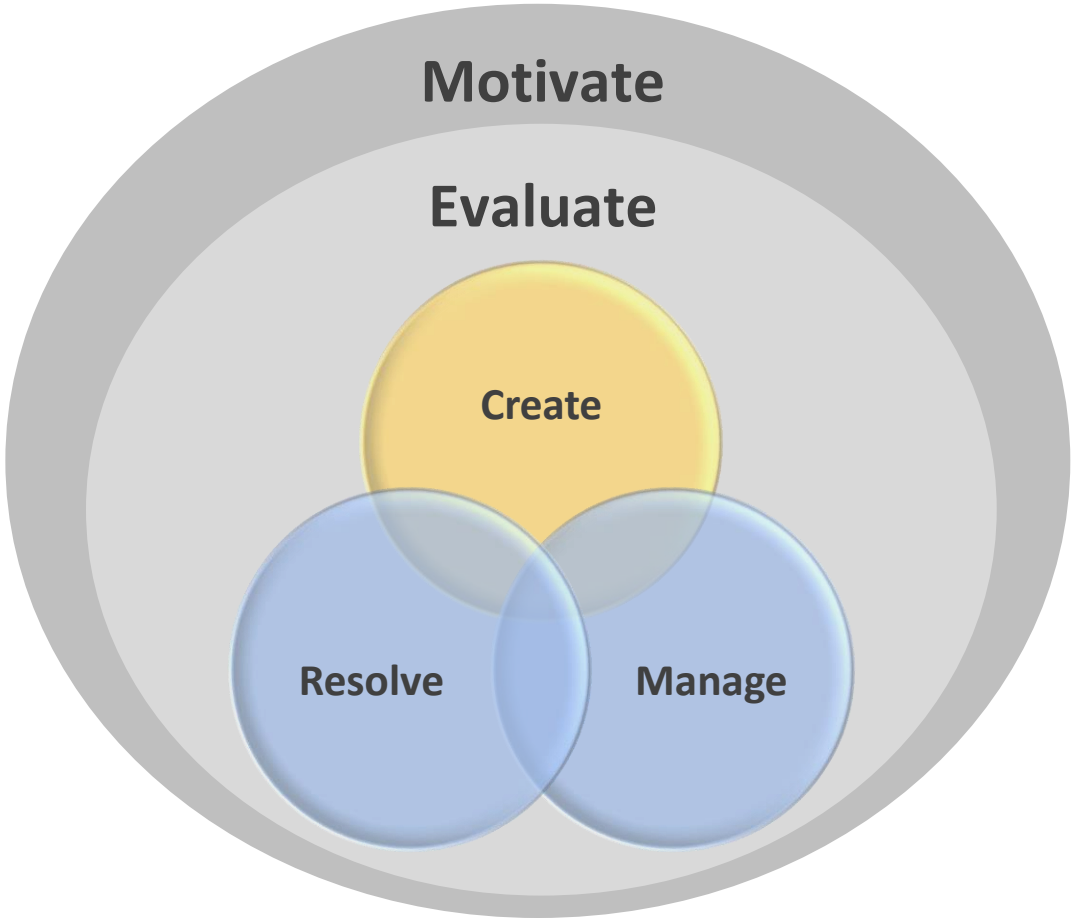
Problem-Solution Focus (Expectations)

Path 3

Delivery of Intervention Actions (EBPs)



5-Actions
Intervention Framework



Digital Therapeutic Solutions

Article

Computer-Assisted Delivery of Cognitive-Behavioral Therapy for Addiction: A Randomized Trial of CBT4CBT

Kathleen M. Carroll, Ph.D.
Samuel A. Ball, Ph.D.
Steve Martino, Ph.D.
Charla Nich, M.S.
Theresa A. Babuscio, M.A.
Kathryn F. Nuro, Ph.D.
Melissa A. Gordon, B.A.
Galina A. Portnoy, B.S.
Bruce J. Rounsaville, M.D.

A Comprehensive Review and a Meta-Analysis of the Effectiveness of Internet-Based Psychotherapeutic Interventions

Azy Barak
Liat Hen
Meyran Boniel-Nissim
Na'ama Shapira

Journal of Substance Abuse Treatment

Web-based behavioral treatment for substance use disorders as a partial replacement of standard methadone maintenance treatment

Lisa A. Marsch, Ph.D. [a,*], Honoria Guarino, Ph.D. [b], Michelle Acosta, Ph.D. [b], Yesenia Aponte-Melendez, M.A. [b], Charles Cleland, Ph.D. [c], Michael Grabinski, B.A., MCSD [d], Ronald Brady, M.D. [e], Joyce Edwards, B.A., CASAC [e]

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Computerized Behavior Therapy for Opioid-Dependent Outpatients: A Randomized Controlled Trial

Warren K. Bickel, Ph.D.[1,3], Lisa A. Marsch, Ph.D.[1,4,5], August R. Buchhalter, Ph.D.[1,6], and Gary J. Badger, M.S.[2]

[1] This research was conducted at the University of Vermont, Department of Psychiatry, Burlington, VT
[2] Department of Medical Biostatistics, Burlington, VT
[3] Dr. Bickel is now affiliated with the University of Arkansas for Medical Sciences, Little Rock, AR
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[5] St. Luke's-Roosevelt Hospital Center, New York, NY
[6] Dr. Buchhalter is now affiliated with Pinney Associates, Bethesda, MD

Abstract

We evaluated the efficacy of an interactive, computer-based behavioral therapy intervention, grounded in the community reinforcement approach (CRA) plus voucher-based contingency management model of behavior therapy. Our randomized, controlled trial was conducted at a university-based research clinic. Participants comprised 135 volunteer adult outpatients who met DSM-IV criteria for opioid dependence. All participants received maintenance treatment with buprenorphine and were randomly assigned to one of three treatments: (1) therapist-delivered CRA treatment with vouchers, (2) computer-assisted CRA treatment with vouchers, or (3) standard treatment. The therapist-delivered and computer-assisted CRA plus vouchers interventions produced comparable weeks of continuous opioid and cocaine abstinence (mean = 7.98 and 7.78, respectively) and significantly greater weeks of abstinence than the standard intervention (mean = 4.69; p<.05), yet participants in the computer-assisted CRA condition had over 80% of their intervention delivered by an interactive computer program. The comparable efficacy obtained with computer-assisted and therapist-delivered therapy may enable more widespread dissemination of the evidence-based CRA plus vouchers intervention in a manner that is cost-effective and ensures treatment fidelity.

Keywords

Computerized treatment; opioid dependence; buprenorphine; cognitive-behavior therapy; controlled trial

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Automating Addiction Treatment: Enhancing the Human Experience and Creating a Fix for the Future.

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Abstract

The country's system of providing treatment for people struggling with addiction requires a fundamental overhaul. To address these daunting problems, a group of experts from outside the addiction field met in an intensive retreat and envisioned a new future for addiction treatment that would use the latest available technology. Retreat leaders employed creative techniques to help free up thinking beyond incremental improvement ideas. Current and former addicts or alcoholics and family members also attended the retreat to provide the panelists with a real-world understanding of their lives. Through this process, the panelists generated eight idea categories that visualized future treatments for addiction using technology. They were: (1) Integrated System and Record; (2) Monitoring/Treatment; (3) Virtual Experiences; (4) Treatment Access and "One Stop Shop; (5) Networks; (6) Tailored Media Campaigns; (7) Diagnostic Tools; and (8) Help for Family. Two stories illustrate how these ideas could help a heroin addict and an alcoholic. The sponsors plan another meeting to bring these visionary concepts closer to real application.

2am…

Need help now!

Online Addiction Self-help

- Hope and motivation tools
- Self-assessment tools
- Intervention tools

Family Support – Help Loved One

- Online CRAFT interventions
- Platform for additional help

24/7 Clinical Phone Support

- Crisis support/risk management
- Human touch
- Help with program

MAT Education & Access

- Learn about benefits/risks of MAT
- Links for enhanced access

Allies in Recovery

Overcome Addiction 5 Actions

For families struggling with loved one

Module 1 – How to Use This Site
Module 2 – How Do I Stay Safe?
Module 3 – What's Going on When My Loved One Uses
Module 4 – How Do I Talk to My Loved One?
Module 5 – My Loved One Isn't Using Right Now, Now What?
Module 6 – My Loved One IS Using Right Now, Now What?
Module 7 – How Do I Care for Myself When Negative Feelings Get in the Way
Module 8 – How Do I Get My Loved One into Treatment?

24/7
Human Touch
Phone Support

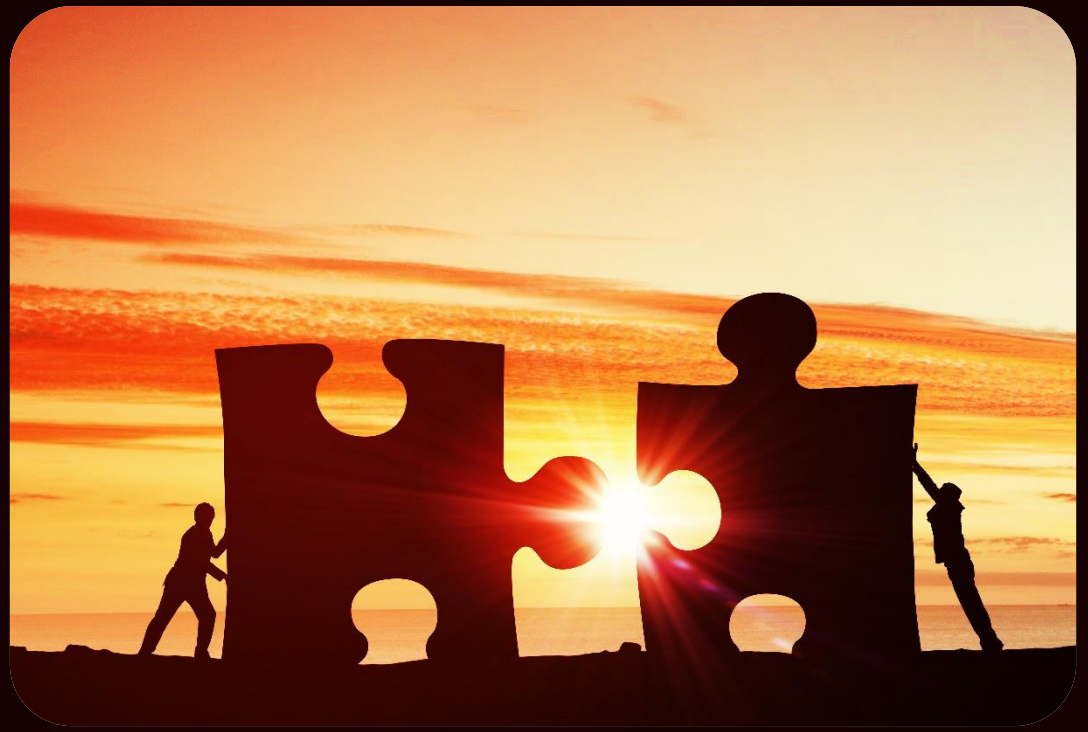
For those struggling with addiction

Module 1 – Getting the Most from the Program
Module 2 – Origins of Addiction
Module 3 – Multiple Addictions
Module 4 – Consequences of Addiction
Module 5 – Treatment 101 & the 5-Actions Approach
Module 6 – Action 1: Motivation
Module 7 – Action 2: Evaluation
Module 8 – Action 3: Resolve
Module 9 – Action 4: Manage
Module 10 – Actions 5: Create
Module 11 – Help Beyond the 5-Actions

Final Take-home

"Today, we **know enough about addiction** to prevent, treat, and support those in recovery – and **save the lives** of those who suffer."

John Fitzgerald, PhD, LPC, CAS



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