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Addiction Treatment and Research in the 21st Century: A Look Back and Future Directions

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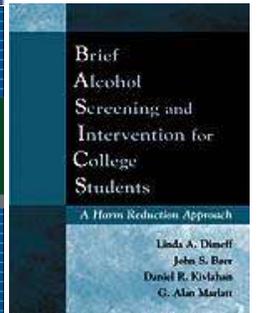
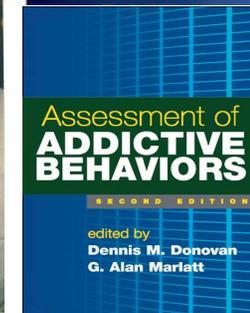
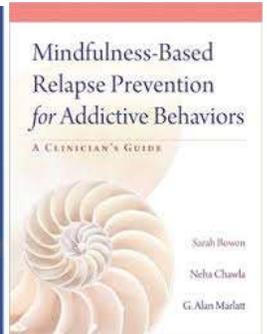
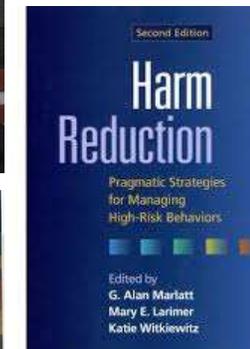
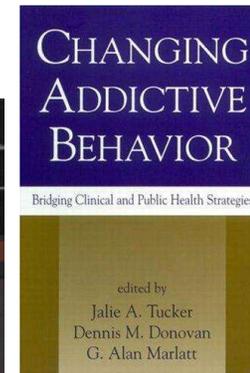
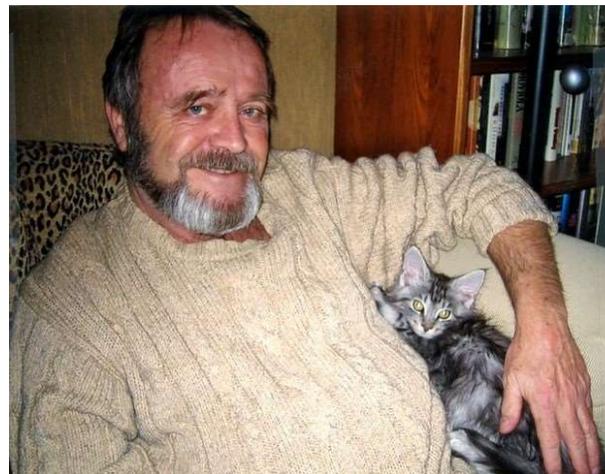
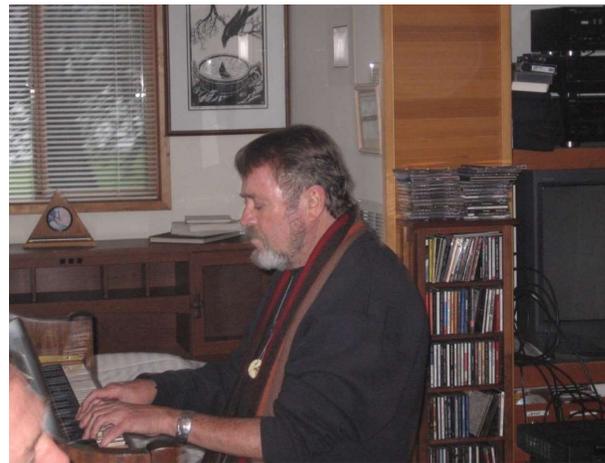
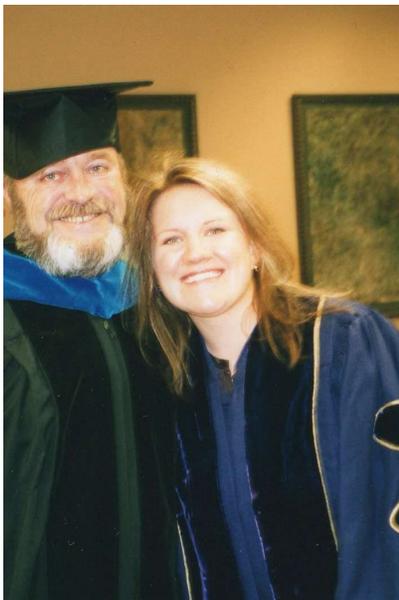
UNIVERSITY OF NEW MEXICO

No conflicts of interest to disclose related to this talk.



In memory of G. Alan Marlatt

1941-2011



A look back at alcohol and drug use...



A 3,000-year-old Chinese bronze jar was found to still contain a rice or millet wine.
Photograph courtesy of Zhiqing Zhang, Institute of Cultural Relics and Archaeology of Henan Province, Zhengzhou, China



Researchers found traces of a wine-like drink in fragments of 9,000-year-old Chinese jars like the three shown above.
Photograph courtesy of Zhiqing Zhang, Institute of Cultural Relics and Archaeology of Henan Province, Zhengzhou, China

- 7000 B.C. Evidence of alcohol in Chinese wine jars
- 3500 B.C. Record of the production of alcohol in Egypt
- Proverbs, 31:6-7

“Give strong drink to him who is perishing, and wine to those in bitter distress; let them drink and forget their poverty, and remember their misery no more”

A look back at alcohol and drug use...

BAYER
PHARMACEUTICAL PRODUCTS.

We are now sending to Physicians throughout the United States literature and samples of

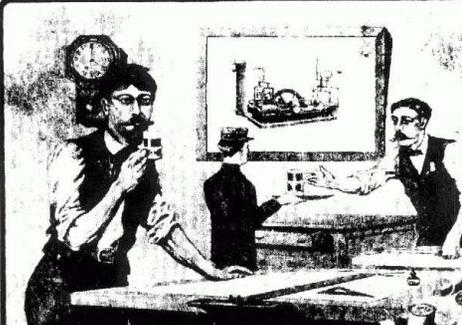
ASPIRIN

The substitute for the Salicylates, agreeable of taste, free from unpleasant after-effects.

HEROIN

The Sedative for Coughs,
HEROIN HYDROCHLORIDE
Its water-soluble salt.
You will have call for them. Order a supply from your jobber.

Write for literature to
FARBENFABRIKEN OF ELBERFELD CO.
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SOLE AGENTS



TIRED, THEN DRINK
Coca-Cola

IT RELIEVES EXHAUSTION
When the BRAIN is running under full pressure send down to the FOUNTAIN for a glass!

Coca-Cola

you will be surprised how quickly it will ease the Tired Brain—soothe the Rattled Nerves and restore Worn Energy to both Mind and Body.
It enables the entire system to readily cope with the strain of any excessive demands made upon it.

AT ALL FOUNTAINS
ALSO IN BOTTLES 5c.



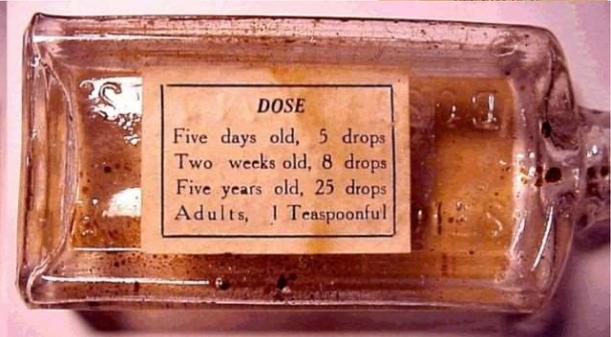
COCAINE
In the most analgetic now used so extensively throughout Europe and this country by Physicians, Surgeons and Dentists.

Cocaine Toothache Drops.
(REGISTERED, TRADE, MARK.)

This preparation of Toothache Drops contains Cocaine, and its wonderful properties are fully demonstrated by the many recommendations it is daily receiving. Take no other except Cocaine Toothache Drops.

For sale by all druggists.

PREPARED BY THE
Lloyd Manufacturing Co.,
213 HUDSON AVENUE,
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Prohibition in the United States

1830's → Temperance Movements begins.

1851 → The first prohibition law is passed in Maine.

1855 → 13 states have enacted prohibition legislation.

1869 → The National Prohibition Party is founded.

1881 → Kansas is the first state to have prohibition in its state constitution.

1890 → The National Prohibition Party elects its first member of the House of Representatives.

1893 → The Anti-Saloon League is formed.

1917 → The US Senate passes the Volstead Act on December 18th, one of the significant steps to the passage of the 18th Amendment.

1918 → The War Time Prohibition Act is passed to save grain for the war effort during World War I.

1919 → On October 28th the Volstead Act passes the US Congress and establishes the enforcement of prohibition.



1919 → On January 29th, the 18th Amendment is ratified by 36 states and goes into effect on the federal level.

1920's → The rise of bootleggers such as Al Capone in Chicago highlight the darker side of Prohibition.

1929 → Elliot Ness begins in earnest to tackle violators of Prohibition and Al Capone's gang in Chicago.

1932 → On August 11th, Herbert Hoover gave an acceptance speech for the Republican presidential nomination, in which he discussed the ills of Prohibition and the need for its end.

1933 → On March 23rd, Franklin D. Roosevelt signs the Cullen-Harrison Act which legalizes the manufacture and sale of certain alcohol.

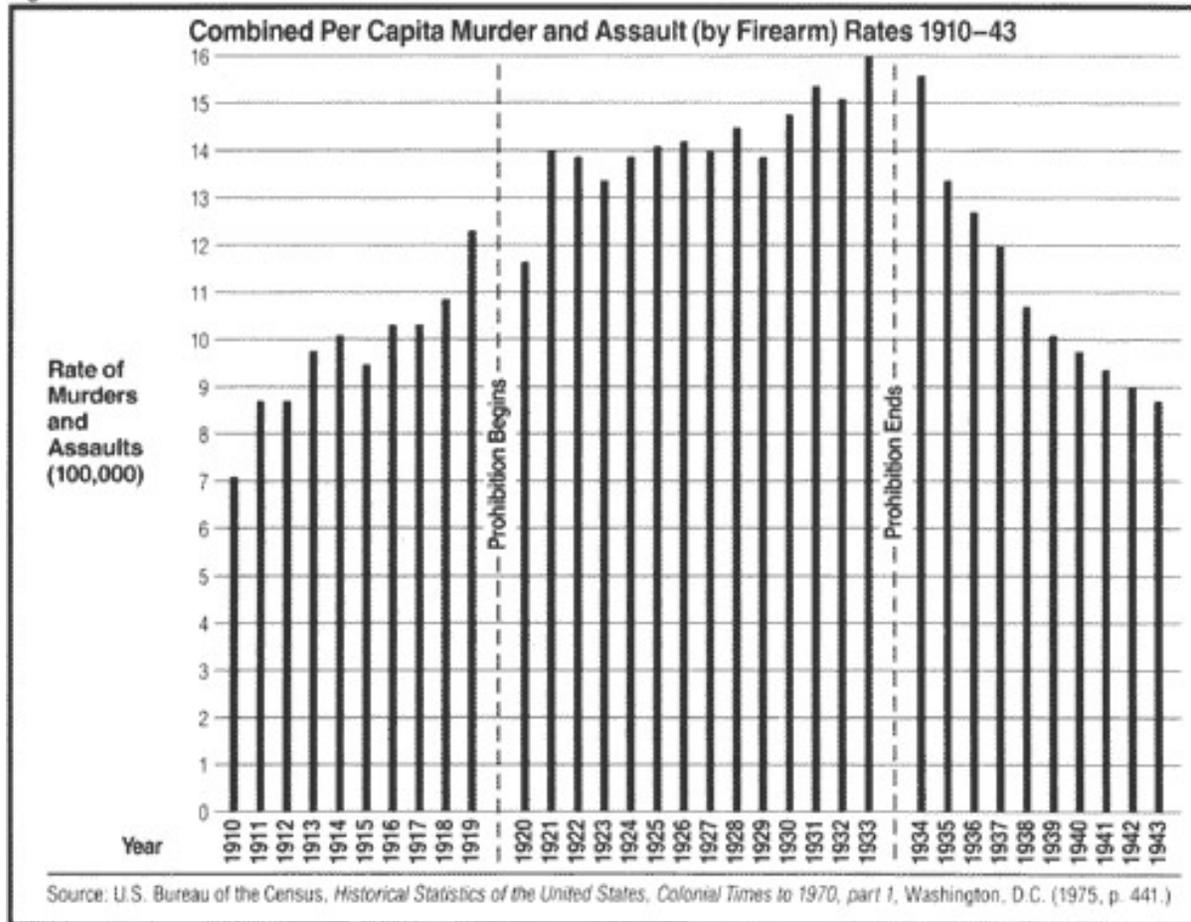
1933 → On April 7, the Cullen-Harrison Act went into effect and beer at 4% ABV or lower was re-legalized. This day is now known as Brew Year's Eve.

1933 → On December 5th, Prohibition is repealed with the 21st Amendment.



Crime during prohibition

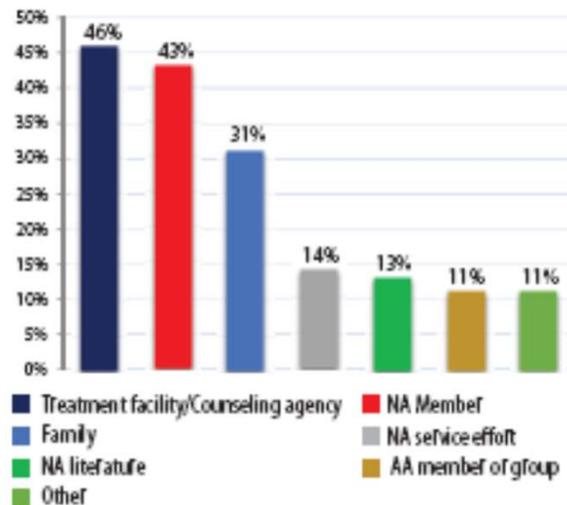
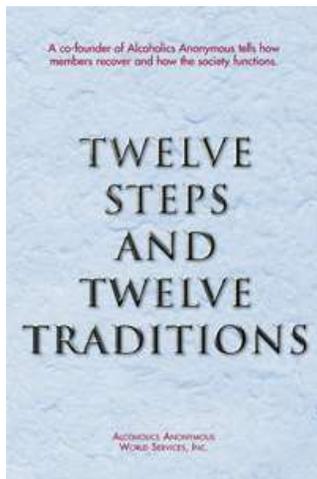
Figure 1



A few things that have stayed relatively the same in the past 17 years of studying addiction

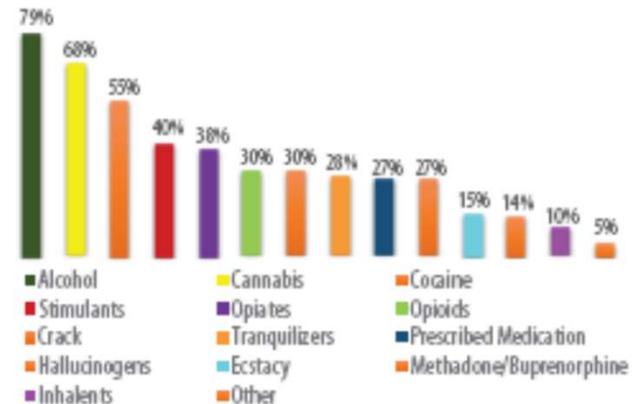
Alcoholics Anonymous and Narcotics Anonymous are the most widely available forms of help seeking

Survey of NA Members (n= 22,803), available from www.na.org

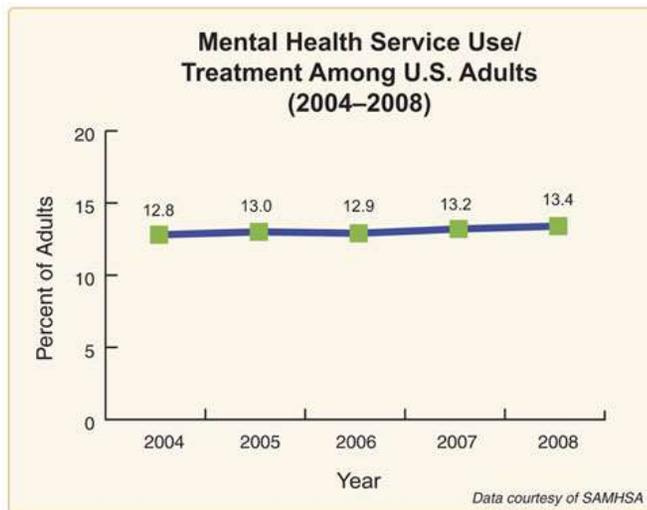


Drugs Used on a Regular Basis

Multiple answers were allowed.



Treatment seeking for substance use disorder (SUD) remains quite low



Only 1 in 10 People With a Substance Use Disorder Receive Treatment.



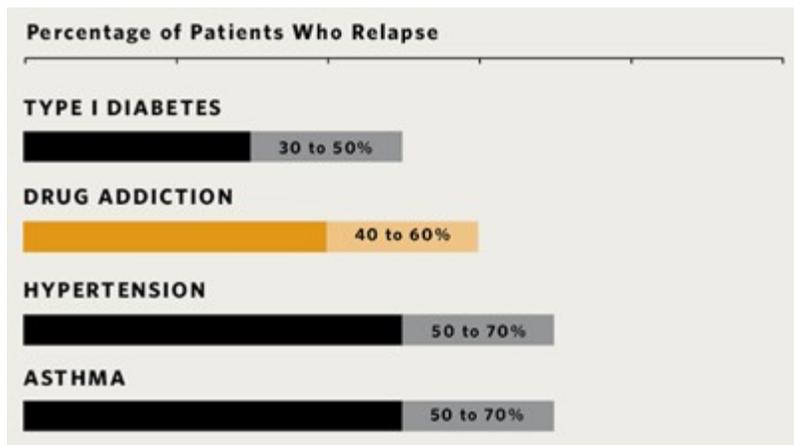
Treat Addiction, Save Lives.



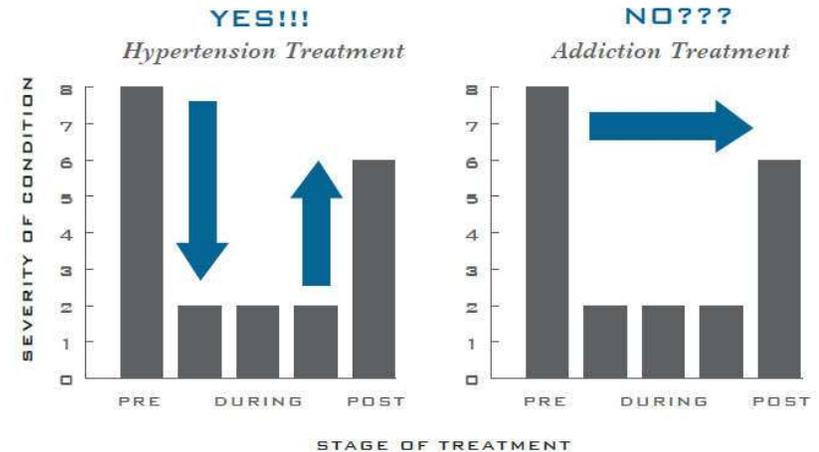
Addiction
Treatment
Gap Week

#TreatmentGap

Addiction as a chronic relapsing condition has not been embraced

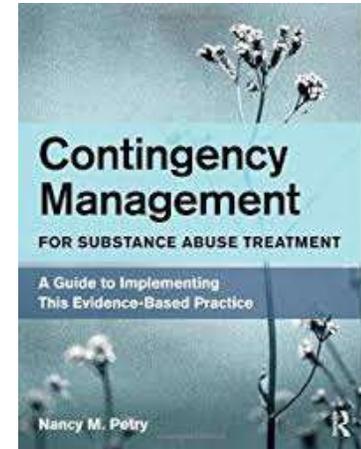
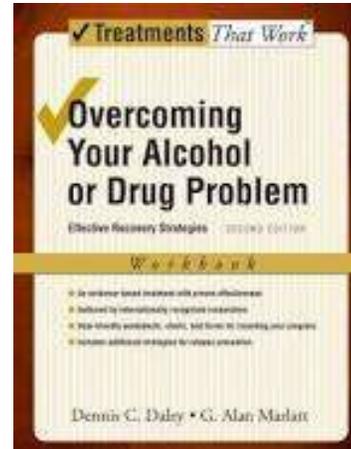
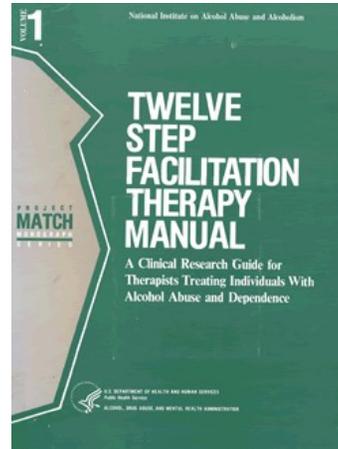
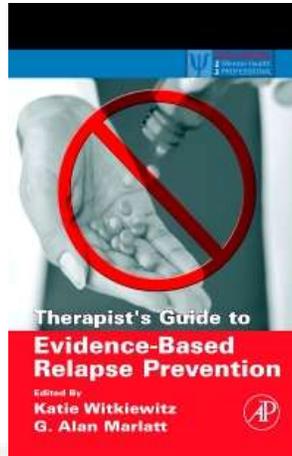
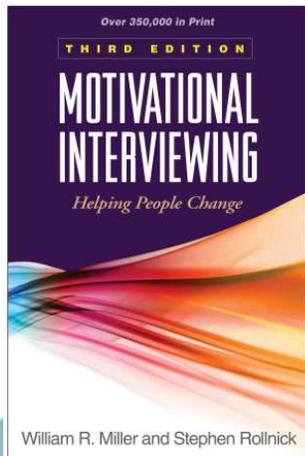


WHY IS ADDICTION TREATMENT EVALUATED DIFFERENTLY?
BOTH REQUIRE ONGOING CARE

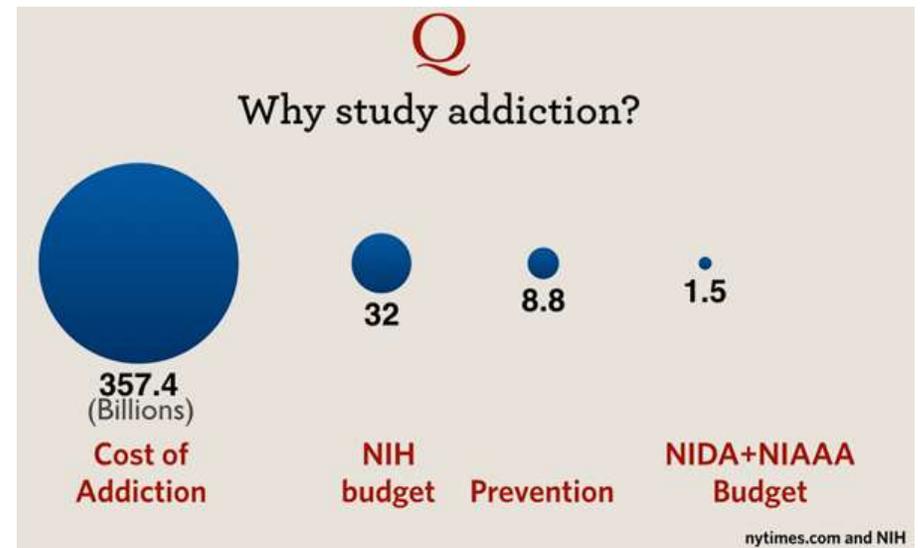
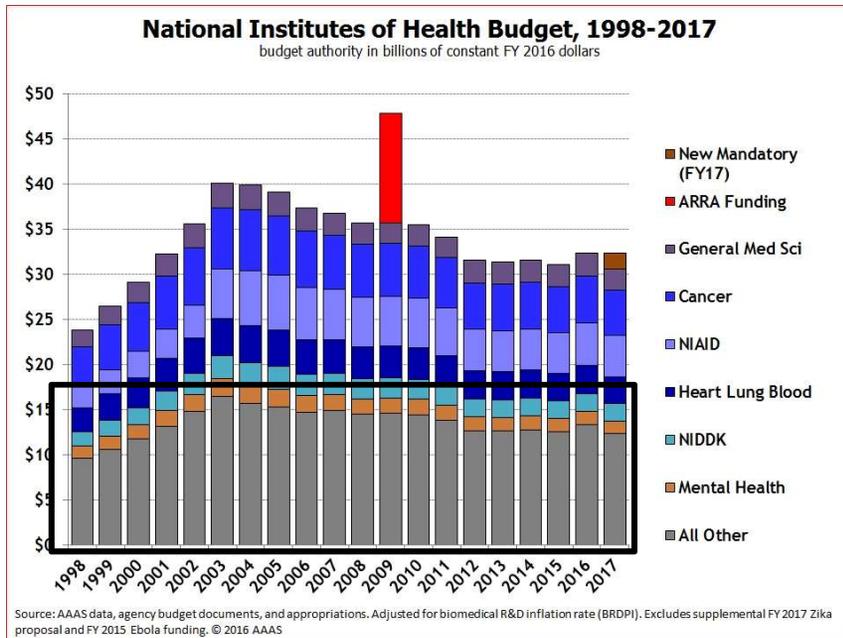


<https://www.drugabuse.gov/publications/media-guide/science-drug-abuse-addiction-basics>

Most common treatment approaches are MI and cognitive/behavioral, pharmacotherapy is limited

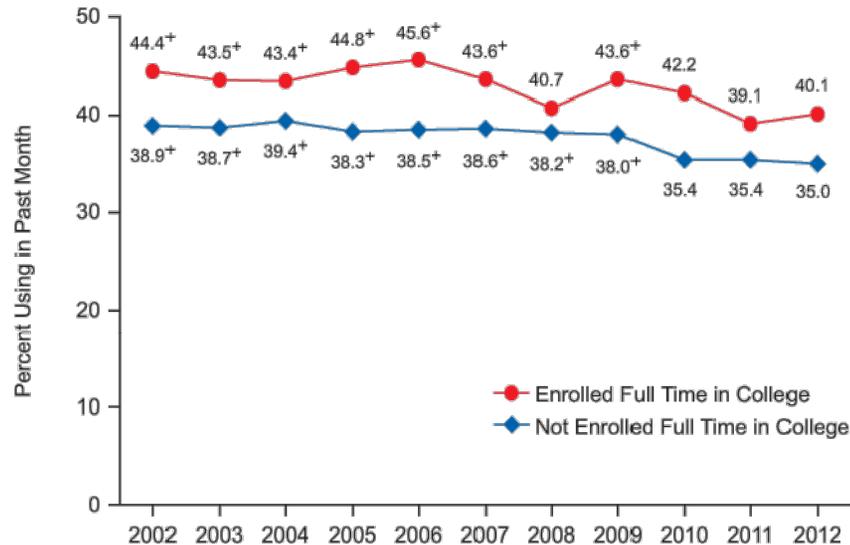


Funding levels for alcohol and drug research remain stable/decreasing

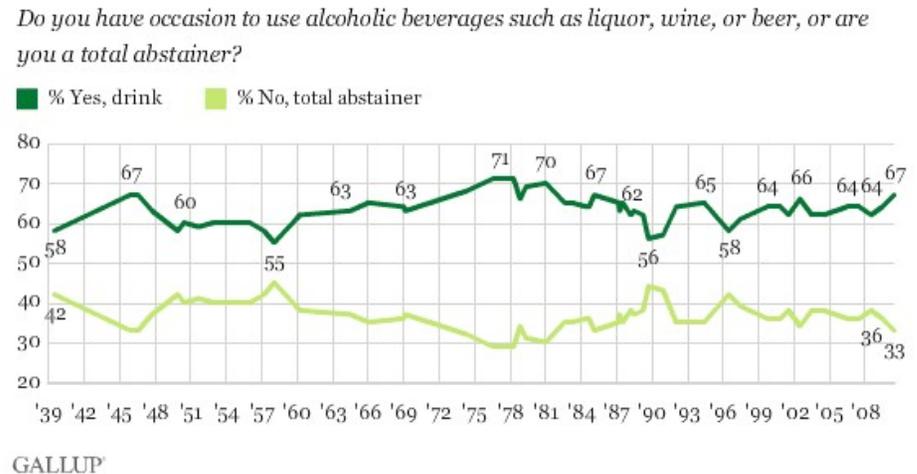


Binge alcohol use and any drinking remains relatively stable

Binge Alcohol Use among Adults Aged 18 to 22

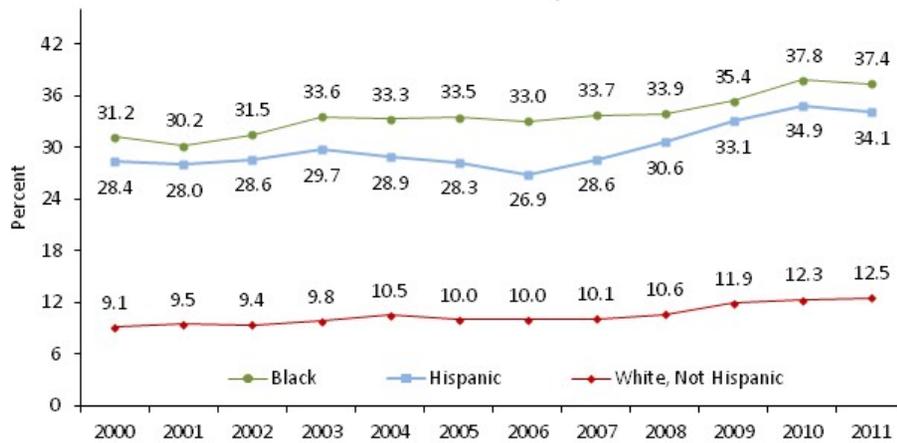


Any Drinking among United States Adults

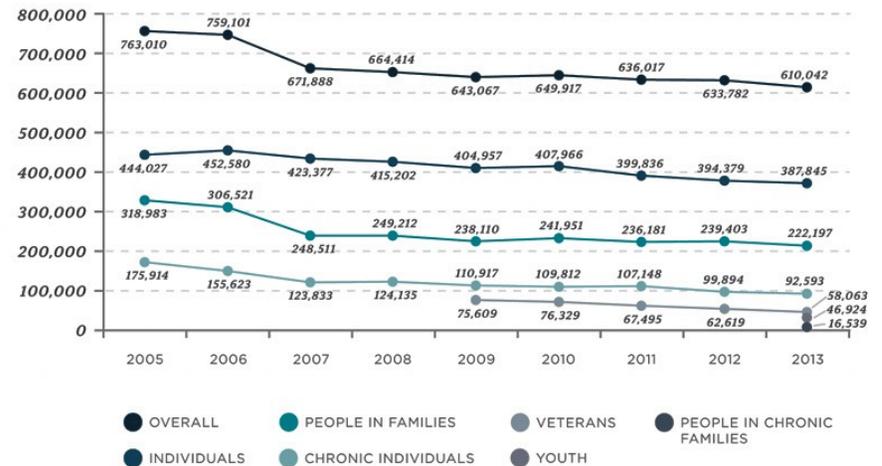


Child poverty and homelessness remains the same or even increasing

Child Poverty



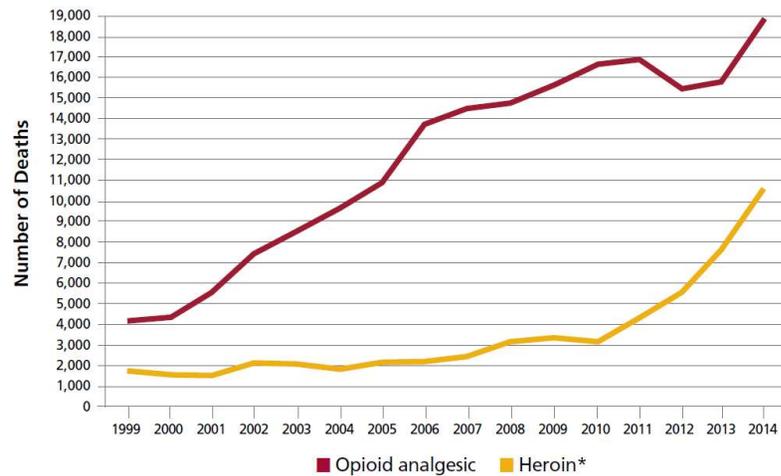
Homelessness



A few things that
have changed in the
past 17 years of
studying addiction

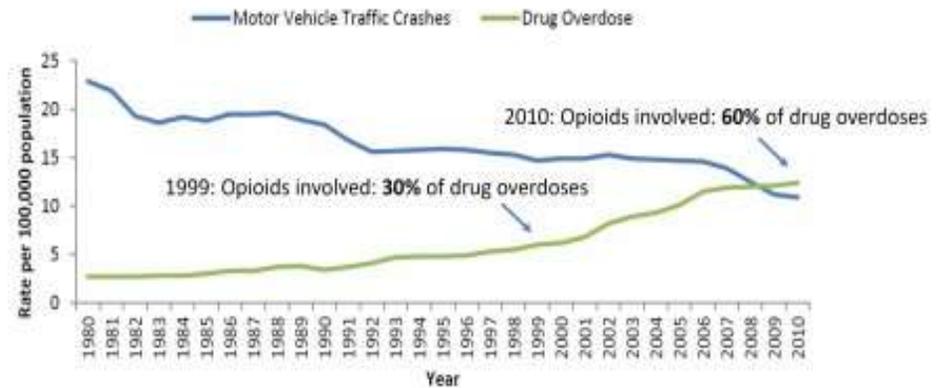
The opioid epidemic

U.S. Deaths from Opioids & Heroin: 1999-2014



*Heroin includes opium.
 1999-2013 Statistics: CDC/NCHS NVSS Multiple Cause of Death Files.
 2014 Statistics: American Society of Addiction Medicine (ASAM), Opioid Addiction: 2016 Facts & Figures.

Rates of motor vehicle traffic and drug overdose deaths, United States 1980-2010



Source: DHH, Addressing Prescription Drug Abuse in the United States: Current Activities and Future Opportunities, September 2013

Marijuana legalization and acceptance of legal marijuana

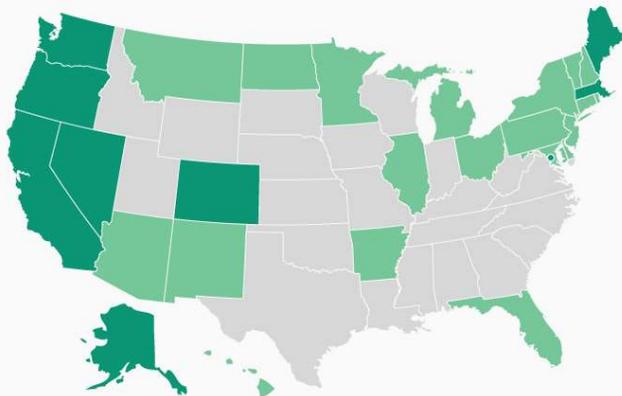
The States Where It's Legal To Smoke Marijuana

Laws on recreational and medical marijuana use in the US*

■ Legalized for recreational & medical use
 ■ Medical use only

Legalized for recreational & medical use

- Washington
- Washington D.C.
- Oregon
- Alaska
- Colorado
- California
- Massachusetts
- Nevada
- Maine



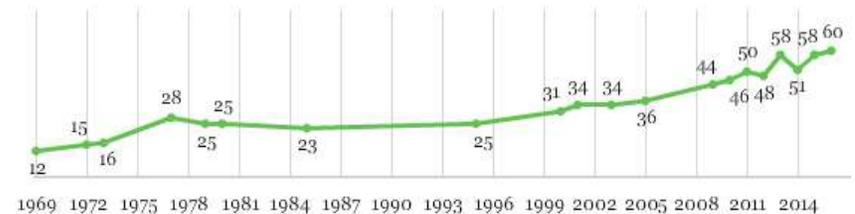
* As of Nov 10, 2016 - laws in some states have not yet taken effect. Some states not highlighted allow limited medical marijuana access
 @StatistaCharts Source: NY Times



Americans' Views on Legalizing Marijuana

Do you think the use of marijuana should be made legal, or not?

■ % Yes, legal



GALLUP®

Non-abstinence goals are becoming more accepted

Alcohol and Alcoholism Vol. 49, No. 4, pp. 447-452, 2014
Advance Access Publication 12 June 2014
doi: 10.1093/alcalc/agu036

Acceptance of Controlled Drinking Among Treatment Specialists of Alcohol Dependence in Japan
Susumu Higuchi*, Hitoshi Maesato, Atsushi Yoshimura and Sachio Matsushita

National Hospital Organization, Tokyo, Japan
*Corresponding author: N. Higuchi, Email: higuchi@nho.go.jp
(Received 15 July 2011; accepted 18 July 2011)

Alcohol and Alcoholism Vol. 46, No. 5, pp. 586-591, 2011
Advance Access Publication 18 July 2011
doi: 10.1093/alcalc/agr083

Abstract — Aims of this study were to assess the acceptance of controlled drinking (CD) among treatment specialists of alcohol dependence in Japan. The study was conducted in 2008. The results showed that 54.7% of specialists accepted CD as a final goal of treatment, rather than abstinence. The majority of specialists (70.0%) accepted CD as a goal of treatment, rather than abstinence. The majority of specialists (70.0%) accepted CD as a goal of treatment, rather than abstinence. The majority of specialists (70.0%) accepted CD as a goal of treatment, rather than abstinence.

TREATMENT

Is Controlled Drinking an Acceptable Goal in the Treatment of Alcohol Dependence? A Survey of French Alcohol Specialists

A. Luquiens¹, M. Reynaud^{1,2,3} and H.J. Aubin^{1,2,3,4,*}

¹Department of Psychiatry, Paris, France, ²

Journal of Substance Abuse Treatment 46 (2014) 214-218

Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment



Abstract — 547 French specialists of alcohol dependence were surveyed to assess their acceptance of controlled drinking (CD) as a goal of treatment, rather than abstinence. The majority of specialists (70.0%) accepted CD as a goal of treatment, rather than abstinence. The majority of specialists (70.0%) accepted CD as a goal of treatment, rather than abstinence.

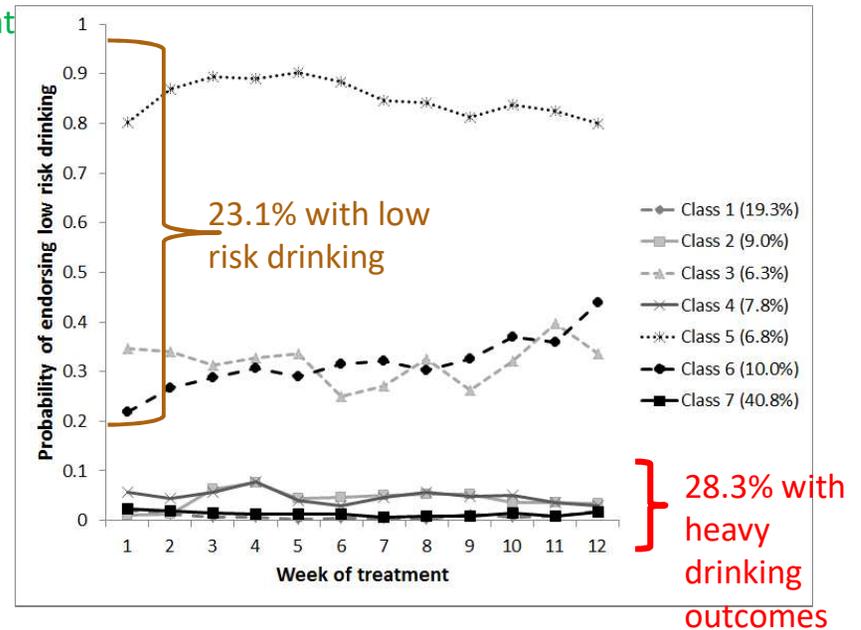
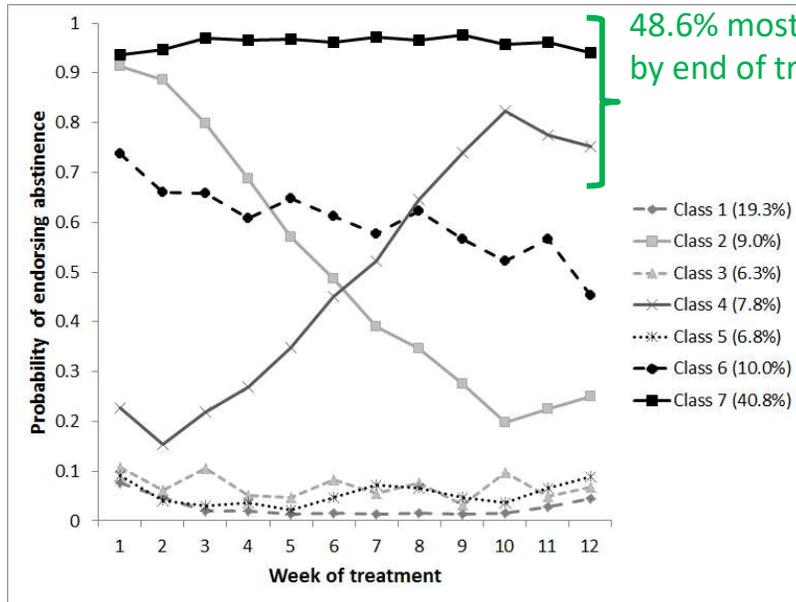
Differences in the acceptability of non-abstinence goals by type of drug among American substance abuse clinicians

Harold Rosenberg, Ph.D.*, Alan K. Davis, M.A.

Department of Psychology, Bowling Green State University, Bowling Green, OH 43403, USA

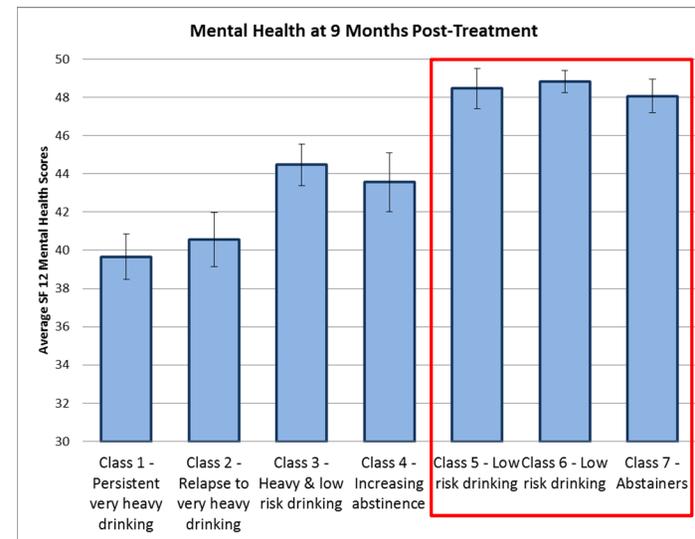
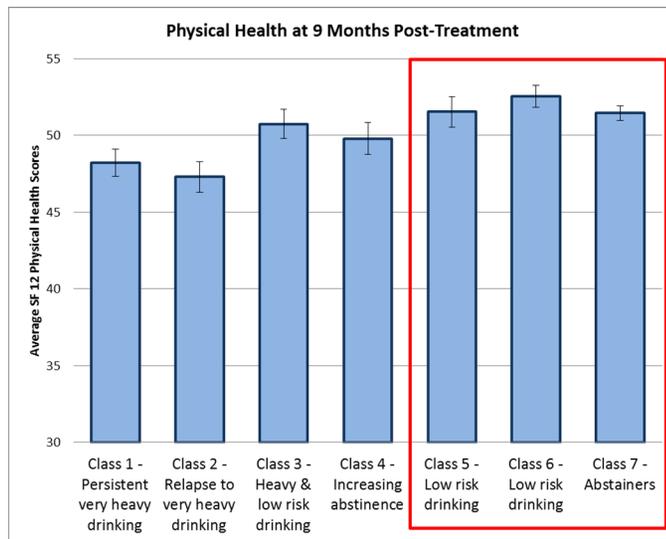
Majority of addiction treatment providers support initial goal of non-abstinence

Lower risk drinking outcomes are achievable during treatment ($n = 3851$)



Witkiewitz et al. (2016) *J Stud Alcohol Drugs*

Low risk drinking goals can be just as “healthy” as total abstinence

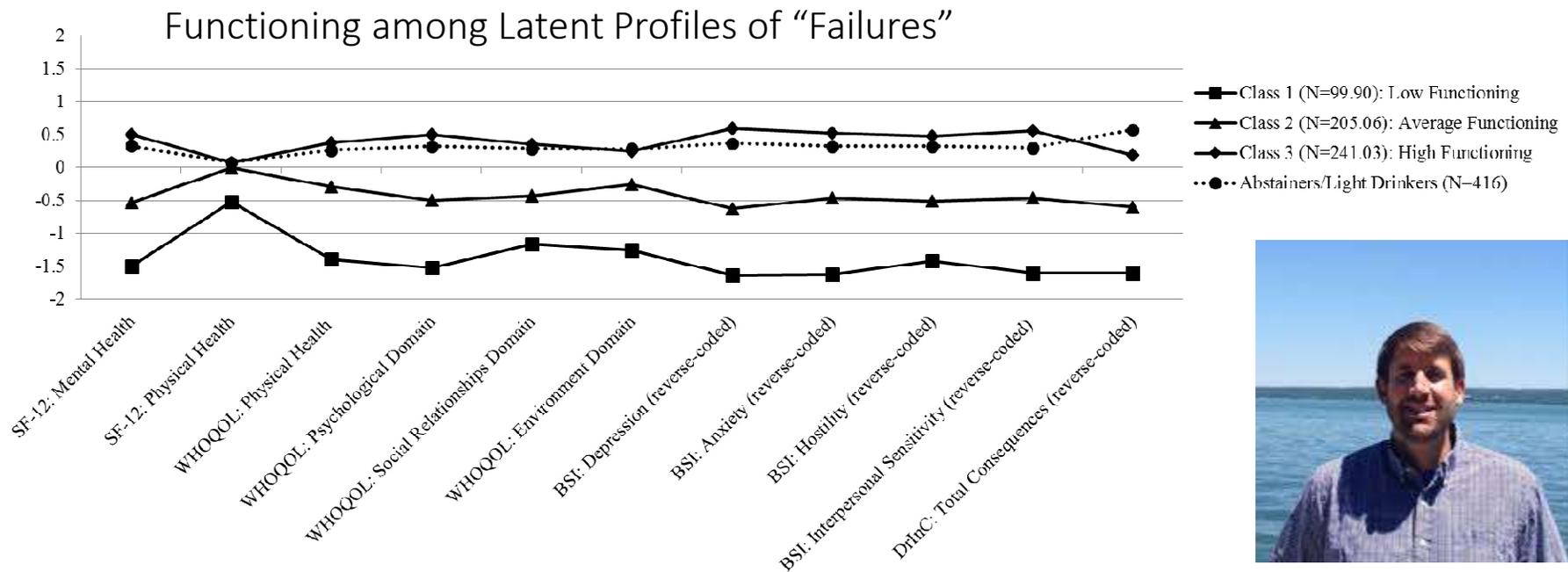


Witkiewitz et al. 2016, 2017

Also see Kline-Simon et al., 2017; Pearson et al., 2016; Wilson et al., 2016; Witkiewitz, 2013

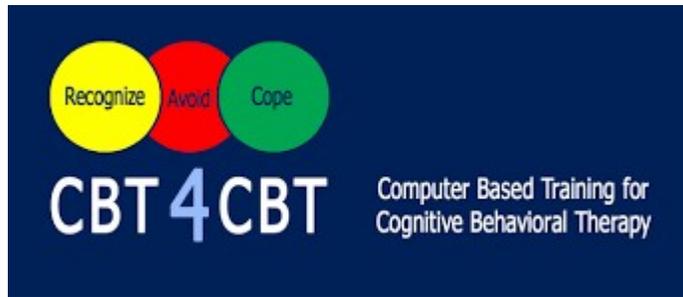
Does high risk drinking (4+/5+) indicate failure?

Majority of those exceeding 4/5 cutoff similar to abstainers and low risk drinkers using alternative measures of treatment “success” (i.e., functioning, consequences)

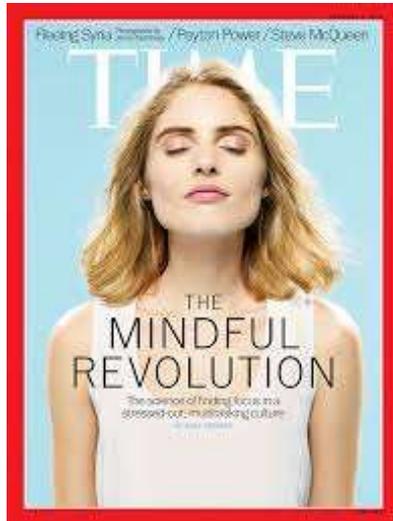


Witkiewitz, 2013; Witkiewitz et al., 2016; Pearson et al (2016); Wilson et al (2016)

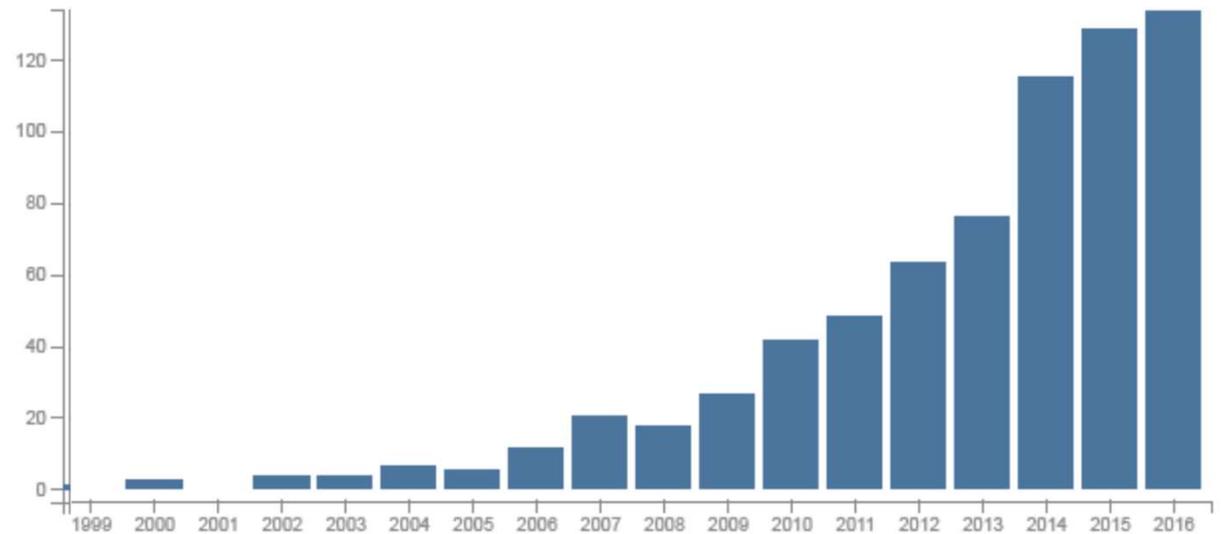
Increase in computerized treatments and mobile apps for addiction



Increase in mindfulness-based treatments for addiction



of Publications, by Year, Examining Mindfulness and Addiction

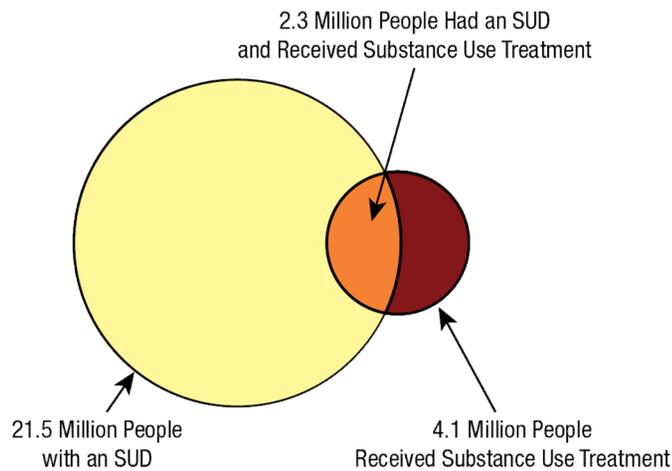


Three RCTs of Mindfulness-Based Relapse Prevention (MBRP) for SUD

Pilot Efficacy Trial	Hybrid Efficacy Trial	Efficacy Trial
Community treatment aftercare	Residential treatment female offenders	Community treatment aftercare
N = 168	N = 105	N = 268
46% alcohol, 36% crack, 14% meth, 7% opiates, 19% polysubstance	36% meth, 22% opiates, 19% cocaine, 10% alcohol, 7% marijuana, 5% other	13% alcohol, 1% crack, 1% meth, 1% opiates, 82% polysubstance
2- and 4-month follow-ups	4-month follow-up	2-, 4-, 6- and 12-month follow-ups
MBRP greater reductions in drug use and drinking days, as compared to treatment as usual (TAU), $d=.27$	MBRP greater reductions in drug use days, as compared to relapse prevention (RP), $d=.36$	MBRP longer time-to-first lapse and greater reductions in drug use and drinking days, as compared to TAU ($d=.41$) and RP ($d=.17$)
Bowen et al (2009) <i>Substance Abuse</i>	Witkiewitz et al (2014) <i>Substance Use Misuse</i>	Bowen et al (2014) <i>JAMA Psychiatry</i>

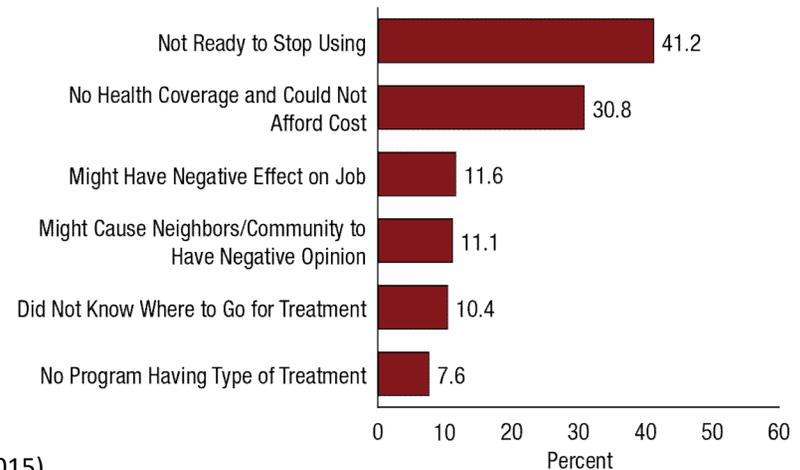
The more things
change... the more
they stay the same

Back to the treatment gap... abstinence-focus is the primary reason for not seeking treatment

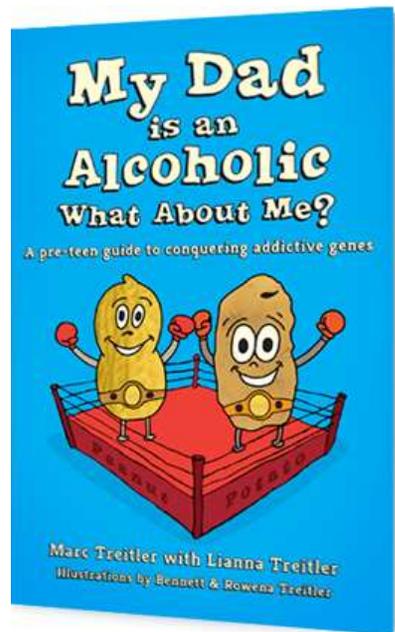
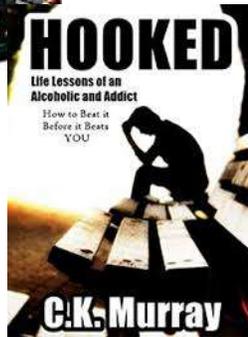
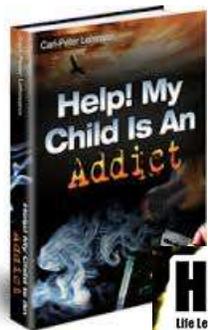


Substance Abuse and Mental Health Services Administration (2015)

Reasons for not seeking treatment



Stigmatizing language is still commonplace in our field and in the media

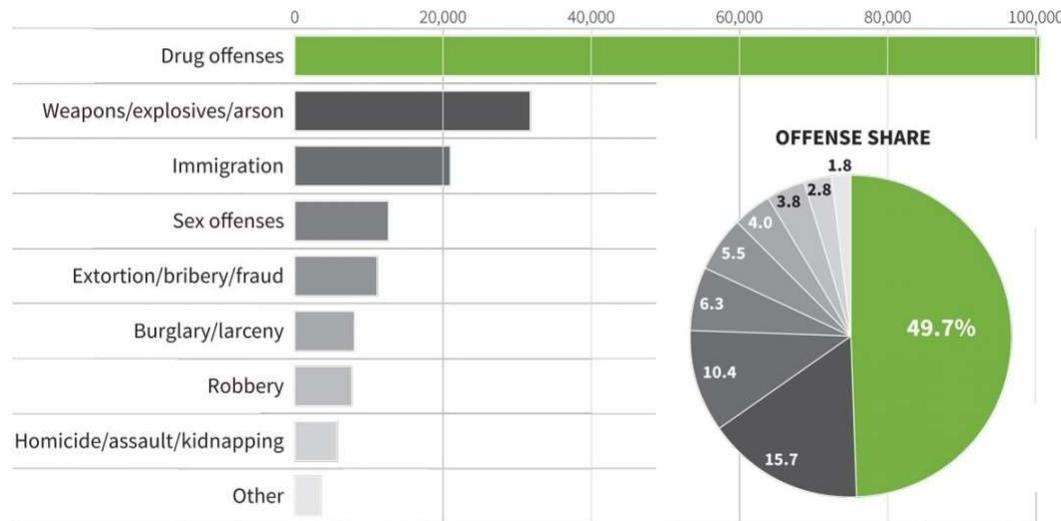


Instead of...	Try...
Addict	Person with a substance use disorder
Alcoholic	Person with an alcohol use disorder
Clean	Abstinent, not using
Former addict	Person in recovery
Drug abuse	Drug use or drug misuse
Dirty	Actively using drugs/alcohol

Incarceration remains a common approach to drug offenses, despite the costs and human suffering

U.S. prison population by offense

Drug offenders account for nearly half.



Source: U.S. Federal Bureau of Prisons



Sources: Zarkin et al. 2008 and Warren et al. 2008.

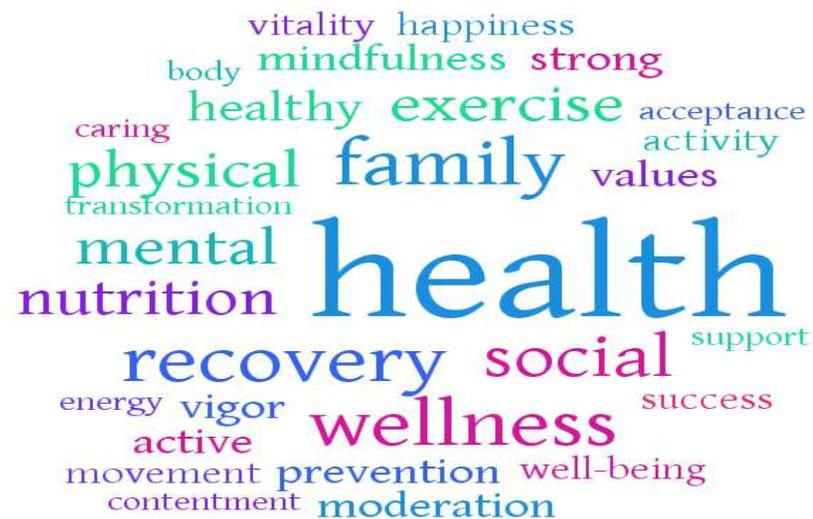
Where do we go in the next 17 years?

1. Recognize most change occurs outside of treatment and develop/evaluate/implement methods to support efforts for change that do not require treatment.



Where do we go in the next 17 years?

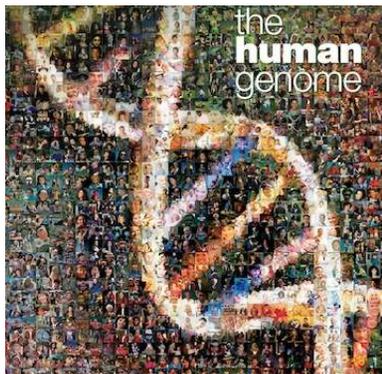
2. Consider alternative definitions of treatment “success” that extends beyond levels of use.



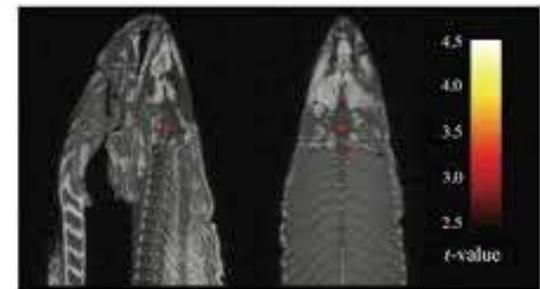
Where do we go in the next 17 years?

3. Embrace technological advances...

...and bring strong scientific methods to new technology.



Adolescent Brain Cognitive DevelopmentSM
Teen Brains. Today's Science. Brighter Future.

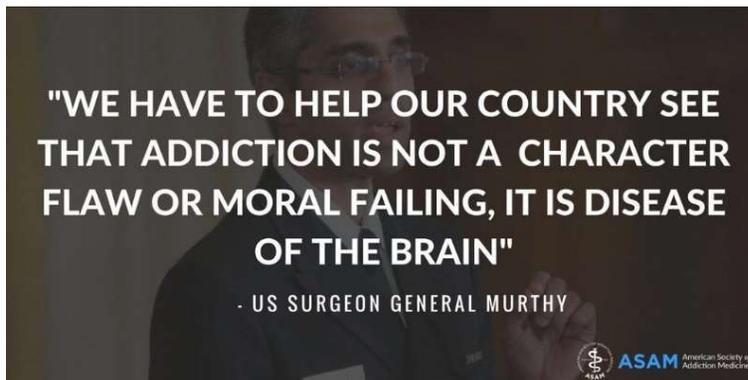


A *t*-contrast was used to test for regions with significant BOLD signal change during the photo condition compared to rest. The parameters for this comparison were $t(131) > 3.15$, $p(\text{uncorrected}) < 0.001$, 3-voxel extent threshold.

Bennett et al (2009) Human Brain Mapping

Where do we go in the next 17 years?

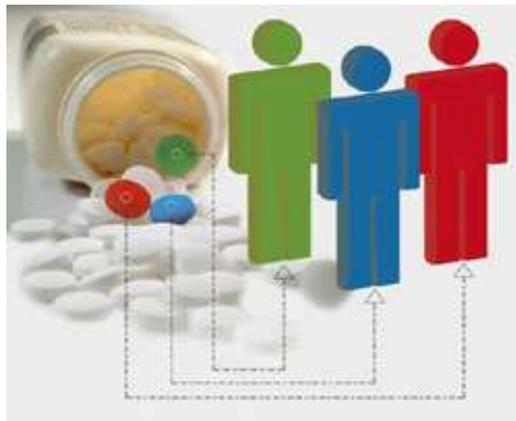
4. Abandon any notion of alcohol and drug use as a moral failing, personality trait, or incurable.



"I told him back in '68, 'Frank, if you leave AA, you are gonna die'. It took forty-one years, but I finally proved my point."

Where do we go in the next 17 years?

5. Personalized medicine does hold promise and so does examining common factors for wellness.



What do I see as the potential barriers to progress in treatment/research of addiction?

1. Cuts to funding and government programs.
 2. Bringing back the War on Drugs.
 3. Focusing too much funding on novel methods with little potential for real world applications and questionable ROI.
 4. Developing newer, technology-informed, swankier interventions that have no potential of being disseminated and implemented.
- 

What do I see as the potential promoters to progress in treatment/research of addiction?

1. Social media efforts for universal prevention.
2. Normalization/validation of alcohol and drug use.
3. Pharmacogenetic studies and subgrouping studies of clinical trial data to examine precision medicine hypotheses.
4. Large scale dissemination efforts (e.g., VA) and electronic medical record systems as a means for screening and brief intervention.
5. Acceptance of non-abstinence outcomes as indicative of “success” by government agencies.
6. New journal guidelines regarding stigmatizing language.

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