

# ICCPUD Community Engagement Webinar

## “The Current Landscape of Underage Drinking”



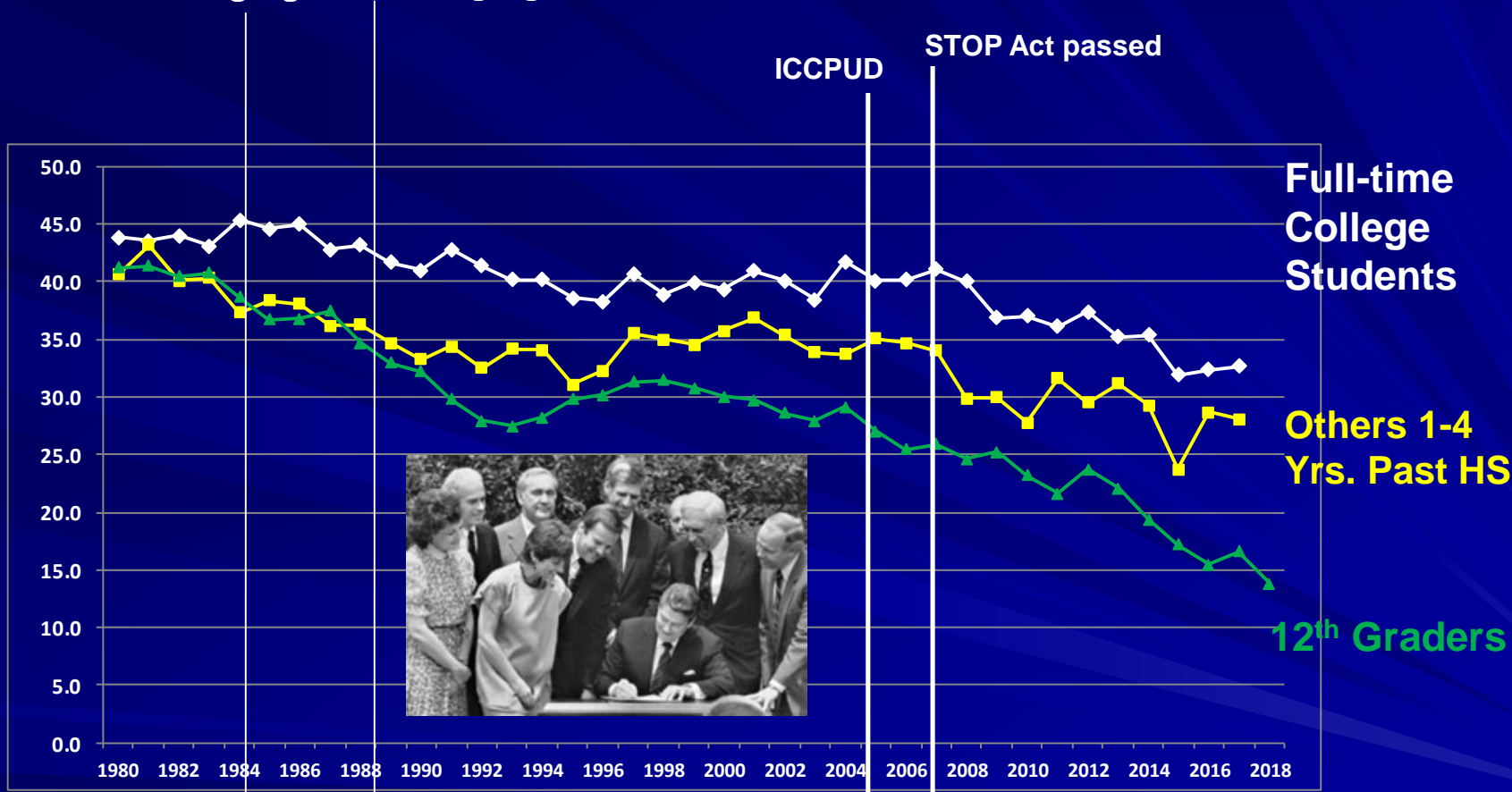
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National Institute on Alcohol Abuse and Alcoholism  
October 24, 2019



# Alcohol: Trends in 2-Week Prevalence of 5 or More Drinks in a Row among College Students vs. Others 1-4 Years Beyond HS, and High School Seniors, 1980-2018

National Institute on Alcohol Abuse and Alcoholism

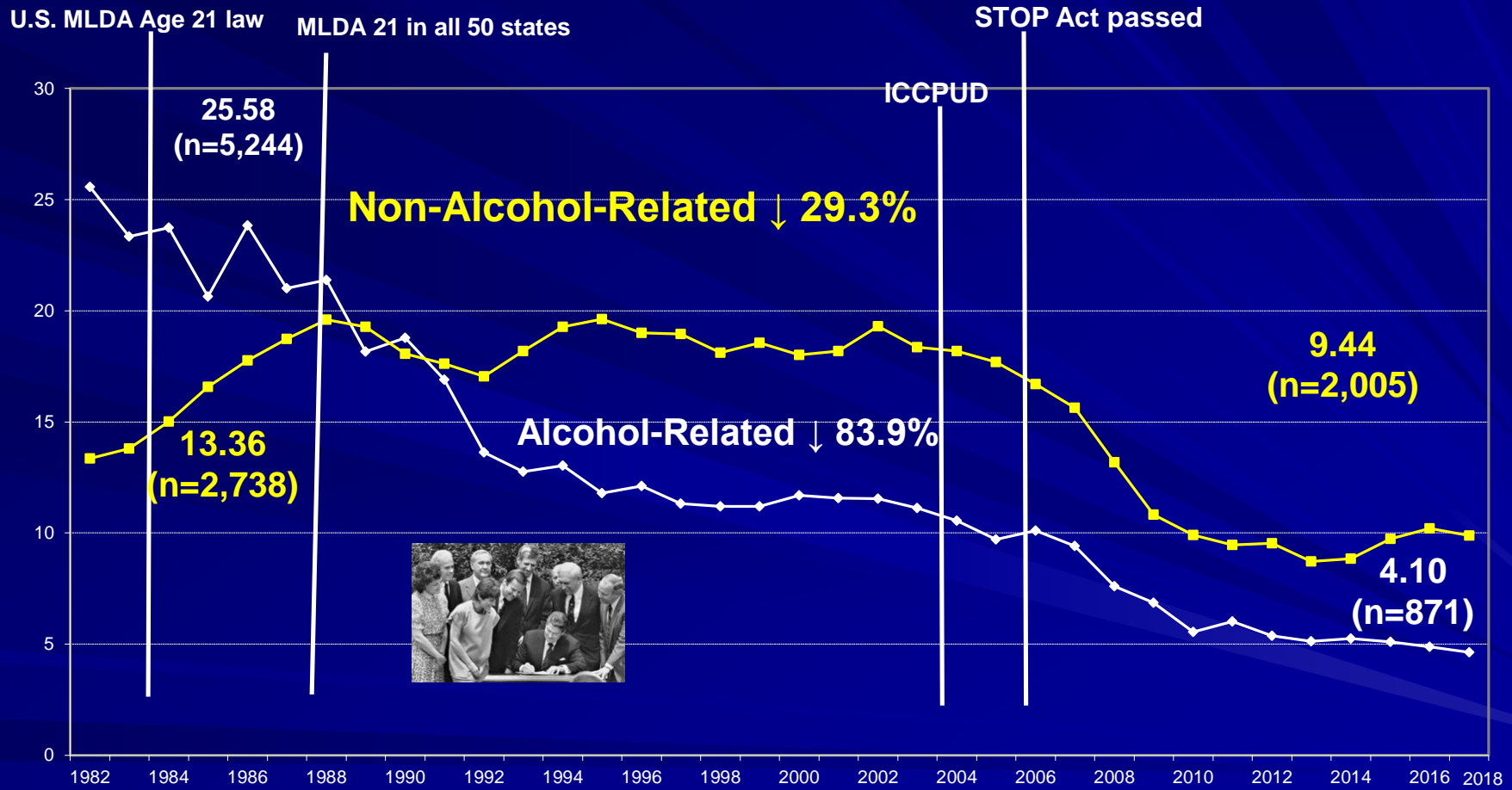
Federal 21 Drinking Age Drinking Age 21 in all states



Source: Monitoring the Future, 2018

# Alcohol- vs. Non-Alcohol-Related Traffic Fatalities, Rate Per 100,000, Ages 16-20, United States, 1982-2017

National Institute on Alcohol Abuse and Alcoholism



Sources: U.S. Fatality Analysis Reporting System, 2018; U.S. Census Bureau, 2018

# Key Underage Drinking Facts

- Alcohol is the leading contributor to injury deaths under age 21
  - 4,300 alcohol injury and overdose deaths
  - Far exceeding opioid deaths (1,034)
- 58% of opioid overdose deaths involve other drugs or alcohol

Sources: Centers for Disease Control and Prevention, 2018; Kandel et al., Drug and Alcohol Dep, 2017

# Youth Risk Behavior Surveys 2009 and 2015

- Nearly 1 million high school students and nearly 2 million 12-20 year olds consume 5 or more drinks 6 or more times per month. They are much more likely to
  - Ride with a drinking driver
  - Drive after drinking
  - Never wear safety belts
  - Carry weapons/guns
  - Be bullied
  - Be injured in a fight
  - Be injured in a suicide attempt
  - Be forced to have sex
  - Have had sex with 6 or more partners
  - Have unprotected sex
  - Use marijuana/cocaine
  - Have ever injected drugs

# Youth Risk Behavior Survey 2009

- Frequent binge drinkers compared to abstainers in high school were much more likely in the past month to:

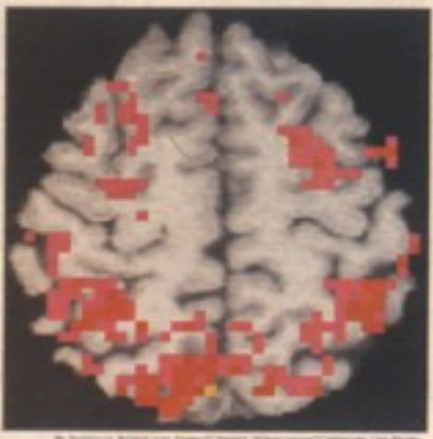
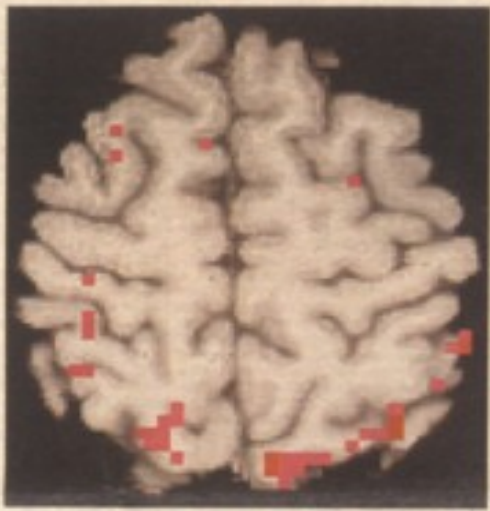
**Drink at school** **32% vs. 0%**

**Use marijuana at school** **24% vs. 1%**

**Earned mostly D's and F's in school within the past year** **14% vs. 4%**



Two 20-year-old women take a memory test. One of them abused alcohol. The MRI scan on the left is her brain, the lack of color indicating a sluggish mind. In contrast, the scan on the right is of the woman who doesn't have a drinking problem. The colors show lots of brain activity. Not surprisingly, she does better on the test.



Cover story

# Teen drinking, thinking don't mix

Alcohol appears to damage young brains, early research finds

By Kathleen Sweeney  
USA TODAY

Teens who drink heavily face a slew of hazards, ranging from accidental injuries to death by alcohol poisoning. If early research is verified, scientists might add another danger to that list soon: brain damage.

Preliminary studies indicate that heavy, regular drinking can damage the developing tissue of teens and young adults and perhaps destroy vital cells involved in learning and memory.



### Changing youths' drinking habits, 83

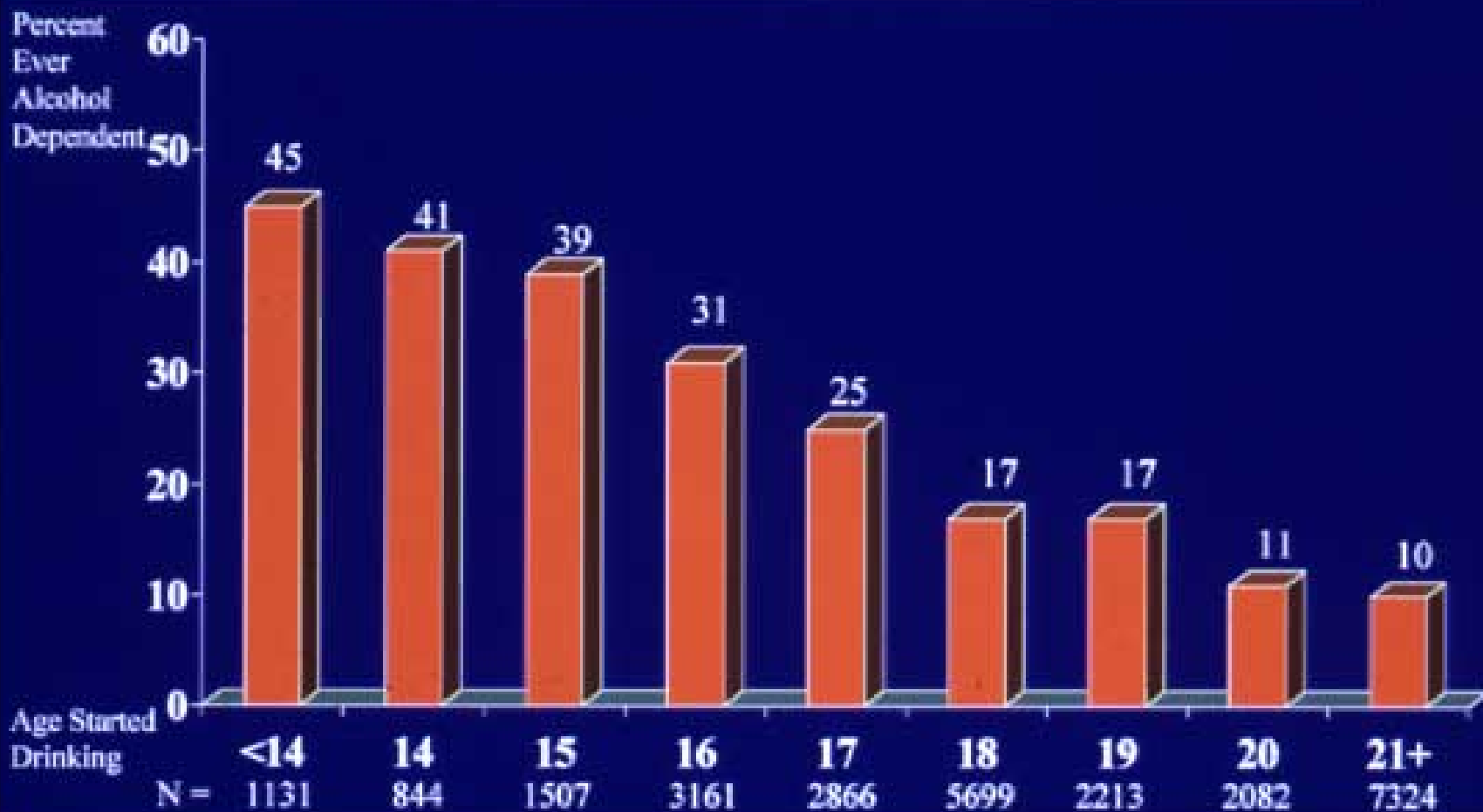
could be them to do well in school or at work.

Doctors say it's too early to blame brain damage on alcohol abuse. They say that many teens who drink heavily also abuse other drugs and have other risk factors that could hurt the brain.

But researchers say that though the work is in the early stages, the evidence points toward a link between alcohol and damage to young brains.

Sources: Zeigler et al, *Prev Med*, 2005; Squeglia et al, *Clin EEG Neurosci*, 2009; Squeglia et al, *J Stud Alcohol Drugs*, 2012; Norman, *Drug & Alcohol Depend*, 2011

# Prevalence of Lifetime Alcohol Dependence According to Age of Drinking Onset

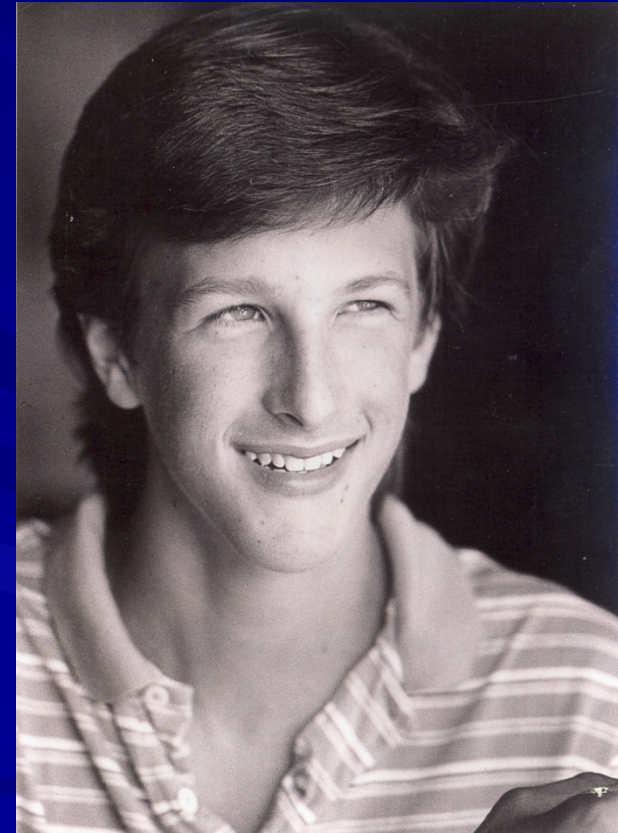


Source: Grant and Dawson (1997) *J. Substance Abuse z*



# Earlier Age Drinking Onset Also Related to:

- More rapid development of dependence
- Dependence by age 25
  - Of ever dependent
  - 47% before age 21
  - 2/3 before age 25
- Chronic Relapsing Dependence
  - Longer episodes
  - Multiple episodes
  - Past year dependence
  - More symptoms
  - Early dependents less likely to seek help



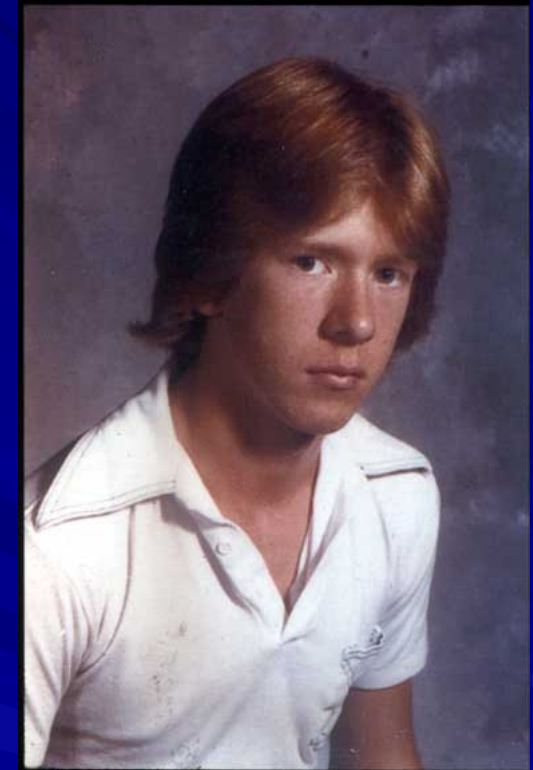
Brian Paul McKelvey

Hingson, Heeren and Winter 2006 *Archives Pediatric and Adol Med*

Hingson, Heeren and Winter 2006 *Pediatrics*

# Early onset of drinking is related to: (Observations in the Surgeon General's *Call to Action*, 2007)

- Other substance use problems in adolescence (Hawkins et al, 1997; Schweinsburg, 1996)
- Risky sexual behavior (Grunbaum)
- Car crashes after drinking
- Physical fights after drinking
- Unintentional injuries after drinking (Hingson et al., 2000, 2001)



Michael Timothy  
Wilder



# Early Age of Drinking Onset also Associated with:

- **Suicide**
  - Swahn et al., *Pediatrics*, 2008; Bossarte & Swahn, *Addict Behav*, 2011
- **Violent behavior, including predatory violence**
  - Blitstein et al., *Health Educ Behav*, 2005; Ellickson, et al., *Pediatrics*, 2003
- **Dating violence/victimization**
  - Ramisetty-Mikler et al., *J Sch Health*, 2006
- **Criminal behavior**
  - Eaton, J. *Interpers Violence*, 2007; Allan et al., *S. Afr Med J*, 2007.
- **Prescription drug ,misuse**
  - Hermos et al., *J. Addict Med.*, 2008
- **Unplanned and unprotected sex after drinking**
  - Hingson et al., *Pediatrics*, 2003
- **Adults injuring oneself and others after drinking**
  - Hingson & Zha, *Pediatrics*, 2009



# Why Are These Findings Important?

Injuries are the leading cause of death among youth 1-44

- Unintentional injuries #1 1-44
- Intentional injuries #2 8-34
- Alcohol is the leading contributor
- 49,000 injury deaths annually attributable to alcohol misuse

**Sources: Centers for Disease Control and Prevention, 2014; Smith et. al 1999**

# Interventions

- Individually oriented
- Family
- School
- Web-Based
- Environmental
- Comprehensive Community Interventions

## New Research Findings Since the 2007 *Surgeon General's Call to Action to Prevent and Reduce Underage Drinking: A Review*

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<sup>a</sup>*Division of Epidemiology and Prevention Research, National Institute on Alcohol Abuse and Alcoholism, Bethesda, Maryland*

**ABSTRACT. Objective:** In 2007, the U.S. Department of Health and Human Services issued *The Surgeon General's Call To Action To Prevent And Reduce Underage Drinking*, a publication documenting a problem linked to nearly 5,000 injury deaths annually and poor academic performance, potential cognitive deficits, risky sexual behavior, physical and sexual assaults, and other substance use. This report reviews subsequent underage drinking and related traffic fatality trends and research on determinants, consequences, and prevention interventions. **Method:** New research reports, meta-analyses, and systematic literature reviews were examined. **Results:** Since the *Call to Action*, reductions in underage frequency of drinking, heavy drinking occasions, and alcohol-related traffic deaths that began in the 1980s when the drinking age nationally became 21 have continued. Knowledge regarding determinants and consequences, particularly the effects of early-onset drinking, parental alcohol provision, and cognitive effects, has expanded. Additional studies

support associations between the legal drinking age of 21, zero tolerance laws, higher alcohol prices, and reduced drinking and related problems. New research suggests that use/lose laws, social host liability, internal possession laws, graduated licensing, and night driving restrictions reduce traffic deaths involving underage drinking drivers. Additional studies support the positive effects of individually oriented interventions, especially screening and brief motivational interventions, web and face-to-face social norms interventions, college web-based interventions, parental interventions, and multicomponent community interventions. **Conclusions:** Despite reductions in underage alcohol consumption and related traffic deaths, underage drinking remains an enduring problem. Continued research is warranted in minimally studied areas, such as prospective studies of alcohol and brain development, policy studies of use/lose laws, internal possession laws, social host liability, and parent-family interventions. (*J. Stud. Alcohol Drugs*, 75, 158-169, 2014)

# Effective School Programs

- Raising Healthy Children: The Seattle Social Development Project Hawkins 1992, 1999, 2005;Brown 2005
- Good Behavior Game; Kellam 2008,2014, Podeska 2008
- Classroom Centered Intervention; Lalongo 2011, Furholden 2001, Liu 2013
- Project Northland ; Perry 2001, Klepp 1995, Perry 2002
- Project Star- Midwestern Prevention Project; Pentz 1989,1993; Chou 1998, Riggs 2009
- Project Towards No Drug Abuse Sussman 2002, Mason 2004, Sussman, 2012
- Life Skills Training, Boturn 1995, 2001; Griffin 2007, Smith 2009, Spoth 2005,2006,2008
- Keeping it Real Hecht 2003, 2006; Kules 2007, Marsiglia 2012
- Pre-adventure Adventure, Conrad 2010, 2011, 2013; Mahu 2015
- Strengthening Families , Parents and Youth, Spoth 2001, 2004, 2005,2008 2009,2012, 2013.





# Effective School Programs

- Programs that rely primarily on increasing knowledge about consequences of drinking are not effective.
- School only program effects are generally small
- Most Effective Programs :
  - Address social pressures to drink and teach resistance skills
  - Include developmentally appropriate information
  - Include peer-led components
  - Provide teacher training
  - Are interactive
  - Include community and family components (e.g. Pentz, 1989; Perry et al., 1996, 2002; Spoth et al., 2001, 2004)

**Sources: NIAAA, Alcohol and Development in Youth: A Multidisciplinary Overview, 2005; Spoth et al., *Pediatrics*, 2008**



# State Underage Implementation Effort

Number of States	Implementation Effort
39	Interagency coordinating committee
25	Strategic plan to prevent underage drinking
37	Conduct compliance checks
16	Cops in shops
10	Shoulder taps
23	Party patrols





# State Laws to Prevent Underage Drinking and Related Problems

National Institute on Alcohol Abuse and Alcoholism

Alcohol Illegal for Persons <21 to:	No.	Exceptions
Possess	51	32
Furnish alcohol to minors	51	31 (family)
Use fake ID	51	41 (suspend driver's license)
Zero Tolerance	51	---
Graduated driver's license	51	Full license (17/20 states, 18/15 states)
Prohibit sales or service to minors	51	28 defined penalty guidelines
Alcohol tax constant over time	51	Beer: \$0.02-1.29/gallon Wine: \$0.20-2.50 Liquor: \$1.50-14.25
Attempt purchase	47	---
Dram shop liability	45	---
Responsible Beverage Service Training	39	13 mandatory
Consumption illegal	37	22
Prohibited retail interstate alcohol shipping	33	---

Source: SAMHSA, 2018 State Performance & Best Practices Report



# State Laws to Prevent Underage Drinking and Related Problems (cont.)

National Institute on Alcohol Abuse and Alcoholism

Alcohol Illegal for Persons <21 to:	No.	Exceptions
Compliance checks	36	15 no formal written protocol
Social host liability	34	---
Distance limits for alcohol outlets		---
Schools	31	
Colleges	12	
Keg registration	30	---
Minimum legal drinking age		---
Off-premise sellers	10	
On-premise bartenders	20	
Home delivery	8	---
Internal possession	9	---
Direct sales from producers	7	---
Use/lose	39	10 age 18; 1 age 19

Source: SAMHSA, 2018 State Performance & Best Practices Report

# Is Passing Laws Enough?

## STATUS

INSURANCE  
INSTITUTE  
FOR  
HIGHWAY  
SAFETY

## REPORT

VOL. 25, No. 3

March 25, 1991

### Underage Youths Easily Buy Beer and Their Traffic Deaths Go Up

Clerks in liquor stores and other markets in Washington, D.C., rarely seek identification from 18- and 20-year-old youths who try to purchase beer, a new study by the Insurance Institute for Highway Safety reveals.

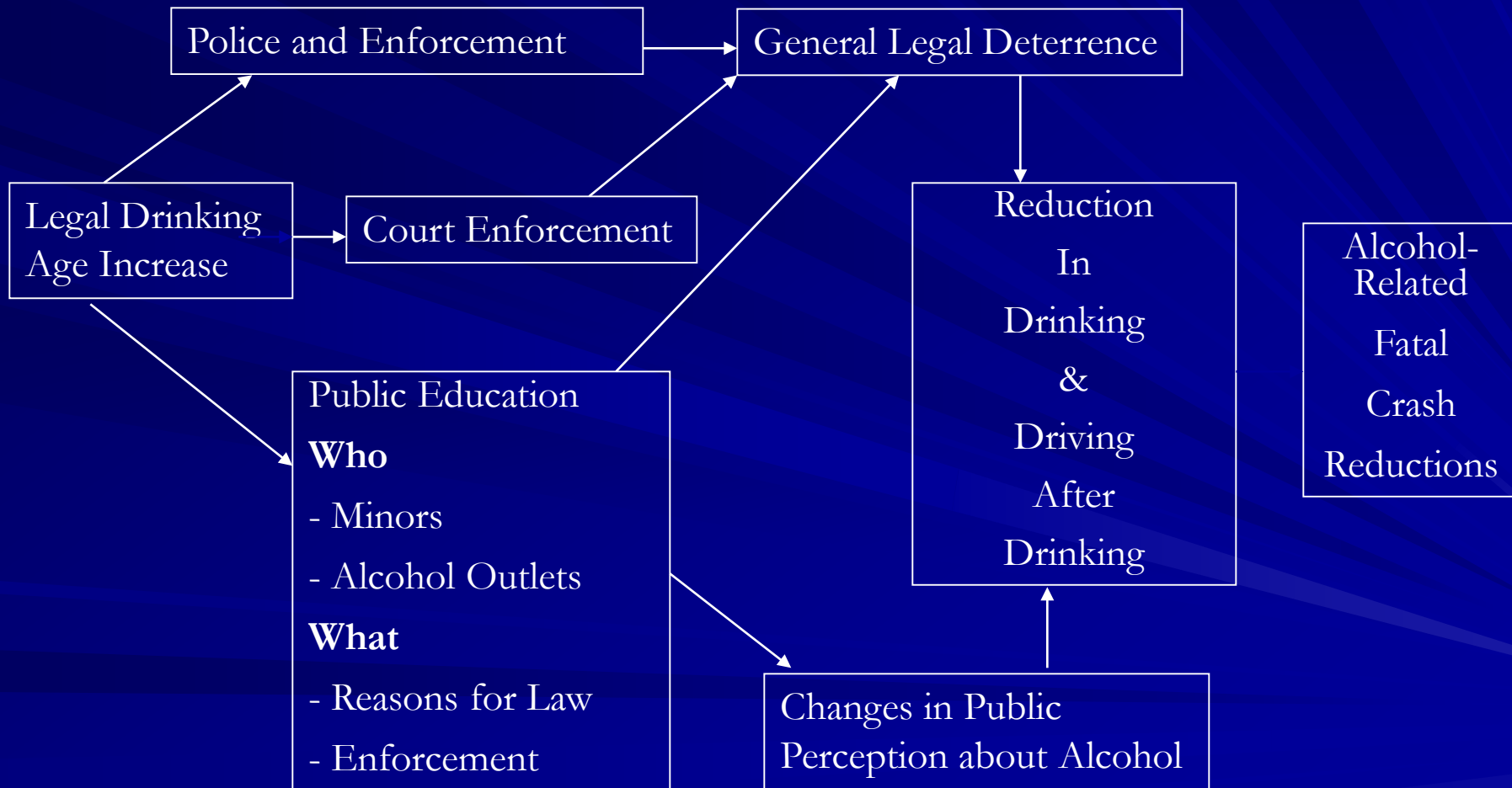
In 57 out of 100 attempts to buy a six-pack, young men 18 and 20 years of age were successful, although the legal alcohol purchase age is 21 throughout the nation.

"This is not an isolated problem," says Brian O'Neil, Institute president. "It's time to crack down and enforce the 21 drinking age laws." Alcohol-related fatalities among underage drivers are now at the five-year high following years of decline.



In previous attempts, two underage youths successfully purchase six packs in Washington, D.C.

# Potential Process of Change After a Drinking Age Increase





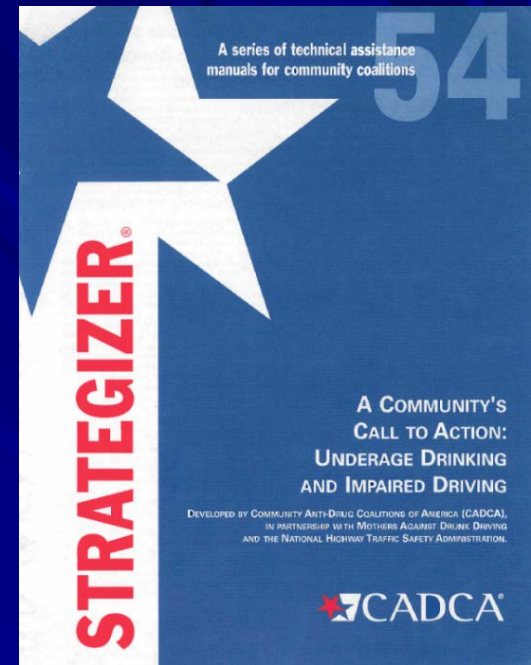
# Successful Comprehensive Community Interventions



- Saving Lives Program, Hingson (1996)
- Project Northland, Perry (1996)
- Communities Mobilizing for Change, Wagenaar (2002)
- Community Trials, Holder (2000)
- A Matter of Degree, Weitzman (2004)
- Fighting Back, Hingson (2005)
- Sacramento Neighborhood Prevention, Treno, (2007)
- State Coalitions to Reduce Underage Drinking, Wagenaar (2007)
- Neighborhoods Engaging with Students (NEST), Saltz (2009)
- College community program, McCartt et al. (2009)
- Communities That Care, Hawkins et al. (2009)
- Safer California Universities, Saltz et al. (2010)
- Study to Prevent Alcohol Related Consequences (SPARC), Wolfson et al. (2011)
- Cherokee Nation, Komro et al. (2017, 2018)
- California Native American, 2019 (Moore)



- Comprehensive community interventions address college age and underage drinking at multiple levels
  - Coordinate multiple city departments
  - Clear measurable Objectives and Strategic Plans
  - Combine Education and Law Enforcement
  - Include screening and early interventions
  - Use Data to Plan and Evaluate
  - Involve Private Citizens – Be Inclusive
  - Involve Youth



## Hawkins et al., *Communities That Care*, *Arch. Pediatric Adol. Med.*, 2009, 2011, and *JAMA Pediatrics*, 2013

### ■ **Methods:**

- 13 communities matched with 13 comparison communities for state, population size, racial/ethnic diversity, and economic indicators
- Surveyed student in 5<sup>th</sup> through 8<sup>th</sup> grade in 2004-2007 (N=4,407) (half in intervention and half compared)

### ■ **Intervention:**

- Coalition members were trained to use data from surveys in 1998, 2000, and 2002
  - To prioritize risk factors for preventive action
  - To use evidence-based programs targeting youth grades 5-9 (age 10-14).



# Hawkins et al. (cont.)

## Evidence-Based Programs:

School-Based Programs	Community Youth Programs	Family Programs
<ul style="list-style-type: none"><li>-All Stars</li><li>-Life Skills Training</li><li>-Lion's Quest Skills</li><li>-Project Alert</li><li>-Olweus Bullying Prevention Program</li></ul>	<ul style="list-style-type: none"><li>-Participate and Learn Skills</li><li>-Stay Smart</li><li>-Big Brothers/Sisters</li><li>-Academic Tutoring</li></ul>	<ul style="list-style-type: none"><li>-Strengthening Families</li><li>-Parents Who Care</li><li>-Family Matters</li><li>-Parenting Wisely</li></ul>



# Hawkins et al. (cont.)

## ■ Results:

- Intervention students 60% less likely to initiate alcohol use by grade 8
- Intervention less likely to start smoking
- Intervention students 41% less likely to initiate delinquent behavior
- By grade 8 in intervention, communities lower:
  - Alcohol use
  - Smokeless tobacco use
  - Binge drinking
  - Delinquent behavior
- By grade 10, differences persist
  - Alcohol use: 67% vs. 75%
  - Cigarette use: 44% vs. 52%
  - Marijuana use: 33% vs. 37%
  - Delinquent behavior: 62% vs. 70%



# Hawkins et al. (cont.)

- Results (cont.)
  - By grade 12, intervention more likely to:
    - Abstain from alcohol: 32% vs. 23%
    - Abstain from drugs: 25% vs. 18%
    - Abstain from cigarettes: 53% vs. 48%

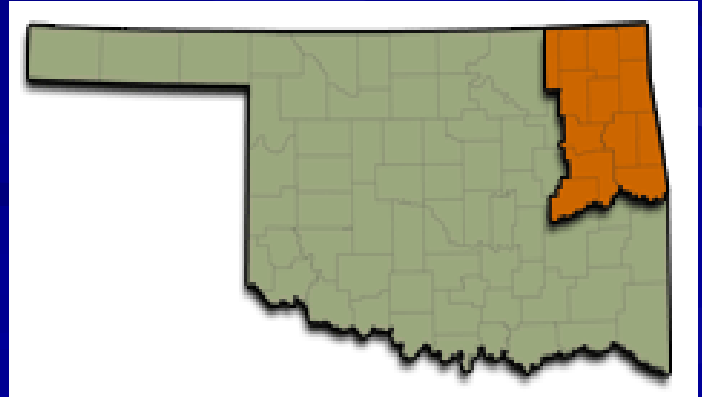
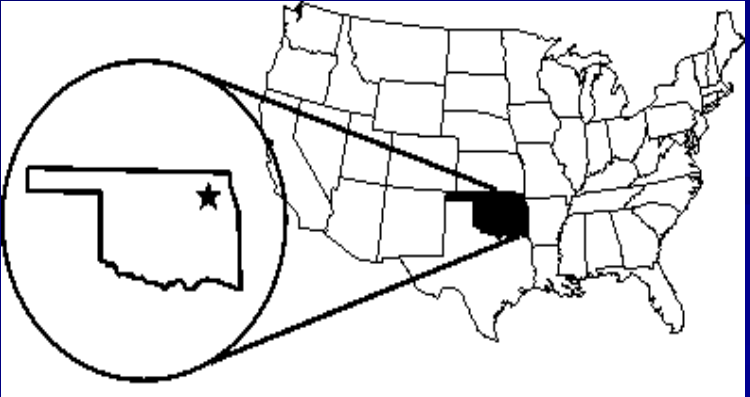


# Project Summary:

## Komro et al., Cherokee Nation: Alcohol Youth Prevention, *Am J Pub Health*, 2017,2018

National Institute on Alcohol Abuse and Alcoholism

- Partnership between Cherokee Nation Behavioral Health and prevention scientists
- Trial takes place in rural communities in NE Oklahoma within boundaries of Cherokee Nation
- Implement and evaluate two evidence-based interventions
- Prevent and reduce alcohol use and related problems among high school students



# Universal SBI Intervention



- Goals
  - In-school support
  - Increase motivation to not use or reduce use
  - Shift alcohol cognitions and norms
  - Ultimately, reduce youth alcohol consumption and related problems
- Strategies
  - SBI sessions each semester
  - School-based SBI with NIAAA guidelines and MI
  - CONNECT media campaign



# Community Organizing Intervention

## ■ Goals

- Reduce alcohol sales to youth
- Reduce social sources of alcohol
- Reduce community tolerance of underage drinking and adult provision of alcohol to youth
- Ultimately, reduce youth alcohol consumption and related problems

## ■ Strategies

- Community organizing
- Evidence-based strategies
  - Commercial sources
  - Social sources
  - Enforcement



# Implementation

What did we do?

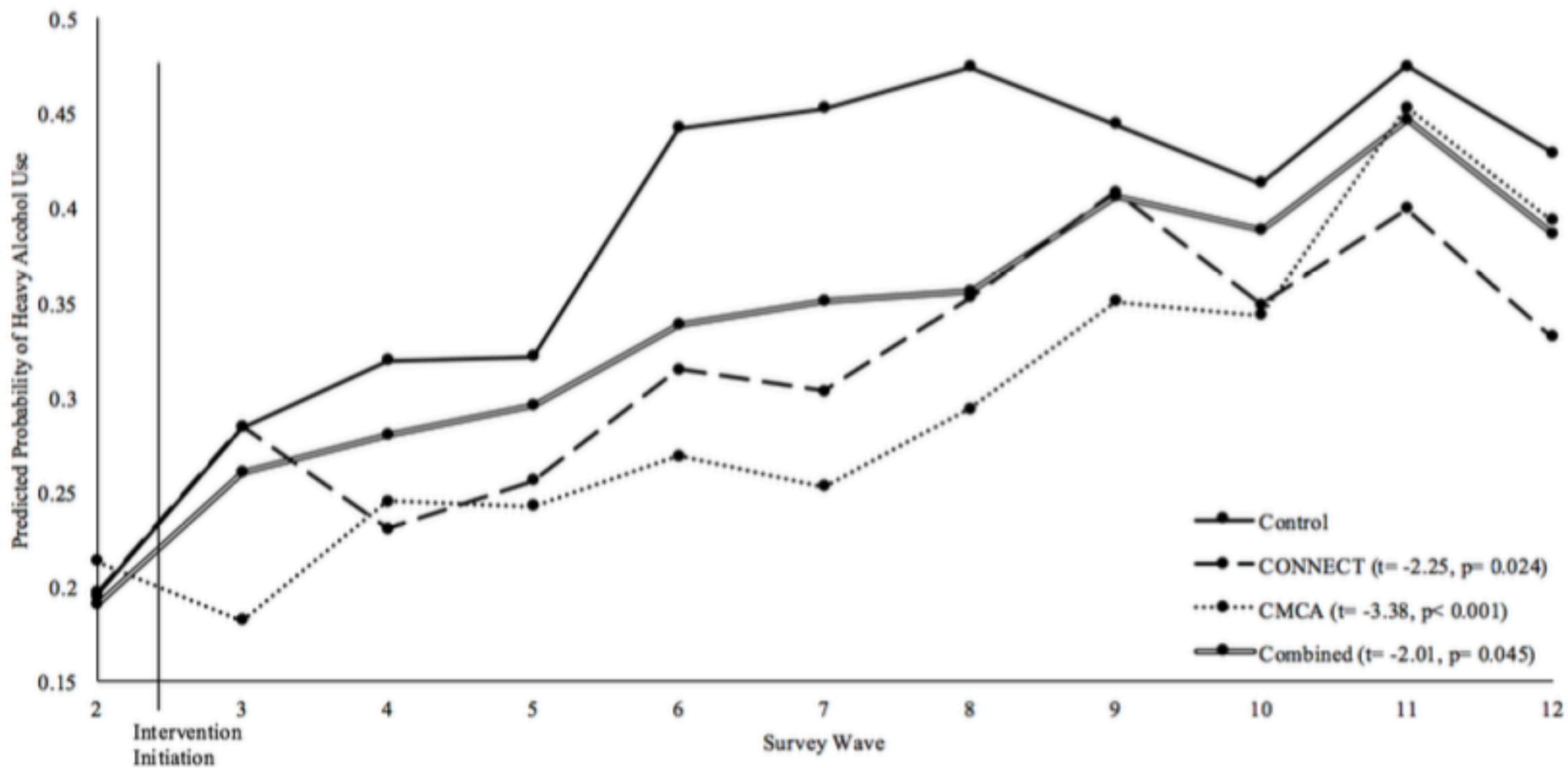
- Media strategies
  - Letters to the editor, Op-eds, social media
- Law enforcement strategies
  - Reporting parties, asking follow-up questions
  - Increased hot-spot policing
  - Compliance checks
- Ordinances & Policies
  - Social Host enforcement, compliance checks, county-wide response plan
- Vendor training
  - RBS, How to spot a fake ID





FIGURE 2—Past Month Heavy Episodic Alcohol Use by Study Condition: Northeastern

Oklahoma, 2012–2015



Note. Survey wave 1 was used in the imputation models and in estimating inverse probability weights and therefore is not displayed here.

# Other Substance Use Outcomes

	CMCA	Connect	Combined
Chewing tobacco	-35%		Significant but not synergistic reductions
Marijuana use	-39%	-26%	
Prescription drug misuse	-48%	-31%	





# Tanner-Smith & Lipsey, Brief alcohol interventions for adolescents and young adults: A systematic review and meta-analysis, J Subst Abuse Treat, 2014

- **Methods:**
  - A comprehensive literature search yielded 185 experimental studies of brief alcohol interventions (universal, selective, or indicated) aimed at reducing alcohol use or alcohol-related problems among adolescents, ages 11-18. and young adults, ages 19-30
- **Results:**
  - Overall, brief alcohol interventions significantly reduced:
    - Alcohol consumption
    - Alcohol-related problems
  - Effects persist up to one year
  - Effects:
    - Did not differ by:
      - Intervention length
      - Intervention format
  - Benefits greater with risky adolescent drinkers



# Scott-Sheldon et al. Efficacy of Alcohol Interventions for First-Year College Students, *J Clin Consult Psych*, 2014

## Methods

- Reviewed 41 studies with 62 individual or group interventions

## Results: Compared to control subjects

- Recipients of interventions reduced alcohol consumption and related problems up to 4 years past intervention
- Individual and group interventions yielded comparable results on most outcomes
- Individual reduced heavy drinking more than group interventions
- Computer and face-to-face were equally effective
- Effective interventions components:
  - Personalized feedback
  - Protective strategies to moderate drinking
  - Setting alcohol-related goals
  - Challenging alcohol expectancies
- Interventions with 4 or more components were most effective
- Recommend routine screening of all incoming college students

# DiClemente et al., Motivational Interviewing, Enhancement, and Brief Interventions Over the Last Decade, Psychol Addict Behav, 2017

- Twenty literature reviews covering thousands of individuals: “provide significant and strong support for the effectiveness of both clinical and brief motivational interventions in reducing drinking with alcohol misusing:
  - Adults
  - College students
  - Adolescent students
- Brief motivational interventions for marijuana seems to have substantial support for effectiveness in reducing use (7 reviews and 2 of brief interventions).
- The evidence is insufficient to make solid conclusions about efficacy of motivational interventions with opiate and methamphetamine use.

# Young Adults at Risk for Excess Alcohol Consumption are Often Not Asked or Counseled About Drinking

- 2/3 of 18-39 year olds nationwide saw a physician in the past year
- Only 14% of them (12% 18-20 year olds):
  - Were asked about their alcohol consumption and
  - Given advice about what drinking patterns pose risk to health
- Persons 18-25:
  - Were most likely to exceed low-risk drinking guidelines (68% vs. 56%)
  - Were least likely to have been asked about their drinking (34% vs. 54%), especially those under age 21 (26%)



Helen Marie Witty

Source: Hingson et al.,  
*J Gen Intern Med*, 2012



# Next Generation Health Study, Wave 1, National Survey (N=2,519 10<sup>th</sup> graders average age 16)

- 82% saw a doctor in the past year
- At their last MD visit:

All Respondents	Drinking alcohol	Smoking	Other Drug use
Doctor asked about	54%	57%	55%
Advised about related health risks	40	42	40
Advised to reduce or stop	17	17	17
Frequent Substance Users	Drunk	Smoking	Other Drug use
Doctor asked about	60%	58%	56%
Advised about related health risks	52	46	54
Advised to reduce or stop	24	36	42

- Drunk, smoking 6+ times past month: 7%, 9%
- Drugs 6+ times past year: 5%

Source: Hingson et al., *Pediatrics*, 2013

# Conclusions

- Research indicates reductions in underage and college age drinking and related problems can be achieved with interventions that focus on
  - Individuals
  - Families
  - Schools
  - Environmental Changes/Legislation
  - Community
- Interventions targeting multiple levels are more effective