

NIAAA Funding Opportunities for Inter-Professional Researchers

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Screening and Brief Intervention (SBI) for Alcohol Problems Has Been Extensively Studied in Adults

- According to the U.S. Preventive Services Task Force (2014):
 - There is strong evidence for SBI for alcohol in adult primary care
 - There is insufficient evidence for SBI for alcohol among adolescents
 - There is insufficient evidence for SBI for drugs:
 - Adults
 - Adolescents



Need for Screening and Brief Intervention for Alcohol

- 89,000 alcohol-attributable deaths annually
- 3rd leading cause of death
- Majority are injury and overdose deaths, which affect younger people and account for twice the number of preventable years of life lost

Source: CDC, ARDI, 2015

- Alcohol misuse costs the U.S. \$224 billion annually (\$750/person)

Source: Bouchery, *Am J Prev Med*, 2011



Need for Research on Screening and Brief Interventions for Drugs

- Use of drugs other than alcohol is a leading cause of fatal injury in the U.S., accounting for more than 40,000 deaths annually
- Over the past two decades, increases in the rate of drug-attributable deaths have been fueled by overdoses of illicitly-used prescription drugs (such as opioids and sedatives, sometimes in combination with alcohol)
- In 2011, 1,280,134 hospitalizations were related to drug overdoses (1,021,134 drug only and 258,571 drugs combined with alcohol)
- Marijuana use has increased in the past decade, perhaps accelerated by legalization of medical marijuana and recreational marijuana use
- National Roadside Surveys indicate driving after drug use is increasing and more now drive after drugs than drive after drinking
- Fatal crash risks of drivers who simultaneously used drugs and alcohol exceed the fatal crash risk of driving after either alone (Asbridge, BMJ, 2012; Elvik, Accid Anal Prev, 2013)

Gjerde et al. Driving under the influence of non-alcohol drugs, *Forensic Sci Rev*, 2015

- Drugs that increase traffic crash risk:
 - Benzodiazepines and z-Hypnotics: 25/28 studies
 - Cannabis: 23/36 studies
 - Opioids: 17/25 studies
 - Amphetamines: 8/10 studies
 - Multiple drugs: 12/12 studies
- Conclusions:
 1. After alcohol, amphetamines are the single substance with the highest traffic crash risk
 2. The combined use of 2 or more drugs is greater than the risk of any single drug
 3. The combined use of alcohol and psychoactive drugs is associated with the highest road traffic safety risk



Tanner-Smith et al. Brief Interventions for Adolescents and Young Adults, J Subst Abuse Treat, 2014

- **Methods:**
 - Meta-analysis of 185 studies of alcohol screening and brief intervention administered to:
 - Adolescents ages 11-18
 - Young adults ages 19-30
- **Results:** Brief alcohol interventions yielded significant reductions in alcohol consumption and related problems in:
 - Adolescents
 - 1.3 fewer drinking days per month
 - 8 percentile fewer problems
 - Young adults
 - 0.8 fewer drinking days
 - 4 percentile fewer problems
 - Effects persisted up to 1 year post intervention

Tanner-Smith et al. (cont)

- **Results (cont.):**
 - Effects did not vary across:
 - Participant demographics
 - Intervention length
 - Intervention format: computer or not, one-on-one, group
 - Motivational interviewing decisional balance and goal setting yielded the largest effects
 - No effect of 21st birthday cards
 - Effects were positive in school, university, and primary care but not emergency departments
- **Conclusions:**
 - Findings from this study provide “compelling evidence that brief interventions yield beneficial effects on alcohol consumption and alcohol-related problems in non-treatment seeking populations of adolescents and young adults.”



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 all incoming college students



Samson et al., Single-Session Alcohol-Intervention for Heavy-Drinking College Students, *J Stud Alcohol Drugs*, 2015

- Methods
 - Comprehensive literature search of 73 studies comparing effects of a single-session brief alcohol intervention with treatment as causal or not intervention
- Results
 - On average, single-session brief alcohol interventions moderately reduced alcohol use among heavy-drinking college students relative to comparison conditions
 - Minimal variability in effects and:
 - Study method and quality
 - Participant demographics
 - Outcome measure type
 - Motivational enhancement therapy
 - Motivational interviewing reported larger effects than cognitive behavioral therapy or psycho-educational therapy

Steinka-Fry et al., Effects of Brief Alcohol Interventions on Drinking and Driving among Youth: Meta-Analysis, *J Addict Prev*, 2015

■ Method

- The authors reviewed:
 - 17 experimental studies, 75% conducted in the U.S. (N=5,664; average age 17)
 - Motivational interviewing/motivational enhancement was studied in 44% and cognitive behaviors and motivational enhancement in 25%
 - Nearly half (44%) were delivered individually and 1/3 in groups

■ Results

- Compared with controls, intervention recipients exhibited:
 - Reduced driving while intoxicated
 - Reduce heavy episodic drinking

Frequency of 5+/4+ Drinks as a Screener for Drug Use and Drug-Use Disorders*

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ABSTRACT. Objective: The objective of this study was to test the ability of a question on frequency of drinking 5+ (for men) or 4+ (for women) drinks to screen for drug use and drug-use disorders (DUDs) in a general population sample. **Method:** Using data collected in 2001-2002 from a representative U.S. adult population sample ($N = 43,093$), including a subsample of those with past-year emergency-department use ($n = 8,525$), past-year frequency of drinking 5+/4+ drinks was evaluated as a screener for drug use and DUDs for four categories of illicit drugs. **Results:** Sensitivities and specificities of the 5+/4+ drinks screener were 72.4% and 76.6% for any drug dependence, 71.9% and 77.3% for any DUD, and 63.3% and 78.9% for any drug use in the general population. Sensitivities and specificities were higher for marijuana and cocaine/crack and lowest for illicit prescription drugs. Optimal screening cut-points were once a month or more for cocaine/crack dependence, either

once or more a month or seven or more times a year for cocaine/crack DUDs, seven or more times a year for cocaine/crack use, and once or more a year for the other drug use and DUD measures. Sensitivity and specificity were similar among adults who had visited an emergency department in the past year, and the optimal screening cutpoints were identical. **Conclusions:** Past-year frequency of drinking 5+/4+ drinks was quite accurate as a screener for past-year marijuana and cocaine/crack use and DUDs, but it was less accurate for illicit prescription drug use and DUDs. Its drug-screening potential can be thought of as "added value" from an item already likely to be asked in the interest of detecting problem drinking. Future work may consider using the alcohol consumption screener as a starting point, with follow-up questions to assess illicit drug use among those who screen positive. (*J. Stud. Alcohol Drugs*, 71, 751-760, 2010)



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Brief motivational intervention at a clinic visit reduces cocaine and heroin use

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Three Recent Randomized Trials published in JAMA (2014) did not find significant benefits of SBI for Drugs

- Saitz et al (adult primary care)
- Roy-Byrne et al (adult primary care)
- Bogenschutz et al (adult emergency department patients)
- The three studies focused on low-income, inner city, middle-age, and older adults with rates of high unemployment, single/divorced, co-morbid mental illness

Wilson Compton at NIDA and I, in an editorial about the two adult primary care studies, indicated:

- “The goal for clinical research is to develop and test new interventions with potential for benefiting patients.... Research should focus on reducing simultaneous use of alcohol and drugs and combinations of drug use.”

Tanner-Smith et al., Can Brief Alcohol Interventions for Youth also Address Concurrent Illicit Drug use? Results from a Meta-Analysis, *J Youth Adol*, 2015

- **Methods:**
 - A comprehensive literature review identified 30 eligible samples, average subject age 17
 - 7 brief interventions for alcohol only
 - 23 targeted both alcohol and drugs
 - Most were U.S. randomized trials with low attrition and 6-month follow-up
 - Most used motivational interview (motivational enhancement therapy), lasting 50-60 minutes

Tanner-Smith et al. (cont.)

■ Results

- Alcohol only interventions produced
 - Reductions in drinking
 - Little variability across studies
 - No effects on drug use
- Drug and alcohol interventions produced
 - Reductions in use of marijuana, other hard drugs, and alcohol
- Alcohol reductions were comparable in both alcohol only interventions and in alcohol and drug interventions
 - The greatest reductions were for drugs other than marijuana

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

According to CDC (2014):

- The National Commission of Prevention Priorities lists screening and brief intervention for alcohol as one of the five most effective clinical services (also blood pressure control, low cholesterol, breast cancer screening and annual influenza vaccination)
- The Affordable Care Act of 2010 allows for health insurance coverage for alcohol screening and brief interventions



However, According to the CDC Risk Factor Surveillance System in 2011 (N= 166,753; age 18+)

- Only 17% (one in six) of U.S. adults reported discussing alcohol use with a physician in the last year
- 25% of binge drinkers reported discussing alcohol with a physician in the past year

Source: CDC, Morbidity and Mortality Week (2014)

Next Generation Health Study, Wave 1, National Survey (N=2,519 10th 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



Future Research Needs

- More research on effectiveness of screening and brief interventions for drugs and alcohol in multiple settings and populations
 - Adolescents, adults
 - Primary care
 - Emergency departments/trauma centers
 - Prenatal care
 - Mental health clinics
 - Schools
 - College/Military
 - HIV screening
 - Criminal justice settings
 - Disparities/Minorities
- Need to also look at consequences of alcohol and drug use, particularly simultaneous use combined with alcohol and drugged driving
- More research on how to expand use of screening and brief intervention of alcohol and drugs in adult and pediatric primary care