

Bridging the Gap: Drug and Alcohol Screening in the Adolescent Trauma Patient

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Background

- Substance misuse is a significant co-factor in traumatic injury and one of the most prevalent causes of mortality in adolescents.
- The American College of Surgeons' Committee on Trauma (ACS-COT) requires that accredited Level I and Level II trauma centers have a mechanism for Screening, Brief Interventions and Referral to Treatment (SBIRT) for alcohol and substance use.
- Implementation of SBIRT programs vary across trauma and acute care programs and optimal screening methods remain unknown.
- The U.S. Substance Abuse and Mental Health Services Administration estimates that less than 10% of teens in need of specialty substance use treatment receive it.

Objectives

- A literature review was completed to explore current practice in regards to drug and alcohol screening in adolescent trauma patients.
- Identify an evidence based developmentally appropriate universal screening protocol which includes biochemical screening in conjunction with a self-report tool for trauma patients at a minimum of 12 years of age.

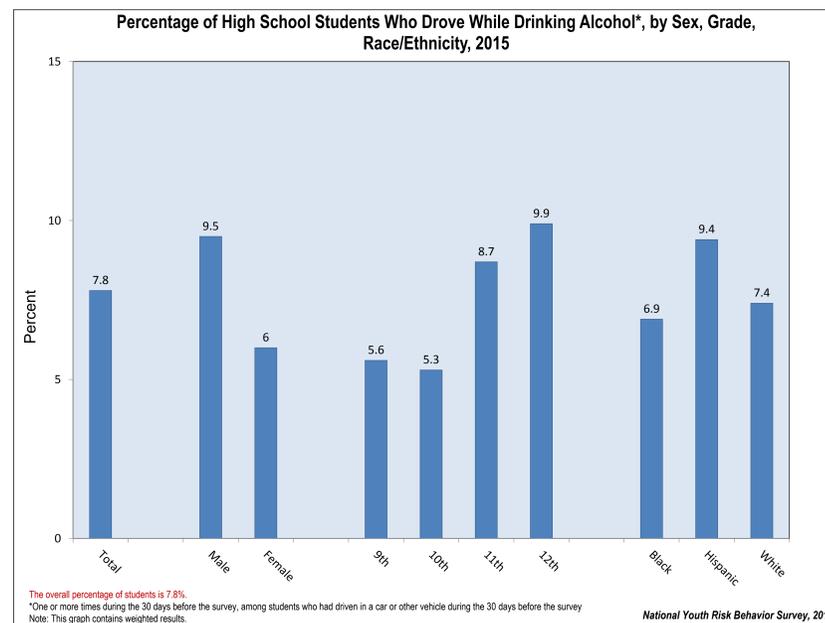
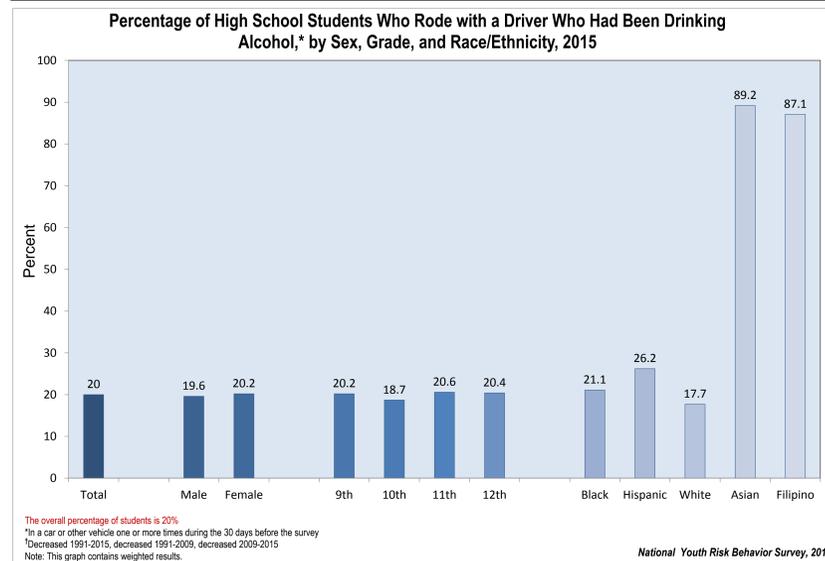
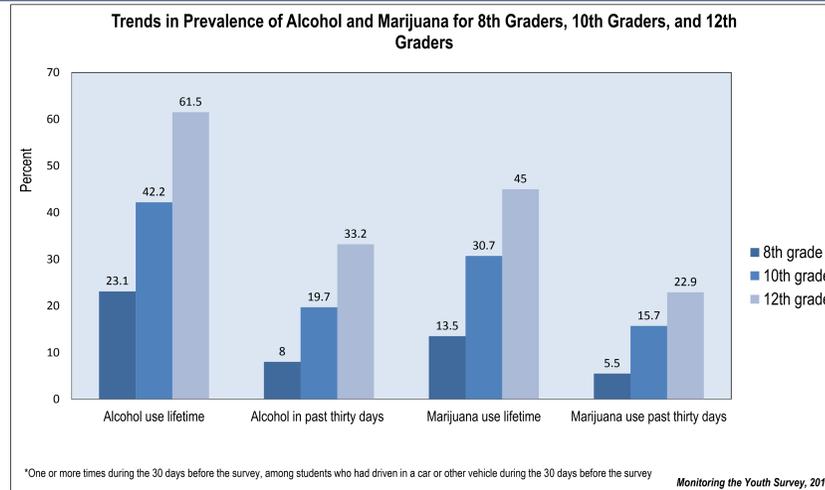
Project Design

Using an evidence-based approach, a clinical question was generated, and a systematic review of the literature was completed to explore:

- What is the prevalence of substance use in the adolescent population? Is alcohol and substance use screening indicated for the adolescent trauma patient?
- If so, what is the optimal screening method for alcohol and substance use for adolescent trauma patients?

Systematic Literature Review

- Limited data exists regarding the prevalence of drug and alcohol use in adolescent trauma patients. In 2010, there were approximately 189,000 ED visits by people younger than age 21 for injuries and other conditions linked to alcohol. In 2014, more than 1.6 million people between the ages of 12 and 20 reported driving under the influence of alcohol in the past year.
- Attempts to characterize the adolescent trauma population and define variables to hone screening revealed that patient age is a consistent predictor of a positive screen, with the rate of positive screening increasing exponentially as adolescents approach adulthood.
- Variables such as gender, race, revised trauma score, injury severity score, mechanism of injury, presence of violent mechanism, and mental status at presentation had no correlation between a positive and negative screen.
- Randomized controlled trials in adults examined the effectiveness of SBIRT for alcohol related injuries in the ED, generating positive effects for reducing alcohol related consequences but not consistently reducing consumption.
- A simulated cost-benefit analysis evaluating SBIRT in injured adults admitted to trauma centers concluded that if interventions were routinely offered to eligible injured adult patients nationwide, the potential net savings could approach \$1.82 billion annually.
- Several screening tools have been investigated, including both biochemical testing and questionnaires, but it remains unclear which modality most effectively identifies at-risk adolescent trauma patients.



Validated Tools for Use in Adolescence	Indications
S2B1	<ul style="list-style-type: none"> Screens for frequency Screens for tobacco, alcohol, marijuana, and other illicit drugs Discriminates between no use, no substance use disorder (SUD), moderate SUD, and severe SUD, based on DSM-5 diagnoses
NIAA Youth Alcohol Screen	<ul style="list-style-type: none"> Recommended for children starting at age nine. Two question screen Screens for friends' use and own use
BSTAD	<ul style="list-style-type: none"> Brief Screener for tobacco, alcohol, and other drugs Identifies problematic tobacco, alcohol, and marijuana use in pediatric settings. Can be self or interview administered
CRAFFT	<ul style="list-style-type: none"> Car, Relax, Alone, Friends/Family, Forget, Trouble The CRAFFT is a good tool for quickly identifying problems associated with substance use.
GAINNS	<ul style="list-style-type: none"> Global Appraisal of Individual Needs Assesses for both substance use disorders and mental health disorders Alcohol Use Disorders Identification Test Assesses risky drinking
AUDIT	<ul style="list-style-type: none"> Alcohol Use Disorders Identification Test Assesses risky drinking Not a diagnostic tool

Summary and Practice Implications

- Evidence supports implementation of an evidence based developmentally appropriate universal screening protocol to include biochemical screening in conjunction with a confidential self-report tool beginning at a minimum of 12 years of age in order to increase screening efficacy and maximize the number of at-risk adolescents targeted for interventions.
- Use of a validated screening tool is critical to accurately determine each individual's experience on the continuum of substance use in order to personalize a brief intervention to prevent or reduce substance use in this high risk population
- To mitigate time and training constraints, specialized staff and/or use of technology can facilitate early identification of at-risk adolescents and delivery of interventions in the emergency department (ED).
- Brief intervention is intended to reduce substance use and associated risky behaviors, and in some cases, to encourage an adolescent to accept a referral to treatment.
- Research into adolescent trauma screening is needed to identify best practices for screening and referral and to understand the outcomes of these interventions.

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Introduction

- The American College of Surgeons' Committee on Trauma (ACS-COT) requires accredited Level I and II trauma centers to have a mechanism for Screening, Brief Intervention and Referral to Treatment (SBIRT) for alcohol and substance use. Emphasizing early detection and intervention, universal screening is recommended for trauma patients age 12 and older.
- **Substance misuse is a significant co-factor in traumatic injury and one of the most prevalent causes of mortality in adolescents**
- Implementation of SBIRT programs among adolescent trauma patients varies nationally and optimal screening methods remain unknown.
- Implementation of an evidence based developmentally appropriate universal screening protocol should include biochemical screening in conjunction with a self-report tool beginning at age 12 to increase screening efficacy and maximize the number of at-risk adolescents targeted for interventions.

Objectives

- **Emergency departments and trauma centers are well positioned to screen for high-risk behaviors such as alcohol and substance use, as studies on screening and early interventions in the adolescent trauma population have demonstrated reduction in recurrent injury and readmission rates.**
- By identifying patients at risk for substance use disorders, early interventions can be provided.
- Despite the development of multiple tools, no screen identifies all at-risk adolescents. Evidence supports implementation of an evidence based, developmentally appropriate universal screening protocol consisting of biochemical screening in conjunction with self-report.

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