

Successful Implementation of an Alcohol Screening, Brief Intervention, and Referral to Treatment Program

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ABSTRACT

Devastating effects of alcohol are well established in trauma. To address this, the American College of Surgeons Committee on Trauma (ACS-COT) requires ACS-verified Level 1 trauma centers to have an active screening, brief intervention, and referral to treatment (SBIRT) program. In 2015, NewYork-Presbyterian/Queens successfully implemented an SBIRT program. Previous studies indicate difficulty in achieving a high level of SBIRT compliance. We explored the effects of a multidisciplinary approach in implementing a standardized screening protocol for every trauma-activated patient 15 years or older. A multidisciplinary team developed a standardized approach to identifying trauma patients for our SBIRT program. Social workers were trained in performing brief interventions and referral to treatment at a New York State-level training course prior to starting our SBIRT program. Blood alcohol levels were obtained in every trauma activation. Trauma patients who had a blood alcohol level greater than 0.02% were

identified and tracked by the trauma service. These patients were referred to social workers, underwent brief intervention, and evaluated for referral to treatment if determined to be a high-risk alcohol user. Over the 8-month implementation period, we evaluated 693 trauma patients. A blood alcohol level was obtained on most trauma patients ($n = 601$, 86.6%). Patients with a blood alcohol level greater than 0.02% were referred to a social worker ($n = 157$, 22.6%). Social workers performed a brief intervention and evaluation for referral/treatment services for 129 of the trauma patients with elevated blood alcohol levels. Overall, 82% of intoxicated trauma patients underwent brief intervention, which identified 22 patients who were referred for treatment programs. An inclusive multidisciplinary approach to the implementation of an SBIRT program achieves a high level of compliance.

Key Words

Alcohol, Population health, SBIRT, Screening and brief intervention, Trauma

Alcohol ranks the second most costly among illicit substance abuse in the United States, approaching \$224 billion in medical expenses annually (National Institute on Drug Abuse, 2017). The impact of alcohol in vehicular injuries is tracked by the Department of Transportation, with a death toll reportedly exceeding 100,000 in the last decade (Centers for Disease Control and Prevention [CDC], 2016). In 2016, the Acad-

emies of Sciences Engineering and Medicine published *Zero Preventable Deaths After Injury*, a set of health care policies supported by the American College of Surgeons Committee on Trauma (ACS-COT) in the improvement of trauma systems nationwide. It comments on the importance of holistic and interdisciplinary teams, focusing on issues such as alcohol and its involvement in the injured patient (Cunningham et al., 2010; Stewart, Jenkins, Winchell, & Rotondo, 2016). With the goal of optimal care for the injured patient, ACS-COT accreditation requires Level 1 trauma centers have an active screening, brief intervention, and referral to treatment (SBIRT) program in place (American College of Surgeons Committee on Trauma, n.d.). To comply with the ACS-COT guidelines, and the high-yield potential for reduction of disease burden in our community, our trauma program planned to implement an SBIRT program in 2015.

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The NewYork-Presbyterian/Queens Institutional Review Board granted approval to conduct this study.

The authors declare no conflicts of interest.

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METHODS

The SBIRT implementation project began by assembling a multidisciplinary team. The trauma team met with social

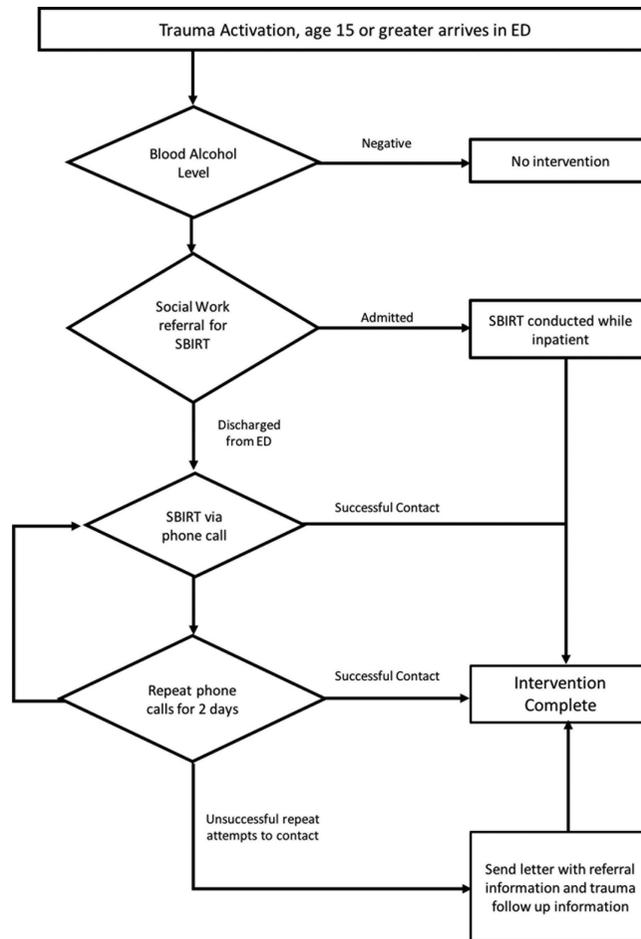


Figure 1. SBIRT algorithm. SBIRT = alcohol screening, brief intervention, and referral to treatment.

workers to develop a collaborative approach to screen patients for SBIRT. The trauma team consisted of general surgery and emergency medicine attending physicians, nurses, physician assistants, and residents. Stakeholders from each department and discipline provided input in the development of the screening and SBIRT referral process illustrated in Figure 1.

Hospital social workers attended a New York State Department of Health SBIRT training session (New York City Department of Health and Mental Hygiene, n.d.). The 4-hr training course outlined topics and tips for social workers and their approach to SBIRT and illicit drug use. Blood alcohol levels were used as a primary screening tool in our trauma population. Those patients with a blood alcohol level of greater than 0.2% are considered a positive screen. All patients who screen positive are referred to a social worker for brief intervention and evaluation for treatment services. The Audit-C (Figure 2) questionnaires along with patient interview are employed by our social workers to assess whether a patient is a high-risk alcohol user who would benefit from outpatient alcohol abuse

treatment services (Substance Abuse and Mental Health Service Administration, n.d.). Patients who had less than 0.2% blood alcohol on admission were considered a negative screen and were not referred to a social worker for brief intervention or referral services.

All key staff were briefed at an initial in-service on the purpose of SBIRT, and the roles of each department were explained. Lists of patients to interview or refer to treatment were disseminated daily via e-mail. Communication between trauma coordinators and social workers was ensured to identify missed intervention opportunities, with program status briefed at monthly program improvement meetings. Records were kept electronically via spreadsheets and electronic medical record-generated patient lists and were stored as hard copies in a project binder and available to all team members.

Patients discussed in this article were admitted and treated for their identified injuries. Institutional review board approval was obtained to study our SBIRT implementation process. For the purpose of the study, a single blood alcohol-level specimen was obtained, which is now

1. How often do you have a drink containing alcohol?

- a. Never
- b. Monthly or less
- c. 2-4 times a month
- d. 2-3 times a week
- e. 4 or more times a week

2. How many standard drinks containing alcohol do you have on a typical day?

- a. 1 or 2
- b. 3 or 4
- c. 5 or 6
- d. 7 to 9
- e. 10 or more

3. How often do you have six or more drinks on one occasion?

- a. Never
- b. Less than monthly
- c. Monthly
- d. Weekly
- e. Daily or almost daily

Figure 2. Audit-C questionnaire.

standard for all trauma patients during initial workup. Patients involved in the startup of our SBIRT program were exposed to no additional risk.

RESULTS

During the review period of June 1, 2015, to February 28, 2016, the trauma service evaluated 693 trauma patients. Most trauma patients underwent testing for blood alcohol level (ETOH) ($n = 601$, 86.6%). Patients who had a blood alcohol level greater than 0.02% were referred to a social worker ($n = 157$, 22.7%). Social workers performed a brief intervention ($n = 107$) if they were a low-risk alcohol user or were referred to treatment programs ($n = 22$) in addition to brief intervention if they were determined to be a high-risk alcohol user. Some patients were discharged from the emergency department (ED) prior to social workers having had the opportunity to conduct an SBIRT evaluation. A number of these patients did not have correct contact information for follow-up screening ($n = 28$). Through daily communication and monthly program reviews, we improved our screening rate from only 30% in the first month of our program to 100% by the fourth month where it remained until the conclusion of our study. The number of patients successfully screened, evaluated by social workers, and referred for treatment is outlined in Figure 3.

DISCUSSION

The impact of alcohol in trauma and urgent care is well established. Between 2003 and 2012, 119,100 drunken driving deaths were reported and an estimated 85,000 deaths annually involve alcohol consumption making

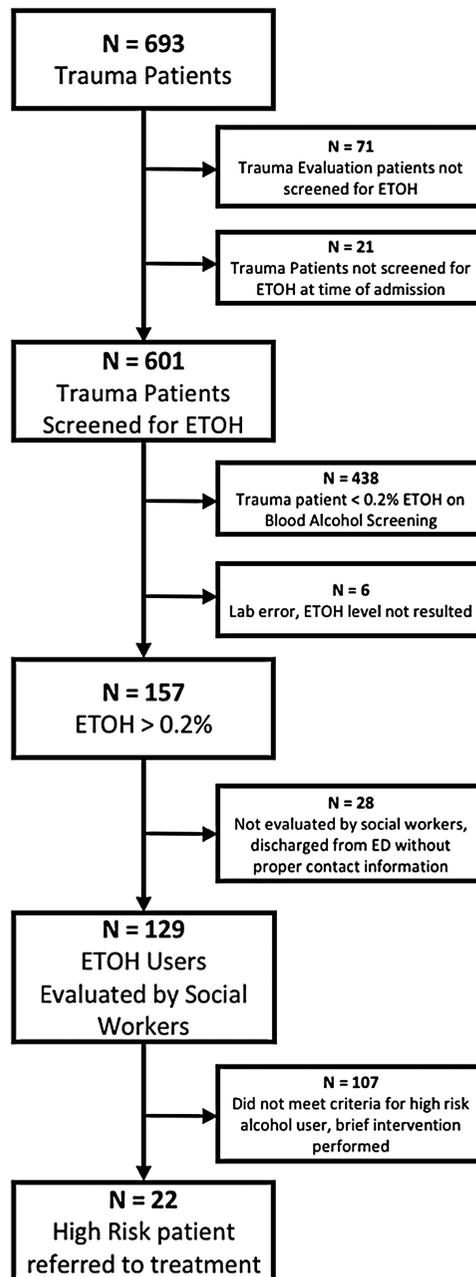


Figure 3. Screening and referral results.

it the fourth leading preventable cause of death in the United States (CDC, 2016; Mokdad, Marks, Stroup, & Gerberding, 2005). Despite this, there has been suboptimal adoption of alcohol screening and treatment programs in hospitals. Respondents to national survey conducted by Cunningham et. all indicate only 15% have formal screening and intervention policies in their emergency departments, and among injured persons exhibiting alcohol misuse few (12%) receive brief interventions conducted by trained personnel (Cunningham et al., 2010). A similar survey conducted among all Level 1 trauma centers found

only 25% of alcohol-related trauma patients received a formal or informal counseling session (Plackett et al., 2015; Terrell et al., 2008). Why is so little attention directed to a problem of epidemic proportions? Field et al. (2015) note cultural stigma as a barrier for providers and patients when evaluating the patient's likelihood to reduce alcohol consumption. Broderick, Kaplan, Martini, and Caruso (2015), on the other hand, report that health care providers overlook alcohol abuse intervention, as they feel it will not have an impact on the patient's likelihood of changing alcohol use habits. A significant number of missed opportunities may be found in the way hospitals set up their trauma program. Centers that report on their SBIRT programs admittedly struggle with identifying those at high risk for recidivism, citing reasons such as overburdened health care workers, lack of training and/or motivation from health care workers to perform screening, or competing priorities from administration (Thomas et al., 2016). Acknowledging the need for systemwide support for program implementation is one step hospitals may take to mitigate resource-related barriers to implementing high-effectiveness SBIRT programs (Agerwala & McCance-Katz, 2012). We attribute our success to the involvement of key stakeholders during early planning phases to ensure their concerns were addressed to help develop consensus in our screening and treatment methods.

There is skepticism as to whether brief intervention and referral to treatment are effective in mitigating the public health impact of alcohol. The reduction in disease burden is difficult to quantify, but investigators such as Vaca and Winn (2007) report positive perceived effects by patients and providers they attribute to well-implemented SBIRT programs. Gunderson Hospital, for instance, reports a 21% increase in their alcohol-related trauma patient's follow-up simply by implementing motivational interviewing techniques in their SBIRT program (Wagner, Garbers, Lang, Borgert, & Fisher, 2016). Screening administration investigations have shown that having physician involvement to correlate related health care risks and simply providing training to health care workers improves intervention practices (Darnell, Dunn, Atkins, Ingraham, & Zatzick, 2016; Mertens et al., 2015). Public health researchers also view alcohol-related trauma as a great target of opportunity to prevent disease (Babor et al., 2007).

It would be a missed opportunity to discuss specific implementation without mentioning systems-based practice. Brief intervention and referral to treatment services should ideally be an active process. All attempts are made for social workers to have a face-to-face meeting with patients for brief intervention or referral services prior to emergency department discharge, or within 24–48 hr of admission. Early social worker involvement significantly alters the clinical pathway of an intoxicated trauma patient. Treatment of the injured patient touches a diverse

set of inpatient services—physician treatment of altered physiology because of substance or alcohol abuse, nursing-directed safety precautions and hourly assessment of trauma patients undergoing withdraw, physical or occupational therapy evaluations for ongoing rehabilitation—which all comes full circle when case managers and social workers coordinate rehabilitation or physical therapy facilities that prevent patient relapse.

Annually, 8 million emergency department visits are attributed to alcohol (CDC, 2016). Finding the patients who will benefit from SBIRT programs is a difficult task. Plackett et al. (2015) share their compliance and report only 30% of their trauma patients underwent screening and brief intervention. We initially faced difficulty in identifying patients to be evaluated by social workers. The use of daily e-mail communication and monthly program improvement meetings improved our initial screening rate from 30% to 100% in 4 months. We believe close communication and program feedback is essential for interdisciplinary teams. Overall, our program achieved an 82% intervention and referral to treatment rate. We attribute our high compliance and treatment rate to the close collaboration between the Trauma Service, Emergency Medicine Department, and social workers. Duong, O'Sullivan, Satre, Soskin, and Satterfield (2016) echoed this finding, as they observe alcohol intervention programs utilizing social workers in the emergency department for SBIRT evaluation realize higher success rates.

One limitation of our screening process is that not all high-risk alcohol users will present to the emergency department with an elevated blood alcohol level. Blood alcohol level, however, provides an objective standard that can be universally employed in the acute care of trauma patients. The same brief intervention approach is used for the patient discharged from the emergency department or admitted for further treatment. Some patients are inadvertently discharged from the emergency department prior to social worker contact, and are therefore followed up with via phone call.

This study illuminated another limitation in our implementation process that might exclude some patients from the screening process. We would eventually learn that patients admitted for reasons other than trauma who later underwent trauma consultation for occult injuries did not have blood alcohol levels obtained at time of admission. Three adjustments in the emergency department intake and evaluation of suspected trauma patients were made. First, a geriatric trauma team was established for patients 65 years or older with a reported history of fall; this prompts automatic trauma evaluation and thus blood alcohol level upon arrival. Second, patients who suffer isolated orthopedic injuries might not be evaluated by our trauma team initially; these patients now have a blood alcohol level drawn upon intake by the emergency

department. Lastly, the emergency department now includes blood alcohol levels and social work referral services in patients who are trauma consultations for lesser injuries not requiring trauma activation.

Lastly, this study is limited in its scope and lacks ability to assess recidivism of patients who undergo brief intervention and referral to treatment. This is an area of future investigation.

CONCLUSION

In our experience, a multidisciplinary team approach to SBIRT introduction yields high compliance. We believe implementing a successful SBIRT program relies heavily on standardized training, organized/facilitated communication, accurate book keeping from Trauma Registrars, and interdisciplinary teams consisting of trauma coordinators, trauma nurses, resident physicians, attending physicians, and social workers.

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