Screening for At-Risk Alcohol Use and Drug Use in an Emergency Department: Integration of Screening Questions Into Electronic Triage Forms Achieves High Screening Rates

J. Aaron Johnson, PhD; Alexandra Woychek, MPH; Darlene Vaughan, RN; J. Paul Seale, MD

Study objective: Previous studies have shown that brief interventions for at-risk alcohol and drug use are significantly more likely to occur if patients are screened with a standardized, validated instrument, but high screening rates have traditionally been difficult to attain. Use of very brief screens can enable brief intervention specialists to focus their efforts on assessing and assisting patients most likely to need a brief intervention or more intensive treatment. This study describes the results of integrating brief substance abuse screens into an urban emergency department's (ED's) triage process.

Methods: As part of a comprehensive initiative to increase alcohol and drug screening, brief intervention, and referral to treatment (SBIRT), 3 single-item screening questions were programmed into the electronic triage tool used in the ED to detect tobacco use, at-risk alcohol use, illicit drug use, or prescription drug misuse. Project staff conducted training sessions with nurses to ensure the questions were asked properly and ED supervisors provided ongoing performance feedback. Names of patients with positive responses to the alcohol or drug questions automatically populated a list forwarded to health education specialists, who provided assessments, brief interventions, and referrals.

Results: Screening was conducted with 145,394 of 151,597 eligible patients, a 96% screening rate. Electronic reports revealed an 89% screening rate 30 days postimplementation and gradually increasing and stabilizing at approximately 97%. The overall percentage of patients screening positive for alcohol or drug use was similar to that of other ED-based studies (22%) but varied substantially by patient demographics.

Conclusion: High rates of screening can be achieved if properly integrated into a clinical setting's existing patient care processes with well-planned information technology support. [Ann Emerg Med. 2013;62:262-266.]

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INTRODUCTION

Clinician knowledge of patients' unhealthy alcohol and drug use can prevent medical and medication errors and provide opportunity for early intervention, which can reduce alcohol and drug misuse, decrease health care use, and interrupt the trajectory to further illness, injury, and substance use disorders.[1] In emergency departments (EDs) specifically, studies have shown that screening and brief intervention can decrease alcohol consumption, reduce driving after drinking, reduce injury recurrence, and decrease recurrent ED visits.[2,3] Nonetheless, clinician screening and brief intervention is infrequently performed.[4-7] One potential means of increasing clinician brief interventions is to have a brief initial screen administered at intake/triage to identify patients who report at-risk alcohol or drug use. Very brief single-item screens for unhealthy alcohol and drug use have been validated in primary care and

demonstrate high levels of sensitivity and specificity.[8-10] A previous primary care study found that patients with at-risk alcohol use were 13 times more likely to receive a brief intervention if nurses performed single-question alcohol screening during the measurement of patients' vital signs.[11] To date, however, there are no published studies of the effect of alcohol and drug screening administered by ED nurses during triage and patients' likelihood of receiving a brief intervention.

High screening rates are critical to the successful implementation of any screening, brief intervention, and referral to treatment (SBIRT) program, but previous studies have found that this goal is often difficult to attain. Previous research on screening in EDs report screening rates from 8% to 68%.[7,12] Furthermore, screening rates often decline without consistent and ongoing feedback by SBIRT project staff.[11,13,14] To date, ongoing screening rates of greater than 90% have been reported

Editor's Capsule Summary

What is already known on this topic

Though contradictory, there is some evidence that screening, brief intervention, and referral to treatment (SBIRT) can be effective in modifying patients' use of street drugs and alcohol.

What question this study addressed

Whether embedding brief screening questions in an electronic triage system would increase identification of patients who might benefit from SBIRT.

What this study adds to our knowledge

Brief screening was achieved in 97% of roughly 150,000 patients treated during the 3-year study; 22% screened positive and 60% of them received SBIRT.

How this is relevant to clinical practice

This study provides evidence that embedding brief screens in an electronic system can achieve near-universal screening. We await outcomes data on the effect of the SBIRT on the patients' behavior.

1. Have you used any tobacco products in the past 12 months?
   ○ Yes   ○ No

2. (a) WOMEN: How many times in the past 12 months have you had 4 or more drinks in a day?
   ○ 25 or more times   ○ 13-24 times   ○ 6-12 times   ○ 1-5 times   ○ None
   (b) MEN: How many times in the past 12 months have you had 5 or more drinks in a day?
   ○ 25 or more times   ○ 13-24 times   ○ 6-12 times   ○ 1-5 times   ○ None

3. In the past twelve months, did you smoke pot (marijuana), use another street drug, or use a prescription painkiller, stimulant, or sedative for a non-medical reason?
   ○ No   ○ Yes
   If yes, Which ones?

Figure 1. Screening questions integrated into Electronic Health Record.

3 times during a 2-month period (December 2008 through January 2009) to discuss program logistics. Before initiation of the delivery of SBIRT services in February 2009, 3 single-item screening questions (Figure 1) were programmed into the electronic triage tool in the ED to detect tobacco use, at-risk alcohol use, and illicit drug use or prescription drug misuse.

Integration and testing of these items in the electronic triage system required approximately 10 hours of programming by information technology staff assigned to the ED. Both the single-item alcohol and drug screening questions had been previously validated and shown to have good sensitivity and specificity in primary care.[8-10]

The ED electronic health record system was programmed to inform SBIRT health education specialists in 2 ways when patients gave a positive response to the alcohol or drug questions. Electronic tracking screens are located throughout the ED, listing relevant patient information, including location, length of time in the ED, and pending orders (laboratory tests, discharge, etc). Like other pending orders, an icon (a white cross in a blue box) was deployed beside the patient's name on the ED's electronic tracking screens to alert health education specialists that the patient required SBIRT services. Though health education specialists and other ED staff recognized the icon, it was intentionally nondescript to protect patient privacy. In addition to the icon, the patient's name was automatically added to an electronic SBIRT patient list. The electronic health record was also programmed to deploy a red "electronic flag" if SBIRT questions were skipped, indicating an incomplete step in the triage process.

Immediately before the start date for screening (February 2009), 1 member of the SBIRT administrative team conducted 15-minute training sessions with nurses during 6 consecutive nursing report sessions (3 days at 6:45 AM and 6:45 PM) to reach all nurses. These training sessions briefly introduced SBIRT, demonstrated the location of the new screening questions in the triage system, and stressed the importance of asking the questions as written. Subsequent training of new nurses was conducted periodically by nurse supervisors in the ED, and nursing supervisors provided triage nurses with ongoing performance feedback, including individual feedback to nurses who skipped or reworded SBIRT questions. Data on screening rates were collected through weekly reports automatically generated by the electronic health record and e-mailed to the

only in the Veterans Health Administration primary care system, which has implemented universal annual alcohol screening with the 3-question Alcohol Use Disorders Identification Test - Consumption (AUDIT-C) and reported a screening rate of 93% after adoption of a mandatory performance measure for alcohol screening in 2003.[15] This article reports on SBIRT screening rates attained in the ED of a nonprofit, Level I trauma hospital after integrating brief alcohol and drug screening questions into the electronic triage system and the nurse triage process.

MATERIALS AND METHODS

Integration of alcohol and drug screening questions into the electronic triage system was part of a larger effort to implement a comprehensive SBIRT program into the ED. In addition to electronic screening, the program included the introduction of continuous ED coverage by health education specialists who would provide additional screening and appropriate SBIRT services to patients screening positive. Two members of the SBIRT administrative team met with the ED nurse director and medical director to plan project implementation during a period in which many ED procedures were being reorganized to improve efficiency and decrease patients' waiting times. After an initial meeting with ED administration, an SBIRT implementation team was formed that included representatives from the emergency physician group, nursing, and information technology (informatics). The SBIRT implementation team met