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Implementation of Universal Alcohol Screening at a College Health Clinic

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Abstract

Objective: To increase alcohol screening in college students at a northwest college health clinic, using an evidence-based screening instrument, the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C).

Method: This quality improvement project involved implementation of universal screening for alcohol use using a pre-implementation/post-implementation random audit of the health record for evidence of alcohol or drug screening. A survey of the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) screening instrument was administered, as part of the registration process, to students seen for a routine health encounter throughout the data collection phase. Students were offered education and referral guided by the Screening, Brief Intervention, and Referral to Treatment (SBIRT) approach.

Results: The number of students screened for alcohol use increased, from three charts (6.66%) prior to the five-week period of implementation, to 100%.

Conclusion: Universal screening and referral for high-risk alcohol use in a college health setting has the potential to improve long term outcomes for students if factors such as timing of the screen, staff work-load, provider work-flow, and support for referrals are considered prior to implementation.

Keywords: alcohol, college health, universal screening for alcohol

Alcohol consumption on college campuses poses an ongoing public health challenge. College students are more likely to use alcohol and engage in heavier use of alcohol than young adults who do not attend college. According to the Substance Abuse and Mental Health Services Association (SAMHSA, 2004) alcohol is the most widely used substance among college students. Moreover, patterns of alcohol use range from occasional use in a social setting to patterns of binge drinking. Individuals aged 18 to 25 account for the highest rates of heavy and binge drinking (42%) compared to all other age groups, and college students report more than their non-college peers” (Denering and Spear, 2012, p. 319; SAMHSA, 2004). The range of past month alcohol use among college students is between 60 and 70% with a rate of 40% for binge drinking (Denering and Spear, 2012; Fleming, 2012). Heavy drinking is defined as five or more drinks at one time for males and four or more drinks for females with two in five college students identifying binge drinking (Johnson, O’Malley, Bachman, Schulenberg, 2009; Centers for Disease Control, 2014). Moreover, Healthy People 2020 (2014) addressed binge drinking in the college age or young adult population by establishing a national objective aimed at reducing binge drinking (Miller, Brennan-Cook, Turner, Husband-Ardoin, & Hayes, 2018; Healthy People, 2020). Furthermore, SAMHSA estimates that almost four out of every ten (39%) college students age 18 to 22 engages in illicit drug use (2005).

The Institute of Medicine (IOM) recommends the use of screening and brief intervention to prevent alcohol-related problems targeting those at mild to moderate harm related to alcohol use (DeMartini & Carey, 2012; Institute of Medicine, 1990). Despite this Winters, et al. (2011) found that of the 40% of colleges that reported some form of screening, only 20% of that total used a screening tool that is considered valid and reliable. O’Brien, McCoy, Champion et al. (2006) attribute the ambivalence about college-age drinking, by some colleges, to the belief that

alcohol use is viewed as part of developing social success in young adults and as such can't be controlled by policy or administrative intervention. While heavy drinking may be perceived to be acceptable and normative behavior for college students, drinking can result in a range of adverse consequences that persist beyond college years affecting physical health and quality of life (Cary, Scott-Sheldon, Gary, Elliott, & Carey, 2016). Additionally, binge drinking, or frequent intoxication has been linked to poor academic progress, including decreased time spent studying, reduced Grade Point Average (GPA), potential expulsion, or other retention concerns that extend to failure to graduate or pursue career plans. Furthermore, adverse consequences can include engaging in high-risk sexual behaviors, partial or full blackouts, alcohol-related injury or death, criminal acts or behaviors that are later regretted, (College Health Association, 2012; Miller, Brennan-Cook, Turner, Husband-Ardoin & Hayes, 2018). Moreover, non-drinking students are impacted by students' drinking and institutions can experience additional expenses related to emergency services, property damage, security expenses or other drinking-related violations (Scott-Sheldon, Carey, Garey, Elliott, & Carey, 2014; Carey, McClure, et al., 2009). Hingson, Zha, & Weitzman (2009) note that the proportion of college student respondents who report being hurt or injured because of drinking or the drinking of another college student, being sexually assaulted or raped by another drinking student and driving while under the influence increased from 1999 to 2001.

Academic institutions are legally obligated to implement disciplinary actions in the case of underage drinking or heavy alcohol or drug use (United States Department of Education, 2006; Department of Public Safety, 2018). Additionally, academic institutions have a moral obligation to provide a safe campus environment, promote a healthy learning environment for students, and foster student's overall wellness and healthy social development.

The site of this quality improvement project is a northwestern college health clinic with an average enrollment of 4,000 registered students. The health center provides confidential services to students enrolled full-time at the college.

Clinical Problem

Heretofore, no formal, universal screen for alcohol or drug use is routinely used at the health center. Within the health center, screening is done at provider discretion. Students who are identified as at-risk or who initiate the topic of alcohol or substance use are evaluated and referred to substance use treatment if indicated, however no universal method or policy is available to guide the provider assessment. Additionally, the current electronic record does not allow easy access to the information when it is obtained. The lack of a standardized screen to ensure alcohol assessment for every student results in a potential gap in identification of those at-risk. Analysis of the baseline alcohol screening demonstrated a rate of sixteen percent (three out of the twenty charts audited) had documented screening. Working with the health center director and the clinic team, the need for practice change related to standardization of alcohol and drug screening was identified.

Methods

Project Development

Theoretical Framework

The theory of perceived behavior control informs us that an individual's behavior is influenced by confidence in their ability to perform the identified behavior (Azen, 1991; Butts & Rich, 2015). Moreover, individuals are motivated to change a behavior if they believe they are capable of making the change. By enhancing self-efficacy in relation to alcohol screening, through training and educational resources, the likelihood that providers will review the tool with clients would theoretically be increased.

Providing education and support resources on the use of the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) and the Screening, Brief Intervention, and Referral (SBIRT) process, and enhancing provider self-efficacy (beliefs) in relation to administration of the screening tool will increase the likelihood that providers will administer and review the screen. The degree to which interveners follow protocol is the fidelity of delivery. Furthermore, to insure fidelity (Bellg et al., 2004) the implementation of computer-based AUDIT-C screening would follow training in the use of the tool. Two thirty-minute training sessions were imbedded into a weekly interdisciplinary provider meeting at the health center.

Stakeholder Engagement

The clinic director, primary care providers, and counselors were interviewed, to identify the challenges with screening for alcohol use and subsequent interventions. Providers reported barriers to screening as the unfamiliarity with screening recommendations, lack of time in the context of a routine appointment, other student priorities, challenges to the therapeutic relationship, concern about the pressure to report underage drinking, and lack of referral resources when an issue is identified. Additionally, challenges to the workflow included whether to embed the screening tool into the electronic registration process after the Patient Health Questionnaire (PHQ-9) or to provide the screen to students during routine registration and direct responses to the provider for discussion.

Literature Review

A literature review was conducted searching CINAHL, MEDLINE, and PsychInfo using the search terms: alcohol, college students, and screening with the Boolean connector and. The review was expanded to the years 2004 through 2018 with publication in the English language only. The timeframe was chosen to cover the valid and reliable screening tools that have been

initially developed to focus on alcohol and drug use and then focused for the college population. One hundred and thirty-six articles were identified in the initial literature search. Articles were excluded through topic review, title, abstract, duplication and full-text review resulting in a total of eighteen articles included in this paper. See Appendix A for Database Search History.

Winters, Toomey, Nelson, Erickson, Lenk, & Miazga (2011) note that many colleges do not use a formal assessment tool to screen for alcohol problems, despite the identified problem with alcohol use on college campuses. Screening tools serve as the gateway to intervention through identification of those individuals who are unlikely to seek out substance use services. Moreover, it is critical to correctly classify individuals as at-risk or not-at-risk through validated screening tools to provide direction for subsequent action or intervention.

O'Brien et al., (2011) recommend routine brief alcohol screening be incorporated into routine encounters with students at campus health centers and emergency departments where students go after injuries secondary to alcohol use. Universal screening of all students can minimize defensiveness and increase participation. Screening on college campuses can be brief and if used on-line can be implemented by a range of professionals. A critical component to effective screening and implementation is the use of a validated screening tool (DeMartini & Carey, 2012). Some validated screening tools for alcohol use with sensitivity and specificity include the Alcohol Use Disorder Identification Test (AUDIT), Alcohol Use Disorder Identification Test-Consumption, and single-question screening (Miller, Brennan-Cook, Turner, Husband-Ardoin, & Hayes, 2018; DeMartini & Cary, 2012; Healthcare Research and Quality, 2012). The AUDIT has been validated in adults (DeMartini & Carey (2012). The AUDIT consists of 10 questions aimed at identifying early signs of at-risk drinking and alcohol use disorder among adults in primary care (WHO, 2011). The AUDIT-C is a brief three question

form of the AUDIT. The multiple-choice answers are scored, with each question having a different number of points. The total points are then added, and a cutoff score for alcohol misuse is determined. Miller et al. (2018) identify a cutoff score for alcohol misuse using the AUDIT-C based on four or more out of 12 for males and 3 or more out of 12 for females, with points coming from question one and at least one additional area. The AUDIT and the AUDIT-C have been validated for college-age students and adults with a differing cutoff score of 5 for females and 7 in males (Winters, et al., 2011). Using the information gathered through the critical appraisal and evaluation tables, a recommendation for using the AUDIT-C tool, as the evidence-based assessment tool for this quality improvement project, was made. Furthermore, the AUDIT-C is in the public domain and easy to access. See Appendix B for AUDIT-C.

Data Collection and Synthesis

Both process and outcome measures were tracked to measure efficacy of the project. Process measures included provider participation in two thirty-minute training sessions imbedded into the weekly interdisciplinary provider meetings and review of a list of additional resources related to the use of the AUDIT-C, SBIRT, and local substance use referrals. Outcome measures were tracked using a random audit of twenty charts prior to implementation of universal screening. Planned implementation was set for eight weeks. At the end of week five, implementation was halted at the request of the clinic. A random audit of twenty-eight charts from the five-week implementation period was conducted. Documentation of alcohol screening was noted and compared to baseline data. Due to auditing and screening challenges, the total number of alcohol use screenings conducted were tracked for only five weeks. They were then compared against the total number of students seen by both the primary care providers and the counseling staff for the time period. During the period pre-implementation, 1991 students were

seen with a total of three charts documenting screening for alcohol use out of the twenty charts that were audited. A total of 1128 students were seen during the five-week implementation period, with 28 charts were audited and 28 documented screens using the ADUIT-C completed. Descriptive statistics and Chi square were used to analyze the data collected.

Ethical considerations

Institutional Review Board (IRB) approval was granted by the University of Portland IRB Committee after an amendment to the process workflow. Informed consent was reviewed with the providers as part of the training phase and obtained with the assistance of the health center director. Students were also notified that the screening data would be used for their health care and not as part of any disciplinary action. There was no known conflict of interest.

Results

Screening outcomes were tracked using a data collection tracking tool. See Appendix C for Data Collection Tool - Chart Audit. All providers, medical assistances, and nurses completed at least one of the two 30-minute training session to review the screening instrument and the referral process. Individuals to be screened were defined as any student who came into the health center for an appointment with a provider during the project time frame. Of the 28 post-implementation charts audited, 6 students (21.42%) identified no use of alcohol over the past year, 16 students (57.14%) identified below the range of at-risk drinking, and 6 students (21.42%) identified at-risk range of drinking over the past year. A Chi square value of 35.955 was reported with results reported as $\chi^2(1) = 35.955, p < .001$. These findings suggest that when a universal screen is implemented, rates of screening improve. See Appendix D for Comparison of Pre and Post Implementation of Universal Screening. However, given the pressure of screening all students seen, the universal screen was considered challenging and not sustainable

over a consistent period.

Summary and Limitations

Universal screening and referral for alcohol use using the AUDIT-C did provide information about alcohol use patterns and effectively increased documented screening. However, it was not well received by the students who reportedly perceived the questions as threatening and were unclear why the screening questions were being asked during routine appointments. Moreover, the providers were challenged to address the presenting problem during the scheduled appointment time while also reviewing the screen. Staff provided the screen during the registration process were challenged to complete the workflow as it was designed during the clinic's busy service hours. While stakeholders were initially supportive of the practice change to screen for alcohol use and enhance intervention as indicated, many of the barriers identified in the literature were also identified by the providers, as the project implementation period progressed. Barriers to Screening, Brief Intervention and Referral to Treatment (SBIRT) after implementation of a universal screen may include time, competing demands for providers, access to treatment and referral resources, follow-up process for positive screens, and concern that implementing a universal screen will alter the development of a therapeutic relationship (Satre, McCance-Katz, Moreno-John, Julian, O'Sullivan & Satterfield, 2012). Additional limitations include the abbreviated period of implementation from the initial eight-week period to five weeks and the challenge to staff to find time to complete the chart audits.

Providers identify a need for some form of screening for identification of risk related to alcohol and drugs use and are considering altering the format to an electronic platform. Students can complete a confidential self-assessment and would then be linked to resources or referrals as indicated. This approach would address some of the barriers such as time limitations, competing demands, student attitude and the impact on the development of the therapeutic relationship.

Lessons Learned

Implementing even a simple practice change, poses many potential challenges to

sustaining that change. Implementation science gives us a roadmap to navigate these challenges. Despite efforts to improve the consistency of evidence-based screening for alcohol use on a college campus, universal screening by providers was not a sustainable choice for the clinic providers. It is imperative to balance the outcome intended in this project, increasing screening for alcohol use, with the provider's access to time, effort, personal commitment to the strategy, and disruption to the daily functioning of the system. Furthermore, despite providing education regarding use of the screening tool and the implementation approach (SBIRT), there was no assurance that the tool was used with fidelity or the individual barriers that challenged each provider's ability to implement the change were accurately identified. Being able to identify barriers prior to implementation allows tailoring to the practice changes. Unfortunately, as implementation progressed, additional time constraints further challenged the design. Confidentiality limitations prevented the project manager from collecting data directly, thereby placing additional pressure on clinic staff to administer the screen and then gather data from the charts. This developed into an unanticipated barrier in the work flow.

Altering modifiable barriers after the initial system assessment, was not enough to overcome the challenges to the implementation of universal screening. Evaluation of the impact of the change on providers and clinic staff led to early termination of implementation. Some of the limitations to acknowledge include problems adopting universal screening to the setting given time and work flow challenges, difficulty evaluating whether the change would have been sustained even if the eight-week window was met, identifying whether another approach to screening for alcohol would have been more feasible for providers and met with less resistance by students. Additional limitations in the implementation include use

of a paper screen, rather than embedding in the computerized registration process, adding an extra burden to the process for administrative staff and providers, issues around storage of the data collected and ultimately generalizability of the sample collected. This is especially important as the barriers were not consistent with the previous work related to implementation of universal screening. Future practice change could address factors such as referral to treatment rates, the viability of alternative screening tools such as online assessment and referral tools, and the impact of embedding a substance abuse provider, who specializes in working with college students, within the clinic setting increasing access to services.

Conclusion:

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is an evidence-based screening and intervention approach with the goal of reducing substance use before it moves to an alcohol use disorder that can potentially impact a college students' success in college and develop lifelong health patterns. Moreover, providing formal screening in primary care settings aligns with the national guidelines from the United States Preventative Services Task Force (2013) and National Institute for Health and Clinical Excellence (2011) that recommend formal screening using an evidence-based tool like the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C). While the AUDIT-C is a brief screen, it can alter the routine workflow in a health center if the necessary resources are not available, leading to challenges in sustaining the practice change.

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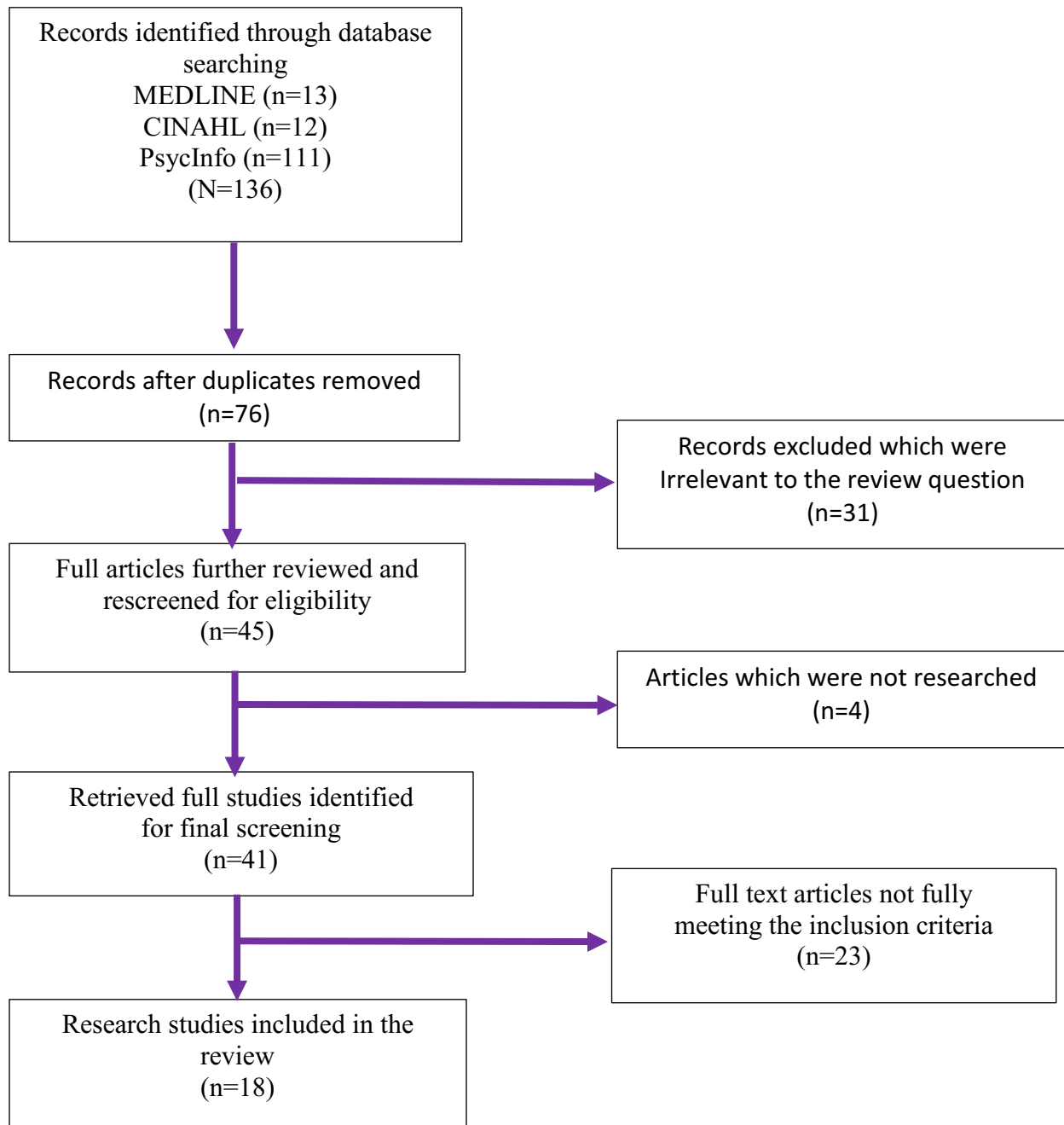
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Appendix A

Database Search History



Appendix B

AUDIT-C

AUDIT – C Questions

1. How often did you have a drink containing alcohol in the past year?
 - a. Never (0 points)
 - b. Monthly or less (1 point)
 - c. Two to four times a month (2 points)
 - d. Two to three times per week (3 points)
 - e. Four or more times a week (4 points)

2. How many drinks containing alcohol did you have on a typical day when you were drinking in the past year?
 - a. Never (0 points)
 - b. Monthly or less (1 point)
 - c. Two to four times a month (2 points)
 - d. Two to three times per week (3 points)
 - e. Four or more times a week (4 points)

3. How often did you have six or more drinks on one occasion in the past year?
 - a. Never (0 points)
 - b. Monthly or less (1 point)
 - c. Two to four times a month (2 points)
 - d. Two to three times per week (3 points)
 - e. Four or more times a week (4 points)

Maximum score is 12. A score of ≥ 4 for men indicates risky drinking

A score of ≥ 3 in women indicated risky drinking

AUDIT-C is in the public domain and is being used to assist in evaluating your general health and well-being. These questions are confidential and are not being used for the purpose of any disciplinary action through Residence Life.

Appendix D

Comparison of Pre and Post Implementation of Universal Screening

Measure	Pre-Implementation	Post - Implementation	Percent Change
Screening for Incident of Alcohol Use	3/20 (6.66%)	28/28 (100%)	84%
Total Number of Students Seen	1991 1192 Primary Care 799 Counseling	1128 726 Primary Care 402 Counseling	
Students Identified with At-Risk Range of Drinking Over the Past Year	0	6/28 (21.42%)	21.42%
Students Identified as Below Range of At-Risk Drinking Over Past Year	0	16/28 (57.14%)	57.14%
Students Who Identified Not Using Alcohol Over Past Year	0	6/28 (21.42%)	21.42%

$\chi^2 (1) = 35.955, p < .001$