Implementing Alcohol Screening, Brief Intervention & Referral to Treatment (SBIRT) Into APN Practice Settings

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Disclosures: Conflicts of Interests/Sponsorships/Commercial Support: None

Program Objectives

• Describe the scope of the problem of unhealthy alcohol consumption
• Summarize the supporting evidence for SBIRT in reducing alcohol-related harm
• Share example of departmental SBIRT implementation project
• Provide steps to plan, implement, and evaluate an alcohol SBIRT program in practice settings
• Describe important factors that provide sustainability for an alcohol SBIRT program

Why Should We Care?

• Study tracked drinking patterns among 43,093 people between 2002-2003 and again from 2012-2013
• Alcohol use disorders have increased by almost 50%
• Almost 30 million Americans actively struggling with alcohol misuse
• Risky populations
  – African Americans (almost doubled 92.8%)
  – Women (increased nearly 84%)
  – Middle Adults (increased to 81.5%)
  – Seniors (increased 106.7%!!!)

Grant et al. (2017)
Epidemiology

- Sobering Facts & Stats
  - Extraordinary public health burden
    - 3rd leading cause of preventable death (88,000/year)
    - Individual & family consequences
    - Economic impact ($224 billion dollars)
  - Alcohol-related injuries & deaths
    - 60-70% of homicides
    - 40% of fatal burns
    - 40% of drownings
    - 40% of fatal falls
    - 38% of motor vehicle fatalities
- Approximately 130 million ED visits annually
- Alcohol-related injuries/illnesses have increased by 40%
  - The APN encounter may provide only window of therapeutic opportunity
  - "teachable moment" to impact hazardous drinking behavior

At-risk alcohol use may be associated with:

- Risky drinking
  - Hypertension, stroke
  - Type 2 diabetes
  - Cancer
  - Cirrhosis
  - Injury, violence
  - Impairment of short and long-term cognitive function
- Binge drinking
  - Sexually transmitted diseases, unintended pregnancy
  - Violent crime

At-Risk Alcohol Users
National Institute on Alcohol Abuse & Alcoholism
(NIAAA) Recommendation Limits

Patients >65: No more than 3 drinks/day AND no more than 7 drinks/week
www.niaaa.org
Alcohol SBIRT: A Critical Clinical Preventative Service

- Identify, reduce, prevent substance abuse and dependence
- **Screening**
  - A validated set of brief screening questions to identify patient’s drinking patterns and stratify risk
- **Brief Intervention**
  - A short 5-10 minute conversation to raise awareness of risks and build motivation to change
- **Referral to Treatment**
  - Facilitate a referral to specialized treatment as warranted

(SAMHSA, 2014)

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State of the Evidence: Effectiveness of SBIRT

- Reductions in alcohol consumption
- Fewer repeat injuries
- Fewer ED visits
- Fewer repeat hospitalizations
- Fewer traffic incidents
- Fewer DUI arrests
- Potential to increase adherence to alcohol treatment

Academic ED SBIRT Research Collaborative (2007); Bray et al. (2011); Daye et al. (2010); D’Onofrio et al. (2012); Gentilello (2007); Madras et al. (2009); Nelson et al. (2008); Schermer et al. (2006)

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Current Standards: U.S. Preventative Services Task Force Rankings of 25 Preventive Services

**SBIRT Ranks 4th with a “B” Recommendation**

<table>
<thead>
<tr>
<th>Rank Order</th>
<th>Preventive Service</th>
<th>Effectiveness</th>
<th>ROI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ASA to prevent heart attacks/strokes</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Childhood immunizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Smoking cessation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Brief interventions for substance abuse</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Effectiveness of Interventions (ROI Scoring: 1 = Lowest; 5 = Highest)

“B” high certainty that net benefit is moderate or moderate certainty net benefit substantial

USPSTF (2012)
National & Organizations Supporting for SBIRT

- Agency for Healthcare Research and Quality
- Alcohol Research Group
- American Association for Surgery and Trauma
- American College of Emergency Physicians
- American College of Surgeons
- Emergency Nurses Association
- American Psychiatric Nurses Association
- Centers for Disease Control and Prevention
- Health Resources and Services Administration
- The Joint Commission
- National Highway and Traffic Safety Administration
- National Institute on Alcohol Abuse and Alcoholism
- National Institute on Drug Abuse
- Research Society on Alcoholism
- Robert Wood Johnson Foundation
- Substance Abuse and Mental Health Services Administration
- U.S. Preventative Services Task Force
- World Health Organization

SBIRT Components: Screening

- Alcohol Use Disorders Identification Test (AUDIT)
- Brief self-report screen
- Focuses on recent alcohol use
- 10 question tool identifies:
  - Abstainers and Low risk
  - Hazardous and Harmful
  - Possible Dependence
  - Not time-consuming
  - Well-validated and reliable
  - Used over 2 decades in US
  - Validated in 6 countries

Drinker’s Pyramid

- Possible Dependence (20-40)
- Hazardous or Harmful (8-19)
- Abstainers or Low Risk (0-7)

IRETA, 2014
SBIRT Components: Brief Intervention

- Trigger intervention for patients scoring >8 on AUDIT
- Process takes as little as 5-10 minutes
  - Raise the subject
  - Provide information on AUDIT score (Feedback)
  - Enhance motivation (Listen)
  - Assess readiness for change (Elicit readiness to change)
  - Importance/Confidence Scales
  - Options for change/plan

SBIRT Components: Referral to Treatment

- Referral Options
  - Primary care provider
  - Addiction provider
- Community Resources
  - SAMHSA’s online treatment locator
    - http://findtreatment.samhsa.gov/
  - National Help Line
    - 800-662-HELP
  - The American Society of Addiction Medicine’s Physician Locator System
    - http://www.asam.org/

Interprofessional SBIRT Project at Loyola

*Develop, deliver, and evaluate an interprofessional education program on alcohol SBIRT, and implement the SBIRT protocol in the LUMC ED using standards published by Substance Abuse and Mental Health Services Administration (SAMHSA)*
Project Site & Practice Gap Analysis

- Loyola University Medical Center Emergency Department
  - 569 bed tertiary hospital; Level I trauma center
  - Approximately 49,000 annual visits
  - Approximately 80 nurses and 4 social workers

- Trauma Service SBIRT
  - Conducted by Trauma Service Nurse Outreach Coordinators on all admitted trauma patients as part of ACS Level 1 Trauma Center Certification

- ED Practice Gap Analysis
  - No current routine alcohol screening unless patient is suicidal or homicidal

Project Resources & Support

- Organizational Leadership
  - Nursing Research Council, Nursing Education & Professional Practice Council
  - Emergency Department
    - Department Chair, Medical Director, Department Director, Manager, Assistant Managers, Nurse Educator, Staff Nurses, Staff Physicians
  - Social Services
    - Social Work Educator, ED Staff Social Workers
  - Information Technology
    - Information Technology Specialist
  - Trauma Program
    - Trauma Program Manager, RN Outreach Coordinators
  - Nurse Statistician
  - External Mentor SBIRT Expert from the University of Pittsburgh School of Nursing
  - Sigma Theta Tau Alpha Beta Chapter

Theory & Framework

**RE-AIM Framework**

<table>
<thead>
<tr>
<th><strong>Reach</strong></th>
<th>Number &amp; characteristics of participants</th>
<th>RNs/MSWs educated; SBIRT protocol implemented</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy/Effectiveness</strong></td>
<td>Impact of intervention on outcomes</td>
<td>Changes in knowledge &amp; clinical practice</td>
</tr>
<tr>
<td><strong>Adoption</strong></td>
<td>Characteristics of participating setting</td>
<td>ED layout, census, acuity, assignments</td>
</tr>
<tr>
<td><strong>Implementation</strong></td>
<td>Intervention fidelity &amp; barriers to intervention execution</td>
<td>Integrity of education; documentation; adherence to timetable</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Program becomes part of routine practice and policy</td>
<td>Stakeholder satisfaction with content, process and overall value of training and program</td>
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</tbody>
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(Rogers, 1995; Almeida et al., 2014)
ED Alcohol SBIRT Project Objectives

1) Revise the Electronic Health Record (EHR) to include
   -10 question AUDIT tool
   -SBIRT documentation for ED nurse and social worker
2) Develop and implement an alcohol SBIRT educational module for ED nurses and social workers
3) Evaluate learning outcomes via pretest/posttest and program evaluation
4) Evaluate ED nurse documentation
   -AUDIT screening for completeness and accuracy
   -Referral to social worker with positive scores
5) Evaluate ED social worker documentation
   -Brief intervention
   -Referral to treatment

Project Design

- Quasi-experimental design
- Single sample non-randomized cohort
- Participants of the project
  - All ED nurses and social workers
  - All patients meeting inclusion criteria
    - Agreed to be screened
    - >18 years of age
    - English-speaking
    - ESI (Emergency Severity Index) Triage levels 3, 4, or 5
    - GCS (Glasgow Coma Scale) of 15
- Approved by IRB (LU#208338)

Educational Module: Components

- Educational Module
  - Prepare and provide evidence-based practice education based upon the Emergency Nurses Association and University of Pittsburgh’s School of Nursing SBIRT nursing education modules
- Pretest/Posttest
  - Write test questions
  - Establish content validity
  - Note reliability
  - Examine difference between pretest/posttest scores
- Program Evaluation
  - Evaluate achievement of objectives
  - Evaluate relevance and expected impact of SBIRT protocol
Educational Module: Delivery

- Computer-based methodology
  - Hospital’s electronic learning management system (Health Stream)
  - 60 minute timeframe for module similar to other E-learning assignments
  - Time allocated for E-learning module completion
  - One month; accessible 24/7 via E-learning portal
  - Recurring for annual competency and new hires
- Factors expected to increase participation
  - Mandatory E-Learning assignment
  - Continuing education credit (1 contact hour) obtained through the Illinois Department of Public Health Emergency Medical Services Division
  - Work time allotment for module completion; may complete off campus
  - External motivator linked to performance evaluation

Educational Module: Pre/Post Test

Structure and Content
- Based on the content of the educational module
- 10 multiple-choice questions
  - 2 questions per learning objective
  - Each question includes one correct answer and three distractors
- Total score based on number of correct responses

Establishing Content Validity
- Determine and engage expert panel
  - 3 APNs with specialty in emergency nursing and nursing education
  - 1 nurse educator/SBIRT researcher
  - 1 social work educator
  - 1 emergency physician
- Rate relevance of each question
  - Scale Content Validity Index average (S-CVI/Ave)
  - Identified any missing questions, questions that should be deleted, and other comments

Educational Module: Program Evaluation

- Ratings by RN and Social Work Participants
  - 1-4 Likert rating scale
  - Achievement of each learning objective
  - Relevance of program on individual practice
  - Level of expected impact the program on individual practice
Participants/Sampling & Recruitment Strategies

- Convenience sample: ED Nurses and Social Workers
  - Expected number of participants
    - 80 nurses and 4 social workers with 24/7 ED coverage
  - Expected adherence
    - Goal: N=84 (100%); expected adherence: N=67 (80%)

- Recruitment
  - Email, staff meetings, unit huddles
  - E-learning assignment notification

Educational Module: Measures & Data Analysis

- Establish content validity
  - S-CVI/Ave for each question, average calculated across items
  - Relevance of each question, in relation to educational module: 4-point scale for a possible score of 1.00
- Note reliability
  - Internal consistency measured using Cronbach’s alpha
- Examine Pre- and post-test scores
  - Total exam score calculated across all questions
  - Paired sample t-test: differences between pre- and posttest scores
- Evaluate educational module
  - Overall total score calculated for responses to each the following
    - Achievement of module learning objectives
    - Relevance of program on practice
    - Expected impact of program on practice

Test Statistics

- Test content validity
  - I-CVI=1.00 for each question
  - S-CVI/Ave=1.00
- Internal consistency of each pretest/posttest question
  - Cronbach’s alpha coefficient=.95
Pre- and Post-Test Comparison

• Completion data
  – Nurses: N=69 (86%)
    • Non-completions: N=11 (14%)
      – 4 nurses on FMLA; 7 nurses non-compliant
  – Social Workers N=4 (100%)

• Test data
  – Pre-test
    • Range of scores: 20%-100% (M=57.31; SD=15.13)
  – Post-test
    • Range of scores: 80%-100% (M=90.9; SD=8.48)
    • Difference between pretest and posttest: (t 66)=15.9, p<.001

Program Evaluation

1. Describe the scope of the problem of unhealthy alcohol consumption
2. Explain the overarching purpose of alcohol SBIRT
3. Summarize the supporting evidence and support for alcohol SBIRT in reducing alcohol-related harms
4. Discuss the steps of alcohol SBIRT procedure in the Emergency Department
5. Discuss the skills that are necessary to effectively conduct alcohol SBIRT with patients
6. Rate the level of relevance this program has on your practice
7. Rate the level of impact this program will have on your practice

Alcohol SBIRT Protocol: Pre-Implementation

• EHR Modification
  – Patient inclusion criteria
  – “We ask everyone” script stating purpose of screening as related to patient’s health status; assurance that patient responses are confidential
  – Patient agrees to screening tab
  – AUDIT tool with sum of scoring/risk stratification
  – Nurse documentation of score and referral to Social Worker if positive AUDIT (>8)
  – Social Worker documentation of brief intervention/referral and/or reasons SBIRT was not done
  – Reports channel set up
Protocol: Implementation

• “Go live” date set for one week after educational module completion
• Data collection scheduled for 4 weeks
  – Dates selected by ED management, educator, IT specialist
  – Communicated to staff via emails, staff meetings and unit huddles
• ED Alcohol SBIRT pocket books created, printed & distributed to participants
  – Alcohol effects on body
  – NIAAA alcohol recommendation limits
  – AUDIT screening tool with scoring/risk stratification
  – Brief intervention discussion prompts
  – Readiness for change visual ruler
• Laminated copies of the AUDIT screening tool placed in patient rooms

Alcohol SBIRT Protocol: Measures & Data Analysis

Non-parametric descriptive statistics on the following:

• Total # patients admitted to the ED
• Total # patients assessed for SBIRT screening
  • AUDIT screens, scores and risk stratification
  • Total # patients admitted to Trauma Service for in-patient brief intervention/referral
• Total # patients remaining in ED for brief intervention/referral

• Characteristics of Patients Screened positive
  • Age, gender, chief complaint, AUDIT score, disposition
Measures & Data Analysis: Nurses’ & Social Workers’ Documentation

- Screening
  - Documented meeting inclusion criteria
  - Documented agree/decline screening
  - Documented AUDIT score (0-40)
  - Documented referral to Social Worker if AUDIT score >8
  - Documented patient disposition
- Brief Intervention & Referral to Treatment
  - Documented if brief intervention not done/reason
  - Documented brief intervention (narrative format)
  - Documented referral to treatment

Protocol EHR Data

- N=2531 (Total ED Charts Reviewed)
- N=518 Patients Screened (21%)
- 478 Patients Screened Negative (92%)
- N=40 Patients Screened Positive (8%)
- 18 Patients Admitted to Trauma Service for In-Patient SBIRT (45%)
- 22 Patients Received ED Alcohol SBIRT with Complete/Accurate Nurse/Social Worker Documentation (55%)
- 869 Refused Screening (34%)
- 1144 Didn’t Meet Inclusion Criteria (45%)

Patient Characteristics Positive SBIRT Scores N=40

<table>
<thead>
<tr>
<th>Sex, Male</th>
<th>N=32</th>
<th>80%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>AUDIT Scores 0-19 (Harmful Drinking)</td>
<td>N=27</td>
<td>68%</td>
</tr>
<tr>
<td>AUDIT Scores 20-40 (Possible Dependence)</td>
<td>N=13</td>
<td>32%</td>
</tr>
<tr>
<td>Disposition: Admitted to Trauma Service for In-Patient SBIRT</td>
<td>N=18</td>
<td>45%</td>
</tr>
<tr>
<td>Disposition: Remained in ED for SBIRT</td>
<td>N=12</td>
<td>30%</td>
</tr>
</tbody>
</table>

Chief Complaints

- Headache | N=25 | 63% |
- Musculoskeletal | N=9 | 23% |
- Alcohol Use | N=9 | 23% |
- Abdominal Pain | N=5 | 13% |
Nurses’ and Social Worker’s Documentation

<table>
<thead>
<tr>
<th>Area Documentation</th>
<th>N</th>
<th>%</th>
<th>Social Worker Documentation</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusion criteria</td>
<td>2531</td>
<td>100</td>
<td>Brief intervention if positive score</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td>Screen for screening</td>
<td>2531</td>
<td>100</td>
<td>Reason brief intervention not done N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>AUDIT score</td>
<td>18</td>
<td>100</td>
<td>Referral to treatment</td>
<td>22</td>
<td>100</td>
</tr>
<tr>
<td>Patient disposition</td>
<td>90</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion: Educational Module & Protocol

- **Educational Module**
  - Less than 100% completion rate
  - Lower than anticipated pretest scores; expected increase in posttest scores
  - High achievement of program objectives; lower than expected relevance/expected impact

- **Protocol**
  - Expected adherence to documentation protocol
  - # patients refused screening or did not meeting inclusion criteria
  - Consider omitting “refusal” tab
  - Consider changing inclusion criteria to include higher acuity patients
  - Consider adding languages other than English
  - # patients with harmful drinking and/or possible alcohol dependence
  - Consider utilizing shorter version of AUDIT (AUDIT-C)
  - Interviewer bias by the screening RN?

Stakeholder Support/Sustainability/Replicability

- **Support and Resources**
  - Hospital departmental support
  - SBIRT embedded in the EHR
  - Embraces patient-centered, interprofessional approach

- **ED RN and MSW Educators: “Champions”**
  - Maintain accessible, ongoing training and reinforcement via annual continuing education/competency evaluation and new hire orientation

- **Project Replicability**
  - SBIRT within EPIC adapted at LUMC for utility in other departments
  - Potential for collaborations with other Trinity ministries
Loyola SBIRT Project Summary

- The development of a mandatory E-Learning module for ED nurses and social workers appears to be an efficient and effective mechanism to provide education about alcohol SBIRT
- Revising the EHR to include the alcohol SBIRT protocol provides a standard mechanism for documentation by ED nurses and social workers
- Universal alcohol screening should be standard as part of every patient assessment
- Further expansion of this project
  - follow-up with patients after referral to treatment
  - Implementation in other practice sites (Immediate/Primary Care)
  - Work with SBIRT @ LUC Interprofessional Development Team/CABISAM Certificate Program

Implementation Basics for APNs in Various Practice Settings

I. Lay the Groundwork
II. Adapt Alcohol SBIRT to Your Practice Setting
III. Implement Alcohol SBIRT into Your Practice
IV. Refine and Promote

SBIRT is a Highly Flexible Intervention

<table>
<thead>
<tr>
<th>SBIRT Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aging/Senior Services</td>
</tr>
<tr>
<td>Behavioral Health Care</td>
</tr>
<tr>
<td>Community Health Center</td>
</tr>
<tr>
<td>Community Mental Health Services</td>
</tr>
<tr>
<td>Drug Abuse/Addiction Services</td>
</tr>
<tr>
<td>Emergency Room</td>
</tr>
<tr>
<td>Federally Qualified Health Center</td>
</tr>
<tr>
<td>Homeless Services</td>
</tr>
<tr>
<td>Hospital</td>
</tr>
</tbody>
</table>
I. Lay the Groundwork

- Share the rationale for implementing your new program before making specific changes!

Step 1: Understand the Need for Alcohol SBI

Step 2: Get Organizational Commitment & Practice Support
II. Adapt Alcohol SBIRT to Your Practice
Step 3: Plan for Screening

- A complete Alcohol SBIRT screening plan specifies:
  - Which patients you will screen?
  - How often you will screen patients?
  - Which screening instrument you will use?
  - How and where you will screen?
  - How you will store and share screening results?

Who Will Be Screened?

- Ideally, you should screen all of your patients with two possible exceptions:
  - Children under 9 years of age, who are not likely to consume alcohol
  - Patients who are too ill or impaired to answer screening questions at a particular visit

How Often Should Patients be Screened?

- Ideal Time to Screen
  - Annual physical
  - First visit of each year
  - Each emergency or urgent care encounter
  - Upon hospital admission
Which Screening Instrument Will You Use?

- Single Question Alcohol Screen (NIAAA, 2007)
  - How many times in the past year have you had 5 (for men) or 4 (for women or all adults over 65) drinks in a day?
- AUDIT 1-3 (US) (NIAAA, 2011)
  - 3 questions in 1-2 minutes
- AUDIT (Alcohol Use Disorders Identification Test)
  - 10 questions in 2-5 minutes

How Will the Screening be Performed and Where?

- Some suggestions are:
  - Via computer before the patient encounter
  - Via questionnaire in the reception room
  - Via verbal questionnaire entered into EHR

Results: Scoring, Sharing, and Storing

- Consider the following:
  - Designate person to score screens or sum electronically
  - Share results with necessary staff
  - Document results in patient’s chart
  - Designate location to store forms
  - Follow up appropriately
Step 4: Plan for Brief Intervention

- Who will deliver the interventions?
  - Time availability
  - Knowledge/experience
  - Interpersonal skills
  - Willingness
- What will the basic elements of your intervention be?

Brief Intervention Elements

- Provide feedback about screening results
- Ask patients what they like and what they don’t like about their alcohol use—In that order!
- Ask if they would like your advice about how alcohol may be harmful to their health
- Listen for change talk
  - Provide options the patient can choose from
- Seek agreement for a follow-up visit
- Thank all patients

Step 5: Establish Referral Procedures

- The Substance Abuse and Mental Health Services Administration (SAMHSA.gov)
- Your practice’s contacts
- Alcoholics Anonymous (AA)
III. Implement Alcohol SBIRT in your Practice

- Orient and train all staff
- Plan and evaluate a pilot test
- Manage startup of full implementation

Step 6: Orientation and Training

- Determine who needs training
- Orient all staff about risky alcohol use and SBIRT
- Help staff become more comfortable discussing alcohol use
- Train for alcohol SBI specialized functions

Step 7: Plan a Pilot Test

- Number of patients in target population
- Percentage screened
- Number and percentage who screen positive
- Percentage of positives receiving an intervention
- Percentage referred to treatment
- Consider how you will review results and act on them
Step 8: Support a Strong Start-up

- Communicate
- Provide hands-on help
- Address unforeseen issues quickly
- Offer feedback, encouragement and thanks

IV. Refine and Promote

- Monitor your quality improvement
- Stay current with developments in other programs
- Publicize your achievements

Step 9: Monitor and Update Your Plan

- Seek front-line feedback
- Set specific time intervals to evaluate your program
- Keep up on research
- Learn from others
Step 10: Share Your Successes

- Your organization’s leaders
  - BOD, payers, customers
  - MAGNET
  - Large healthcare systems
- Local community leaders, organizations and citizens
- Members of regional and national organizations committed to quality healthcare services
  - Professional organizations

Questions?


Thank You!

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