A Practical Review of Screening and Assessment Tools for Alcohol and Opioid Use Disorder

A Project RAMP Resource
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CONFLICT OF INTEREST AND DISCLOSURE

• Dr. Gordon has no fiduciary conflicts of interest

• Some of the material presented herein has been previously published from work at the University of Pittsburgh, University of Utah, and the Veterans Health Administration

• The views expressed in this presentation are Dr. Gordon’s and do not necessarily reflect the position or policy of any institution, agency, or government
Objectives

• Accurately identify and understand the evidence for utility of tools to use in clinical settings to screen for unhealthy alcohol consumption and substance use disorders

• Accurately identify the appropriate screening tools for unhealthy alcohol consumption and compare their utility in different clinical settings

• Have fun – be interactive
INTRODUCTIONS
Addiction Disorders are Treatable LIKE ANY OTHER CHRONIC ILLNESS

- Type 1 Diabetes
  - 30% to 50% relapse each year requiring additional medical care
  - Significant societal consequences
- Hypertension and Asthma
  - 50% to 70% relapse each year requiring additional medical care
  - Significant societal consequences
- Alcohol and Other Drug Diseases
  - 40% to 60% relapse each year
  - Significant societal consequences
  - Few patients receive treatment!

• Why the difficulty in engagement and treatment of addiction? Why is it so vexing for health care providers to treat addiction?

McLellan, JAMA, 2000
The need to screen...

**Table 2.** Actual Causes of Death in the United States in 1990 and 2000

<table>
<thead>
<tr>
<th>Actual Cause</th>
<th>No. (%) in 1990*</th>
<th>No. (%) in 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco</td>
<td>400,000 (19)</td>
<td>435,000 (18.1)</td>
</tr>
<tr>
<td>Poor diet and physical inactivity</td>
<td>300,000 (14)</td>
<td>400,000 (16.6)</td>
</tr>
<tr>
<td>Alcohol consumption</td>
<td>100,000 (5)</td>
<td>85,000 (3.5)</td>
</tr>
<tr>
<td>Microbial agents</td>
<td>90,000 (4)</td>
<td>75,000 (3.1)</td>
</tr>
<tr>
<td>Toxic agents</td>
<td>60,000 (3)</td>
<td>55,000 (2.3)</td>
</tr>
<tr>
<td>Motor vehicle</td>
<td>25,000 (1)</td>
<td>43,000 (1.8)</td>
</tr>
<tr>
<td>Firearms</td>
<td>35,000 (2)</td>
<td>29,000 (1.2)</td>
</tr>
<tr>
<td>Sexual behavior</td>
<td>30,000 (1)</td>
<td>20,000 (0.8)</td>
</tr>
<tr>
<td>Illicit drug use</td>
<td>20,000 (&lt;1)</td>
<td>17,000 (0.7)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,060,000 (50)</strong></td>
<td><strong>1,159,000 (48.2)</strong></td>
</tr>
</tbody>
</table>

*Data are from McGinnis and Foege. The percentages are for all deaths.*
Screening: What it IS and what it is not

• Validated screening instruments help clinicians identify patients who require further assessment, diagnosis, and treatment
  • ALL patients are screened
  • LONG history of Screening for unhealthy alcohol consumption and alcohol use disorders
  • Opioid dependence/misuse screening difficult...

• Screening is not case finding
• Screening is not assessment
Screening – So, What is it?

• A strategy used in a population to identify the possible presence of an as-yet-undiagnosed disease in individuals without signs or symptoms. This can include individuals with pre-symptomatic or unrecognized symptomatic disease

• SCREENING TESTS:
  • Unique: they are performed on persons in apparently GOOD health
WHO Principles and practice of Screening (Wilson’s criteria) - 1968

• The condition should be an important health problem
• There should be a treatment for the condition
• Facilities for diagnosis and treatment should be available
• There should be a latent stage of the disease
• There should be a test or examination for the condition
• The test should be acceptable to the population
• The natural history of the disease should be adequately understood
• There should be an agreed policy on whom to treat
• The total cost of finding a case should be economically balanced in relation to medical expenditure as a whole
• Case-finding should be a continuous process, not just a "once and for all" project
WHO Principles and practice of Screening – revised in 2008

• The screening program should respond to a recognized need
• The objectives of screening should be defined at the outset
• There should be a defined target population
• There should be scientific evidence of screening program effectiveness
• The program should integrate education, testing, clinical services and program management
• There should be quality assurance, with mechanisms to minimize potential risks of screening
• The program should ensure informed choice, confidentiality and respect for autonomy
• The program should promote equity and access to screening for the entire target population
• Program evaluation should be planned from the outset
• The overall benefits of screening should outweigh the harm
Do what about ADDICTIVE DISORDERS?

• THEY ARE TREATABLE!
• YES! by “normal” health care providers
OUTLINE

• Screening for Alcohol Consumption
  • Unhealthy Alcohol Consumption
  • Alcohol Use Disorders

• Screening for Opioid Use/Misuse
  • Prescription Opioid misuse
  • Opioid Use Disorders
ALCOHOL
The “Iceberg” of Alcohol Consumption

- Abstinence
- At-risk drinking
- Consumption below at-risk amounts
- Abuse
- Dependence

Increasing severity of disease:

Harder to recognize:
Typical Screening strategy

1. Abstinent from alcohol consumption
2. Drinking any alcohol
3. "Safe" alcohol drinking
4. At risk alcohol consumption (ARC)
5. Alcohol abuse
6. Alcohol use disorder (AUD)
7. Alcohol dependence

OR

I

II

III

IV
DSM 5 DEFINITION:
Substance Use Disorder
(old dependence/misuse)

- Failure to fulfill role obligations at work, school, or home
- Recurrent use in hazardous situations
- Continued use despite substance-related social or interpersonal problems
- Tolerance
- Withdrawal/physical dependence
- Loss of control over amount of substance consumed

Criteria:
- 2-3 (mild)
- 4-5 (moderate)
- 6 or more (severe)
DSM 5 DEFINITION:
Substance Use Disorder (cont)

• Preoccupation with controlling substance use
• Preoccupation with substance use activities
• Impairment of social, occupational, or recreational activities
• Use is continued despite persistent problems related to substance use
• Craving or a strong desire to use a substance

Now out:  Legal problems related to a substance
DEFINITION: At-Risk Drinking

• Consumption at a level that causes or elevates the risk for alcohol-related problems

• Men:
  • 5 or more (>4) standard drinks per day
  • 15 or more (>14) standard drinks per week

• Women:
  • 4 or more (>3) standard drinks per day
  • 8 or more (>7) standard drinks per week

• ~ 30% US adults = hazardous amounts
“Standard Drink”

- A standard drink = 14 g ethanol
  - 12 oz of regular beer or cooler (5% alcohol)
  - 5 oz of table wine (12% alcohol)
  - 1.5 oz of hard liquor (40% alcohol, 80 proof)
- The average person metabolizes about 1 standard drink per hour
Unhealthy – At risk – hazardous Drinking

• 3 out of 10 US adults consume alcohol at levels that increase their risk for physical, mental health, and social problems
• Of those at risk, about 25% currently have alcohol abuse or dependence
• Emerging research indicates that hazardous alcohol drinkers may be more inclined to progress to alcohol abuse/dependence

Medical Harm of Hazardous Drinking

- Hazardous drinking is associated with an increased risk for:
  - All-cause mortality
  - Hypertension
  - Cardiomyopathy
  - Diabetes
  - Trauma
  - Stroke
  - More serious alcohol disorders
  - Cancers
    - particularly upper GI and breast cancers
  - Others...

Figured from Babor et al (World Health Organization), AUDIT Guidelines for Use in Primary Care, 2001
Case: What is the disorder?
The Alcohol Use Disorders Identification Test (AUDIT)

Figure 3. The Alcohol Use Disorders Identification Test (AUDIT)

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
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<tbody>
<tr>
<td>1. How often do you have a drink containing alcohol?</td>
<td>Never (0) Monthly or less (1) 2-4 times a month (2) 2-3 times a week (3) 4 or more times a week (4)</td>
</tr>
<tr>
<td>2. How many drinks containing alcohol do you have on a typical day when you are drinking?</td>
<td>1 or 2 (0) 3 or 4 (1) 5 or 6 (2) 7 to 9 (3) 10 or more (4)</td>
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<tr>
<td>3. How often do you have six or more drinks on one occasion?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
</tr>
<tr>
<td>4. How often during the last year have you found that you were not able to stop drinking once you had started?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
</tr>
<tr>
<td>5. How often during the last year have you failed to do what was normally expected from you because of drinking?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
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<tr>
<td>6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
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<tr>
<td>7. How often during the last year have you had a feeling of guilt or remorse after drinking?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
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<tr>
<td>8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?</td>
<td>Never (0) Less than monthly (1) Monthly (2) Weekly (3) Daily or almost daily (4)</td>
</tr>
<tr>
<td>9. Have you or has someone else been injured as a result of your drinking?</td>
<td>No (0) Yes, but not in the last year (2) Yes, during the last year (4)</td>
</tr>
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<td>10. Has a relative or friend or a doctor or other health worker been concerned about your drinking or suggested you cut down?</td>
<td>No (0) Yes, but not in the last year (2) Yes, during the last year (4)</td>
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AUDIT questions usually are asked in context of consumption of alcohol in the prior 12 months. Possible scores for the AUDIT are from 0 to 40. A common cutoff score for hazardous drinking is a score of 8 or above. Abbreviated AUDIT questionnaires include the AUDIT-C (questions 1-3, positive score of 3 or higher) and the AUDIT-3 (question 3, positive score is any affirmative answer).
The Alcohol Use Disorders Identification Test (AUDIT, AUDIT-C, AUDIT-3)

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Alcohol Use Disorder
C.A.G.E.

• Have you ever felt you should cut down on your drinking?
• Have people annoyed you by criticizing your drinking?
• Have you ever felt bad or guilty about your drinking?
• Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye opener)?
Using the AUDIT and CAGE to Detect a Range of Alcohol Use Disorders

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Cutoff Score</th>
<th>At-Risk Drinking</th>
<th>Alcohol Abuse/Dependence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Specificity</td>
<td>Sensitivity</td>
<td>Specificity</td>
</tr>
<tr>
<td>AUDIT</td>
<td>≥8</td>
<td>57₁⁸</td>
<td>96₁⁹</td>
</tr>
<tr>
<td></td>
<td>59₁⁸</td>
<td>91₁⁸</td>
<td>66₁⁹</td>
</tr>
<tr>
<td></td>
<td>63₁⁴</td>
<td>90₁⁴</td>
<td>71₁⁴</td>
</tr>
<tr>
<td></td>
<td>97₁⁷</td>
<td>78₁⁴</td>
<td>96₁⁰</td>
</tr>
<tr>
<td>AUDIT - C</td>
<td>≥3</td>
<td>95₁⁶</td>
<td>69₁⁴</td>
</tr>
<tr>
<td></td>
<td>96₁⁴</td>
<td>57₁⁸</td>
<td></td>
</tr>
<tr>
<td>AUDIT - 3</td>
<td>≥1</td>
<td>99₁⁸</td>
<td>51₁⁴</td>
</tr>
<tr>
<td></td>
<td>81₁⁸</td>
<td>69₁⁸</td>
<td></td>
</tr>
<tr>
<td>CAGE</td>
<td>≥2</td>
<td>14₁⁸</td>
<td>97₁⁸</td>
</tr>
<tr>
<td></td>
<td>69₁³⁵</td>
<td>95₁³⁵</td>
<td>94₁⁷</td>
</tr>
<tr>
<td></td>
<td>49₁³⁷</td>
<td>75₁⁷</td>
<td>82₁⁷</td>
</tr>
<tr>
<td></td>
<td>84₁⁷</td>
<td>95₁⁷</td>
<td></td>
</tr>
</tbody>
</table>

Evidence summarized for ability of the AUDIT and CAGE questionnaires in detecting at-risk drinking and alcohol abuse/dependence based on cutoff scores. Studies were conducted in outpatient practices. The sensitivities and specificities of studies presented were determined from various reference values. Modified from Fiellin et al.² and Gordon and Saitz.⁴³
Helping Patients Who Drink Too Much

[Image of a guide with the title "Helping Patients Who Drink Too Much"]

U.S. Department of Health & Human Services
National Institutes of Health
National Institute on Alcohol Abuse and Alcoholism

Updated 2005 Edition

New Supportive Materials

NIH/NIAAA 2005
Typical Screening strategy: REDUX

Do you drink beer or alcohol? (screen = yes)

CAGE (screen ≥ 1)

AUDIT-C (screen ≥ 3)

ABSTINENT FROM ALCOHOL CONSUMPTION

DRINKING ANY ALCOHOL

“SAFE” ALCOHOL DRINKING

PROBLEM ALCOHOL DRINKING

AT RISK ALCOHOL CONSUMPTION (ARC)

ALCOHOL USE DISORDER (AUD)

ALCOHOL ABUSE

ALCOHOL DEPENDENCE
Opioid Use Disorders are increasing

• The abuse of and addiction to opioids is a serious global problem that affects the health, social, and economic welfare of all societies
  • 26.4 million-36 million people

• In US
  • Pain relievers: 2,100,000
  • Heroin: 467,000
  • Since 1999, the number of unintentional overdose deaths has >4X
OverDose Deaths in the US

Overdose Deaths Involving Opioids, United States, 2000-2015

- Any Opioid
- Commonly Prescribed Opioids (Natural & Semi-Synthetic Opioids and Methadone)
- Heroin
- Other Synthetic Opioids (e.g., fentanyl, tramadol)

YOUTH: Some staggering numbers

• ~ 70% of high school students tried alcohol
• ~ 50% will have taken an illegal drug
• ~ 40% will have smoked a cigarette

• ~ 14%-20% will have used a prescription drug for a nonmedical purpose in prior year
  • 72% of those with non-medical use obtained them from home (6% from friends)

Johnston LD, et.al. Monitoring the Future National results on Adolescent drug use: Overview of Key findings, 2013
NIH/NIDA, Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide, 2014
Ontario Student Drug Use and Health Survey, 2011
Addiction Treatment by age

SAMHSA, Center for Behavioral Statistics and Quality, NSDUH, 2013
NIH/NIDA, Principles of Adolescent Substance Use Disorder Treatment: A Research-Based Guide, 2014
Case: Does Joanne have an addiction?
So, Opioid Use Disorder Screening

- There is no evidence that screening (and brief intervention) in primary care patients decreases use or consequences
- The US Preventive Services Task Force and National Institute on Drug Abuse found the evidence INSUFFICIENT to recommend drug screening
CAGE-AID

Table 1  CAGE-AID

1. Have you ever tried to **Cut down** on your alcohol or drug use?
2. Do you get **Annoyed** when people comment about your drinking or drug use?
3. Do you feel **Guilty** about things you have done while drinking or using drugs?
4. Do you need an **Eye-opener** to get started in the morning?

AID = adapted to include drugs.  
Two or more questions answered in the affirmative require further assessment.  

Drug ABUSE Screening Test (DAST)

**Table 2** Drug Abuse Screening Test (DAST-10)

1. Have you used drugs other than those required for medical reasons?
2. Do you abuse more than one drug at a time?
3. Are you unable to stop using drugs when you want to?
4. Have you ever had blackouts or flashbacks as a result of drug use?
5. Do you ever feel bad or guilty about your drug use?
6. Does your spouse (or parents) ever complain about your involvement with drugs?
7. Have you neglected your family because of your use of drugs?
8. Have you engaged in illegal activities in order to obtain drugs?
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?
10. Have you had medical problems as a result of your drug use (eg, memory loss, hepatitis, convulsions, bleeding)?

Two or more questions answered in the affirmative require further assessment.\(^{19}\)

Maisto SA Et.al. Psychol Assess, 2000
ADOLESCENT Screening: CRAFFT

• C – Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using alcohol or drugs?
• R – Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
• A – Do you ever use alcohol/drugs while you are by yourself (ALONE)
• F – Do you ever FORGET things you did while using alcohol or drugs?
• F – Do you FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?
• T – Have you gotten into TROUBLE while you were using alcohol or drugs?

Other Screening Tests

• Screening Instrument for Substance Abuse Potential (SISAP)
  • 5 item, pointed questions - ETOH, Mar, and cigs

• Screener and Opioid Assessment for Patients in Pain (SOAPP)
  • Self administered 5-, 14-, 24-item versions

• Diagnosis, Intractability, Risk, Efficacy (DIRE)
  • 7 item tool for pain

• Opioid Risk Tool (ORT)
  • Self administered, 5-item for aberrant behaviors
OPIOID Screening Instruments: 1 question?

• DIRECT
  • “How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?”

• INDIRECT:
  • A Binge question regarding ALCOHOL (!)  
  • “In the last year, have you consumed more than 4 drinks on one occasion at any one “sitting”

Smith PC, Arch.Int.Med 2010
Screening Instruments

• The ASSIST
  • Alcohol,
  • Smoking and
  • Substance Involvement
  • Screening Test

• Developed by the WHO

• Components
  • Pre-screen
  • Screen
What about Case Finding?

• Physical Exam

• Behaviors:
  • Calls after hours
  • Repeated requests for early refills
  • Insistence that non-narcotic analgesics do not work
  • Perseveration during a visit on need of opioids

• When pain is undertreated, these behaviors also exists ...

What Next?

• Screening is best used to avoid repeated questions to a patient without the disorder
• When Screening is POSITIVE, then ASSESSMENT and INTERVENTION
SBIRT or SA-BITT-RT

• SCREENING (for at risk drinking)
  • THEN ASSESSMENT (for all – get it right!)

• BRIEF INTERVENTION (for at risk drinking)
  • TREATMENT: Pharmacologic (AUD, OUD)
  • TREATMENT: Non pharmacologic (ALL)

• REFERRAL TO TREATMENT (maybe...)

Hi, I’m __________, nice to meet you. If it’s okay with you, I’d like to ask you a few questions that will help me give you better medical care. The questions relate to your experience with alcohol, cigarettes, and other drugs. Some of the substances we’ll talk about are prescribed by a doctor (like pain medications). But I will only record those if you have taken them for reasons or in doses other than prescribed. I’ll also ask you about illicit or illegal drug use—but only to better diagnose and treat you.
DISCUSSION

Further questions, please contact me!

gordona@medschool.pitt.edu or
adam.gordon@hsc.utah.edu

Or contact the Project RAMP office...