Alcohol Use Among People with HIV

Geetanjali Chander, MD MPH
Professor of Medicine, University of Washington

Last Updated: July 18, 2024

Disclosures

No conflicts of interest

Disclaimer

Funding for this presentation was made possible by 1 TR7HA53202-01-00 from the Human Resources and Services Administration HIV/AIDS Bureau. The views expressed do not necessarily reflect the official policies of the Department of Health and Human Services nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government. *Any trade/brand names for products mentioned during this presentation are for training and identification purposes only.*

AETC AIDS Education & Training Center Program Mountain West

Data Considerations

Data in this presentation offer a limited perspective of how systemic, social, and economic factors impact health. We recognize that racism, not race, creates and perpetuates health disparities.

To Learn More:
https://www.cdc.gov/minorityhealth/racism-disparities

Learning objectives

Upon completion of this activity, learners will be able to:

- **Describe** the roles of unhealthy alcohol use on HIV-related morbidity and mortality
- **Implement** optimal screening **methods** for alcohol use in HIV clinical settings
- **List** evidence-based therapies for alcohol use among people with HIV

MWAETC

Overview

- Unhealthy alcohol use, the HIV care continuum, and comorbidities
- Screening and interventions for unhealthy alcohol use among PWH

Question 1

When do you personally screen for alcohol use in your practice?

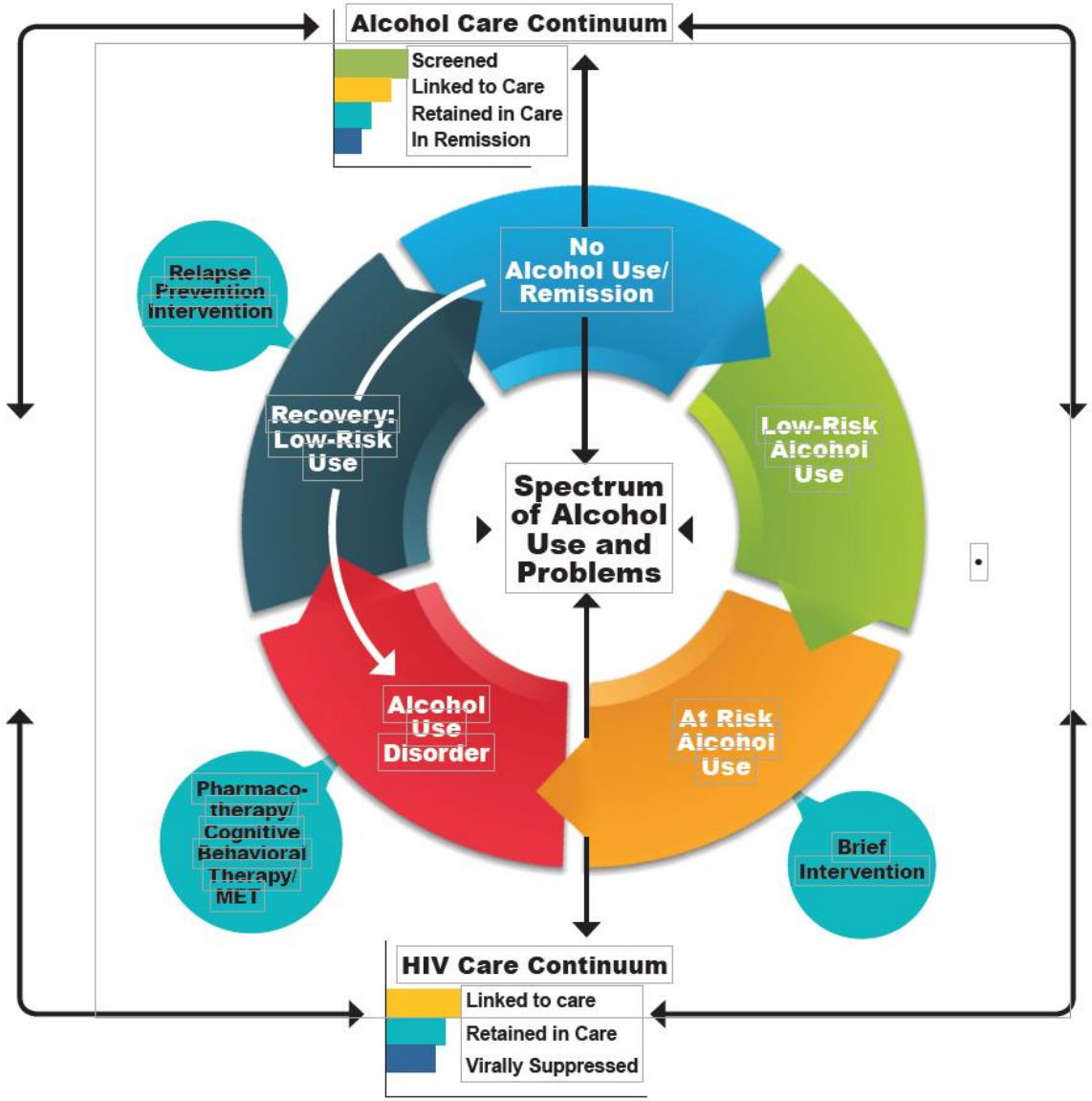
1. At the initial visit only
2. At annual visits
3. At every visit
4. Only when alcohol use disorder is suspected

Question 2

How often do you ask your patients about alcohol use when they experience viral rebound?

1. Always
2. Often
3. Sometimes
4. Never

Spectrum of alcohol use



At-Risk Alcohol Use:

Men ≤ 65years old:

>4 drinks/occasion;

>14 drinks/week

Women and Men >65 years old:

>3 drinks/occasion;

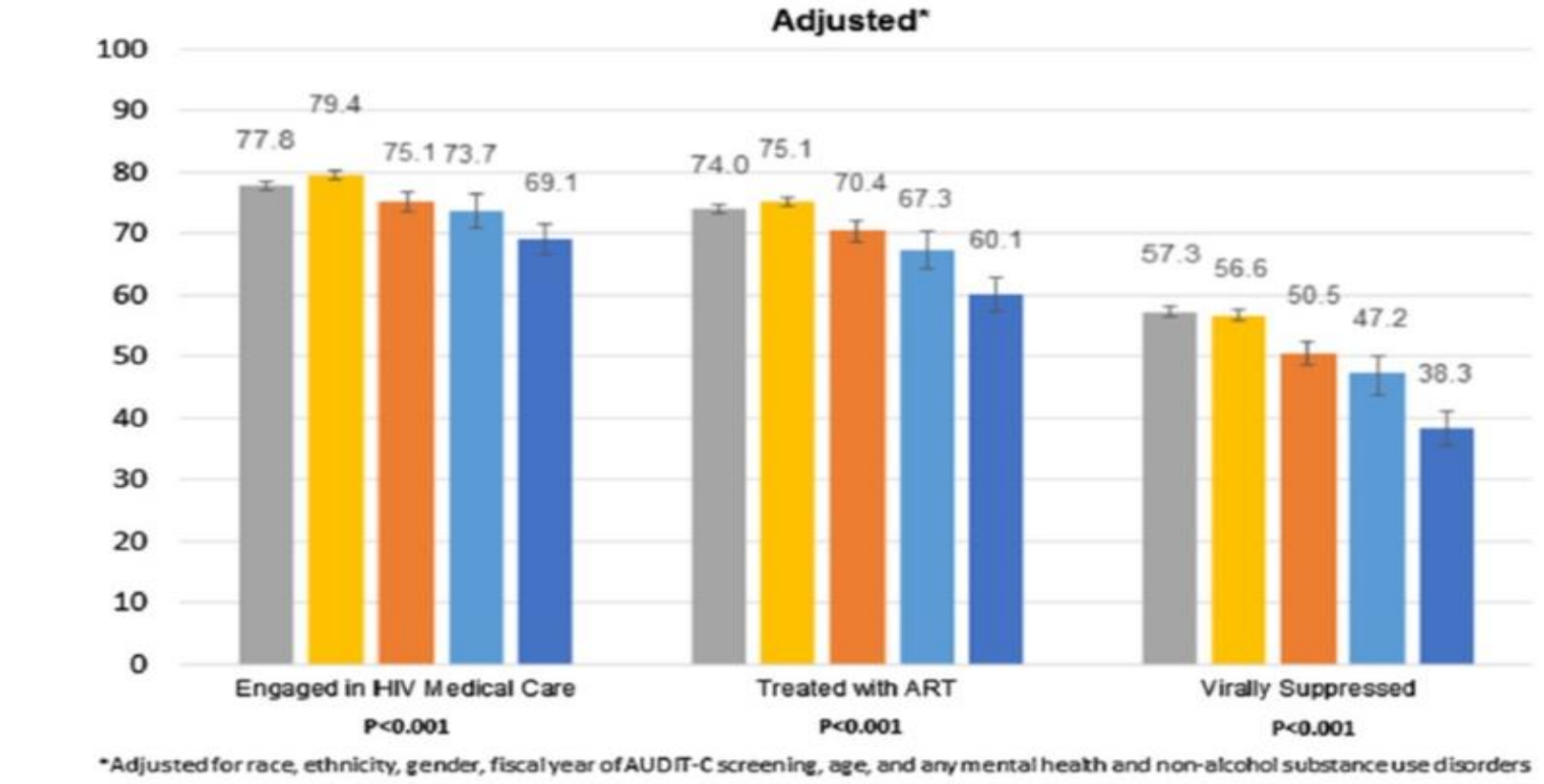
>7 drinks/week

Transgender persons

>4 drinks per occasion or AUDIT-C≥3

Unhealthy Alcohol Use: HIV – 27%

Unhealthy alcohol use and the HIV Care Continuum



Non-Drinking (0)
Low-Level (1-3; 1-2 women)
Medium-Level (4-5; 3-5 women)
High-Level (6-7)
Very High-Level (8-12)

Sample: VACS N=33,224

HIV care metrics assessed in year following AUDIT-C:

- Engaged in care- by CD4 or HIV viral load test
- Treatment with ART – at least one filled prescription
- Viral suppression - <500copies/mL based on first lab after AUDIT-C

Williams EC *AIDS Behav* 2018

MWAETC

Unhealthy alcohol use and viral suppression

Time Spent with HIV Viral Load > 1500 Copies/mL Among Persons Engaged in Continuity HIV Care in an Urban Clinic in the United States, 2010–2015

Catherine R. Lesko[1] · Bryan Lau[1,2] · Geetanjali Chander[1,2] · Richard D. Moore[1,2]

Changing Patterns of Alcohol Use and Probability of Unsuppressed Viral Load Among Treated Patients with HIV Engaged in Routine Care in the United States

Catherine R. Lesko[1] · Robin M. Nance[2] · Bryan Lau[1] · Anthony T. Fojo[3] · Heidi E. Hutton[4] · Joseph A. C. Delaney[5] · Heidi M. Crane[2] · Karen L. Cropsey[6] · Kenneth H. Mayer[7] · Sonia Napravnik[8] · Elvin Geng[9] · W. Christopher Mathews[10] · Mary E. McCaul[3,4] · Geetanjali Chander[3] on behalf of the CNICS

AIDS and Behavior
https://doi.org/10.1007/s10461-021-03487-3

ORIGINAL PAPER

Alcohol Use Disorder and Recent Alcohol Use and HIV Viral Non-Suppression Among People Engaged in HIV Care in an Urban Clinic, 2014–2018

Catherine R. Lesko[1] · Heidi E. Hutton[2] · Jessie K. Edwards[3] · Mary E. McCaul[2] · Anthony T. Fojo[4] · Jeanne C. Keruly[4] · Richard D. Moore[4] · Geetanjali Chander[4]

MWAETC

Unhealthy alcohol use and retention in care

TABLE 2. Association Between Alcohol and Retention*

	IOM Retention Measure		Visit Adherence Measure	
	Drinking Categories	Binge Frequency Categories	Drinking Categories	Binge Frequency Categories
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Drinking category				
Never	Ref	Ref	Ref	Ref
Moderate	0.93 (0.83 to 1.03)	—	1.01 (0.96 to 1.07)	—
Heavy†	0.78 (0.69 to 0.88)‡	—	0.97 (0.91 to 1.04)	—
Binge frequency category				
Never	Ref	Ref	Ref	Ref
Monthly/less than monthly	—	0.89 (0.80 to 0.99)§	—	0.98 (0.93 to 1.03)
Daily/weekly	—	0.90 (0.74 to 1.10)	—	0.90 (0.82 to 0.98)§
Current drug use				
Yes (vs. no)	0.88 (0.77 to 1.00)	0.87 (0.76 to 0.99)§	0.74 (0.69 to 0.79)‡	0.74 (0.70 to 0.79)‡
Panic symptoms				
None	Ref	Ref	Ref	Ref
Some	0.94 (0.83 to 1.08)	0.94 (0.82 to 1.07)	0.96 (0.91 to 1.02)	0.96 (0.91 to 1.02)
Panic disorder	0.92 (0.80 to 1.07)	0.92 (0.80 to 1.07)	0.85 (0.80 to 0.90)‡	0.85 (0.80 to 0.90)‡
Depression screen				
Positive (vs. negative)	1.15 (1.02 to 1.30)§	1.15 (1.02 to 1.30)§	0.92 (0.88 to 0.97)§	0.92 (0.88 to 0.97)§

*Four different models were fit for each retention measure and drinking exposure type reported. Each model was adjusted for age, race, sex/sexual risk factor, CD4 category, viral load category, enrollment date, site, intravenous drug use as HIV risk factor.

†Heavy = AUDIT-C >3 for women or >4 for men.

‡$P < 0.0001$.

§$P < 0.05$.

PWH with heavy alcohol use 22% less likely to be retained in care; individuals with binge/heavy episodic drinking 10% less likely to be retained in care (IOM definition)

Monroe AK, Lau B, Mugavero MJ, Mathews WC, Mayer KH, Napravnik S, Hutton HE, Kim HS, Jabour S, Moore RD, McCaul ME, Christopoulos KA, Crane HC, Chander G. Heavy Alcohol Use Is Associated With Worse Retention in HIV Care. J Acquir Immune Defic Syndr. 2016 Dec 1;73(4):419-425. doi: 10.1097/QAI.0000000000001083. PMID: 27243904; PMCID: PMC5085857.

MWAETC

Unhealthy alcohol use and comorbidities

Comorbidities

Alcohol use and mental health disorders

Depression, anxiety, trauma

Alcohol and other substance use

- Opioids, stimulants, cannabis

Alcohol use and tobacco

Alcohol use and co-infections

HCV, TB, Pneumonia

Alcohol use and chronic disease

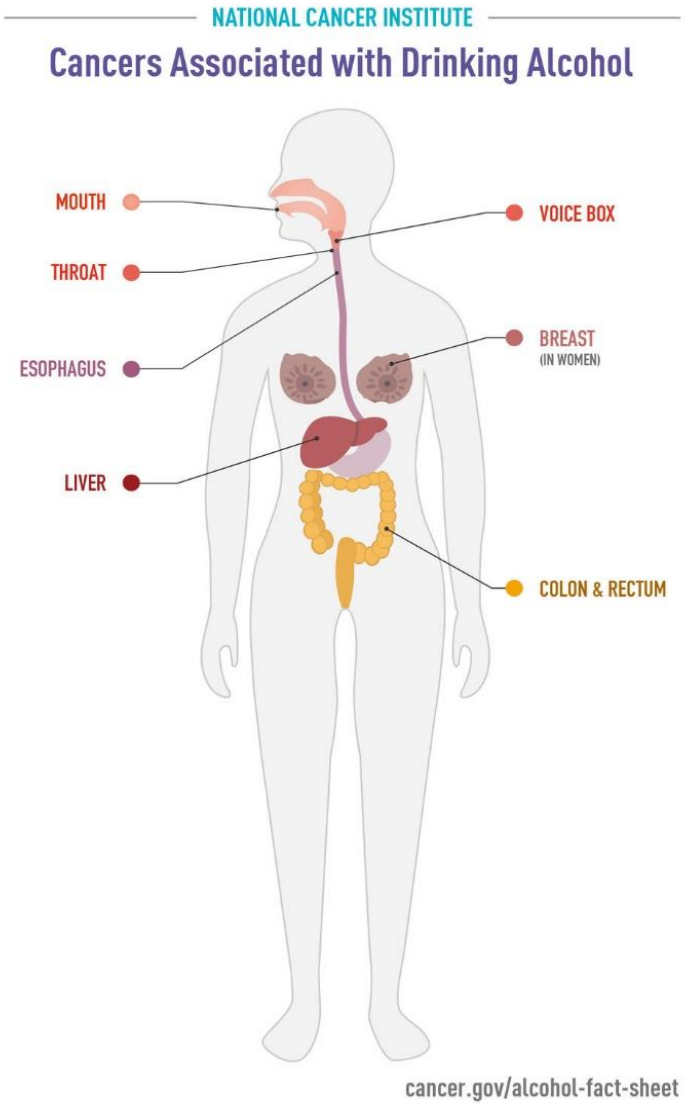
Diabetes, HTN, CVD

Alcohol use and liver disease

Alcohol use and cognition

Alcohol use and cancer

Mortality



Integration of evidence based alcohol treatment in HIV clinical settings

- Among PWH, unhealthy alcohol use and **alcohol use disorders (AUD)** are associated with lower utilization of medical treatment, poorer medication adherence and HIV transmission risk behaviors, liver disease progression, and mortality.

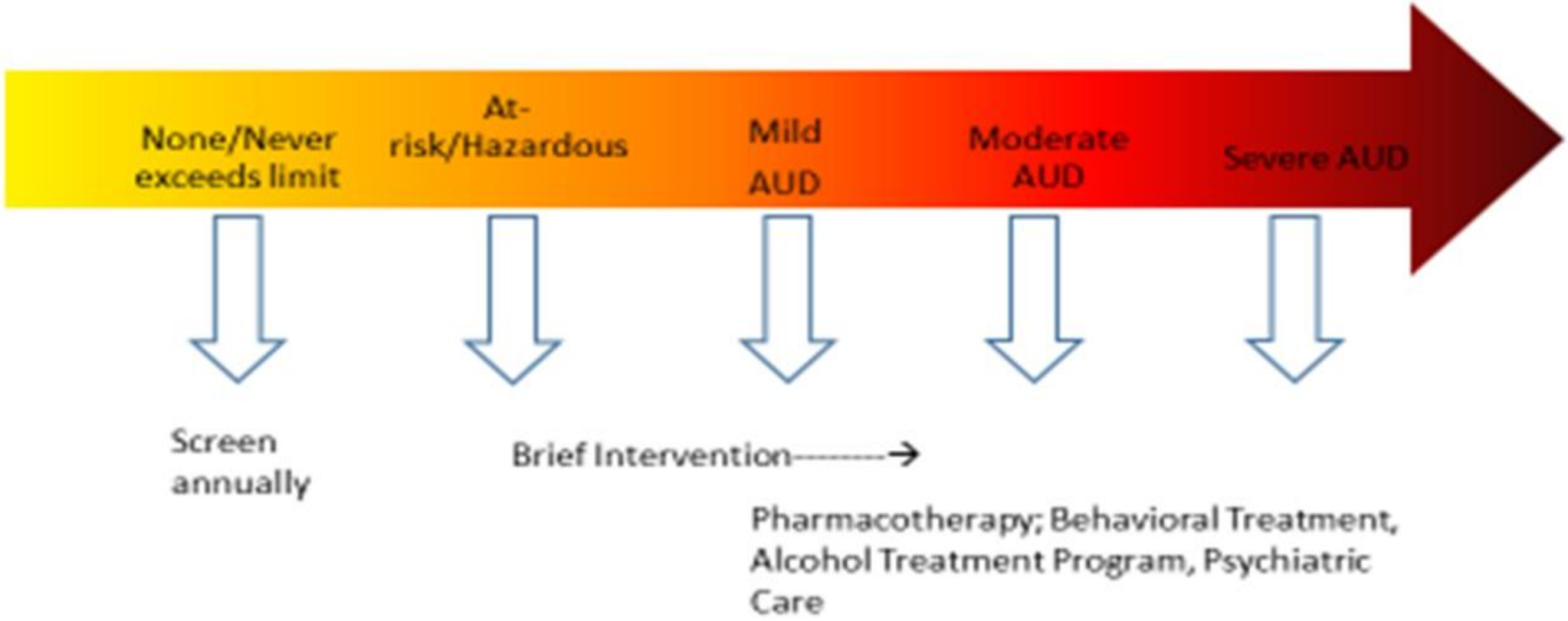
- Implementation of **evidence-based alcohol treatment strategies** in this population is critically needed.

- Most people in need of alcohol treatment do not access subspecialty services (SAMHSA)
  - Not ready to stop, cannot afford, negative impact on job, unsure of where to go, stigma

- Given potential barriers to accessing traditional alcohol treatment services, integration of alcohol reduction strategies into HIV care and other clinical settings may increase treatment access and improve HIV outcomes

MWAETC

Management of unhealthy alcohol use



Adapted from Willenbring ML, et al. *American Family Physician*. 2009. Volume 80, issue 1 and Willenbring ML. Addiction Professional 2008. http://www.addictionpro.com.

MWAETC

Screening for unhealthy alcohol use

- **Who should we screen?**
  - All individuals presenting to care
  - Screen at baseline, and if negative, repeat <u>at least</u> annually, if positive, at every visit
    - New viremia, viral rebound
    - Transaminitis
    - High blood sugar/Blood pressure
    - Trauma, accidents
    - Depression/Anxiety and other mental health disorders
    - Tobacco and other substance use

- **What should we use?**
  - Alcohol: National Institute on Alcohol Abuse and Alcoholism recommends single question
    - How often in the last year have you had 4 or more drinks (women) or 5 or more drinks (men);[1]
    - if ≥1, follow-up with quantity/frequency questions;
    - Alcohol Use Disorders Test-Consumption (AUDIT-C) Clarify that alcohol includes beer, wine, liquor

MWAETC

AUDIT-C

Question 1: How often do you have a drink containing alcohol?

(0) Never (1) Monthly or less (2) 2 to 4 times a month (3) 2 to 3 times a week (4) 4 or more times a week

Question 2: How many drinks containing alcohol do you have on a typical day when you are drinking?

(0) 1 or 2 (1) 3 or 4 (2) 5 or 6 (3) 7, 8, or 9 (4) 10 or more

Question 3: How often do you have 4 or more (women) 5 or more (men) drinks on one occasion?

(0) Never (1) Less than monthly (2) Monthly (3) Weekly (4) Daily or almost daily

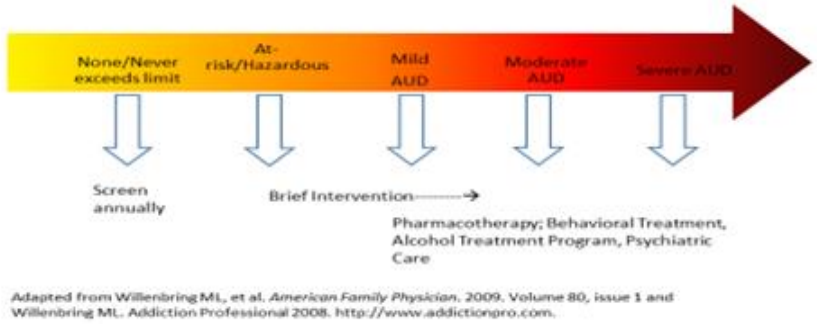
A positive test is ≥3 in women/TG individuals, ≥4 in men

MWAETC

Assess for alcohol use disorder

AUD Symptom Checklist

- Severity based on the number of criteria a person meets based on their symptoms—
- mild (2–3 criteria),
- moderate (4–5 criteria), or
- severe (6 or more criteria).



Adapted from Willenbring ML, et al. *American Family Physician*. 2009. Volume 80, issue 1 and Willenbring ML. Addiction Professional 2008. http://www.addictionpro.com.

To help you and your provider understand how your alcohol use might be affecting your health, please answer the following questions.

Please SELECT the best response to each question.

In the past 12 months…

1. Did you find that drinking the same amount of alcohol has less effect than it used to or did you have to drink more alcohol to get intoxicated?	No ☐	Yes ☐
2. When you cut down or stop drinking did you get sweaty or nervous, or have an upset stomach or shaky hands? Did you drink alcohol or take other substances to avoid these symptoms?	No ☐	Yes ☐
3. When you drank, did you drink more or for longer than you planned to?	No ☐	Yes ☐
4. Have you wanted to or tried to cut back or stop drinking alcohol, but been unable to do so?	No ☐	Yes ☐
5. Did you spend a lot of time obtaining alcohol, drinking alcohol, or recovering from drinking?	No ☐	Yes ☐
6. Have you continued to drink even though you knew or suspected it creates or worsens mental or physical problems?	No ☐	Yes ☐
7. Has drinking interfered with your responsibilities at work, school, or home?	No ☐	Yes ☐
8. Have you been intoxicated more than once in situations where it was dangerous, such as driving a car or operating machinery?	No ☐	Yes ☐
9. Did you drink alcohol even though you knew or suspected it causes problems with your family or other people?	No ☐	Yes ☐
10. Did you experience strong desires or craving to drink alcohol?	No ☐	Yes ☐
11. Did you spend less time working, enjoying hobbies, or being with others because of your drinking?	No ☐	Yes ☐

Source: Hallgren KA et al. Alcohol Clin Exp Res. 2022 Mar;46(3):458-467.

MWAETC

Definition of a standard drink

1 ½ ounces of hard liquor, 80 proof vodka, rum, whiskey

5 ounce glass of wine, 12% alcohol, red or white

12 ounce can/bottle of beer, 5% alcohol

=

=

Brief alcohol intervention

- Recommended by the USPTF for persons with unhealthy alcohol use
- Generally consists of 4 or fewer sessions
  - typically lasted 5 – 15 minutes;
  - Includes non-judgmental normative feedback and advice to cut down or stop drinking;
  - Advice placed in the context of recommended limits and health
  - May provide patients with written material to reinforce the intervention
- Can consist of components of motivational interviewing, addressing ambivalence, and elements of CBT with goal setting and coping strategies
- Evidence suggests that follow-up visits further enhance outcomes
- 2018 review of BI for unhealthy alcohol use demonstrated reduced number of drinks per week among persons receiving BI versus control, with 14% more participants drinking below limits
- Recommendation: Unhealthy Alcohol Use in Adolescents and Adults: Screening and Behavioral Counseling Interventions | United States Preventive Services Taskforce (uspreventiveservicestaskforce.org)

MWAETC

Brief alcohol intervention: NIAAA 7 steps

1. Ask permission: Start by setting the agenda to discuss alcohol use
   "If it is okay with you, I would like to discuss your alcohol use"

2. Give feedback and advice
   Based on current screening, link to current health (mental health, physical health)
   Provide advice (noting alcohol reduction may improve current health)
      No AUD, recommend cutting down to safer limits;
      AUD state concern, advice to reduce or quit, EBI, behavioral health, referral

3. Check in: Ask what patients think of this information
   Assess understanding, readiness to change
   Dispel misconceptions

4. Build motivation: Briefly explore reasons for making a change
   Open ended questions ("what might be some benefits of cutting back?"); Listen for change talk

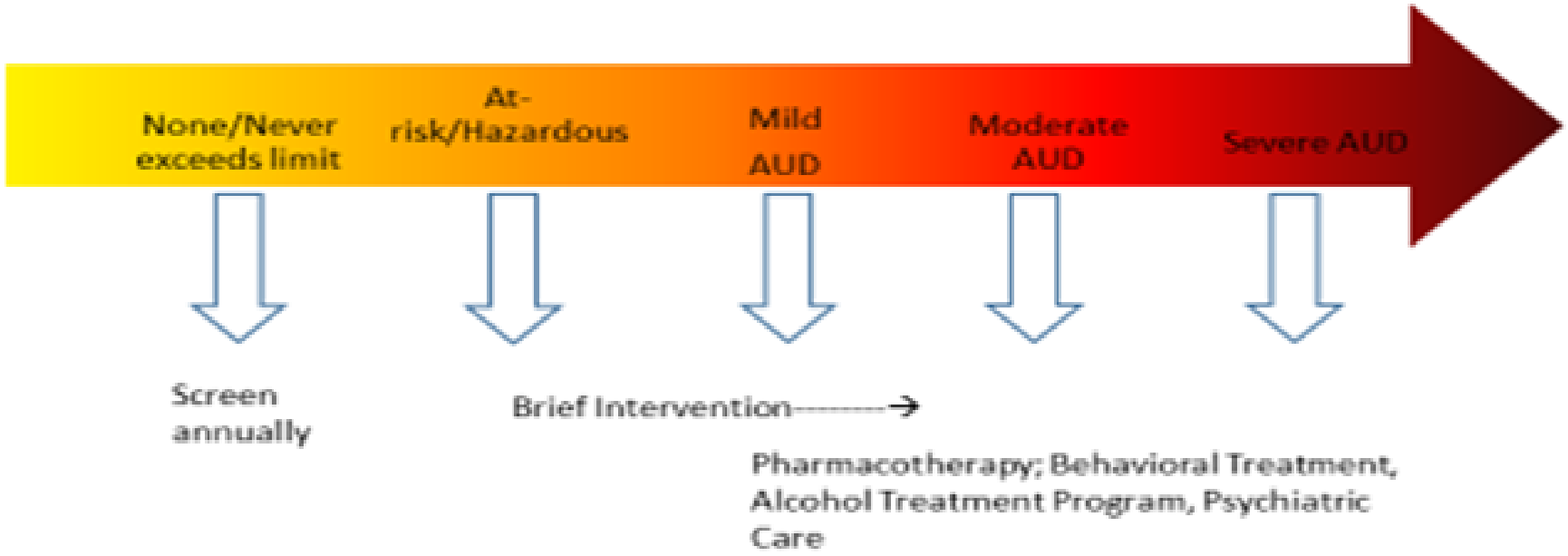
5. Offer support: Express empathy and encourage autonomy.
   Maintain empathy, non-judgmental tone, person many not be ready to change but conversation opens a "door" to future communication

6. Identify next steps: Work together to develop a plan for change

7. Follow up: Continue the dialogue at the next visit

[Conduct a Brief Intervention: Build Motivation and a Plan for Change | National Institute on Alcohol Abuse and Alcoholism (NIAAA) (nih.gov)]

MWAETC



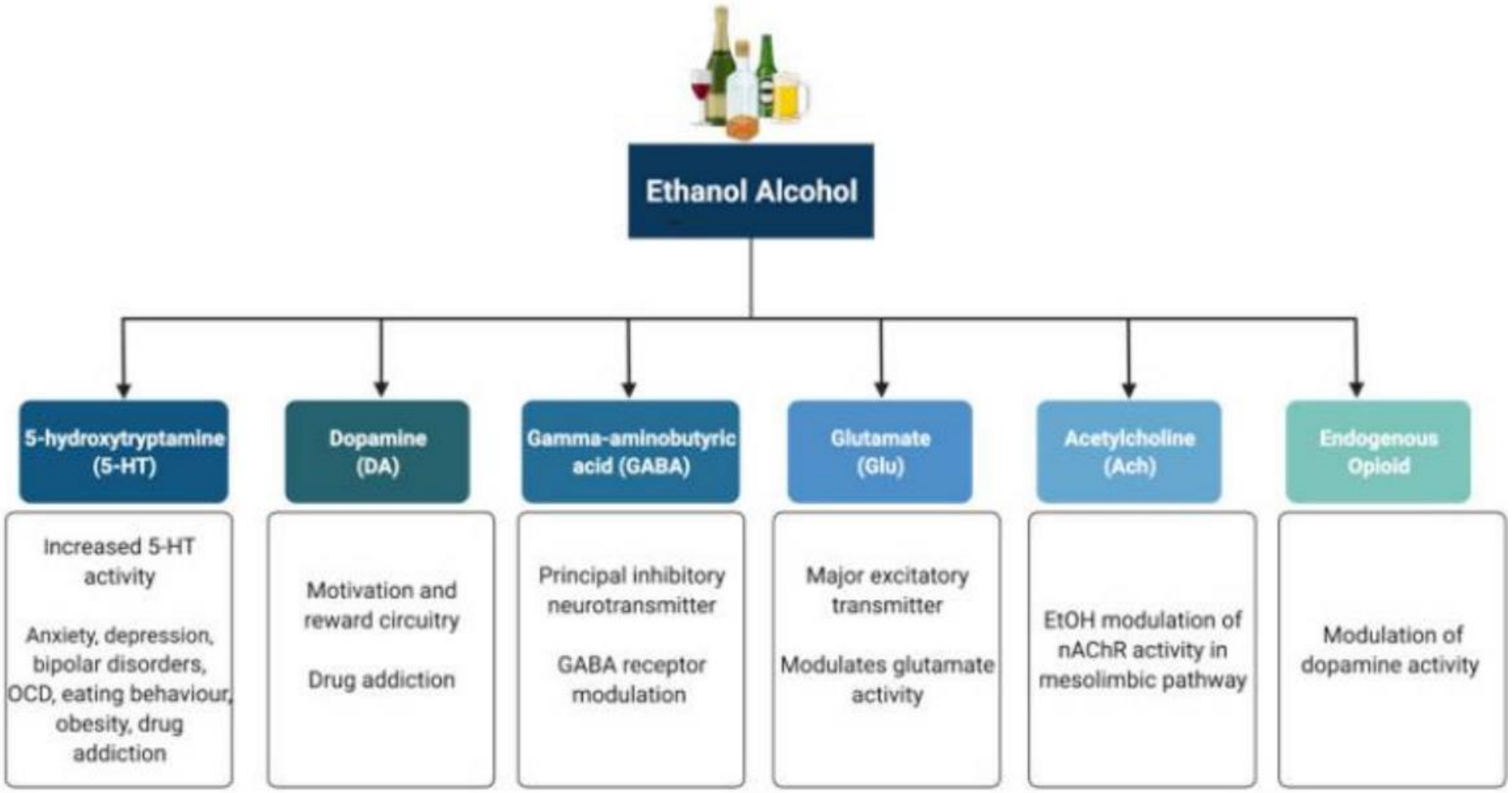
Adapted from Willenbring ML, et al. *American Family Physician*. 2009. Volume 80, issue 1 and Willenbring ML. Addiction Professional 2008. http://www.addictionpro.com.

Pharmacotherapy for Alcohol Use Disorder: Rationale

- Evidence suggests that BI may not reduce drinking in patients with more serious drinking problems.
- As in management of other chronic health problems (depression, tobacco, OUD), medications may offer the next level of intervention
- Medications can target neurotransmitters involved in the reinforcing and anxiolytic effects of alcohol use
- Beneficial in combination with non-pharmacologic therapy, including counseling and other behavioral therapies
- 3 FDA approved therapies for AUD: Naltrexone (po and IM), Acamprosate and Disulfiram
- Data from 2019 NSDUH suggest that 1.6% patients with AUD receive FDA approved medication for AUD (Han, 2021)

MWAETC

Pharmacotherapy for AUD: Rationale for use



Yang W, Singla R, Maheshwari O, Fontaine CJ, Gil-Mohapel J. Alcohol Use Disorder: Neurobiology and Therapeutics. Biomedicines. 2022 May 21;10(5):1192. doi: 10.3390/biomedicines10051192. PMID: 35625928; PMCID: PMC9139063.

MWAETC

Naltrexone

- Blocks opioid receptors→ attenuates positive reinforcing effects of alcohol consumption
- Decreases heavy drinking days and return to heavy drinking; decreases craving
- Mechanism of action: Opioid receptor antagonist
- Indication: Moderate to severe alcohol use disorder
- Typical adult dosing: 50mg Daily (oral) or 380mg IM Q28Days (injectable)
- Side effects: Nausea / vomiting, dizziness, headache, elevated LFTs, injection site reaction, decreased appetite
- Contraindicated: Acute hepatitis, liver enzymes ≥3 to 5 times normal, or liver failure; opioid use or risk of opioid withdrawal

Monitoring: Periodic liver function tests

	Naltrexone			
	50 mg/d, oral	100 mg/d, oral	Injection	Any dose
Return to any drinking				
No. of studies	16	3	2	25
No. of participants	2347	946	939	4604
Results effect size (95% CI)	RR, 0.93 (0.87-0.99)	RR, 0.97 (0.91-1.03)	RR, 0.96 (0.90-1.03)	RR, 0.95 (0.92-0.99)
Number needed to treat (95% CI)[c]	18 (4-32)			
Strength of evidence	Moderate	Low (no effect)	Low (no effect)	Moderate
Return to heavy drinking				
No. of studies	23	2	2	27
No. of participants	3170	858	615	4645
Results effect size (95% CI)	RR, 0.81 (0.72-0.90)	RR, 0.93 (0.84-1.01)	RR, 1.00 (0.82-1.21)	RR, 0.86 (0.80-0.93)
Number needed to treat (95% CI)[c]	11 (5-41)			
Strength of evidence	Moderate	Low (no effect)	Low (no effect)	Moderate
Percentage of drinking days				
No. of studies	15	3	2	24[d]
No. of participants	1992	1023	467	4021
Results effect size (95% CI)[b]	WMD, −5.1 (−7.16 to −3.04)	WMD, −2.3 (−5.60 to 0.99)	WMD, −4.99 (−9.49 to 0.49)	WMD, −4.51 (−6.26 to −2.77)
Strength of evidence	Moderate	Low	Low	Moderate
Percentage of heavy drinking				
No. of studies	7	2	3	13
No. of participants	624	423	956	2167
Results effect size (95% CI)[b]	WMD, −4.3 (−7.60 to −0.91)	WMD, −3.1 (−5.8 to −0.3)	WMD, −4.68 (−8.63 to −0.73)	WMD, −3.92 (−5.86 to −1.97)
Strength of evidence	Moderate	Low	Low	Moderate

McPheeters M, O'Connor EA, Riley S, et al. Pharmacotherapy for Alcohol Use Disorder: A Systematic Review and Meta Analysis. *JAMA*. 2023;330(17):1653–1665. doi:10.1001/jama.2023.19761

MWAETC

Naltrexone use among PWH

CLINICAL SCIENCE

Extended-release Naltrexone Improves Viral Suppression Among Incarcerated Persons Living with HIV and Alcohol use Disorders Transitioning to the Community: Results From a Double-Blind, Placebo-Controlled Trial

Springer, Sandra A. MD[*,†]; Di Paola, Angela MS[‡]; Barbour, Russell PhD[†]; Azar, Marwan M. MD[*]; Altice, Frederick L. MD[*,†,§,‖] **Author Information**

JAIDS Journal of Acquired Immune Deficiency Syndromes: September 1, 2018 - Volume 79 - Issue 1 - p 92-100

ALCOHOLISM CLINICAL & EXPERIMENTAL RESEARCH

Full Access

Hepatic Safety and Antiretroviral Effectiveness in HIV-Infected Patients Receiving Naltrexone

Jeanette M. Tetrault, Janet P. Tate, Kathleen A. McGinnis, Joseph L. Goulet, Lynn E. Sullivan, Kendall Bryant, Amy C. Justice, David A. Fiellin, For the Veterans Aging Cohort Study Team

First published: 28 July 2011 | https://doi.org/10.1111/j.1530-0277.2011.01601.x | Citations: 29

Original Paper | Published: 02 August 2018

Efficacy of Extended-Release Naltrexone on HIV-Related and Drinking Outcomes Among HIV-Positive Patients: A Randomized-Controlled Trial

E. Jennifer Edelman, Brent A. Moore, Stephen R. Holt, Nathan Hansen, Tassos C. Kyriakides, Michael Virata, Sheldon T. Brown, Amy C. Justice, Kendall J. Bryant, David A. Fiellin & Lynn E. Fiellin

MWAETC

Acamprosate

Restores balance of excitation and inhibition dysregulated by alcohol exposure (reduces craving)

- Mechanism of action: Increase the activity of the GABA-ergic system, and decreases activity of glutamate
- Indication: Moderate to severe alcohol use disorder (during abstinence, e.g., after alcohol treatment)
- Dosing: 666mg TID if CrCl >50 mL/minute; 333mg TID if CrCl 31-50 mL/minute
- Side effects: Diarrhea, nervousness, fatigue
- Contraindicated: severe renal impairment (CrCl ≤30 mL/minute)
- Monitoring: Renal function, weight

	Acamprosate
Return to any drinking	
No. of studies	20
No. of participants	6380
Results effect size (95% CI)	RR, 0.88 (0.83-0.93)
Number needed to treat (95% CI)[c]	11 (1-32)
Strength of evidence	Moderate
Return to heavy drinking	
No. of studies	7
No. of participants	2496
Results effect size (95% CI)	RR, 0.99 (0.94-1.05)
Number needed to treat (95% CI)[c]	
Strength of evidence	Moderate (no effect)
Percentage of drinking days	
No. of studies	14
No. of participants	4916
Results effect size (95% CI)[b]	WMD, −8.3 (−12.2 to −4.4)
Strength of evidence	Moderate

McPheeters et al. JAMA 2023

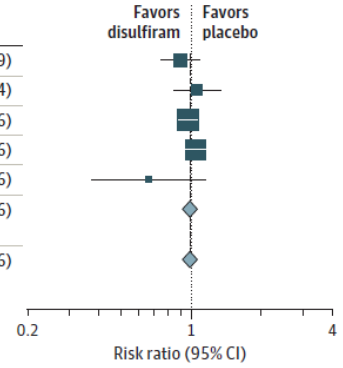
MWAETC

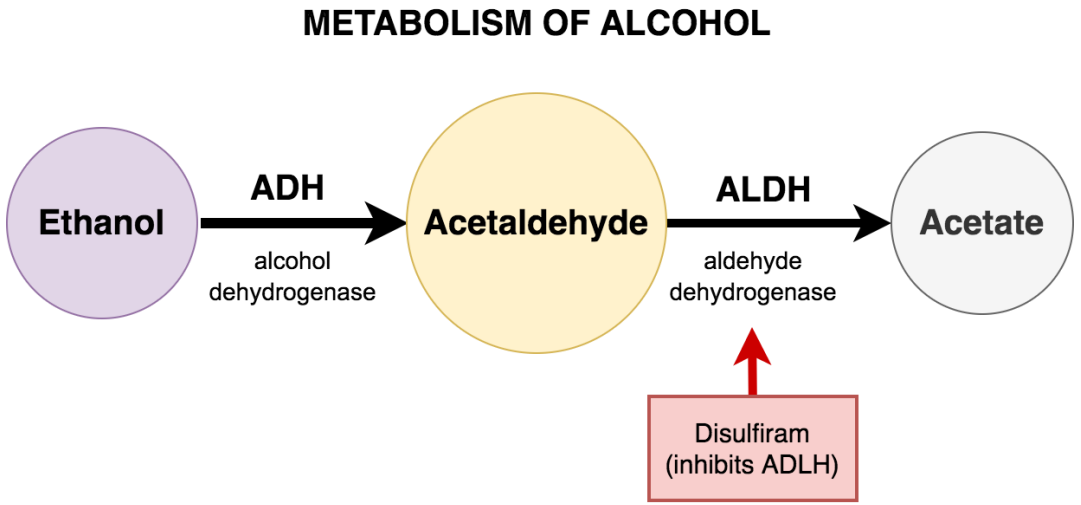
Disulfiram

- Interferes with alcohol metabolism by blocking the enzyme acetaldehyde dehydrogenase, causing a buildup of acetaldehyde
- Flushing, nausea, increased heart rate, sweating, dizziness when alcohol is consumed
- Adult starting dosing: 250mg Daily
  Maintenance dose: 125-500mg Daily
- Side effects: Fatigue / drowsiness, headache, dermatitis, change in taste
- Serious adverse events: Severe hepatitis and/or hepatic failure; psychosis
- Contraindicated: patients receiving or using alcohol (ritonavir liquid; tripanavir capsule), metronidazole, or alcohol-containing products; psychosis; severe myocardial disease or coronary occlusion.
- Monitoring: Liver function tests (baseline and after 2 weeks), CBC, chemistries; cardiac function if clinically appropriate
- Disulfiram reactions can occur up to14 days after taking disulfiram if alcohol is consumed and can with alcohol-containing tonics, mouthwash, cough syrup, aftershave, etc.

Figure 3. Return to Any Drinking, Disulfiram vs Placebo

Source	Duration, wk	No./total No. (%) Disulfiram	Placebo	Risk ratio (95% CI)
Fuller et al,[28] 1986	52	34/43 (79.1)	37/42 (88.1)	0.90 (0.74-1.09)
Fuller et al,[28] 1986	52	34/43 (79.1)	32/43 (74.4)	1.06 (0.84-1.34)
Fuller and Roth ,[29] 1979	52	164/202 (81.2)	167/199 (83.9)	0.97 (0.88-1.06)
Fuller and Roth ,[29] 1979	52	164/202 (81.2)	158/204 (77.5)	1.05 (0.95-1.16)
Petrakis et al,[58] 2005	12	15/66 (22.7)	22/64 (34.4)	0.66 (0.38-1.16)
Heterogeneity: $\tau^2 = 0.00$, $I^2 = 18.41\%$, $H^2 = 1.23$ Test of $\theta_i = \theta_j$: $Q(4) = 4.90$, $P = .30$				0.99 (0.92-1.06)
Overall Heterogeneity: $\tau^2 = 0.00$, $I^2 = 18.41\%$, $H^2 = 1.23$ Test of group differences: $Q_b(0) = 0.00$				0.99 (0.92-1.06)





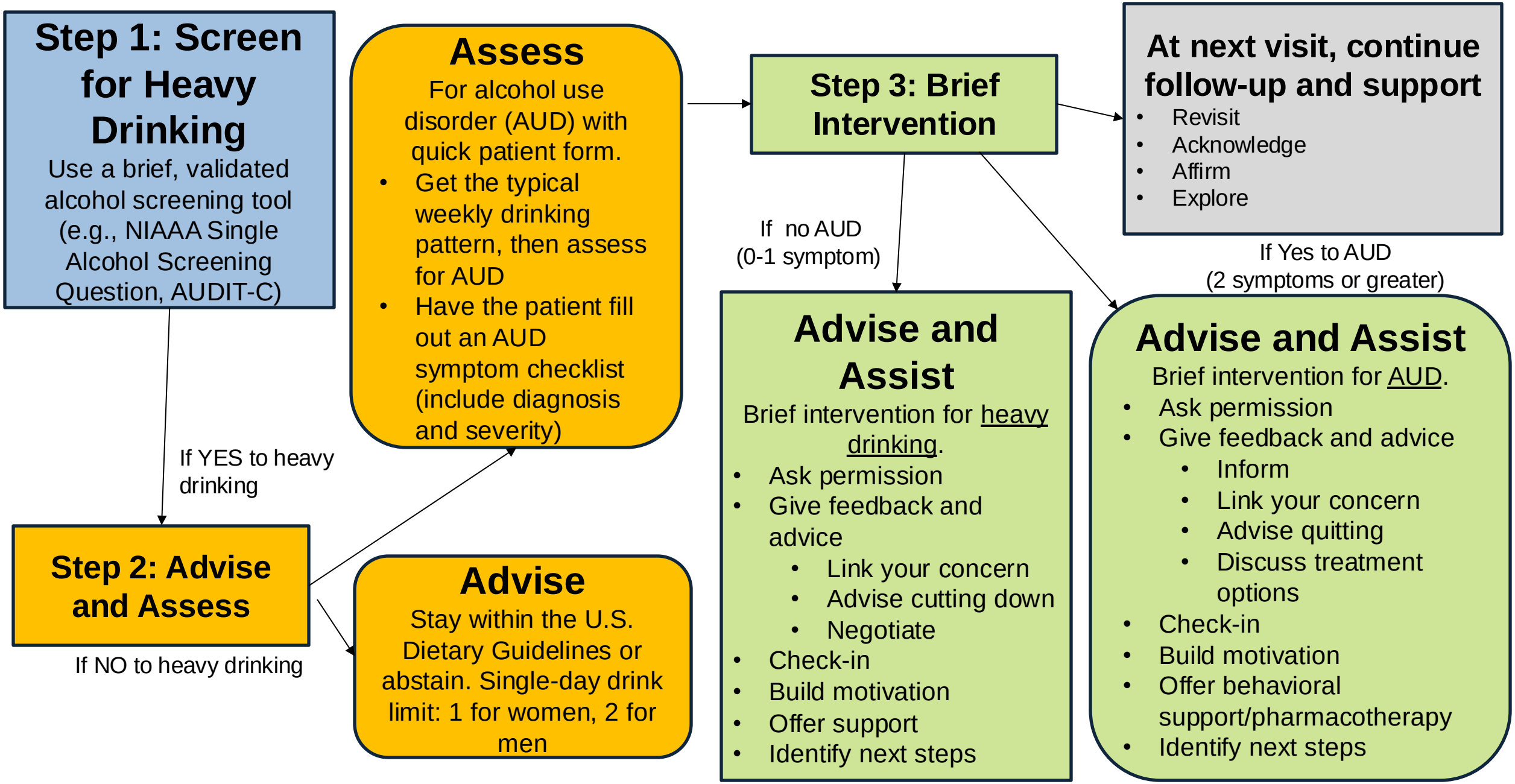
MWAETC

Non-FDA approved medications

Medication	Systematic Review results	Evidence Strength	Other notes
Baclofen	Reduces return to any drinking	Low	Often use in liver disease
Gabapentin	Reduces return to heavy drinking	Low	
Topiramate	Reduces % drinking days and heavy drinking days and drinks per drinking day	Moderate	Use limited by side effects, including paresthesia, drowsiness, memory impairment

McPheeters, JAMA 2023

MWAETC



National Institute on Alcohol Abuse and Alcoholism. How to Apply The Core Resource on Alcohol in Clinical Practice. Updated 10/06/2023. Accessed 11/06, 2023. https://www.niaaa.nih.gov/health-professionals-communities/core-resource-on-alcohol/how-apply-core-resource-alcohol-clinical-practice#how_to_content

MWAETC

Summary

- Unhealthy alcohol use can interrupt steps in the HIV Care Continuum and complicate comorbidities and their management among persons with HIV
- Given the impact of alcohol use on HIV infection and comorbidities and US goals of HIV treatment as prevention, it is critical to initiate ART among persons with unhealthy alcohol use
- Universal screening with standardized tools can improve identification of unhealthy alcohol use
- Evidence-based alcohol reduction interventions can be implemented in primary care/HIV settings and may improve HIV outcomes

MWAETC

Acknowledgment

This Mountain West AIDS Education and Training (MWAETC) program is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of award 1 TR7HA53202-01-00 totaling $2,982,063 with 0% financed with non-governmental sources.

AETC AIDS Education & Training Center Program Mountain West