CME

Screening and therapeutic recommendations for patients with alcohol use disorder

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ABSTRACT

Alcohol use disorder (AUD) is the most prevalent substance use disorder worldwide. Early screening can identify patients at risk for developing AUD, creating opportunities for prevention and early intervention. This article encourages the use of AUD screening tools, explores AUD treatments, and aims to equip clinicians with evidence-based strategies to prevent and manage AUD.

Keywords: mental health, alcohol use disorder, substance use disorder, dual diagnosis, adult medicine, addiction

Learning objectives

- Define AUD.
- Discuss the screening modalities available to assist in the diagnosis of AUD.
- List the treatment options for patients diagnosed with AUD.

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Alcohol use disorder (AUD) is one of the most prevalent substance use disorders globally, with an estimated 100.4 million cases in 2016 alone.[1] AUD also is the most common substance use disorder and represents a significant public health issue in the United States, affecting 28.6 million adults, according to the 2021 National Survey on Drug Use and Health.[2] Additionally, rates of problematic drinking rose in 2020 with the COVID-19 pandemic.[3] AUD is defined as a chronic relapsing brain disease characterized by an impaired ability to stop or control alcohol use despite adverse social, occupational, or health consequences.[4] In the *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. (*DSM-5*), AUD encompasses a spectrum of unhealthful drinking behaviors and has mild, moderate, and severe subclassifications. Dependence on alcohol can develop among people who drink regularly over a sustained period. AUD increases intentional and unintentional injury to self and others, the prevalence of infectious diseases, and the development of noncommunicable diseases such as cancer and heart disease.[1] AUD also affects the lives of those who interact with and care for the patient, including friends, family members, and colleagues. Alcohol use is the third leading cause of preventable death in the United States, and AUD warrants increased screening, education, and public health efforts. Even brief interventions by clinicians have been shown to reduce drinking rates.[5]

AUD is associated with psychiatric comorbidities, such as depression, bipolar disorder, and anxiety, which can be preexisting or related to substance use. Therefore, screening for substance use and mental health issues is important. Guidelines released in 2018 by the US Preventive Services Task Force (USPSTF) acknowledged unsatisfactory screening for AUD in clinical practice and proposed strategies to increase the use of evidence-based screening tools.[6] According to a meta-analysis of the studies assessed by the USPSTF, screening for AUD should start with a one- or two-item screening test using the Alcohol Use Disorders Identification Test-Consumption (AUDIT-C) and Single Alcohol Screening Question (SASQ).[6] If the patient screens positive on one of these initial tests, proceed with a more specific tool such as the Alcohol Use Disorders Identification Test (AUDIT, www.auditscreen.org), a brief, 10-item tool developed by the World Health Organization. Continued education about AUD, the use of AUD screening guidelines, and treatment

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Key points

- AUD is common in the United States, affecting 28.6 million adults in 2021.
- Screening and brief intervention can help reduce alcohol use in adults.
- AUD has significant economic costs including healthcare costs, crime-related costs, and loss of productivity.
- Brief interventions do not require a significant amount of clinician time and are reimbursable through private insurance, Medicare, and Medicaid.

(or referral for treatment) can improve the recognition and treatment in the outpatient setting of patients with AUD. Recognizing AUD in its early stages can reduce overall morbidity and mortality related to this mental health issue.

PATHOGENESIS AND DISEASE BURDEN

Neurobiologic, environmental, genetic, and epigenetic factors play a role in the development of AUD. The disorder develops over time. Although multiple neurochemicals and receptors are thought to be involved, the end result is the alteration of the reward pathway, resulting in increased susceptibility to and dependence on alcohol.[7] Withdrawal symptoms may include anxiety, irritability, tremor, headache, nausea, and vomiting. The desire to lessen these reactions often leads to a relapse in drinking and the repetitive, compulsive behaviors that contribute to the formation of AUD.[8]

AUD is related to 1 in 10 premature deaths among working-age US adults and is the third leading cause of preventable death.[9] Ten percent of US children grow up in homes with adults who suffer from AUD.[10] Exposure during these formative years can promote the cycle of unhealthful use of alcohol. By age 15 years, nearly a third of adolescents have had at least one alcoholic drink; by age 18 years, this figure increases to an estimated 60%.[10] Consequences of underage alcohol use are impairment of normal brain development; increased risk of sexual assault, injury, motor vehicle accident, and death from injury; and increased risk of developing AUD.[10]

AUD has continued to be a global economic burden as medical costs paid by taxpayers, insurance companies, and hospital systems increase to care for those with AUD who have not been diagnosed or treated adequately.[10] Excessive drinking in the United States cost $223.5 billion in decreased work, crime-related costs, and healthcare costs in 2010.[11] In the United States, multiple factors have been associated with drinking, including parental and peer use, community attitudes, marketing, and social media.[12] Additionally, discrimination and its associated stress are thought to contribute to drinking in some populations. Although public health has identified some strategies that are effective, reducing the reach of the alcohol industry is a continued challenge.[12]

Given the established costs of alcohol use and the 52.8% of the population who drank in 2021, screening for at-risk patients is an important part of health management.[13] Screening, brief intervention, referral, and treatment (SBIRT) has been shown to be an effective tool for clinicians to identify and reduce unhealthful drinking among patients.[13]

Even when diagnosed, substance use disorders are undertreated. According to the US Substance Abuse and Mental Health Administration, 5.6% of US adults had AUD in 2019 but only 7.9% of those diagnosed with the disorder received treatment.[10] Similarly, 17.8% of adolescents ages 12 to 17 years drink alcohol and 3.8% said they binge drank in the last 30 days.[10] However, one study found that although screening was routinely done, screening with a standardized tool was limited among pediatric clinics, which in practice may lead to bias and limited screening among younger patients.[14] Oftentimes, adolescents and adults do not recognize that they have a problem or are unaware of how to seek help. In other cases, the disorder is completely missed by a medical professional.

Since 2018, multiple agencies including the American Psychiatric Association (APA), USPSTF, American Society of Addiction Medicine, and Veterans Affairs have updated their guidelines to reflect a need for universal screening for alcohol use.[6,15-17] By providing universal screening of all patients, clinicians are able to offer brief intervention, pharmacologic treatment, or referral as appropriate, reducing the health and economic implications of AUD.[18]

DIAGNOSIS AND SCREENING GUIDELINES

With the publication of the *DSM-5*, the two distinct disorders known as *alcohol abuse* and *alcohol dependence* in the manual's previous edition were eliminated, and an overarching AUD category was introduced. In the *DSM-5*, AUD is stratified into mild, moderate, and severe subclassifications.[19] A patient meeting 2 of 11 criteria over 12 months can be diagnosed with AUD; severity is assessed based on the number of criteria met. The 11 criteria are clustered into four groups of questions directed toward the patient that address impaired control, social impairment, risky use, and tolerance.[19]

After the updated diagnostic criteria were released, the USPSTF released new screening guidelines for AUD.[6] All adults and pregnant women should be screened for AUD regularly and provided behavioral counseling interventions to reduce unhealthful alcohol use. The USPSTF encourages the use of the AUDIT-C, SASQ, and AUDIT screening tools but discourages the use of the CAGE (Cutting down, Annoyed by criticism of drinking, Guilty feeling, and Eye-openers) questionnaire.[6] The CAGE questionnaire screens for alcohol dependence, missing other at-risk behaviors for AUD. The *DSM-5* definition for AUD indicates that the disorder has a wide spectrum, and screening tools must address this full spectrum. The CAGE questionnaire alone is no longer sufficient.

The AUDIT questions are answered on a yes/no basis, and a 40-point scale is used to determine a patient's risk for AUD. A score of 0 to 7 points is considered low risk, 8 to 15 points is medium risk, 16 to 19 points is high risk, and 20 to 40 points means AUD is extremely likely. Clinicians should consider various counseling techniques and treatment plans for those who score above 8 points on the AUDIT. The National Institute on Alcohol Abuse and Alcoholism (NIAAA) has developed a screening resource for adolescents ages 9 to 18 years to better identify those at risk.[20]

SCREENING

AUD is a substantial contributor to the global disease burden and the most prevalent of all substance use disorders.[1] A quality improvement initiative developed in 2016 surveyed how frequently primary care providers (PCPs) use an AUD screening tool to screen for AUD in adults and collected data through the electronic health record (EHR). Implementation of the quality improvement initiative resulted in an increase in the number of clinicians who screened adults for AUD with a valid screening tool. The study found that PCPs screened 3,891 of their adult patients in 2015 and 30,611 patients after the initiative was put in place in 2016.[21] One hundred percent of surveyed clinicians found that screening was helpful to identify substance use disorders and most (76%) believed that overall patient care improved.[21] These results are reassuring and support that using a short screening tool with all adults effectively detects AUD. Though screening guidelines are not being followed precisely, clinicians have actively endorsed that overall patient care improves with screening for AUD and that screening can be successfully implemented into primary care.[22]

TREATMENT RECOMMENDATIONS

Brief intervention and motivational interviewing After a patient has been identified as having an AUD and has been stratified into mild, moderate, or severe, NIAAA recommends a brief intervention.[23] Part of that intervention should be determining the patient's interest and readiness for change. Additional steps of the brief interview include motivational interviewing or the FRAMES (feedback, responsibility, advice, menu, empathy, self-efficacy) acronym. Patients with moderate or severe risk benefit from additional support through either medications or referral for more intensive treatment.[23] Patients may need more than one interaction to initiate a change.

The USPSTF included 68 trials in a meta-analysis to analyze whether interventions believed to reduce unhealthful alcohol use actually worked in patients who screen positive for AUD.[5] Most of the interventions reviewed were brief. Interventions included normative practices that compared the patient's alcohol use with recommended amounts, used alcohol diaries, or had the patient identify how alcohol consumption was harmful.[5] Of adults identified through screening, the counseling interventions described above reduced alcohol use by a mean of 1.6 drinks per week from each patient's former average number of drinks per week and reduced the odds of exceeding recommended drinking limits by 40%.[5] The study also concluded that when brief behavioral counseling interventions were used, patients reduced their frequency of heavy alcohol use episodes at 6 to 12 months of follow-up.[5] No evidence was found that race, ethnicity, or socioeconomic status altered the outcomes of the interventions.[5] The previously discussed tools can identify patients with unhealthful alcohol use with high accuracy. Screening and brief intervention are billable and reimbursable through private insurance, Medicare, and Medicaid.[24]

Because counseling interventions for patients who screen positive are associated with reduced risky and unhealthful alcohol use, a few moments of extra time spent counseling a patient during an appointment can affect their overall drinking habits.[25]

Motivational interviewing techniques include using open-ended questions, affirmation, reflective listening, and summarizing.[26] Clinicians should use empathy to make patients feel listened to and understood while supporting self-efficacy and the patient's responsibility for implementing personal goals for change. Pointing out previous successes and not challenging patients when they are resistant can help patients see where they are and where they want to be. Clinicians must be aware of the patient's target reductions and should set reminders to have themselves or other staff members follow up with the patient via phone call. Relapse is part of the change process and is not considered a failure. Clinicians should not label patients as unmotivated or nonadherent but should acknowledge that patients are overcoming a chronic condition and focus on the positive progress.

Cognitive behavioral therapy (CBT) In addition to motivational interviewing, some patients also benefit from referral to psychiatry or a licensed counselor for CBT, especially if they have moderate or severe AUD. Referral to psychiatry or a licensed counselor for CBT is highly recommended.[26] CBT was developed as an approach to treating AUD, addiction, and other comorbid mental health issues. After identifying patients with AUD, clinicians can refer patients to psychiatrists and psychologists for a recommended 12 to 16 weeks of CBT. During therapy sessions, therapists try to identify patients' learned beliefs and coping mechanisms that contribute to maladaptive behaviors such as AUD. By identifying these early experiences and coping mechanisms, therapists can help patients change their behavioral responses to negative thoughts and reduce their risk of AUD. CBT may be used in combination with support groups and medication-assisted treatment. CBT reduces patients' perceived benefits of drinking alcohol by helping them better recognize adverse reactions to alcohol,

including increased depression and anxiety.[27] Because the therapy focuses on specific behavioral changes and is relatively goal-oriented, patients typically continue to use these skills long after therapy ends. CBT is extremely effective for most patients and is one of the most successful treatments for AUD.[26]

Pharmacotherapy In addition to brief intervention counseling and referrals for CBT, pharmacologic treatment is a significant part of the treatment plan for patients with AUD who qualify. The latest APA guidelines for the pharmacologic treatment of patients with AUD help clinicians identify patients in whom medications would be helpful and delineate which medications to choose for therapy (**Table 1**).[15] The APA recommends offering naltrexone or acamprosate as initial therapy to patients with moderate to severe AUD who have a goal to reduce alcohol use or achieve abstinence. Disulfiram should be reserved for patients who have not responded to acamprosate or naltrexone and understand the risks of alcohol consumption while taking disulfiram, which include severe vomiting, flushing, and nausea. Goals should be set at the beginning of treatment and a general time frame to meet those goals should be consistently assessed and updated. Clinicians should monitor patients' health status and social functioning during treatment, including mental status, vocation, legal status, and family life, to see if the benefits of medication outweigh the harms. Combination therapy of medication with counseling provided by primary care providers or licensed therapists can be extremely successful in treating patients with AUD.

Although 85% to 96% of clinicians screen patients for problematic drinking, many do not use standardized tools and often do not quantify specific amounts of alcohol intake. This limits identification of binge drinking behaviors.[12] Additionally, screening is not consistent across demographics, including race or ethnicity, age, education, socioeconomic status, or sex.[12] Barriers to implementing standardized screening for AUD and treatment intervention, such as competing demands, limited staffing, and concerns about patient comfort, prevent patients from receiving early intervention and effective, evidence-based treatment.[28] A lack of continuing medical education may hinder clinicians from using pharmacologic treatments.[29] They may not be comfortable asking patients about their drinking habits or do not want to make their patients feel judged by addressing the subject in the office. Many clinicians forget to ask about AUD or believe that they do not have enough time to initiate a conversation about alcohol use.[28] They may feel lost as to how to help their patients and unsure of how to proceed. In the United States alone, many patients with AUD slip through the cracks and never receive any type of counseling or treatment: Only 15.7% of US adults report discussing alcohol use with a healthcare provider.[30] The percentage of US adults being screened for AUD with a specific screening tool likely is far lower.[30] Education about AUD and treatment training must become more widespread and effective nationwide.

DISCUSSION

Multiple steps can be made to better educate and prepare clinicians in their ability to identify AUD and help patients take steps toward treatment.[26] Supportive materials, web-based or peer-based training, and marketing to raise awareness for AUD may help clinicians recognize AUD more effectively. More national or site-based continuing education tools would be extremely helpful in keeping clinicians updated on screening and treatment recommendations. Access to more lectures, web-based materials, and in-office training can help clinicians become more comfortable with the screening process.[22] Using survey tools with fewer questions, such as the AUDIT-C or SASQ, when patients register with the practice or while they sit in the waiting room can optimize the screening process, as many clinicians experience time constraints during appointments. Adding a mandatory documentation step in the EHR prevents clinicians from forgetting to use a screening tool and gives them a chance to briefly discuss responses with patients.

Patients requiring more complex care because of more advanced AUD, with or without end-organ damage, benefit from a collaborative care team. Teams work best when members work together regularly and have shared leadership.[31] The American Academy of Family Physicians (AAFP) recommends selecting resources used in the office and determining how they will be stored, distributed, and accessed.[26] The team should choose who will discuss alcohol-related issues with patients, when and where the

TABLE 1. APA guidelines for pharmacologic treatment of AUD[15]

Medication*	Recommendation	Level of evidence
Naltrexone or acamprosate	Use in patients with moderate to severe AUD with the goal of reducing or stopping alcohol use if behavior therapy is not sufficient or the patient prefers pharmacotherapy and has no contraindications.	1B
Disulfiram	Use in patients with moderate or severe AUD with the goal of achieving abstinence if patients cannot tolerate naltrexone or acamprosate or have not responded to these drugs.	2C
Topiramate or gabapentin	Use in patients with moderate or severe AUD with the goal of reducing or stopping alcohol use. Use either when the patient prefers one of these agents or when the patient has not responded to naltrexone or acamprosate and has no contraindications to these medications.	2C

*Naltrexone, acamprosate, and disulfiram are FDA-approved medications for treatment of AUD. Topiramate and gabapentin are used off-label.

responses will be recorded in the EHR, and who will follow up with patients or provide referrals. For example, receptionists and medical assistants may distribute AUD screening tools, ensure self-help materials are available, schedule follow-up appointments, and make follow-up calls. Administrators may incorporate motivational training reminders into the EHR, ensure data are tracked in the system, communicate outcomes, and provide training programs. This system enables clinicians to deliver patient-centered care during appointments by offering advice, performing counseling, and identifying strategies tailored to patient needs. Available tools include the AAFP's Addressing Alcohol and Other Substance Use Practice Manual and NIAAA's Healthcare Professional's Core Resource on Alcohol.[23,26]

CONCLUSION

Teamwork, consistent screening, and multimodal treatment are steps toward healing those with AUD. Oftentimes, clinicians believe that it is the patient's responsibility to bring up controversial topics and widely accepted practices such as excessive alcohol use. In reality, clinicians have an important role in screening for risky behaviors and unhealthful lifestyles. Clinicians must play an active role in advising patients about behaviors that may endanger their well-being. Patient-clinician relationships have been shown to be key in improving patient outcomes with increased trust, decreased stigma, and individualization of care by identifying patient needs and goals.[32] Clinicians should remain empathetic, applaud patients for their successes, and acknowledge that the treatment of chronic substance use disorders takes time and often involves relapse. As AUD continues to be the leading global substance use disorder, clinicians must equip themselves with the right tools to accurately screen, diagnose, and discuss treatment plans with patients. **JAAPA**

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REFERENCES

1. Degenhardt L, Charlson F, Ferrari A, et al. The global burden of disease attributable to alcohol and drug use in 195 countries and territories, 1990-2016: a systematic analysis for the global burden of disease study 2016. *Lancet Psychiatry*. 2018;5(12):987-1012.
2. US Substance Abuse and Mental Health Services Administration. 2021 National Survey on Drug Use and Health (NSDUH). Table 5.6A—Alcohol use disorder among people aged 12 or older, by age group and demographic characteristics: numbers in thousands, 2021. www.samhsa.gov/data/sites/default/files/reports/rpt39441/NSDUHDetailedTabs2021/NSDUHDetailedTabs2021/NSDUHDetTabsSect5pe2021.htm. Accessed August 24, 2023.
3. Pollard MS, Tucker JS, Green HD Jr, at al. Changes in adult alcohol use and consequences during the COVID-19 pandemic in the US. *JAMA Netw Open*. 2020;3(9):e2022942.
4. National Institute on Alcohol Abuse and Alcoholism. Alcohol facts and statistics. www.niaaa.nih.gov/alcohol-facts-and-statistics. Accessed July 21, 2023.
5. O'Connor EA, Perdue LA, Senger CA, et al. Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2018;320(18):1910-1928.
6. Curry SJ, Krist AH, Owens DK, et al. Screening and behavioral counseling interventions to reduce unhealthy alcohol use in adolescents and adults: US Preventive Services Task Force recommendation statement. *JAMA*. 2018;320(18):1899-1909.
7. Cui C, Noronha A, Morikawa H, et al. New insights on neurobiological mechanisms underlying alcohol addiction. *Neuropharmacology*. 2013;67:223-232.
8. Koob GF. Theoretical frameworks and mechanistic aspects of alcohol addiction: alcohol addiction as a reward deficit disorder. *Curr Top Behav Neurosci*. 2013;13:3-30.
9. Stahre M, Roeber J, Kanny D, et al. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. *Prev Chronic Dis*. 2014;11:E109.
10. US Substance Abuse and Mental Health Services Administration. Results from the 2021 National Survey on Drug Use and Health: detailed tables. www.samhsa.gov/data/sites/default/files/reports/rpt39441/NSDUHDetailedTabs2021/NSDUHDetailedTabs2021/NSDUHDetTabsSect2pe2021.htm#tab2.26a. Accessed August 24, 2023.
11. Bouchery E, Harwood H, Sacks J, et al. Economic costs of excessive alcohol consumption in the U.S., 2006. *Am J Prev Med*. 2011;41(5):516-524.
12. Sudhinaraset M, Wigglesworth C, Takeuchi D. Social and cultural contexts of alcohol use: influences in a social-ecological framework. *Alcohol Res*. 2016;38(1):35-45.
13. Babor TF, McRee B, Kassebaum P, et al. Screening, brief intervention, and referral to treatment (SBIRT): toward a public health approach to the management of substance abuse. *Subst Abuse*. 2007;28(3):7-30.
14 Kuhns L, Carlino B, Greeley K, et al. A chart review of substance use screening and related documentation among adolescents in outpatient pediatric clinics: implications for practice. *Subst Abuse Treat Prev Policy*. 2020;15:36.
15. Reus VI, Fochtmann LJ. The American Psychiatric Association practice guidelines for the pharmacological treatment of patients with alcohol use disorder. https://psychiatryonline.org/doi/pdf/10.1176/appi.books.9781615371969. Accessed July 21, 2023.
16. US Veteran Affairs and Department of Defense. Management of substance use disorders. www.healthquality.va.gov/guidelines/mh/sud. Accessed August 25, 2023.
17 American Society of Addiction Medicine. The ASAM clinical practice guideline on alcohol withdrawal management. www.asam.org/docs/default-source/quality-science/the_asam_clinical_practice_guideline_on_alcohol-1.pdf. Accessed August 25, 2023.
18. Babor T, Del Boca F, Bray J. Screening, brief intervention and referral to treatment: implications of SAMHSA's SBIRT initiative for substance abuse policy and practice. *Addiction*. 2017;112 (suppl 2):110-117.
19. National Institute on Alcohol Abuse and Alcoholism. Alcohol use disorder: a comparison between *DSM-IV* and *DSM-5*. www.niaaa.nih.gov/publications/brochures-and-fact-sheets/alcohol-use-disorder-comparison-between-dsm. Accessed August 25, 2023.
20. National Institute on Alcohol Abuse and Alcoholism. Alcohol screening and brief intervention for your: a practitioner's guide. www.niaaa.nih.gov/alcohols-effects-health/professional-education-materials/alcohol-screening-and-brief-intervention-youth-practitioners-guide. Accessed August 25, 2023.

21. Jones Q, Johnston B, Biola H, et al. Implementing standardized substance use disorder screening in primary care. *JAAPA*. 2018; 31(10):42-45.
22. Abidi L, Oenema A, Nilsen P, et al. Strategies to overcome barriers to implementation of alcohol screening and brief intervention in general practice: a Delphi study among healthcare professionals and addiction prevention experts. *Prev Sci*. 2016;17(6):689-699.
23. National Institute on Alcohol Abuse and Alcoholism. The healthcare professional's core resource on alcohol. www.niaaa.nih.gov/health-professionals-communities/core-resource-on-alcohol. Accessed August 25, 2023.
24. US Substance Abuse and Mental Health Services Administration. Coding for screening and brief intervention. www.samhsa.gov/sbirt/coding-reimbursement. Accessed August 28, 2023.
25. Aldridge A, Dowd W, Bray J. The relative impact of brief treatment versus brief intervention in primary health-care screening programs for substance use disorders. *Addiction*. 2017;112(suppl 2):54-64.
26. American Academy of Family Physicians. Addressing alcohol use practice manual: an alcohol screening and brief intervention program. www.aafp.org/family-physician/patient-care/care-resources/substance-abuse-addiction/alcohol-misuse.html. Accessed August, 25, 2023.
27. Coates J, Gullo M, Feeney G, et al. Alcohol expectancies pre-and post-alcohol use disorder treatment: clinical implications. *Addict Behav*. 2018;80:142-149.
28. Barclay C, Viswanathan M, Ratner S, et al. Implementing evidence-based screening and counseling for unhealthy alcohol use with epic-based electronic health record tools. *Jt Comm J Qual Patient Saf*. 2019;45(8):566-574.
29. Im GY, Mellinger JL, Winters A, et al. Provider attitudes and practices for alcohol screening, treatment, and education in patients with liver disease: a survey from the American Association for the Study of Liver Diseases Alcohol-Associated Liver Disease Special Interest Group. *Clin Gastroenterol Hepatol*. 2021;19(11):2407-2416.e8.
30. McKnight-Eily LR, Liu Y, Brewer RD, et al. Vital signs: communication between health professionals and their patients about alcohol use--44 states and the District of Columbia, 2011. *MMWR Morb Mortal Wkly Rep*. 2014;63(1):16-22.
31. Kools N, Dekker GG, Kaijen B, et al. Interdisciplinary collaboration in the treatment of alcohol use disorders in a general hospital department: a mixed-method study. *Subst Abuse Treat Prev Policy*. 2022;17(1):59.
32. Marchand K, Beaumon S, Westfall J, et al. Conceptualizing patient-centered care for substance use disorder treatment: findings from a systematic scoping review. *Subst Abuse Treat Prev Policy*. 2019;14(1):37.