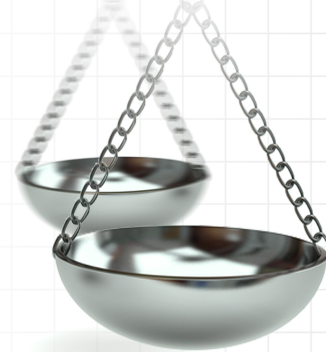


For reprint orders, please contact: reprints@futuremedicine.com



Journal of **Comparative
Effectiveness Research**

An evidence-based approach to screening and providing appropriate interventions for unhealthy alcohol use in primary care settings

“Currently, unhealthy alcohol use is a broad, overarching term that includes risky drinking and alcohol use disorder.”

First draft submitted: 11 July 2016; **Accepted for publication:** 13 July 2016; **Published online:** 1 September 2016

Keywords: alcohol use disorder • evidence-based • intervention • primary care • screening • unhealthy alcohol use

Unhealthy alcohol use is one of the top causes of preventable death in the USA [1]. Conservative estimates indicate that it accounts for at least 85,000 deaths per year [2]. In addition, it is associated with an increased risk of many adverse health outcomes, including cancers (oral cavity, esophagus, larynx, colon, rectum, liver and breast), gastrointestinal problems (e.g., liver cirrhosis, pancreatitis, ulcers), cardiovascular problems (e.g., heart disease, hypertension, cardiomyopathy, stroke), mental health problems (e.g., depression, suicide, anxiety, cognitive impairment), preterm birth complications, fetal alcohol syndrome, motor vehicle accidents, and injuries and violence [3–6]. Unhealthy alcohol use is very common, with a prevalence of over 20% among US adults [7,8].

Terminology related to unhealthy alcohol use has evolved over recent decades. Currently, unhealthy alcohol use is a broad, overarching term that includes risky drinking and alcohol use disorder (AUD). Risky drinking can be present with or without AUD and is defined as consumption levels that increase the risk for health consequences, or consumption above the following maximum recommended limits: ≤ 3 drinks per day and ≤ 7 drinks per week for all women and anyone ≥ 65 years old, and ≤ 4 drinks per day and ≤ 14 drinks per week for men < 65 years old [9]. AUD is defined in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders [10] as a single disorder

based on meeting two or more of 11 criteria, such as alcohol often taken in larger amounts or over a longer period than intended; persistent desire or unsuccessful efforts to cut down; important social, occupational or recreational activities being given up or reduced because of use; recurrent alcohol use in situations in which it is physically hazardous; and craving, or a strong desire or urge to use alcohol [11]. AUD can be categorized from mild to severe based on the number of criteria met, and is no longer separated into two subcategories of alcohol abuse and alcohol dependence (as it was in Diagnostic and Statistical Manual of Mental Disorders-IV).

To substantially reduce the morbidity and mortality from unhealthy alcohol use, primary care practices should develop formal systems for screening all adults and subsequently providing appropriate interventions for patients who drink too much. Healthcare resources focused on alcohol are currently inadequate; fewer than a quarter of US adults have discussed alcohol use with a health professional [12]. In addition, many primary care providers lack comfort and experience with screening for unhealthy alcohol use and the provision of appropriate interventions. Given the preventable burden of disease at stake, reducing unhealthy alcohol use should be a high priority. In this commentary, we describe an evidence-based, practical approach to screening for unhealthy alcohol use, identifying whether patients have AUD or risky drinking (without AUD) and providing



Daniel E Jonas

Author for correspondence:
Department of Medicine, University of
North Carolina at Chapel Hill, Chapel
Hill, NC, USA
and
Cecil G Sheps Center for Health Services
Research, University of North Carolina
at Chapel Hill, Chapel Hill, NC, USA
Tel.: +1 919 966 7102
daniel_jonas@med.unc.edu



Diego Garza

Public Health Leadership Program,
Gillings School of Global Public Health,
University of North Carolina at Chapel
Hill, Chapel Hill, NC, USA

Future
Medicine  part of 

appropriate interventions for those who drink too much. We focus on behavioral counseling for risky drinking in primary care and the use of medications for AUD in outpatient settings.

Screening for unhealthy alcohol use & screening-related assessment

Systematic comparative effectiveness reviews have established the benefits of screening and counseling in primary care [5,13–14]. Many screening tools are available and have been studied. The screening tools most appealing for use in primary care, due to their ease of use, relative brevity and validation in primary care populations, are the single question screen endorsed by the National Institute on Alcohol Abuse and Alcoholism and the Alcohol Use Disorders Identification Test–Consumption (AUDIT-C, three questions). We use the former because of its brevity (given the numerous competing demands in primary care) and its comparable accuracy (versus longer screening questionnaires). Sensitivity of the single question is around 0.85 for detecting unhealthy alcohol use; specificity is 0.79 [13].

For individuals who screen positive, providers should pursue screening-related assessment to confirm screening results, ascertain baseline drinking behavior and determine whether patients have AUD versus risky drinking without AUD. The third step is critical because it guides the treatment plan. For those with risky drinking without AUD, brief behavioral counseling interventions in primary care are appropriate. For those found to have AUD, more intensive interventions are needed.

To facilitate screening-related assessment, we suggest using the full ten-question AUDIT [9]. The AUDIT is the most extensively studied instrument for identifying and assessing unhealthy alcohol use. It can detect alcohol problems experienced over the last year. The total AUDIT score and the subscore for questions four through six can be used to determine the likelihood of AUD [15]. Total scores of 15 or more for men and 13 or more for women or subscores of 2 or more points from questions 4 through 6 indicate a high likelihood of AUD [15]. Questions 4 through 6 address how often during the last year the person found that she/he was not able to stop drinking once they started, failed to do what was normally expected of them because of drinking, and needed a first drink in the morning to get going after a heavy drinking session.

Providing appropriate interventions: behavioral counseling & medications

Brief behavioral counseling interventions in primary care are appropriate for adults with risky drinking who do not have AUD. These interventions do not generally aim to achieve abstinence, but rather seek to reduce or eliminate

risky behavior. The best evidence indicates that multi-contact interventions, conducted over at least two visits and lasting 10–15 min at each visit, rather than only providing advice to cut down, are most effective [5]. Effective interventions often utilize motivational interviewing techniques (e.g., reflective listening, open questions, elicit-provide-elicit, asking permission and importance and confidence exercises), which have been shown to stimulate change for many types of behaviors [16,17]. More detailed descriptions of such interventions are provided elsewhere [5,13,18]. Given that providers may lack training in the provision of such interventions, additional training may be needed to optimize intervention effectiveness and provider confidence.

When adults with AUD are identified by screening in primary care, offering brief behavioral counseling is not appropriate since it is not sufficient to change behavior and improve outcomes for these patients. Providers should determine whether such patients are willing to set a goal of abstinence or not, and then engage in shared decision making regarding options for more intensive treatment. These options may vary in availability by location and can include, for example, 12-step programs (e.g., Alcoholics Anonymous), motivational enhancement therapy, various types of residential programs, medications and detoxification. Many of these involve referral to specialty care, which is how primary care providers have historically handled patients with AUD. However, many patients may not have access to or may be unwilling to pursue specialty treatment.

“...medications will not work for all patients with alcohol use disorder.”

Expanding access to some AUD treatments within primary care is appealing for many reasons, and has the potential to reduce morbidity for many patients with AUD. This has become more of a realistic possibility in the current healthcare system, with recent increases in colocation of primary care and psychiatry services and with the development of interventions designed with the intention of being functional within primary care. For example, although the intervention was developed in a nonprimary care setting, the medical management intervention in the COMBINE trial was intended to be adaptable for delivery in primary care [19]. It is comprised of up to nine manual-guided counseling visits over 16 weeks and includes advice for reducing drinking, inquiries about medication adverse effects and emphasis on the importance of adherence.

Data from the USA indicates that less than a third of people with AUD receive any treatment and that fewer than 10% receive medications to help reduce alcohol consumption [20–22]. Expanding access to medications

via primary care that can prevent lapse (return to any drinking), prevent relapse (return to heavy drinking) or reduce consumption for people with AUD is an attractive component of a strategy to improve this disappointing underutilization. Both naltrexone and acamprosate are effective for preventive of lapse and for reducing consumption for people with AUD and could be used by primary care providers [23]. Although scant direct evidence exists for the use of these medications in primary care settings [23], theory supports that the medications would remain beneficial as long as they are used for appropriately selected patients and with appropriate psychosocial co-interventions. Most evidence of the effectiveness of naltrexone and acamprosate comes from studies of patients who had undergone detoxification or were required to maintain sobriety for at least 3 days prior to initiating medication. However, a few studies enrolled patients who were not yet abstinent and reported that medications reduced heavy drinking.

Among the medications, naltrexone is more appealing for most patients due to its once daily administration (whereas acamprosate is generally two pills taken three-times daily). Naltrexone is an opioid antagonist that competitively binds to opioid receptors and blocks the effects of endogenous opioids. It is contraindicated for those with acute hepatitis or liver failure and those currently using opioids or with anticipated need for opioids, whereas acamprosate is contraindicated with severe renal impairment and requires dose adjustments for moderate renal impairment. Of note, medications will not work for all patients with AUD. For every 12 patients treated with oral naltrexone (50 mg/day), it will successfully prevent one of them from returning to heavy drinking [23]. For every 20 patients treated with oral naltrexone (50 mg/day), it will successfully prevent one of them from returning to any drinking [23].

Competing demands in primary care can make any change difficult. Current challenges related to implementation and utilization of electronic health records have perhaps increased time demands and workload for primary care providers, but also provide opportunities to develop new workflows and to revisit the prioritization of a wide range of services. To implement screening

and appropriate interventions for unhealthy alcohol use, primary care practices may need to develop formal protocols, alter support systems and staffing, and provide additional training for staff and providers. Despite such challenges, the preventable burden of disease from unhealthy alcohol use should make it a top priority for primary care practices as they prioritize among competing demands.

Conclusion

Primary care practices have the potential to substantially improve the identification of unhealthy alcohol use and the provision of appropriate interventions, thus reducing the sizable adverse impact on public health and on the lives of numerous individuals. Validated instruments are widely available that can facilitate an efficient assessment of alcohol use and inform intervention/treatment decisions. For patients identified as having risky drinking behavior without AUD, brief behavioral counseling interventions can curb unhealthy behaviors, although additional provider training may be needed for optimal effectiveness. For patients with AUD, access within primary care to some treatments historically provided by specialists could help reduce the large number of patients who do not receive appropriate treatment. Medications (naltrexone and acamprosate) can improve a variety of outcomes for people with AUD, although more research is needed on how to best use these medications in primary care practices.

Acknowledgements

The authors thank Colleen Barclay, MPH, for her assistance with editing, formatting and submitting the manuscript.

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.

References

- Centers for Disease Control and Prevention. FastStats: Alcohol use (2015). www.cdc.gov/nchs/fastats/alcohol.htm
- Mokdad AH, Marks JS, Stroup DF, Gerberding JL. Actual causes of death in the United States, 2000. *JAMA* 291(10), 1238–1245 (2004).
- Centers for Disease Control and Prevention. Alcohol use and your health (2016). www.cdc.gov/alcohol/fact-sheets/alcohol-use.htm
- Corrao G, Bagnardi V, Zambon A, La Vecchia C. A meta-analysis of alcohol consumption and the risk of 15 diseases. *Prev. Med.* 38(5), 613–619 (2004).
- Jonas DE, Garbutt JC, Amick HR *et al.* Behavioral counseling after screening for alcohol misuse in primary care: a systematic review and meta-analysis for the U.S. Preventive Services Task Force. *Ann. Intern. Med.* 157(9), 645–654 (2012).
- Rehm J, Baliunas D, Borges GL *et al.* The relation between different dimensions of alcohol consumption and burden of disease: an overview. *Addiction* 105(5), 817–843 (2010).

- 7 Chen CM, Yi H-Y, Falk DE *et al.* Alcohol use and alcohol use disorders in the United States: main findings from the 2001–2002 National Epidemiological Survey on Alcohol and Related Conditions (NESARC). *U.S. Alcohol Epidemiological Data Reference Manual* 8(1), 58–66 (2006).
- 8 Vinson DC, Manning BK, Galliher JM, Dickinson LM, Pace WD, Turner BJ. Alcohol and sleep problems in primary care patients: a report from the AAFP National Research Network. *Ann. Fam. Med.* 8(6), 484–492 (2010).
- 9 National Institute on Alcohol Abuse and Alcoholism. Helping Patients Who Drink Too Much: A Clinician's Guide (Updated 2005 Edition) (2015). <http://pubs.niaaa.nih.gov/publications>
- 10 American Psychiatric Association. Substance-related and addictive disorders. In: *Diagnostic and Statistical Manual of Mental Disorders (5th Edition)*. American Psychiatric Publishing, Arlington, VA, USA (2013).
- 11 American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders (5th Edition)*. American Psychiatric Publishing, Arlington, VA, USA (2013).
- 12 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.* 63(01), 16–22 (2014).
- 13 Jonas DE, Garbutt JC, Brown JM *et al.* Screening, behavioral counseling, and referral in primary care to reduce alcohol misuse. comparative effectiveness review no. 64. (Prepared by the RTI International – University of North Carolina Evidence-based Practice Center under Contract No. 290 2007 10056 I.) AHRQ Publication No. 12-EHC055-EF (2012). <https://effectivehealthcare.ahrq.gov/ehc/products>
- 14 Moyer VA; Preventive Services Task Force. Screening and behavioral counseling interventions in primary care to reduce alcohol misuse: U.S. preventive services task force recommendation statement. *Ann. Intern. Med.* 159(3), 210–218 (2013).
- 15 Jonas DE, Miller T, Ratner S *et al.* Implementation and quality improvement of a screening and counseling program for unhealthy alcohol use in an academic general internal medicine practice. *J. Healthcare Qual.* (2016) (In Press).
- 16 Lundahl B, Moleni T, Burke BL *et al.* Motivational interviewing in medical care settings: a systematic review and meta-analysis of randomized controlled trials. *Patient Educ. Couns.* 93(2), 157–168 (2013).
- 17 Rubak S, Sandbaek A, Lauritzen T, Christensen B. Motivational interviewing: a systematic review and meta-analysis. *Br. J. Gen. Pract.* 55(513), 305–312 (2005).
- 18 Fleming MF, Barry KL, Manwell LB, Johnson K, London R. Brief physician advice for problem alcohol drinkers. A randomized controlled trial in community-based primary care practices. *JAMA* 277(13), 1039–1045 (1997).
- 19 Anton RF, O'Malley SS, Ciraulo DA *et al.* Combined pharmacotherapies and behavioral interventions for alcohol dependence: the COMBINE study: a randomized controlled trial. *JAMA* 295(17), 2003–2017 (2006).
- 20 Harris AH, Kivlahan DR, Bowe T, Humphreys KN. Pharmacotherapy of alcohol use disorders in the Veterans Health Administration. *Psychiatr. Serv.* 61(4), 392–398 (2010).
- 21 Harris AH, Oliva E, Bowe T, Humphreys KN, Kivlahan DR, Trafton JA. Pharmacotherapy of alcohol use disorders by the Veterans Health Administration: patterns of receipt and persistence. *Psychiatr. Serv.* 63(7), 679–685 (2012).
- 22 Hasin DS, Stinson FS, Ogburn E, Grant BF. Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Arch. Gen. Psychiatry* 64(7), 830–842 (2007).
- 23 Jonas DE, Amick HR, Feltner C *et al.* Pharmacotherapy for adults with alcohol use disorders in outpatient settings: a systematic review and meta-analysis. *JAMA* 311(18), 1889–1900 (2014).