

Screening and Behavioral Counseling Interventions in Primary Care to Reduce Alcohol Misuse

Recommendation Statement

U.S. Preventive Services Task Force

This statement summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on behavioral counseling interventions to reduce alcohol misuse in primary care patients and the supporting evidence, and it updates the 1996 recommendations contained in the *Guide to Clinical Preventive Services*, second edition.¹ Explanations of the ratings and of the strength of overall evidence are given in Appendix A and Appendix B, respectively. The article summarizing the effectiveness of interventions in the adult population² and the systematic evidence review³ on this topic can be obtained through the USPSTF Web site (www.preventiveservices.ahrq.gov) and through the National Guideline Clearinghouse™ (<http://www.guideline.gov>). The article and the USPSTF recommendation statement are also available in print through the AHRQ Publications Clearinghouse (call 1-800-358-9295 or e-mail ahrqpubs@ahrq.gov).

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This recommendation first appeared in *Ann Intern Med.* 2004;140:555-557.

Summary of Recommendations

The U.S. Preventive Services Task Force (USPSTF) recommends screening and behavioral counseling interventions to reduce alcohol misuse (see *Clinical Considerations*) by adults, including pregnant women, in primary care settings.

B recommendation.

The USPSTF found good evidence that screening in primary care settings can accurately identify patients whose levels or patterns of alcohol consumption do not meet criteria for alcohol dependence, but place them at risk for increased morbidity and mortality, and good evidence that brief behavioral counseling interventions with follow-up produce small to moderate reductions in alcohol consumption that are sustained over 6- to 12-month periods or longer. The USPSTF found some evidence that interventions lead to positive health outcomes 4 or more years post-intervention, but found limited evidence that screening and behavioral counseling reduce alcohol-related morbidity. The evidence on the effectiveness of counseling to reduce alcohol consumption during pregnancy is limited; however, studies in the general adult population show that behavioral counseling interventions are effective among women of childbearing age. The USPSTF concluded that the benefits of behavioral counseling interventions to reduce alcohol misuse by adults outweigh any potential harms.

The USPSTF concludes that the evidence is insufficient to recommend for or against screening and behavioral counseling interventions to prevent or reduce alcohol misuse by adolescents in primary care settings. **I recommendation.**

The USPSTF found limited evidence evaluating the effectiveness of screening and behavioral counseling interventions in primary care settings to prevent or reduce alcohol misuse by adolescents. The USPSTF concluded that the evidence is insufficient to assess the potential benefits and harms of screening and behavioral counseling interventions in this population.

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Clinical Considerations

- Alcohol misuse includes “risky/hazardous” and “harmful” drinking that places individuals at risk for future problems. “Risky” or “hazardous” drinking has been defined in the United States as more than 7 drinks per week or more than 3 drinks per occasion for women, and more than 14 drinks per week or more than 4 drinks per occasion for men. “Harmful drinking” describes persons who are currently experiencing physical, social, or psychological harm from alcohol use but do not meet criteria for dependence.^{4,5} Alcohol abuse and dependence is associated with repeated negative physical, psychological, and social effects from alcohol.⁶ The USPSTF did not evaluate the effectiveness of interventions for alcohol dependence because the benefits of these interventions are well established and referral or specialty treatment is recommended for those meeting the diagnostic criteria for dependence.
- Light to moderate alcohol consumption in middle-aged or older adults has been associated with some health benefits, such as reduced risk for coronary heart disease.⁷ Moderate drinking has been defined as 2 standard drinks (eg, 12 ounces of beer) or less per day for men and 1 drink or less per day for women and persons older than 65,⁸ but recent data suggest comparable benefits from as little as 1 drink 3 to 4 times a week.⁹
- The Alcohol Use Disorders Identification Test (AUDIT) is the most studied screening tool for detecting alcohol-related problems in primary care settings. It is sensitive for detecting alcohol misuse and abuse or dependence and can be used alone or embedded in broader health risk or lifestyle assessments.^{10,11} The 4-item CAGE (feeling the need to **C**ut down, **A**nnoyed by criticism, **G**uilty about drinking, and need for an **E**ye-opener in the morning) is the most popular screening test for detecting alcohol abuse or dependence in primary care.¹² The TWEAK, a 5-item scale, and the T-ACE are designed to screen pregnant women for alcohol misuse. They detect lower levels of alcohol consumption that may pose risks during pregnancy.¹³ Clinicians can choose screening strategies that are appropriate for their clinical population and setting.^{11,14–17} Screening tools are available at the National Institute on Alcohol Abuse and Alcoholism Web site: <http://www.niaaa.nih.gov/publications/instable.htm>.
- Effective interventions to reduce alcohol misuse include an initial counseling session of about 15 minutes, feedback, advice, and goal-setting. Most also include further assistance and follow-up. Multi-contact interventions for patients ranging widely in age (12–75 years) are shown to reduce mean alcohol consumption by 3 to 9 drinks per week, with effects lasting up to 6 to 12 months after the intervention. They can be delivered wholly or in part in the primary care setting, and by 1 or more members of the health care team, including physician and non-physician practitioners. Resources that help clinicians deliver effective interventions include brief provider training or access to specially trained primary care practitioners or health educators, and the presence of office-level systems supports (prompts, reminders, counseling algorithms, and patient education materials).
- Primary care screening and behavioral counseling interventions for alcohol misuse can be described with reference to the 5-As behavioral counseling framework: **assess** alcohol consumption with a brief screening tool followed by clinical assessment as needed; **advise** patients to reduce alcohol consumption to moderate levels; **agree** on individual goals for reducing alcohol use or abstinence (if indicated); **assist** patients with acquiring the motivations, self-help skills, or supports needed for behavior change; and **arrange** follow-up support and repeated counseling, including referring dependent drinkers for specialty treatment.¹⁸ Common practices that complement this framework include motivational interviewing,¹⁹ the 5 Rs used to treat tobacco use,²⁰ and assessing readiness to change.²¹
- The optimal interval for screening and intervention is unknown. Patients with past alcohol problems, young adults, and other high-risk groups (eg, smokers) may benefit most from frequent screening.

- All pregnant women and women contemplating pregnancy should be informed of the harmful effects of alcohol on the fetus. Safe levels of alcohol consumption during pregnancy are not known; therefore, pregnant women are advised to abstain from drinking alcohol. More research into the efficacy of primary care screening and behavioral intervention for alcohol misuse among pregnant women is needed.
- The benefits of behavioral intervention for preventing or reducing alcohol misuse in adolescents are not known. The CRAFFT questionnaire was recently validated for screening adolescents for substance abuse in the primary care setting.²² The benefits of screening this population will need to be evaluated as more effective interventions become available in the primary care setting.

Discussion

Alcohol misuse is strongly associated with health problems, disability, death, accident, injury, social disruption, and violence.⁷ In the United States, alcohol abuse generates nearly \$185 billion in annual economic costs.⁷ Nonetheless, most individuals who drink alcohol do so without developing problems; and light or moderate alcohol consumption may improve cardiovascular health for middle-aged or older adults.

Alcohol misuse patterns, such as heavy episodic drinking (binge drinking), drinking to intoxication, or drinking in association with other activities, such as driving, increase the risk for accidents, injuries, and life problems. Higher levels of alcohol consumption have been linked to increased risk for cirrhosis, diseases of the central nervous system, hypertension, and cancers of the head and neck, digestive tract, liver, and breast.⁷ Excessive alcohol use during pregnancy can cause fetal alcohol syndrome (FAS), a constellation of growth retardation, facial deformities, and central nervous system dysfunction.

Data from the 2001 National Household Survey on Drug Abuse (NHSDA) show that young adults aged 18 to 25 have the highest prevalence of both

binge drinking and heavy drinking.²³ Across various primary care populations, the prevalence rates for risky drinking range from 4% to 29%; for harmful drinking, from 0.3% to 10%; and for alcohol dependence, from 2% to 9%.^{4,24} Epidemiological data have shown that drinking alcohol influences tobacco use (and vice versa), and that drinking onset during adolescence correlates with alcohol dependence during adulthood.²⁵ Early age of initiation to drinking also increases the risk for alcohol-related injuries.²⁶ Alcohol misuse is known to coexist frequently with depression or anxiety disorders.²⁷

A recent, good-quality systematic review of 38 studies of screening for alcohol misuse by adults in primary care settings (age range 35–47 years) supports the effectiveness of available screening instruments.¹¹ The AUDIT²⁸ incorporates questions about consequences of drinking along with questions about drinking quantity and frequency; its sensitivity ranges from 51% to 97% and its specificity ranges from 78% to 96%. The sensitivity of the CAGE ranges from 43% to 94%, and its specificity ranges from 70% to 97%.^{11,29} TWEAK, which is designed to screen pregnant women for alcohol misuse, has a reported sensitivity ranging from 59% to 87% and a specificity ranging from 72% to 94%.³ The CRAFFT questionnaire, designed to screen adolescents, has a reported sensitivity of 92% and a specificity of 64%.²² Preliminary data indicate that other screening tests, such as the CAGE-AA and the Simple Screening Instrument for Alcohol and Other Drug Abuse (SSI-AOD), are reliable in identifying alcohol and other drug abuse and dependence among adolescents in the primary care setting; however, the sensitivity and specificity of these tests have not yet been assessed.³⁰ If screened for alcohol misuse using essentially any validated instrument, approximately 8% to 18% of general primary care patients would screen positive, with about 50% remaining eligible for brief intervention after completing further assessment. A recent meta-analysis concluded that 3% to 18% of patients would screen positive for alcohol misuse, with 1% to 5% given brief interventions after completing assessment.^{3,31} Biological markers, such as

carbohydrate deficient transferrin (CDT) and serum gamma-glutamyltransferase (GGT), are poor indicators of alcohol misuse.¹¹

The USPSTF categorized the available counseling interventions into 3 levels of intensity.² They vary by the duration of the initial contact and by the presence or absence of follow-up contacts. Very brief (1 session of up to 5 minutes with no follow-up) and brief interventions (1 session of up to 15 minutes with no follow-up) were incorporated into the routine primary care practice with relatively minimal changes in the primary care setting being required. Multi-contact interventions (an initial session of up to 15 minutes duration with multiple follow-up contacts) required the primary care practice to incorporate a greater number of resources.

The USPSTF review found that counseling interventions had mixed results on the long-term health outcomes of adults.² No studies found statistically significant, long-term effects on morbidity.² The combined results from these studies suggest mean reductions in alcohol consumption ranging from 3 to 9 drinks per week (13%–34% net reduction in drinking) in the intervention group compared with the control group after 6 to 12 months of follow-up. The majority of good-quality studies of primary care interventions for people with risky or harmful drinking found that 10% to 19% more intervention participants no longer reported drinking at levels that were harmful or risky compared with controls. A meta-analysis found that the pooled absolute risk reduction ranged from 7% to 14% among those considered eligible to receive brief intervention and reported a number needed to screen of 385.³¹ All effective interventions included at least feedback, advice, and goal-setting, while most also delivered further assistance and follow-up. These elements are consistent with the 5 As approach to describing behavioral counseling interventions in clinical care adopted by the USPSTF.¹⁸

The USPSTF identified 3 fair-to-good quality studies evaluating multi-contact interventions for pregnant women in primary care settings (age ranges early 20s to 30 years). These studies tended to include lighter drinkers, to be smaller, and to have shorter follow-up periods than studies of other populations

because the aim of the interventions was to have patients reduce or stop drinking during pregnancy. Although the results were not statistically significant, 1 of the studies found a trend toward lower alcohol consumption and greater abstinence during pregnancy in the intervention group than in the control group.² Although other studies targeted toward pregnant women found small or negligible effects of behavioral counseling interventions in reducing alcohol consumption, the USPSTF review did not find any difference in the effectiveness of interventions between men and non-pregnant women.

The USPSTF found that interventions targeted toward adolescents in the primary care setting had mixed results.^{2,32} A multi-contact intervention for seventh to ninth graders found that participants in the intervention group were significantly less likely to intend to drink than participants in the control group (5.5% vs 19.2%), were less likely to have reported drinking in the prior 30 days (3.6% vs 17.3%), and were less likely to have consumed 5 or more drinks in a row during the prior 30 days (0.0% vs 9.6%).

The USPSTF found little direct evidence regarding harms of screening or behavioral counseling interventions for alcohol misuse. In a few studies, higher attrition rates in intervention compared with control groups suggest that alcohol misuse interventions may be objectionable for some individuals. Two potential harms of these interventions among adults include a possible reduction in the benefits of moderate drinking and under-treatment of drinkers with alcohol abuse or dependence who are guided toward moderate drinking rather than abstinence. The USPSTF found no data for either of these potential harms. In addition, a multi-contact intervention for preteens (fifth and sixth graders) in the primary care setting found moderate increases in drinking at 24 and 36 months post-intervention.³²

The USPSTF found only 2 poor-to-fair quality studies evaluating the cost-effectiveness of alcohol behavioral counseling interventions.² Interpreting their findings is complicated due to poor comparability of definitions and lack of inclusion of consistent outcomes. Despite these limitations,

the studies tend to show that brief interventions could provide cost savings due to reductions in emergency department visits and hospitalizations.

Recommendations of Others

Professional groups such as the American Medical Association (AMA) (<http://www.ama-assn.org/ama/pub/article/2036-2393.html>), the American Society of Addiction Medicine (<http://www.asam.org/ppol/screen.htm>) and the Canadian Task Force on Preventive Health Care (<http://ctfphc.org/>) recommend routine screening for alcohol misuse in primary care and brief counseling interventions for individuals who screen positive. The American College of Obstetricians and Gynecologists (<http://acog.org/>) and the American Academy of Pediatrics (AAP) (http://aappolicy.aappublications.org/policy_statement/index.dtl) recommend counseling all women who are pregnant or planning pregnancy about the harmful effects of drinking to the fetus and that abstinence is the safest policy. The AAP and the AMA Guidelines for Adolescent Preventive Services (GAPS) (<http://www.ama-assn.org/ama/upload/mm/39/gapsmono.pdf>) recommend that clinicians routinely screen children and adolescents for alcohol use and advise patients to abstain from alcohol. The AAP also recommends that physicians discuss the hazards of alcohol and other drug use with parents during routine risk behavior assessment (<http://aappolicy.aappublications.org/cgi/content/full/pediatrics;108/1/185>).

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**Appendix A
U.S. Preventive Services Task Force—Recommendations and Ratings**

The Task Force grades its recommendations according to one of 5 classifications (A, B, C, D, I) reflecting the strength of evidence and magnitude of net benefit (benefits minus harms):

- A. The USPSTF strongly recommends that clinicians provide [the service] to eligible patients. *The USPSTF found good evidence that [the service] improves important health outcomes and concludes that benefits substantially outweigh harms.*
- B. The USPSTF recommends that clinicians provide [the service] to eligible patients. *The USPSTF found at least fair evidence that [the service] improves important health outcomes and concludes that benefits outweigh harms.*
- C. The USPSTF makes no recommendation for or against routine provision of [the service]. *The USPSTF found at least fair evidence that [the service] can improve health outcomes but concludes that the balance of benefits and harms is too close to justify a general recommendation.*
- D. The USPSTF recommends against routinely providing [the service] to asymptomatic patients. *The USPSTF found at least fair evidence that [the service] is ineffective or that harms outweigh benefits.*
- I. The USPSTF concludes that the evidence is insufficient to recommend for or against routinely providing [the service]. *Evidence that [the service] is effective is lacking, of poor quality, or conflicting and the balance of benefits and harms cannot be determined.*

**Appendix B
U.S. Preventive Services Task Force—Strength of Overall Evidence**

The USPSTF grades the quality of the overall evidence for a service on a 3-point scale (good, fair, poor):

- Good:** Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes.
- Fair:** Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of the individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes.
- Poor:** Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

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