Counseling to Prevent Tobacco Use and Tobacco-Caused Disease

Recommendation Statement

U.S. Preventive Services Task Force

This statement summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on counseling to prevent tobacco use and tobacco-caused disease. It updates the 1996 recommendations contained in the *Guide to Clinical Preventive Services,* second edition. Explanations of the ratings and strength of overall evidence are given in Appendix A and Appendix B, respectively. The complete information on which this statement is based, including evidence tables and references, is available in the Public Health Service (PHS) "Clinical Practice Guideline: Treating Tobacco Use and Dependence." The USPSTF recommendation and PHS clinical practice guideline on this topic are available through the USPSTF Web site (http://www.preventiveservices.ahrq.gov) and through the National Guideline Clearinghouse™ (http://www.guideline.gov). This recommendation statement is also available in print through the AHRQ Publications Clearinghouse (call 1-800-358-9295 or e-mail ahrqpubs@ahrq.gov).

Summary of Recommendations

The USPSTF strongly recommends that clinicians screen all adults for tobacco use and provide tobacco cessation interventions for those who use tobacco products. **A recommendation.**

The USPSTF found good evidence that brief smoking cessation interventions, including screening, brief behavioral counseling (less than 3 minutes), and pharmacotherapy delivered in primary care settings, are effective in increasing the proportion of smokers who successfully quit smoking and remain abstinent after 1 year. Although most smoking cessation trials do not provide direct evidence of health benefits, the USPSTF found good evidence that smoking cessation lowers the risk for heart disease, stroke, and lung disease. The USPSTF concluded that there is good indirect evidence that even small increases in the quit rates from tobacco cessation counseling would produce important health benefits, and that the benefits of counseling interventions substantially outweigh any potential harms.

The USPSTF strongly recommends that clinicians screen all pregnant women for tobacco use and provide augmented pregnancy-tailored counseling to those who smoke. **A recommendation.**

The USPSTF found good evidence that extended or augmented smoking cessation counseling (5–15 minutes) using messages and self-help materials tailored for pregnant smokers, compared with brief generic counseling interventions alone, substantially increases abstinence rates during pregnancy, and leads to increased birth weights. Although relapse rates are high in the post-partum period, the USPSTF concluded that reducing smoking during pregnancy is likely to have substantial health benefits for both the baby and the expectant mother. The USPSTF concluded that the benefits of smoking cessation counseling outweigh any potential harms.

The USPSTF concludes that the evidence is insufficient to recommend for or against routine screening for tobacco use or interventions to prevent and treat tobacco use and dependence among children or adolescents. **I recommendation.**

The USPSTF found limited evidence that screening and counseling children and adolescents in the primary

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care setting are effective in either preventing initiation or promoting cessation of tobacco use. As a result, the USPSTF could not determine the balance of benefits and harms of tobacco prevention or cessation interventions in the clinical setting for children or adolescents.

Clinical Considerations

- Brief tobacco cessation counseling interventions, including screening, brief counseling (3 minutes or less), and/or pharmacotherapy, have proven to increase tobacco abstinence rates, although there is a dose-response relationship between quit rates and the intensity of counseling. Effective interventions may be delivered by a variety of primary care clinicians.
- The "5-A" behavioral counseling framework provides a useful strategy for engaging patients in smoking cessation discussions: (1) *Ask* about tobacco use; (2) *Advise* to quit through clear personalized messages; (3) *Assess* willingness to quit; (4) *Assist* to quit; and (5) *Arrange* follow-up and support. Helpful aspects of counseling include providing problem-solving guidance for smokers to develop a plan to quit and to overcome common barriers to quitting and providing social support within and outside of treatment. Common practices that complement this framework include motivational interviewing, the 5 R's used to treat tobacco use (*relevance*, *risks*, *rewards*, *roadblocks*, *repetition*), assessing readiness to change, and more intensive counseling and/or referrals for quitters needing extra help.[1–3] Telephone "quit lines" have also been found to be an effective adjunct to counseling or medical therapy.[4]
- Clinics that implement screening systems designed to regularly identify and document a patient's tobacco use status increased their rates of clinician intervention, although there is limited evidence for the impact of screening systems on tobacco cessation rates.[5]
- FDA-approved pharmacotherapy that has been identified as safe and effective for treating tobacco dependence includes several forms of nicotine replacement therapy (ie, nicotine gum, nicotine transdermal patches, nicotine inhaler, and nicotine nasal spray) and sustained-release bupropion. Other medications, including clonidine and nortriptyline, have been found to be efficacious and may be considered.
- Augmented pregnancy-tailored counseling (eg, 5–15 minutes) and self-help materials are recommended for pregnant smokers, as brief interventions are less effective in this population. There is limited evidence to evaluate the safety or efficacy of pharmacotherapy during pregnancy. Tobacco cessation at any point during pregnancy can yield important health benefits for the mother and the baby, but there are limited data about the optimal timing or frequency of counseling interventions during pregnancy.
- There is little evidence addressing the effectiveness of screening and counseling children or adolescents to prevent the initiation of tobacco use and to promote its cessation in a primary care setting, but clinicians may use their discretion in conducting tobacco-related discussions with this population, since the majority of adult smokers begin tobacco use as children or adolescents.

Discussion

Tobacco use, cigarette smoking in particular, is the leading preventable cause of death in the United States, resulting in 440,000 deaths annually.[6] Smoking has been attributed to over 155,000 deaths annually from neoplasms, 80,000 deaths annually from ischemic heart disease, and over 17,000 deaths annually from cerebrovascular disease. Smoking also affects health outcomes of people other than the smokers, with smoking during pregnancy resulting in the deaths of about 1,000 infants annually. Significant risks associated with smoking during pregnancy include premature births, spontaneous abortions, stillbirths, and intrauterine growth retardation. Additionally, environmental tobacco smoke contributes to the deaths of an estimated 38,000 people annually from lung cancer and heart disease.[7]

There is good quality evidence that smoking cessation lowers the risk for heart disease, stroke, and lung disease.[8,9] However, despite smoking's established risks and the health benefits of quitting, 23% of adults in the United States continue to

smoke[10] and more than 2,000 adolescents become regular tobacco users daily.[11] Nearly 90% of smokers start by age 18, and 25% of teen smokers remain addicted as adults.[12] Because 70% of smokers see a physician each year,[5] clinicians have a unique opportunity to intervene.

The USPSTF found good quality evidence examining the efficacy of various levels of intensity of tobacco cessation counseling by clinicians based on a meta-analysis of 43 studies.[5] Compared with no intervention, minimal counseling, lasting less than 3 minutes, has been shown to increase overall tobacco abstinence rates. Increasing session length and frequency increased efficacy in a dose-response manner.[5] There is limited evidence to determine the optimal duration and periodicity of tobacco counseling interventions.

A meta-analysis of 7 studies found that abstinence rates were higher (16.8% vs 6.6%) for pregnant smokers receiving pregnancy-tailored counseling and self-help materials compared with pregnant smokers receiving brief counseling or "usual care."[5]

The USPSTF found limited evidence of the efficacy of counseling children or adolescents in the clinical primary care setting, but found that school- and classroom-based smoking cessation programs may be more effective than no intervention among tobacco users who attend these programs.[13] As with tobacco cessation programs for adults in the community setting, programs with a greater number of counseling sessions and increasing intensity of follow-up had higher quit rates.[14]

Several FDA-approved pharmacotherapies have been identified as safe and effective in helping adults to quit smoking. Nicotine products, including nicotine gum, transdermal patch, nicotine nasal spray, and nicotine inhaler, have all been studied in comparison with placebo. There are good quality studies to support the abstinence rates among people who use these products compared with those who do not: 18% to 31% versus 10% to 17%.[5] (Although nicotine lozenges are currently available, at the time of this review they were not FDA-approved and therefore not included in this recommendation statement.) There are fair quality studies showing that combining the nicotine patch with either gum or nasal spray is more efficacious than using a single form of nicotine replacement therapy alone.[15,16] Sustained-release bupropion has been shown to be efficacious compared with placebo, with an estimated cessation rate of 23% to 38% compared with 17%.[17,18] Other pharmacotherapies, including clonidine and nortriptyline, have been shown to result in higher smoking cessation rates when compared with placebo, although their use may be limited by side effects.[5] There is little evidence on the safety and efficacy of tobacco cessation pharmacotherapy for the pregnant woman, the fetus, or the nursing mother and child.[19] Therefore, pharmacotherapy for pregnant women may be considered when the likelihood of quitting and its potential benefits outweighs the risks of the therapy and continued smoking. Likewise, there is little evidence on the safety and efficacy of tobacco cessation pharmacotherapy in children or adolescents.

There is good evidence supporting the effectiveness of community and population-based approaches to reducing environmental tobacco smoke (eg, tobacco price increases, clean indoor air laws, anti-tobacco media campaigns); many of these interventions are especially effective among adolescent populations.[4] However, in the clinical setting, limited studies with mixed results address the effect of parental counseling on reducing secondhand smoke exposure of children and reducing parental smoking rates.[20–22] Future research is required to define the effectiveness of screening, counseling, and pharmacotherapy for children, adolescents, and their parents in the primary care setting.

Recommendations of Others

The Public Health Service guideline can be accessed at: http://www.surgeongeneral.gov/tobacco/smokesum.htm. Tobacco-related recommendations from the CDC *Guide to Community Preventive Services* can be accessed at: http://www.thecommunityguide.org/tobacco.

Policies of the American Academy of Family Physicians can be accessed at: http://www.aafp.org/x7112.xml. Recommendations of the American Academy of Pediatrics relating to tobacco can be accessed at: http://www.aap.org/policy/re0041.html, http://www.aap.org/policy/re9716.html, and http://www.aap.org/policy/re9801.html.

Recommendations of the Canadian Task Force can be accessed at: http://www.ctfphc.org.

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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 routinely 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 routinely 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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