Evidence Reviews and Recommendations on Interventions to Reduce Tobacco Use and Exposure to Environmental Tobacco Smoke

A Summary of Selected Guidelines

David P. Hopkins, MD, MPH, Corinne G. Husten, MD, MPH, Jonathan E. Fielding, MD, MPH, MBA, J. Niels Rosenquist, BS, Lori L. Westphal, MA, MPH

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Introduction

The reports in this supplement to the *American Journal of Preventive Medicine* by the Task Force on Community Preventive Services[1] (TFCPS) and Hopkins et al.[2] represent the work of the TFCPS, an independent, nonfederal group of national, regional, and local public health and prevention services experts supported by public and private partners. These reports are the second published section of what will be the forthcoming *Guide to Community Preventive Services: Systematic Reviews and Evidence-Based Methods*. The first published section was on vaccine-preventable diseases.[3–5]

In addition to expanding the *Guide to Community Preventive Serives* (the *Community Guide*), these reviews and evidence-based recommendations add to the growing body of guidelines that identify and document the effectiveness of interventions to reduce tobacco use and exposure to environmental tobacco smoke (ETS). The TFCPS reports complement other recent efforts that provide information and guidance to health care providers, health care systems, and communities on strategies to reduce the annual tobacco-related toll of addiction, illness, disability, and death. This article presents a summary of selected guidelines and evidence reviews available as of August 2000, and provides an accessible review of the current evidence of effectiveness of interventions to reduce tobacco use and exposure to ETS.

The first section of this article describes the focus and general content of selected evidence reviews and guidelines, and information on the organization of the summary tables. The second section presents the summary evidence tables, organized by type or category of intervention. The third section provides a brief discussion of the comparisons across evidence reviews.

From the Division of Prevention Research and Analytic Methods, Epidemiology Program Office (Hopkins, Rosenquist, Westphal), and Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion (Husten), Centers for Disease Control and Prevention, Atlanta, Georgia; Los Angeles Department of Health Services (Fielding), and University of California-Los Angeles School of Public Health (Fielding) and School of Medicine (Fielding), Los Angeles, California

Address correspondence and reprint requests to: David P. Hopkins, MD, MPH, Coordinating Scientist, Epidemiology Program Office, MS K-73, Centers for Disease Control and Prevention, 4770 Buford Highway, Atlanta, GA 30341. E-mail: dhh4@cdc.gov.

Selected Evidence Reviews and Guidelines on Tobacco Use Prevention and Control

The primary objective of this article is to compare the evidence reviews and recommendations from the *Community Guide* with reviews and recommendations recently produced by other groups. The two reports most often cited are *Treating Tobacco Use and Dependence: Clinical Practice Guideline*[6] (*CPG*) and *Reducing Tobacco Use: A Report of the Surgeon General*[7] (*SGR*). Other guidelines are also included to provide an additional assessment of the strength of the evidence for an intervention,[8] another summary effect measurement,[9] or a specific implementation recommendation from another agency or group.[10–12]

This section identifies and briefly describes the selected guidelines and evidence reviews included in this summary report. Each of these documents employed a different methodology for finding, evaluating, and translating the evidence of effectiveness into a summary effect measurement, a recommendation for use, or both. As a result, the descriptions provided here cannot fully elaborate on the methods used or the target audience for each publication.

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The Guide to Community Preventive Services: Interventions to Reduce Tobacco Use and ETS Exposure (2001)

The tobacco section of the *Community Guide* currently includes 14 evidence reviews on interventions to reduce tobacco use and ETS exposure, with three additional reviews in progress. *Community Guide* methods, which have been summarized elsewhere,[13] basically involve a systematic process of: (1) identifying and selecting interventions to review; (2) searching for published evidence (limited to studies published in the English language); (3) abstracting and evaluating the quality of each identified study; (4) summarizing the available body of evidence regarding effectiveness, other effects, applicability, economic evaluation, and barriers to implementation; (5) TFCPS translation of evidence into recommendations, based on established rules; and (6) identifying remaining questions for future research. Methods specific to the tobacco section are summarized in Hopkins et al.,[2] Appendix A, in this supplement. Overall, for each selected intervention, the *Community Guide* report provides a range and median of effect measures from the included studies, and a practice recommendation from the TFCPS based primarily on the strength of the evidence.

Treating Tobacco Use and Dependence: Clinical Practice Guideline (2000)

Released in June 2000 by the Public Health Service, *CPG*[6] updates and expands on the review of strategies and therapies for the clinical identification and treatment of tobacco use and dependence published in the original 1996 report.[14] The *CPG* update provides: (1) a comprehensive review of interventions to treat patient tobacco use and dependence that are appropriate for health care providers, health care systems, and health care purchasers; (2) a standardized evaluation process for each identified study; (3) standardized inclusion criteria; (4) a pooled summary estimate using meta-analytic techniques when appropriate; (5) a standardized assessment and grade of the strength of evidence for each intervention; and (6) identification of areas for further research.

A product of the Tobacco Use and Dependence Guideline Panel, the *CPG* update is the most recent and the most complete assessment of interventions to treat tobacco use and dependence. The evaluations provided in both editions were heavily referenced in the relevant sections of the *SGR*, and provided the foundation of evidence of effectiveness for several health care system strategies evaluated in the *Community Guide*.

Reducing Tobacco Use: A Report of the Surgeon General (2000)

Released in August 2000, the *SGR*[7] updates the status of tobacco use in the United States, and is the first Surgeon General's report to offer a composite review of the various methods used to reduce and prevent tobacco use.[15] The *SGR* is a comprehensive, narrative review of: (1) current tobacco use in the United States and a historical review of efforts to reduce smoking, (2) effective educational strategies to prevent tobacco use among young people, (3) individual and clinical strategies to increase tobacco use cessation, (4) regulatory efforts to reduce tobacco use and ETS exposure, (5) economic approaches (such as taxation of tobacco products), and (6) comprehensive tobacco use prevention and control programs at the community, state, and national levels. Narrative reviews of the evidence of effectiveness are provided for some interventions, usually without a summary effect measure or a formal recommendation for use. Some interventions are reviewed only in the context of comprehensive programs at the community, state, or national levels.

Cochrane Collaboration (various reports)

The Cochrane Collaboration is an international coalition of participating research centers conducting evidence reviews on a wide variety of clinical and public health topics. We have included ten reports from the Cochrane Collaboration on tobacco use prevention and treatment in the summary tables.[16–25] These reports provide assessments of the effectiveness of interventions based on a systematic process including: (1) a search for evidence (not usually restricted to the English language); (2) standardized inclusion and exclusion criteria; (3) standardized evaluation and abstraction of information; (4) a pooled summary estimate using meta-analytic techniques, when appropriate, and a narrative review when a pooled summary estimate could not be conducted; and (5) a process of updating reviews as new evidence is identified.

Guide to Clinical Preventive Services: Report of the U.S. Preventive Services Task Force (1996)

The U.S. Preventive Services Task Force (USPSTF) provides evidence-based recommendations for clinical practice on preventive interventions for a wide variety of conditions.[8] The USPSTF conducted evidence reviews using: (1) a standardized search for evidence of effectiveness of clinical preventive services, (2) standardized inclusion criteria, and (3) standardized evaluations of the evidence concluding with a narrative review and a recommendation based on the strength of the evidence of effectiveness.

Growing Up Tobacco Free: Preventing Nicotine Addiction in Children and Youths (1994) and *Taking Action to Reduce Tobacco Use* (1998)

These publications from the Institute of Medicine[10,11] present policy positions to reduce and prevent tobacco use in the United States that are informed by scientific evidence. The reports provide a pertinent review of tobacco use in the United States, and a set of recommendations for the implementation of specific policies and/or interventions at the national, state, and local levels.

Best Practices for Comprehensive Tobacco Control Programs (1999)

Best Practices,[12] a guidance document from the Office on Smoking and Health at the Centers for Disease Control and Prevention, presents recommendations and funding estimates for states "to establish tobacco control programs that are comprehensive, sustainable, and accountable." The report identifies nine basic components of a "comprehensive" tobacco control program based on a review of published intervention studies, evaluations of two state programs (California and Massachusetts), and work with six other state programs (Oregon, Maine, Florida, Minnesota, Mississippi, and Texas). In addition to a narrative evidence review for each component, *Best Practices* provides budget estimates for the successful implementation of each component, and generates funding estimates for a model comprehensive program in every state.

Organization of the Summary Tables

Evidence reviews and recommendations are summarized in tables in this article as follows:

Table 1. Clinical interventions to identify and to treat tobacco use and dependence
Table 2. Health care system interventions to identify and to treat tobacco use and dependence
Table 3. Community interventions to reduce exposure to ETS
Table 4. Community interventions to reduce tobacco use initiation by children and adolescents
Table 5. Community interventions to increase tobacco use cessation

All tables are located after the References section.

Each intervention is displayed in a single row, with summaries of the contributing evidence reviews presented in the columns. Within each column, the evidence review is summarized from top to bottom in the following order: (1) a formal strength-of-evidence rating or recommendation, if provided; (2) narrative conclusion, if any; (3) summary effect measurements, if provided, with a brief description of the effect measure, and pertinent information (such as the period of follow-up for measurements of tobacco use cessation).

With the exception of the evidence summaries provided in Table 1, the interventions identified and included follow the organization of the *Community Guide*. Interventions not evaluated in the *Community Guide* (e.g., provider counseling to reduce ETS exposure in the home; and community-wide, individual risk-factor screening and counseling) are not presented in these tables, but may have been evaluated in the other guidelines. The clinical interventions reviewed in Table 1 present evidence of effectiveness of several strategies that directly relate to the evaluations of effectiveness of health care system interventions reviewed in the *Community Guide*. For example, the evidence of effectiveness of provider counseling to tobacco-using patients, demonstrated in both the *Guide to Clinical Preventive Services* and the *CPG*, was referenced in the *Community Guide* in the evaluation of provider reminder systems. As a result, the *Community Guide* evaluated the evidence of effectiveness of provider reminder systems in increasing patients' receipt of counseling or advice to quit from their providers.

There is also some duplication of intervention summaries. For example, telephone cessation support is presented both in Tables 2 and 5 because it is an appropriate intervention for both health care systems and communities.

Recommendations

Three of the selected evidence reviews—*Guide to Clinical Preventive Services*, the *Community Guide*, and the *CPG*—present formal recommendations concerning the evidence of effectiveness for each intervention. In summarizing the recommendations from these reviews, the strength of evidence rating or recommendation is presented. In some cases, a brief quotation or statement is also presented. For several interventions, longer recommendation statements in the original document were abbreviated to fit the table format.

In all of the guidelines, readers were cautioned not to confuse an assessment of insufficient evidence of effectiveness with evidence of *in*effectiveness. In most cases, an assessment of insufficient evidence was based on an inadequate number of qualifying studies.

Guide to Clinical Preventive Services

A letter rating was assigned to denote the strength of the evidence of effectiveness supporting the USPSTF recommendation for or against use of the intervention. Letter ratings range from A, "good evidence to support the recommendation to include" to E, "good evidence to support the recommendation to exclude." An evaluation of "insufficient evidence" is denoted by a letter rating of C.

Guide to Community Preventive Services

Recommendations for or against use of an intervention were based on the evidence of effectiveness and consideration of other effects (positive and negative). The three options are: (1) strongly recommended (for or against), (2) recommended (for or against), and (3) insufficient evidence (no recommendation).

Treating Tobacco Use and Dependence: Clinical Practice Guideline

A letter rating was assigned to each intervention based on the strength of the evidence supporting the recommendation. A rating of A indicates "multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielding a consistent pattern of findings." A rating of B indicates "some evidence from randomized clinical trials supporting the recommendation, but the scientific support was not optimal." A rating of C was "reserved for important clinical situations where the panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials." The panel declined to make recommendations when there was no relevant evidence or the evidence was too weak or inconsistent to support a recommendation.

Narrative Reviews

Some of the selected guidelines provided a narrative evaluation of the evidence of effectiveness of the intervention. For presentation in the summary tables of this article, pertinent sections of the text were quoted and identified. In most cases, the included text represents a summation or conclusion from an extended narrative evaluation of the studies providing evidence.

Summary Effect Measurements

Three of the evidence reviews—the *Community Guide*, the *CPG*, and the reports from the Cochrane Collaboration—provide summary effect measurements in evaluations of the evidence of effectiveness of the intervention. This information is provided in the tables with additional comments or information as needed. In all cases, the original document included a more detailed presentation and discussion of the summary effect measurements than is provided in these summary tables.

Guide to Community Preventive Services

For most interventions, the summary effect measurements were the range and median of absolute percentage differences in outcome between the intervention and comparison groups. The results are reported here as percentage point changes. For some intervention evaluations, the differences in outcome between the intervention and comparison groups were expressed as a relative percentage difference, with the results reported as the percentage change.

Clinical Practice Guideline: Treating Tobacco Use and Dependence

For interventions with an appropriate body of evidence, a pooled summary estimate of effect was determined using meta-analytic techniques. In these cases, the summary table presents the estimated odds ratio for the effect measurement and the 95% confidence interval. In some cases, the estimated abstinence rate (cessation outcomes) or the estimated provider intervention rate (for delivery of a measured activity such as counseling) was also reported.

Cochrane Collaboration

For interventions with an appropriate body of evidence, a pooled summary estimate of effect was determined using meta-analytic techniques. In these cases, the summary table presents the estimated odds ratio for the effect measurement and the 95% confidence interval. Several of the bodies of evidence reviewed on tobacco interventions, however, were not suitable for meta-analytic evaluation. In these cases, the summary tables present a quotation or conclusion from the narrative review.

Discussion

Comparison of the evidence summaries presented here reveals considerable general agreement on the effectiveness or ineffectiveness of the interventions reviewed, with only a few instances in which different reviews reached different conclusions.

There is uniform agreement on the effectiveness of the clinical interventions, although the magnitude of the effects differed slightly. Screening patients for tobacco use, delivering brief advice or more intense or frequent counseling to quit, and the use of pharmacologic treatments (nicotine replacement or bupropion as first-line therapies) were identified as effective in increasing patient tobacco use cessation. Self-help education materials were assessed as less effective or inconsistent.

The health care system interventions evaluated in these reviews primarily focused on increasing the delivery or use of effective clinical strategies. For most interventions, the assessment of effectiveness was consistent across the evidence reviews. Provider reminder systems (alone or in combination with other interventions), patient cessation support provided by telephone (when implemented with other interventions), and interventions to reduce patient out-of-pocket costs for

effective cessation treatments were all identified as effective. The reviews differed slightly in the assessment of provider education programs. Two of the reviews, the *Community Guide* and the *SGR*, identified limitations in the evidence of effectiveness of provider education when implemented alone. The reviews were consistent, however, in identifying stronger evidence of effectiveness when provider education efforts were combined with other interventions, such as a provider reminder system.

The assessments of community interventions to reduce exposure to ETS, reduce tobacco use initiation, and increase tobacco use cessation were also consistent. Both the *Community Guide* and the *SGR* identified smoking bans and restrictions as effective in reducing exposure to ETS, and potentially effective in reducing tobacco use prevalence. Regarding community education efforts to reduce exposure to ETS in the home, the *Community Guide* found insufficient evidence to make a recommendation, whereas the *SGR* identified mass media messages included in the state campaigns in California and Massachusetts as effective in protecting children from exposure to ETS.

The evidence reviews of interventions to reduce tobacco use initiation in children and adolescents uniformly agreed on the effectiveness of increasing the unit price of tobacco products. The reviews differed slightly in the assessment of the evidence of effectiveness of mass media campaigns in reducing tobacco use among youth. All of the guidelines, however, identified effective campaigns characterized by a solid theoretical basis, use of formative research in designing the messages, and a broadcast campaign of reasonable intensity over an extended period of time. One reason for the stronger recommendation in the *Community Guide* is the addition of recent evaluations of effectiveness of state campaigns in Florida[26,27] and Massachusetts,[28] which were not available for earlier reviews.

Evidence reviews of interventions to increase tobacco use cessation uniformly documented the effectiveness both of increasing the unit price of tobacco products and of mass media campaigns (when implemented with other interventions). Telephone cessation support, when implemented with other interventions, was also identified as effective in increasing tobacco use cessation. Regarding telephone support, these reviews all found greater evidence of effectiveness for proactive support (contact or follow-up initiated by a clinician or counselor) than for reactive (patient initiates all contact).

Conclusion

This article is unique in pulling together information from various tobacco control guidelines and summarizing evidence and recommendations for complementary tobacco prevention and control activities at the individual, health care system, and community levels. The included guidelines used many of the same studies and explicitly referred to one another. Their similarity, therefore, is not surprising. Nonetheless, the similarity of the findings and recommendations in these evidence reviews and guidelines, despite the widely varied methods used to select, appraise, and summarize evidence, provides considerable reassurance about the effectiveness of the recommended interventions. The cohesiveness and coherence of these reviews and recommendations provides additional support for the policy positions and suggests that these effective and recommended interventions should be implemented and funded. The summary tables in this article provide a useful starting point for clinicians; health care providers and purchasers; state and local health departments; and local, state, and national managers, funders, and advocates of tobacco use prevention and control efforts. These brief evidence summaries cannot convey all of the important information provided in the original reviews. However, these tables provide a quick review of recent efforts, and can efficiently direct users to the original sources for additional information of interest.

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Table 1. Clinical interventions to identify and to treat tobacco use and dependence: recommendations and summary effect measurements from selected tobacco control guidelines and evidence reviews

Guide to Clinical Preventive Services [8,a,b]	Reducing Tobacco Use: A Report of the Surgeon General [7]	Treating Tobacco Use and Dependence: Clinical Practice Guideline [6,c]	Cochrane Collaboration [9]
Screening patients for tobacco use			
A complete history of tobacco use, and an assessment of nicotine dependence among tobacco users should be obtained from all adult and adolescent patients. (p. 602)	All patients seen in a primary care setting should be routinely asked about their smoking status. (p. 103)	Strength of Evidence = A All patients should be asked if they use tobacco and should have their tobacco-use status documented on a regular basis. Evidence has shown that this significantly increases rates of clinician intervention.	No reviews identified
Health care provider delivery of brief advice to quit to patients who use tobacco			
Strength of Evidence = A Tobacco cessation counseling on a regular basis is recommended for all persons who use tobacco products.	Substantial evidence suggests that minimal clinical interventions (e.g., a health care provider's repeated advice to quit) foster smoking cessation… Moreover, minimal clinical interventions have been found to be effective in increasing smokers' motivation to quit and are cost-effective. (p. 105) ...physicians advising their patients to quit smoking can produce cessation proportions of 5-10 percent. (p. 6)	Strength of Evidence = A (physicians) Strength of Evidence = B (all clinicians) All physicians should strongly advise every patient who smokes to quit because evidence shows that physician advice to quit smoking increases abstinence rates. Odds ratio: 1.3 (1.1, 1.6) [d] Estimated abstinence rate: 10.2% (8.5%, 12.0%) Minimum of 5 months f/u	Brief advice compared to no advice or to usual care 16 trials (last amendment, Nov. 1998)[16] Odds ratio: 1.69 (1.45, 1.98) Absolute difference in cessation rate of about 2.5% Minimum of 6 months f/u Simple advice has a small effect on cessation rates. Additional manoevres appear to have only a small effect, though more intensive interventions are marginally more effective than minimal interventions. (p. 2)
Health care provider counseling to patients on tobacco cessation			
Strength of Evidence = A Tobacco cessation counseling on a regular basis is recommended for all persons who use tobacco products.	The success of counseling and advice increases with the intensity of the program and may be improved by increasing the frequency and duration of contact. (p. 134) …research supports the notion that in general, as the intensity of clinician-patient counseling increases, so does the long-term effectiveness of treatment. (p. 105)	Strength of Evidence = A There is a strong dose-response relation between the session length of person-to-person contact and successful treatment outcomes. Intensive interventions are more effective than less intensive interventions and should be used whenever possible. Higher intensity counseling Odds ratio: 2.3 (2.0, 2.7) Estimated abstinence rate: 22.1% (19.4%, 24.7%) Minimum of 5 months f/u	Intensive advice compared to minimal advice 13 trials (last amendment, Nov. 1998)[16] Odds ratio: 1.44 (1.23, 1.68) Minimum of 6 months f/u Individual counseling from a smoking cessation specialist 11 trials (last amendment, Feb. 1999)[17] Odds ratio 1.55 (1.27, 1.90) Minimum of 6 months f/u

Table 1 Continued

Guide to Clinical Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Treating Tobacco Use and Dependence: Clinical Practice Guideline	Cochrane Collaboration
Self-help education materials for patients who use tobacco			
Certain strategies can increase the effectiveness of counseling against tobacco use. Self-help materials. Dispense a variety of effective self-help packages to motivate and aid the majority of tobacco users who quit on their own. (p. 603)	Although self-help manuals have had only moderate and inconsistent success at helping smokers quit, manuals can be easily distributed to the vast population of smokers who try to quit on their own each year. Adjuvant behavioral interventions, particularly pro-active telephone counseling, may increase the effect of self-help materials. (p. 102)	Strength of Evidence: Not reported Any self-help modalities (e.g., pamphlets, booklets, mailings, manuals, videotapes, audiotapes, referrals, mass media community level interventions, reactive telephone hotlines/helplines, computer programs/internet, and lists of community resources) compared to no format. Odds ratio: 1.2 (1.02, 1.3) Estimated abstinence rate: 12.3% (10.9%, 13.6%) [However], the effect of self-help is weak and inconsistent across analyses conducted for this guideline. The impact of self-help is certainly smaller and less certain that that of proactive telephone, individual, or group counseling.	Self-help materials compared to no intervention: 9 trials (last amendment, October 1999)[18] Odds ratio 1.23 (1.02, 1.49) Minimum of 6 months f/u Self-help materials added to face-to-face interaction or nicotine replacement 11 trials (last amendment, October 1999)[18] Odds ratio 1.15 (0.77, 1.72) Minimum of 6 months f/u Self-help materials may provide a small increase in quitting compared to no intervention. There is no evidence that they have an additional benefit over other minimal interventions such as advice from a health care professional, or nicotine replacement therapy.
Pharmacologic treatments for tobacco use and dependence			
Nicotine patches or gum as an adjunct for selected patients (p. 603) Strength of Evidence = A Clonidine: There is insufficient evidence to recommend for or against clonidine as an effective adjunct to tobacco cessation counseling. (p. 603) Strength of Evidence = C	The evidence is strong and consistent that pharmacologic treatments for smoking cessation (nicotine replacement therapies and bupropion, in particular) can help people quit smoking. Clonidine and nortriptyline may have some utility as second-line treatments for smoking cessation, although they have not been approved by the FDA for this indication. (p. 134). Pharmacologic treatment of nicotine addiction, combined with behavioral support, will enable 20-25% of users to remain abstinent at one year posttreatment. (p. 6)	Strength of Evidence = A All patients attempting to quit should be encouraged to use effective pharmacotherapies for smoking cessation except in the presence of special circumstances. First-line pharmacotherapies — Est. Abst. Rate [c] -Bupropion SR OR 2.1 (1.5, 3.0) 30.5% -Nicotine gum OR 1.5 (1.3, 1.8) 23.7% -Nicotine inhaler OR 2.5 (1.7, 3.6) 22.8% -Nicotine nasal spray OR 2.7 (1.8,4.1) 30.5% -Nicotine patch OR 1.9 (1.7, 2.2) 17.7% Second-line pharmacotherapies Clonidine OR 2.1 (1.4, 3.2) 25.6% Nortriptyline OR 3.2 (1.8, 5.7) 30.1% Minimum of 5 months f/u	Nicotine replacement therapy (NRT) compared to non-NRT control group 88 trials (last amendment, May 2000)[19] Odds ratio: 1.71 (1.6, 1.8) Intervention arms quit rate: 17% at 12m Comparison arms quit rate: 10% at 12m Nicotine gum: OR 1.63 (1.5, 1.8) Nicotine inhaler: OR 2.1 (1.4, 3.0) Nicotine nasal spray: OR 2.3 (1.6, 3.2) Nicotine patch: OR 1.7 (1.6, 1.9) Minimum of 6 months f/u Clonidine 6 trials (last amendment, November 1998)[20] Odds ratio: 1.89 (1.3, 2.74) Minimum f/u of 12 weeks

Table 1 Continued

Footnotes:

[a] **Sources for guidelines and reviews summarized in Table 1:**
(Note: Superscripted numbers found within the table refer to documents listed in the References for this document.)

US Preventive Services Task Force. Guide to Clinical Preventive Services: report of the U.S. Preventive Services Task Force. 2nd ed. Baltimore: Williams & Wilkins, 1996.

US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2000.

Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service, 2000. Available at <http://www.surgeongeneral.gov/tobacco>. Accessed on July 13, 2000.

The Cochrane Library. A subscription service available on CD-ROM and online through www.updateusa.com.

[b] Guide to Clinical Preventive Services: Strength of Evidence Ratings (Issued by the U.S. Preventive Services Task Force)

A There is good evidence to support the recommendation that the condition be specifically considered in a periodic health examination.
B There is fair evidence to support the recommendation that the condition be specifically considered in a periodic health examination.
C There is insufficient evidence to recommend for or against the inclusion of the condition in a periodic health examination, but recommendations may be made on other grounds.
D There is fair evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.
E There is good evidence to support the recommendation that the condition be excluded from consideration in a periodic health examination.

[c] Clinical Practice Guideline: Treating Tobacco Use and Dependence: Strength of Evidence Ratings (Issued by the Tobacco Use and Dependence Guideline Panel)

A Multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielded a consistent pattern of findings.
B Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal. For instance, few randomized trials existed, the trials that did exist were somewhat inconsistent, or the trials were not directly relevant to the recommendation.
C Reserved for important clinical situations where the panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials.

The panel declined to make recommendations when there was no relevant evidence or the evidence was too weak or inconsistent to support a recommendation.

[d] **Note:** Odds ratios,estimated clinician intervention, and estimated patient abstinence rates are presented with 95% confidence intervals.

[e] **Abbreviations**: Est. Abst. Rate = Estimated abstinence rate in the intervention group; f/u = follow-up; m = months; OR = odds ratio.

Table 2. Health care system interventions to identify and to treat tobacco use and dependence: recommendations and summary effect measurements from selected evidence reviews

Guide to Community Preventive Services [1,2,a,b]	Reducing Tobacco Use: A Report of the Surgeon General[7]	Treating Tobacco Use and Dependence: Clinical Practice Guideline [6,c]	Cochrane Collaboration [9]
Provider reminder systems (when implemented alone): System efforts (such as expanded vital signs, chart stickers) to identify tobacco-using patients, to prompt providers to discuss tobacco use with patients, to advise patients to quit, or a combination.			
Recommended (n=7 qualifying studies) Increases the delivery of provider advice to quit (n=5 studies): Absolute percentage change Median: +13 pct. points Range: +7 to +31 pct. points Increases identification of patient tobacco use status (n=4 studies) Absolute percentage change Median: +32.5 pct. points Range: +26 to +57.6 pct. points	All patients seen in a primary care setting should be routinely asked about their smoking status. (p. 103) One means of institutionalizing the identification of smokers is to expand the vital signs to include smoking status.[29] Another means is to use stickers or markers to clearly identify charts and prompt clinicians to help their patients who smoke quit.[30,31] (p. 103)	Strength of evidence= B Impact on clinician intervention with patients who smoke Odds ratio: 3.1 (2.2, 4.2) [d] Estimated intervention rate: 65.6% (58.3%, 72.6%) Impact on patient smoking abstinence Odds ratio: 2.0 (0.8, 4.8) Estimated abstinence rate: 6.4 % (1.3%, 11.6%) Minimum of 5 months f/u [e] It is essential that clinicians and health care delivery systems (including administrators, insurers, and purchasers) institutionalize the consistent identification, documentation, and treatment of every tobacco user seen in a health care setting. (p. iv)	No reviews identified
Provider education programs (when implemented alone): Efforts to educate and to motivate providers to identify patients who use tobacco and to discuss cessation with them.			
Insufficient Evidence (n=16 qualifying studies) Inconsistent in increasing delivery of provider advice to quit (n=10 studies) Absolute percentage point differences Median: +2.2 pct. points Range: -5 to +73 pct. points Small increase in identification of patient tobacco use status (n=5 studies) Absolute percentage change Median: +8 pct. points Range: +0.1 to +35 pct. points	Many clinicians may believe that they are not equipped to help smokers quit[32,33] or that a physician can help a smoker quit.[34] Training programs for clinicians have been developed to address this problem;[35-39] however, data suggest that simply training clinicians may not be effective.[40-42](p. 102)	Strength of evidence = B All clinicians and clinicians-in-training should be trained in effective strategies to assist tobacco users willing to make a quit attempt and to motivate those unwilling to quit at this time. Training appears to be more effective when coupled with systems changes.	Health care professionals trained in methods to promote smoking cessation among their patients compared to control professionals. 8 trials (last amendment, May 2000)[21] Restricted to trials evaluating patient smoking behavior Minimum of 6 months f/u Note: This analysis included single and multicomponent interventions. Healthcare professionals who had received training were 1.5 to 2.5 times more likely to counsel patients about smoking, and to initiate other cessation activities than untrained controls. Of eight studies that compared patient smoking behavior between trained professionals and controls, six found no effect of intervention on patient smoking cessation.

Table 2 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Treating Tobacco Use and Dependence: Clinical Practice Guideline	Cochrane Collaboration
Patient education: Efforts to provide additional cessation information to motivate tobacco-using patients by distributing or making available self-help pamphlets, manuals, videos, etc.			
Not included in the *Community Guide* review because it had already been extensively reviewed in other reports cited here.	Although self-help manuals have had only moderate and inconsistent success at helping smokers quit, manuals can be easily distributed to the vast population of smokers who try to quit on their own each year. Adjuvant behavioral interventions, particularly pro-active telephone counseling, may increase the effect of self-help materials. (p. 102)	Strength of Evidence: Not reported Focused analysis: One type of self-help compared to no self-help Odds ratio: 1.0 (0.9, 1.1) Estimated abstinence rate 14.4% (12.9%, 15.9%) Minimum of 5 months f/u Two additional analyses (summary effect measurements were not presented) -Brochures as the only intervention -Brochures used as adjuvants to counseling In neither analysis did self-help brochures significantly boost patient abstinence rates.	Self-help educational materials compared to none or to usual care Patient education materials targeted at specific populations 3 trials (last amendment, October 1999)[18] Odds ratio: 1.13 (0.85, 1.50) Minimum of 6 months f/u Patient education materials tailored for the characteristics of individual smokers 8 trials (last amendment, October 1999)[18] Odds ratio: 1.41 (1.14, 1.75) Minimum of 6 months f/u
Multicomponent clinical programs including a provider reminder system plus a provider education program, with or without patient education programs: Multicomponent intervention including a minimum of a provider reminder system and a provider education program, with or without patient self-help cessation materials.			
Strongly Recommended (n=20 studies included minimum of provider reminder and provider education; 14 of these studies included all 3 components) Increases patient tobacco use cessation (n=14 studies) Absolute percentage change Median: +4.7 pct. points Range: -1.0 to +25.9 pct. points f/u: median 10 months Increases provider delivery of advice to quit (n=15 studies) Absolute percentage change Median: +20 pct. points Range: +5.2 to +60 pct. points	Institutional changes can increase the systematic delivery of minimal clinical interventions for smoking cessation. Brief physician training, availability of nicotine gum, and patient chart stickers documenting smoking status can increase the amount of time physicians spend in cessation counseling and increase successful cessation by a factor of 2 to 6. (p. 102)	Health care delivery administrators, insurers, and purchasers can promote the treatment of tobacco dependence through a systems approach. A number of institutional policies would facilitate these interventions… [These policies include:] -Implementing a tobacco-user identification system in every clinic -Providing education, resources, and feedback to promote provider intervention -Dedicated staff to provide tobacco dependence treatment, and assessing the delivery of this treatment in staff performance evaluations. (p. 43)	Health care professionals trained in methods to promote smoking cessation among their patients and given prompts and reminders compared to control professionals. 3 trials (last amendment, May 2000)[21] Restricted to trials evaluating patient smoking behavior Minimum of 6 month f/u Healthcare professionals who had received training were 1.5 to 2.5 times more likely to counsel patients about smoking, and to initiate other cessation activities, than untrained controls. The effects of training of healthcare professionals on process outcomes increased if prompts and reminders were used. Reminders are a simple measure and the limited evidence from this review indicates that they increase smoking counseling by health professionals.

Table 2 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Treating Tobacco Use and Dependence: Clinical Practice Guideline	Cochrane Collaboration
Provider feedback systems: Efforts to assess provider performance with tobacco-using patients and informing the provider of the results.			
Insufficient Evidence (n=3 qualifying studies) No measurements of differences in patient tobacco use cessation No measurements of differences in provider delivery of advice to quit	Not specifically addressed	Strength of Evidence: Not Reported Health care delivery administrators, insurers, and purchasers can promote the treatment of tobacco dependence through a systems approach. A number of institutional policies would facilitate these interventions.... [These policies include:] -Implementing a tobacco-user identification system in every clinic -Providing education, resources, and feedback to promote provider intervention -Dedicated staff to provide tobacco dependence treatment, and assessing the delivery of this treatment in staff performance evaluations. (p. 43)	Audit and feedback on overall practice of health care professionals, i.e., not limited to tobacco.[22] 37 studies (reporting of study methods was inadequate in almost all studies). Unable to provide a summary outcome measurement (last amendment, Nov. 1997) Relative percentage differences in measurements of physician performance change ranged from -16% to +152% Audit and feedback can sometimes be effective in improving the practice of health care professionals, in particular prescribing and diagnostic test ordering. When it is effective, the effects appear to be small to moderate but potentially worthwhile. Those attempting to enhance professional behavior should not rely solely on this approach.
Interventions that reduce patient out-of-pocket costs for effective treatments for tobacco use and dependence: Efforts to reduce costs to the patient for effective cessation therapies (such as reducing or eliminating copayments for behavioral programs and pharmacologic treatments).			
Recommended (n=5 qualifying studies) Increases the number of tobacco users who quit (n=4 studies) Absolute percentage change Median: +7.8 pct. points Range: +2.1 to +11 pct. points f/u: median 9 months Increases the utilization of the covered therapy (n=4 studies) Absolute percentage change Median: +7 pct. points Range: +6.5 to +28 pct. points	Private insurers are unlikely to embrace such treatment [clinical modalities for treatment of nicotine addiction] unless "they are convinced that there is a market for such a product and that it is viable financially."[43] (p. 133) Smoking cessation has been called the "gold standard" of cost-effective interventions.[44](p. 133) Note: [Provider] Reimbursement policies, financial incentives, and underlying institutional support are all critical for the effective management of tobacco addiction through clinical interventions.[45,46] (p. 132)	Strength of Evidence = B Smoking cessation treatments (both pharmacotherapy and counseling) should be included as a paid or covered benefit by health benefit plans because doing so improves utilization and overall abstinence rates. Note: Clinician reimbursement Strength of Evidence = C	No reviews identified

Table 2 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Treating Tobacco Use and Dependence: Clinical Practice Guideline	Cochrane Collaboration
Patient telephone support: Multicomponent efforts to increase patient tobacco use cessation which include telephone information or counseling support.			
Strongly Recommended (n=32 qualifying studies) Increases patient tobacco use cessation (n=30 studies) Absolute percentage change Median: +2.6 pct. points Range: -3.4 to +23 pct. points f/u: median 12 months	Not specifically addressed	Strength of Evidence = A Proactive telephone counseling, group counseling, and individual counseling are effective and should be used in smoking cessation interventions. Odds ratio: 1.2 (1.1, 1.4) Estimated abstinence rate: 13.1% (11.4%, 14.8%) Minimum of 5 months f/u	Telephone contact as an adjunct to self-help 6 trials (last amendment, October 1999)[18] Odds ratio 1.62 (1.33, 1.97) Minimum 6 months f/u Follow-up telephone calls [i.e., proactive telephone support] from counselors increased cessation. One trial of offering access to a hotline [i.e., reactive telephone support] also showed an effect.

Footnotes:

[a] **Sources for guidelines and reviews summarized in Table 2:**
(Note: Superscripted numbers found within the table refer to documents listed in the References for this document.)

(Guide to Community Preventive Services) Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.
Task Force on Community Preventive Services. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.

US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2000.

Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service, 2000. Available at <http://www.surgeongeneral.gov/tobacco>. Accessed on July 13, 2000.

The Cochrane Library. A subscription service available on CD-ROM and online through www.updateusa.com.

[b] Guide to Community Preventive Services (Recommendations are issued by the Task Force on Community Preventive Services)

Strongly Recommended	The Task Force recommends use of the intervention based primarily on a strong body of evidence of effectiveness.
Recommended	The Task Force recommends use of the intervention based primarily on a sufficient body of evidence of effectiveness.
Insufficient Evidence	The available studies provided insufficient evidence for the Task Force to assess the effectiveness of the intervention.

[c] Clinical Practice Guideline: Treating Tobacco Use and Dependence: Strength of Evidence Ratings (Issued by the Tobacco Use and Dependence Guideline Panel)

A	Multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielded a consistent pattern of findings.
B	Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal. For instance, few randomized trials existed, the trials that did exist were somewhat inconsistent, or the trials were not directly relevant to the recommendation.
C	Reserved for important clinical situations where the panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials.
	The panel declined to make recommendations when there was no relevant evidence or the evidence was too weak or inconsistent to support a recommendation.

[d] **Note:** Odds ratios, estimated clinician intervention, and estimated patient abstinence rates are presented with 95% confidence intervals.

[e] **Abbreviations:** f/u=follow-up; pct.=percentage.

Table 3. Community interventions to reduce exposure to environmental tobacco smoke: recommendations and summary effect measurements from selected tobacco control guidelines and systematic reviews

Guide to Community Preventive Services [1,2,a,b]	Reducing Tobacco Use: A Report of the Surgeon General [7]	Other Guidelines or Reviews
Smoking bans and restrictions: Policies, regulations, and laws that limit smoking in workplaces and in public areas.		
Strongly Recommended (n=10 qualifying studies measuring differences in exposure to ETS). Environmental measurements of ETS components (n=4 studies) Relative percentage change Median: -72 % Range: -44% to -97% Self-reported ETS exposure (n=6 studies) Relative percentage change Median: -60% Range: +4% to -94% Potential additional benefits: 8 studies report reductions in daily tobacco consumption and 3 studies observed increases in tobacco cessation.	As has been found in population-based research, studies conducted in individual workplaces have found that smoke-free workplaces have been effective in reducing nonsmokers' exposure to ETS. (p. 203) An additional benefit from regulations for clean indoor air may be a reduction in smoking prevalence among workers and the general public. (p. 203) Studies of smoking behavior in most settings observed decreases in daily consumption, smoking prevalence, or both. (p. 206) Optimal protection of nonsmokers and smokers requires a smoke-free environment. (p. 261)	**Institute of Medicine: Growing Up Tobacco Free** [11] Tobacco-free policies should be adopted in all public locations. **Cochrane Collaboration** [9] (last amendment, April 2000) Interventions to prevent tobacco smoking in public places[23] 11 studies (all were uncontrolled before and after studies) No summary effect measurement reported. The most effective strategies used comprehensive, multicomponent approaches to implement policies banning smoking within institutions. Less comprehensive strategies, such as posted warnings and educational material, had a moderate effect.
Community education to reduce ETS in the home: Efforts to increase knowledge and to change attitudes about the health effects of exposure to environmental tobacco smoke in the home.		
Insufficient Evidence (n= 1 qualifying study) Inadequate number of studies upon which to base a Task Force recommendation	[Mass media campaigns in California and Massachusetts] have shown their success in…protecting children from exposure to ETS. (p. 411)	n/a

Table 3 Continued

Footnotes:

[a] **Sources for guidelines and reviews summarized in Table 3:**
(Note: Superscripted numbers found within the table refer to documents listed in the References for this document.)

(Guide to Community Preventive Services) Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.
Task Force on Community Preventive Services. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.

US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2000.

Institute of Medicine. Growing up tobacco free: Preventing nicotine addiction in children and youths. Washington, DC: National Academy Press, 1994.

The Cochrane Library. A subscription service available on CD-ROM and online through www.updateusa.com.

[b] Guide to Community Preventive Services (Recommendations are issued by the Task Force on Community Preventive Services)

Strongly Recommended	The Task Force recommends use of the intervention based primarily on a strong body of evidence of effectiveness.
Recommended	The Task Force recommends use of the intervention based primarily on a sufficient body of evidence of effectiveness.
Insufficient Evidence	The available studies provided insufficient evidence for the Task Force to assess the effectiveness of the intervention.

Table 4. Community interventions to reduce tobacco use initiation by children and adolescents: recommendations and summary effect measurements from selected tobacco control guidelines and systematic reviews

Guide to Community Preventive Services [1,2,a,b]	Reducing Tobacco Use: A Report of the Surgeon General [7]	Other Guidelines or Reviews
Interventions that increase the unit price for tobacco products—Effects on initiation: Interventions to increase the price for tobacco products include legislation at the state and/or federal level raising the excise tax on tobacco products.		
Strongly Recommended (n=8 qualifying studies) Increasing the price for tobacco products reduces the number of adolescents and young adults who use tobacco products and the quantity consumed. Price elasticity of demand estimates for participation (prevalence) from survey data Adolescents 13-18 yrs (n=5 studies) Median: -0.376 Range: No effect to -1.19 Young adults 18-25 yrs (n=3 studies) Median: -0.37 Range: -0.07 to -0.52	These effects [of price increases] on smoking prevalence constitute both an increase in smoking cessation among smokers and a reduction in smoking initiation among potential young smokers. (p. 337) Although evidence concerning the effects of prices on adolescent smoking is mixed, the majority of the evidence from recent studies indicates that adolescents and young adults are significantly more responsive than adults to changes in cigarette prices. Most recent studies found that adolescents and young adults were two to three times more sensitive than adults to price. (p. 337)	**Institute of Medicine: Growing Up Tobacco Free** [10] Congress should increase the federal tax on cigarettes by $2 per pack. States should consider increasing tobacco taxes as a way to reduce tobacco use. All tobacco products should be taxed on an equivalent basis. The real value of tobacco taxes should be maintained to account for inflation over time. Tobacco products in U.S. military stores should be priced at the same rate that exists in the surrounding community.
Mass media campaigns combined with other interventions to reduce tobacco use initiation: Multicomponent efforts to inform and to motivate children and adolescents; these efforts include long duration, high-intensity, brief, recurring messages in broadcast and print formats.		
Strongly Recommended (n=12 qualifying studies) Reduces tobacco use prevalence in populations of adolescents (n=6 studies) Absolute percentage change Median: -2.4 pct. points [c] Range: +0.02 to -9.5 pct. points Study period: median 2 years Adjusted odds ratio for tobacco use prevalence (n=4 studies) Median: 0.60 Range: 0.49 to 0.74 Study periods: range 2 to 4 yrs Note: One additional study observed no effect in analysis	Results of statewide tobacco control programs suggest that youth behaviors regarding tobacco use are more difficult to change than adult ones, but initial results of these programs are generally favorable. (p. 417)	**Institute of Medicine: Growing Up Tobacco Free** [10] Paid anti-tobacco advertising campaigns should be conducted to reverse the image appeal of pro-tobacco messages. **Cochrane Collaboration** [9] (last amendment, August 1998) Six out of 63 studies met all of the inclusion criteria.[24] No summary effect measurement was reported. There is some evidence that the mass media can be effective in preventing the uptake of smoking in young people, but overall the evidence is not strong. Two studies concluded that the mass media were effective in influencing the smoking behavior of young people. Both of the effective campaigns had [a] solid theoretical basis, used formative research in designing the campaign messages, and message broadcast was of reasonable intensity over [extended] periods of time. **Best Practices** [12] Recommended funding estimates for state-level counter-marketing efforts (includes mass media messages for all target populations) $1.00-$3.00 per person per year. States can lower program development costs by using existing television, radio, print, and outdoor ads from CDC's Media Campaign Resource Center, a clearinghouse of high-quality materials produced by states and other organizations.

Table 4 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Other Guidelines or Reviews
Interventions to restrict youth access to tobacco products: Laws that regulate and enforce bans on the sale to, or purchase or consumption of tobacco products by, children and adolescents.		
Evaluation scheduled for Spring 2001	The regulation of minors' access to cigarettes has considerable potential for postponing or preventing the uptake of smoking, thereby making a long-term impact on the smoking epidemic. (p. 159) Measures that have had some success in reducing minors' access include restricting distribution, regulating the mechanisms of sale, enforcing minimum age laws, having civil rather than criminal penalties, and providing merchant education and training. Requiring a licensure of tobacco retailers provides both a funding source for enforcement and an incentive to obey the law when revocation of the license is a provision of the law. (p. 261) The effect of reducing minors' access to tobacco products on smoking prevalence requires further evaluation. (p. 261)	**Institute of Medicine: Growing Up Tobacco Free** [10] States should eliminate tobacco vending machines. States should license retailers, using fees to pay for enforcement. Avenues of easy access to tobacco products should be eliminated, e.g., self-service displays, mail order, and free samples. **Cochrane Collaboration** [9] (last amendment, December 1999) 27 studies were identified of which 13 were controlled[25] Giving retailers information was less effective in reducing illegal sales than active enforcement and/or multicomponent educational strategies. No strategy achieved complete, sustained compliance. In three controlled trials, there was little effect of intervention on youth perceptions of access or prevalence of smoking. Few of the communities studied in this review achieved sustained levels of high compliance. **Best Practices** [12] Recommended funding formula for a state-level program (youth access and clean indoor air enforcement) $150,000-$300,000 + $0.43-$0.80 per person per year.
School-based education interventions to prevent tobacco use: Efforts to educate and to motivate children and adolescents to remain tobacco-free through school curricula, policies, and activities.		
Evaluation scheduled for Spring 2001	Educational strategies, conducted in conjunction with community- and media-based activities, can postpone or prevent smoking onset in 20 to 40 percent of adolescents. (p. 85) More consistent implementation of effective educational strategies to prevent tobacco use will require continuing efforts to build strong, multiyear prevention units into school health education curricula and expanded efforts to make use of the influence of parents, the mass media, and other community resources. (p. 85)	**Institute of Medicine: Growing Up Tobacco Free** [10] All schools should adopt the CDC "Guidelines for School Health Programs to Prevent Tobacco Use and Addiction." [47] Already proven models of school-based prevention programs should be systematically implemented into a comprehensive approach to reducing tobacco use by children and youths. Tobacco prevention should be integrated into any drug prevention program aimed at youth. **Best Practices** [12] Recommended funding formula for a state-level program $500,000-$750,000 (training and infrastructure) plus $4-$6 per student (K-12) per year.

Table 4 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Other Guidelines or Reviews
Tobacco industry/product restrictions: Laws that regulate tobacco product content, labeling, promotion, and advertising.		
Evaluation scheduled for Spring 2001	Because advertising and promotion are perhaps the chief social force for continued tobacco use, their regulation—or the failure to regulate them—can have substantial effects on smoking prevalence. (p. 159) The manner in which the product is manufactured, packaged, and distributed can similarly influence people's decision to smoke. (p. 159) Indirect evidence of the importance of advertising and promotion to the tobacco industry is provided by surveys that suggest that most adolescents can recall certain tobacco advertisements, logos, or brand insignia; these surveys correlate such recall with smoking intent, initiation, or level of consumption. (p. 162)	**Institute of Medicine: Growing Up Tobacco Free** [10] Congress should: -repeal the law preempting states and localities from regulating cigarette advertising and promotion entirely within the states' borders; -adopt comprehensive restrictions on the advertising and promotion of tobacco products; -enact legislation that delegates to an appropriate agency the necessary authority to regulate the labeling, packaging, and content of tobacco products; -strengthen the federally mandated warning labels for tobacco products; -confer on an administrative agency the authority to regulate the design and constituents of tobacco products whenever it determines that such regulation would reduce the prevalence of dependence or disease associated with use of the product or would otherwise promote the public health. The agency should be specifically authorized to prescribe ceilings on the yields of tar, nicotine, or any other harmful constituent of a tobacco product. States should ban tobacco ads or restrict them to a tombstone format.

Footnotes:

[a] **Sources for guidelines and reviews summarized in Table 4:**
(Note: Superscripted numbers found within the table refer to documents listed in the References for this document.)

(Guide to Community Preventive Services) Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.
Task Force on Community Preventive Services. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.

US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2000.

Institute of Medicine. Growing up tobacco free: Preventing nicotine addiction in children and youths. Washington, DC: National Academy Press, 1994.

The Cochrane Library. A subscription service available on CD-ROM and online through www.updateusa.com.

Centers for Disease Control and Prevention. Best practices for comprehensive tobacco control programs—August 1999. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1999.

[b] Guide to Community Preventive Services (Recommendations are issued by the Task Force on Community Preventive Services)
Strongly Recommended The Task Force recommends use of the intervention based primarily on a strong body of evidence of effectiveness.
Recommended The Task Force recommends use of the intervention based primarily on a sufficient body of evidence of effectiveness.
Insufficient Evidence The available studies provided insufficient evidence for the Task Force to assess the effectiveness of the intervention.

[c] **Abbreviation:** pct.=percentage.

Table 5. Community interventions to increase tobacco use cessation: recommendations and summary effect measurements from selected tobacco control guidelines and systematic reviews

Guide to Community Preventive Services [1,2,a,b]	Reducing Tobacco Use: A Report of the Surgeon General [7]	Other Guidelines or Reviews
Telephone cessation support: Multicomponent efforts to increase patient tobacco use cessation, which include telephone information or counseling support.		
Strongly Recommended (n=32 qualifying studies) Increases patient tobacco use cessation (n=30 studies) Absolute percentage change Median: +2.6 pct. points [c] Range: -3.4 to +23 pct. points f/u: median 12 months Minimum effective combination: Proactive telephone support + patient cessation education materials	Not specifically addressed	**Clinical Practice Guideline** [6d] Strength of Evidence = A Proactive telephone counseling, group counseling, and individual counseling are effective and should be used in smoking cessation interventions. Odds ratio: 1.2 (1.1, 1.4) [e] Estimated abstinence rate: 13.1% (11.4, 14.8) Minimum of 5 months f/u
Mass media campaigns combined with other interventions—cessation: Multicomponent interventions which include long duration educational efforts using broadcast and print media for brief, recurring messages to inform and to motivate tobacco users to quit.		
Strongly Recommended (n=15 qualifying studies) Reduces population tobacco consumption (n=3 studies evaluating state-level campaigns conducted in California , Massachusetts, and Oregon) Relative percentage change Median: -12.8% Range: -9.8% to -17.5% Study periods: range 2-8 years Reduces tobacco use prevalence (n=5 studies with concurrent comparison populations) Absolute percentage change Median: -3.4 pct. points Range: +0.2 to -7 pct. points Study periods: median 6 years	Mass media campaigns are standard components of the well-funded, ongoing tobacco control programs in California, Massachusetts, Arizona, Florida, and other states receiving money for counteradvertising programs from state excise tax increases or tobacco settlement allotments. Although it is difficult to sort out the effectiveness of media campaigns from other program components, evaluations of these state-wide public education programs, particularly in California and Massachusetts, have shown their success in reducing tobacco use among adults, slowing the uptake of tobacco among youth, and protecting children from exposure to ETS. (p. 411)	**Best Practices** [12] Recommended funding estimates for state-level counter-marketing efforts (includes mass media messages for all target populations) $1.00-$3.00 per person per year. States can lower program development costs by using existing television, radio, print, and outdoor ads from CDC's Media Campaign Resource Center, a clearinghouse of high-quality materials produced by states and other organizations.

Table 5 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Other Guidelines or Reviews
Mass media cessation series: Limited duration interventions using recurring print or broadcast segments to recruit, inform, and motivate tobacco users to quit over the course of the series.		
Insufficient Evidence (n=9 qualifying studies) Only one study was conducted with an unexposed, concurrent comparison group. That study observed no difference in cessation. Most comparison groups were potentially exposed to the media component, and differed in motivation and participation from the intervention groups.	Mass media campaigns of intermediate intensity, such as televised programs,[48] generally produce modest increases in abstinence. (p. 125) The influence of intermediate intensity interventions is difficult to determine precisely, because the results of individual trials may be affected by the peculiarities of the specific communities in which they are tested and by concurrent changes in secular attitudes towards smoking behavior. These problems are compounded by designs of communitywide and mass media programs frequently failing to include matched control communities for comparison. Although more intensive interventions appear to increase cessation over time,[49] the absence of well-controlled experimental media trials limits any conclusions about a dose-response relationship for media-based programs. (p. 125)	n/a
Mass media cessation contests: Limited duration mass media promotion and recruitment efforts to motivate tobacco users to join a targeted cessation date or period.		
Insufficient Evidence (n=1 qualifying study) Insufficient number of studies Most identified studies did not qualify for evaluation due to a lack of comparison/control groups. Insufficient and inconsistent evidence of the population effect in either participation or cessation.	Not specifically addressed	n/a

Table 5 Continued

Guide to Community Preventive Services	Reducing Tobacco Use: A Report of the Surgeon General	Other Guidelines or Reviews
Interventions that increase the unit price for tobacco products—Effects on cessation: Interventions to increase the price for tobacco products include legislation at the state and/or federal level raising the excise tax on tobacco products.		
Strongly Recommended (n=52 papers; n=16 studies after consolidation of papers using the same data sets, study periods, and/or study settings) Increasing the price for tobacco products reduces population consumption, tobacco use prevalence, and quantity used. Price elasticity of demand = the percentage change in consumption that results from a 1% change in price Price elasticity of demand estimates (by data source) Estimates based on cigarette sales (n=10 studies) Median: -0.41 Range: -0.27 to -0.76 Estimates based on population surveys on tobacco use and quantity consumed (n=7 studies) Median: -0.42 Range: +0.5 to -0.84	Increases in cigarette prices lead to significant reductions in cigarette smoking; most studies, using a wide variety of data and methods with various strengths and weaknesses, predict that a 10 percent increase in price will reduce overall cigarette consumption by 3.5 percent. (p. 337) The effects of increases in cigarette prices are not limited to reductions in average cigarette consumption among smokers but include significant reductions in smoking prevalence. (p. 337) The limited number of studies of smokeless tobacco use suggest that increases in smokeless tobacco prices would reduce prevalence of smokeless tobacco use. (p. 337)	**Institute of Medicine** [10,11] The National Cancer Policy Board believes that a $2 price increment [per pack of cigarettes] remains the single most effective way of reducing overall tobacco consumption. (p. 4) Tobacco tax policies at the federal and state levels should be linked to the national objectives for reducing tobacco use. All tobacco products should be taxed on an equivalent basis. The real value of tobacco taxes should be maintained to account for inflation over time. Tobacco products in U.S. military stores should be priced at the same rate that exists in the surrounding community.

Footnotes:

[a] **Sources for guidelines and reviews summarized in Table 5:**
(Note: Superscripted numbers found within the table refer to documents listed in the References for this document.)

(Guide to Community Preventive Services) Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.
Task Force on Community Preventive Services. Recommendations regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. In this Supplement.

US Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, Office on Smoking and Health, 2000.

Institute of Medicine. Growing up tobacco free: Preventing nicotine addiction in children and youths. Washington, DC: National Academy Press, 1994.

National Cancer Policy Board, Institute of Medicine and Commission on Life Sciences-National Research Council. Taking action to reduce tobacco use. Washington, DC: National Academy Press, 1998.

The Cochrane Library. A subscription service available on CD-ROM and online through www.updateusa.com.

Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence. Clinical practice guideline. Rockville, MD: US Department of Health and Human Services, Public Health Service, 2000. Available at <http://www.surgeongeneral.gov/tobacco>. Accessed on July 13, 2000.

Centers for Disease Control and Prevention. Best practices for comprehensive tobacco control programs—August 1999. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 1999.

Table 5 Continued

[b] Guide to Community Preventive Services (Recommendations are issued by the Task Force on Community Preventive Services)

Strongly Recommended	The Task Force recommends use of the intervention based primarily on a strong body of evidence of effectiveness.
Recommended	The Task Force recommends use of the intervention based primarily on a sufficient body of evidence of effectiveness.
Insufficient Evidence	The available studies provided insufficient evidence for the Task Force to assess the effectiveness of the intervention.

[c] **Abbreviations:** f/u=follow-up; pct.=percentage.

[d] Treating Tobacco Use and Dependence: Clinical Practice Guideline — Strength of Evidence Ratings

A	Multiple well-designed randomized clinical trials, directly relevant to the recommendation, yielded a consistent pattern of findings.
B	Some evidence from randomized clinical trials supported the recommendation, but the scientific support was not optimal. For instance, few randomized trials existed, the trials that did exist were somewhat inconsistent, or the trials were not directly relevant to the recommendation.
C	Reserved for important clinical situations where the panel achieved consensus on the recommendation in the absence of relevant randomized controlled trials.

The panel declined to make recommendations when there was no relevant evidence or the evidence was too weak or inconsistent to support a recommendation.

[e] **Note:** Odds ratios and estimated patient abstinence rates are presented with 95% confidence interval

Evidence Reviews and Recommendations on Interventions to Reduce Tobacco Use and Exposure to Environmental Tobacco Smoke: A Summary of Selected Guidelines, David P. Hopkins, MD, MPH, Corrinne G. Husten, MD, MPH, Johnathan E. Fielding, MD, MPH, MBA, J. Niels Rosenquist, BS, Lori L. Westphal, MA, MPH, American Journal of Preventive Medicine, Vol 20 No 2S, pp 67-87,