

Effectiveness

- We found insufficient evidence to determine the effectiveness of community education when implemented alone in reducing minors' access to and use of tobacco products.
- We identified no studies that evaluated this intervention.
- Insufficient evidence means that we were not able to determine whether or not the intervention works.

Our search identified no studies in which community education interventions were implemented and evaluated alone. We therefore had insufficient evidence to determine whether community education, by itself, is effective in increasing community awareness of the issue of youth access to tobacco products.

Because we could not establish the effectiveness of this intervention, we did not examine situations in which it would be applicable, information about economic efficiency, or possible barriers to implementation.

In conclusion, the Task Force found insufficient evidence to determine the effectiveness of this intervention in reducing minors' access to tobacco, because no qualifying studies of community education alone were identified.

Increasing Tobacco Use Cessation

Interventions to increase the number of tobacco users who successfully quit include efforts to increase the number of people who attempt to quit, efforts to improve the success rate for quit attempts, and efforts that support both of these goals. We reviewed two approaches appropriate for communities (increasing the unit price for tobacco products and mass media education); five approaches that can be implemented in healthcare systems (provider reminder systems alone; provider education programs alone; provider reminder systems and provider education programs together, with or without client education materials; provider feedback systems; and reducing client out-of-pocket costs for effective cessation therapies); and one intervention appropriate for both communities and healthcare systems (telephone cessation support).

In conducting this review of the evidence, the Task Force noted that spontaneous and unassisted rates of tobacco use cessation among tobacco users are low (3%–10%).^{6,131} Although the interventions reviewed in this section showed relatively small effects (increases of 2.2 to 4.1 percentage points), they represent relatively large improvements in the success rates for tobacco use cessation. Task Force assessments and conclusions of the evidence on effectiveness reflect these aspects of tobacco use cessation.

***Increasing the Unit Price for Tobacco Products:
Recommended (Strong Evidence of Effectiveness)***

Excise tax increases at the municipal, state, or federal level can raise the unit price for tobacco products. In several states, excise tax increases on tobacco products resulted from successful state ballot initiatives. Although other factors affect tobacco product pricing, excise tax increases have historically resulted in an equivalent or larger increase in tobacco product prices.²²

Effectiveness

- Increases in tobacco product price are consistently effective in reducing tobacco use (a 10% price increase results in approximately a 4% decrease).

Applicability

- These findings should be applicable to most adults in the United States.

Other Effects

- Price increases also reduce tobacco use among adolescents and young adults.

Barriers

- Increasing the excise tax on tobacco products requires passage of legislation or a statewide referendum.

The findings of our systematic review are based on 17 aggregate studies, which were consolidated from 51 papers that evaluated the effectiveness of price increases for tobacco products in reducing tobacco use.^{23,29,30,33,132-178} Because many of these papers analyzed the same data during similar, identical, or overlapping periods of time, we decided to consolidate papers into aggregate studies on the basis of similarities in location, the period of study, and the dataset employed. Five additional studies were identified but did not meet our quality criteria and were excluded from the review.¹⁷⁹⁻¹⁸³

The 17 aggregate studies reviewed evaluated the effect of tobacco product price on tobacco use in California; Massachusetts; Oregon; 11 Western states; national evaluations conducted in the 1990s, 1980s, and 1970s; and three studies conducted in Canada, three in the United Kingdom, and one each in Austria, Finland, Switzerland, and New Zealand.

Price elasticity of demand (the percentage change in consumption that results from a 1% change in price) was the most common measure used in these studies to estimate the effect of tobacco product price increases. Of the 17 aggregate studies, 13 included measurements of price elasticity of demand, which generally showed decreases in consumption. For example, in 10 aggregate studies that measured cigarette sales data, a 10% increase in product price would result in a 4.1% decrease in population consumption (range,

2.7% to 7.6%). Similar effects were seen in all measures of changes in tobacco prevalence and amount smoked.

Overall, this body of evidence documented consistent effectiveness of increases in tobacco product price in reducing tobacco use, regardless of the measurements reported or calculated, the setting or period of time evaluated, or differences in the control of potential confounders.

Four studies using measures other than price elasticity of demand (for example, measurements of tobacco product sales or consumption) showed that tobacco use declined in response to price increases, whereas excise tax decreases significantly slowed this decline.

These results should be applicable to most adults in the United States. All of the reviewed studies evaluated the effect of price on the consumption of cigarettes. Some also evaluated the effect of price increases on consumption of smokeless tobacco, cigars, and pipe tobacco. Studies demonstrated the effectiveness of state excise tax increases and federal excise tax increases in reducing tobacco consumption; effectiveness was also shown for whites, African Americans, Hispanics, men and women, across most social classes, and among people with incomes below median or with less than a high school education.

A positive effect of increasing the unit price for tobacco products is a decrease in tobacco use among adolescents and young adults (discussed under Reducing Tobacco Use Initiation). One potential negative effect of increases in tobacco product excise taxes is an increase in smuggling (illegal cross-border transport and sale of untaxed tobacco products). No recent studies of the effects of organized smuggling in the United States were identified in this review, however, and an analysis in 1985 reported a significant reduction in activity following federal legislation in 1978.¹⁸⁴

Effects of tobacco product price increases that might reduce (but would not eliminate) the potential health benefits of more cessation and less consumption include legal individual cross-border purchases of tobacco products; substitution of tobacco products (e.g., smokeless tobacco for cigarettes) created by unequal taxation on different kinds of tobacco products; and modification of individual tobacco use patterns, such as smoking cigarettes longer or changing to a higher-tar, higher-nicotine brand.¹⁴⁸

Econometric analyses were included in the studies qualifying for review of effectiveness. A separate economic evaluation was not conducted for this intervention review.

Passage of legislation or a statewide referendum is needed to increase the excise tax and may therefore present a barrier to implementation. Political op-

position has historically been well organized and funded at the municipal, state, and federal levels. Reports on both successful and unsuccessful state initiatives that proposed an increase on tobacco product excise taxes have been published.^{34–36}

In conclusion, the Task Force recommends increasing the unit price for tobacco products on the basis of strong evidence of effectiveness in increasing the number of people who stop using tobacco. Raising the unit price for tobacco products, through increases in excise taxes for tobacco products, is consistently effective in reducing tobacco use, regardless of the measure used. The findings of this review should be applicable to most adults in the United States. Tobacco product price increases also reduce tobacco use among adolescents and young adults. The need for passage by a state legislature or a referendum can be a significant barrier to efforts to raise excise taxes on tobacco products.

Mass Media Education

Mass media messages (broadcast and print) are disseminated to provide cessation information, motivation to assist tobacco users in their efforts to quit, or both. In our review, we distinguished among three subtypes of mass media interventions—campaigns, cessation series, and cessation contests—which differ in the duration, intent, and intensity of the media messages. Each is addressed separately below.

Mass Media Education Campaigns Combined with Other Interventions: Recommended (Strong Evidence of Effectiveness)

Mass media campaigns employ brief, recurring messages over time (weeks to years) to provide information or motivation to tobacco users and others (family members, households, peers) with the goal of increasing or improving efforts to quit using tobacco products. The messages, developed through formative research, are disseminated through paid broadcast time and print space, donated time and space (as public service announcements), or a combination of the two. Campaigns can focus on cessation or can include cessation themes within a broader range of tobacco messages (including messages directed at reducing tobacco use among youth, reducing secondhand smoke exposure, or both). Mass media campaigns can be combined with other interventions, such as an excise tax increase or additional community-wide education efforts.

Effectiveness

- Mass media education campaigns, when combined with other activities, were effective in increasing tobacco use cessation by approximately 2 additional quitters per 100.
- These interventions were also effective in reducing tobacco use in the population, as measured in states and in communities. Changes in tobacco use include reductions in consumption (by approximately 12.8%) and reductions in the prevalence of tobacco use (by approximately 3 people per 100 tobacco users).

Applicability

- These findings should be applicable to most people in the United States.

Other Effects

- Mass media education campaigns can increase the number of people who seek help from telephone “quit” lines.

The findings of our systematic review are based on 15 studies that evaluated the effectiveness of mass media campaigns in reducing tobacco use.^{138–140,185–196} Another 14 papers provided information on studies already included in the review.^{75,135,197–208} Three studies measured the effect of a mass media campaign in increasing use of a telephone cessation information service: these results are described below (see Multicomponent Interventions that Include Client Telephone Support).^{209–211} Six studies did not meet our quality criteria and were excluded from the review.^{212–217} All of the reviewed studies evaluated the combination of a mass media education campaign coordinated or concurrent with at least one other intervention: an excise tax increase (6 studies), community education programs such as the distribution of self-help cessation information (12 studies), individual or group cardiovascular disease risk factor reduction or smoking cessation counseling (7 studies), and other mass media efforts (2 studies).

The reviewed studies measured changes in tobacco use in terms of changes in individual tobacco use cessation, changes in population consumption (measured by statewide sales of cigarettes), and changes in the prevalence of tobacco use in the study population. In general, the studies observed increases in tobacco use cessation and decreases in population consumption and prevalence.

Five studies evaluated the effect of combined interventions including mass media campaigns on tobacco use cessation among groups of recruited tobacco users. In study periods of one to five years' duration, the median difference in cessation between intervention group participants and comparison group participants (who were potentially exposed to the media component in

three studies) was an increase of 2.2 percentage points (representing approximately 2 additional people per 100 who quit using tobacco; range, 2 to 35).

Three studies, with follow-up periods of two to eight years, evaluated the effect of statewide mass media campaigns when combined with additional interventions (excise tax increase, community and school education activities) on consumption of cigarettes as determined by sales of taxed cigarette packs. In all three states, overall tobacco consumption declined at a greater rate than in the rest of the United States (median 12.8% decrease).

Finally, seven studies measured changes in tobacco use prevalence in communities exposed to a mass media campaign combined with additional interventions. Six studies observed decreases in tobacco use prevalence over study periods of 6 months to 20 years, and five of these studies included a concurrent comparison population. In these studies, tobacco use prevalence decreased in the intervention population by a median of 3.4 percentage points (range, -7 to +0.2) when compared with the unexposed community.

The results of these studies provide strong evidence of the effectiveness of mass media education campaigns, when combined with other activities, in increasing tobacco use cessation and reducing tobacco consumption.

These findings should be applicable to people throughout the United States. All of the reviewed studies focused on cigarette use. These studies included statewide and regional campaigns in the United States, national campaigns in Scotland, and regional campaigns in Finland. Studies were conducted in large cities as well as in smaller communities. In the United States, studies were also conducted specifically among Hispanics and among Vietnamese men.

Mass media campaigns, when combined with additional interventions, can also be effective in reducing tobacco use among youth (see Reducing Tobacco Use Initiation), especially when the campaign includes a variety of targeted messages and broadcast times. In California, Oregon, and Massachusetts, for example, campaigns included messages for children and adolescents as well as messages about the health effects of exposure to environmental tobacco smoke. Several studies noted significant increases in the use of telephone cessation information or support services (“quit” lines) when the media messages told audiences about these services.

The findings of our systematic review of economic evaluations of community-wide interventions to increase cessation among adult tobacco users are based on two cost-effectiveness studies (one conducted in the Netherlands²¹⁸ and the other in Scotland²¹⁹). Both studies reported program costs per quitter. In addition, the study in Scotland reported program cost per life-years saved, which was converted to dollars per QALY based on preference weights provided by Fiscella and Franks (a standard economic approach used to ad-

just health-related quality-of-life measures on a continuum from 0.0 [death] to 1.0 [optimal health]).²²⁰

The intervention conducted in the Netherlands evaluated the effect of a mass media campaign, a self-help manual, a hotline, and a nine-session group cessation program. Self-reported seven-day abstinence was determined at six-month follow-up. Costs included were wages, overhead, calls to the hotline, participant time, transportation, and charges for the group session. The effect size was estimated as the difference in smoking prevalence before and after the intervention. The self-reported cessation rate was 11% for participants using the self-help manual alone and 22% for participants using the self-help manual combined with the cessation program. Based on this effect size, adjusted program cost per quitter ranged from \$796 to \$1593.

The study conducted in Scotland consisted of a mass media campaign, telephone help line, and information booklet. At the 12-month follow-up, 9.8% of program participants reported having quit smoking for at least six months. Costs included research, production, design fees, printing, dissemination, staff salaries, and overhead. The adjusted program cost per quitter in this study ranged from \$298 to \$655. Adjusted program cost per QALY ranged from \$151 to \$328. The range was based on lower and upper bound estimates of adult participants.

The primary barrier to the implementation of mass media campaigns is the funding needed to develop and maintain an extended-duration, high-intensity campaign using paid and targeted broadcast times to deliver messages that resonate with target audiences. Cooperation between tobacco control programs can reduce program development costs. The barriers encountered by the tobacco control program in the state of California provide important lessons on the need for both public and political support and vigilance in maintaining an effective campaign.^{221,222}

In conclusion, the Task Force recommends mass media education campaigns combined with additional interventions on the basis of strong evidence of effectiveness in increasing tobacco use cessation and in reducing tobacco consumption. The findings of this review should be applicable to most people in the United States. An additional benefit of these campaigns can be an increase in the number of people who call in to dedicated telephone cessation support services' quit lines.

Mass Media Education—Cessation Series: Insufficient Evidence to Determine Effectiveness

Cessation series consist of broadcasted instructional segments designed to recruit, inform, and motivate users of tobacco products to try quitting and to succeed. Cessation series can be coordinated with pre-series broadcast or

print promotion, community education (e.g., distribution of self-help cessation materials), and organization of cessation groups in the community. The series can extend for a period of several weeks to several months. Techniques include nightly or weekly segments on news or informational programs giving expert advice or sharing peer group experiences on cessation issues (e.g., dealing with the symptoms of withdrawal). The series can encourage tobacco users to join a community-wide quit effort. Over the course of the broadcasts, viewers can receive ongoing support and assistance from cessation experts and recruited peers.

Effectiveness

- We found insufficient evidence to determine the effectiveness of mass media education cessation series in increasing the number of people who quit using tobacco products.
- Evidence was insufficient because of inconsistent results and inadequate comparison groups.
- Insufficient evidence means that we were not able to determine whether or not the intervention works.

The findings of our systematic review are based on nine studies that evaluated the effectiveness of cessation series in increasing tobacco use cessation.^{223–231} Eleven additional studies were identified but did not meet our quality criteria and were excluded from the review.^{208,232–241} Ten other reports provided information on studies already included in the review.^{242–251}

All of the reviewed studies evaluated the effectiveness of cessation series combined with other interventions, such as community education (typically, access to or distribution of self-help cessation manuals), organized cessation groups or programs, or telephone cessation support (quit lines). Eight studies evaluated televised cessation series broadcast over periods of 20 days to three months, and one study evaluated a week-long newspaper cessation series. Five of the nine studies in the review evaluated broadcast cessation series conducted in the Chicago metropolitan area (in one of three waves) between 1985 and 1987. These studies were evaluated separately because of differences in the study populations or settings.

The reviewed studies provided insufficient evidence to determine the effectiveness of mass media education cessation series in increasing tobacco use cessation. The differences in cessation observed in these studies might be the result of (1) baseline differences in motivation to quit between intervention and comparison smokers and (2) the small group cessation sessions provided to the intervention group participants.

Because we could not establish the effectiveness of mass media cessation series in increasing the number of people who successfully quit using tobacco

products, we did not examine situations in which they would be applicable, information about economic efficiency, or possible barriers to implementation.

No harms or benefits of mass media cessation series were identified.

In conclusion, the Task Force found insufficient evidence to determine the effectiveness of mass media cessation series in increasing the number of people who successfully quit using tobacco products because of inconsistent results and inadequate comparison groups.

Mass Media Education—Cessation Contests: Insufficient Evidence to Determine Effectiveness

Cessation contests are community-wide events of short duration that use mass media to recruit and motivate users of tobacco products to participate in a program to quit by a certain date or during a specified time period. Cessation contests use both mass media and such small media as posters and flyers as the primary tool for promotion and to recruit tobacco product users in the community. Contests can increase cessation in the community by changing tobacco product users' attitudes about cessation, recruiting users to initiate a quit attempt, and motivating those who attempt to quit to remain abstinent through incentives or by mobilizing support from family, friends, and other participants. We evaluated contests that offered additional incentives for participation and successful cessation, as well as targeted quit events conducted without additional incentives.

Effectiveness

- We found insufficient evidence to determine the effectiveness of mass media education cessation contests in increasing the number of people who quit using tobacco products.
- Evidence was insufficient because only one study met the quality criteria for this review, and that study lacked sufficient evidence on which to base a recommendation.
- Insufficient evidence means that we were not able to determine whether or not the intervention works.

The findings of our systematic review are based on one study.²⁵² We identified another 16 studies that did not meet our quality criteria and were excluded from the review.^{234,253–267} Three other papers provided information on the study already included in the review.^{268–270}

The single reviewed study evaluated a multicomponent smoking cessation program in New York City. Interventions included a cessation manual and video, telephone cessation support, and the opportunity to participate in smoking cessation contests.

Although the single reviewed study showed some improvements in self-reported cessation at a six-month follow-up, the evidence was insufficient to determine the effectiveness of mass media cessation series in increasing the number of people who successfully quit using tobacco products because the evidence in this single study was not sufficient to support a recommendation.

Because we could not establish the effectiveness of mass media cessation contests in increasing the number of people who successfully quit using tobacco products, we did not examine situations in which the programs would be applicable, information about economic efficiency, or possible barriers to implementation.

No harms or benefits of mass media cessation contests were identified.

In conclusion, evidence was insufficient to determine the effectiveness of mass media education cessation contests in increasing the number of people who successfully quit using tobacco products because only a single study, showing only moderate improvement, qualified for review.

Provider- and System-Based Interventions

We reviewed six interventions that can be implemented by healthcare systems and providers to increase cessation of tobacco use by clients. We did not evaluate the effectiveness of provider counseling to tobacco-using clients or the effectiveness of specific clinical therapies, which have been thoroughly reviewed by others.^{2,6,7,17}

Healthcare Provider Reminder Systems: Recommended (Sufficient Evidence of Effectiveness)

Provider reminder systems can identify clients who use tobacco products and prompt providers to discuss cessation with their clients or advise clients to quit at every encounter. Because even brief provider advice has a demonstrated effect on getting clients to quit,^{6,17} increasing the delivery of advice by providers should increase the number of clients who quit.

Reminders can be delivered by a variety of methods, including chart stickers, vital sign stamps, medical record flowsheets, and checklists, and the content of the reminders can vary. Provider reminder systems are often combined with other interventions, such as provider education and client education. Here we review provider reminder systems used alone; multicomponent interventions including provider reminders are considered below (see Healthcare Provider Reminder Systems with Provider Education, with or without Client Education).

Effectiveness

- Provider reminder systems were effective in increasing the number of clients who quit smoking by approximately 4 additional clients per 100.
- Provider reminder systems were also effective in increasing the number of clients whom providers advise to quit smoking by approximately 13 additional clients per 100.
- These systems were also effective in increasing the determination of client smoking status by providers by approximately 32 additional clients per 100.

Applicability

- These findings should be applicable to most clinical setting in the United States.

Other Effects

- The use of provider reminder systems may also increase delivery of other preventive services.

The findings of our systematic review are based on seven studies evaluating the effectiveness of provider reminder systems when used alone.²⁷¹⁻²⁷⁷ One additional paper was identified but did not meet our quality criteria and was excluded from the review.²⁷⁸ The reviewed studies prompted providers with chart prompts or stickers, “expanded vital signs” that indicate whether or not a client uses tobacco, and flowsheets. In one study, analysis was based on receipt of a consultation that encouraged implementation of a provider reminder system, not on actual implementation of the reminder system.

The seven reviewed studies used diverse measures to document changes in client smoking status, provider delivery of advice to quit, and client smoking cessation. The median improvement in determining client smoking status was 32.5 percentage points (range, 26 to 57.6; four studies); that is, the intervention resulted in determining the smoking status of approximately 32 additional clients per 100, with results ranging from 26 to 58 additional clients per 100. These results were measured 8 to 24 months after implementation (median, 15 months). For provider delivery of advice to quit, a median change of 13 percentage points was observed (range, 7 to 31; five studies) in assessments extending 2 to 24 months after implementation (median 8 months). One study reported a difference in biochemically confirmed smoking cessation of 4 percentage points six months after a clinic visit. These findings provide sufficient evidence that healthcare provider reminder systems are effective in increasing the number of tobacco-using clients who receive advice to quit from their providers.

These findings should be applicable in most clinical settings in the United States. Studies were conducted in primary care clinics, family practice clin-

ics, and pulmonary clinics. Most studies did not provide demographic information about client populations.

Two studies^{274,276} evaluated provider reminder systems that included preventive services in addition to delivering advice to quit to tobacco-using clients. Improvements were observed in some or all of the prompted activities. No other positive or negative effects were identified in this review.

We did not find any economic evaluations of provider reminder systems.

Although one potential barrier to the implementation of a provider reminder system could be the administrative burden, this was not identified as a problem in any of the reviewed studies, and most of the reminder systems (e.g., “expanded vital signs”) were easily implemented.

In conclusion, the Task Force recommends provider reminder systems on the basis of sufficient evidence of effectiveness in increasing the number of tobacco-using clients whom providers advise to quit (because this outcome has been previously shown to increase subsequent tobacco use cessation¹⁷). These findings should be applicable to most clinical settings in the United States. An additional benefit of provider reminder systems can be increased delivery of other preventive services.

Healthcare Provider Reminder Systems with Provider Education, with or without Client Education: Recommended (Strong Evidence of Effectiveness)

These multicomponent interventions to increase tobacco use cessation include efforts to educate and to prompt providers to identify and to intervene with tobacco-using clients, as well as to provide supplementary educational materials when appropriate. The interventions consist of a provider reminder system and a provider education program, and may or may not include client education materials (e.g., self-help cessation manuals).

A multicomponent intervention can provide an integrated approach to increasing and improving tobacco use cessation by clients. Goals of the interventions include educating, motivating, and prompting providers to increase and improve their interaction with tobacco-using clients, as well as improving client cessation by increasing knowledge and motivation to quit and to remain abstinent. The multicomponent interventions evaluated in this section include at least one provider-directed component.

Effectiveness

- These interventions were effective in increasing the number of clients who quit smoking by approximately 5 additional clients per 100.
- The interventions were also effective in increasing the number of tobacco-

using clients who received advice to quit from their healthcare provider by approximately 20 additional clients per 100.

Applicability

- These findings should be applicable to most clinical settings in the United States and to a variety of provider specialties.

Other Effects

- The use of provider reminder systems plus provider education, with or without client education, may also increase delivery of other preventive services.

The findings of our systematic review are based on 31 studies that evaluated the effectiveness of these interventions in reducing tobacco use among clients.^{272,275,279–307} One study measured changes in adolescent tobacco use initiation and is not considered further in this section.²⁹⁰ Fifteen additional papers provided information on studies already included in the review.^{308–322} Six additional studies were identified but did not meet our quality criteria and were excluded from the review.^{323–328}

Overall, studies that measured providers' delivery of advice to quit using tobacco and the number of clients who quit showed significant improvements. For example, the 20 studies that evaluated the effectiveness of a multi-component intervention combining at least a provider reminder system and a provider education program found a median change of 20 percentage points (range, 5 to 60) in the number of clients receiving advice to quit from their providers and a median change of 5 percentage points (range, -1 to +26) in the number of clients who quit using tobacco (in follow-up periods of five weeks to 12 months). Similar results were found in the subsets of studies that evaluated interventions using only a provider reminder system and a provider education program (seven studies); interventions that also included client education materials (13 studies); and interventions that included provider reminders and client education but not provider education (three studies). Interventions that included only provider education are discussed below (see Healthcare Provider Education Alone).

These results show that healthcare provider reminder systems plus provider education programs, whether or not combined with client education, are effective in increasing the number of tobacco-using clients who receive advice to quit from their healthcare providers.

These findings should be applicable to a variety of healthcare settings and provider specialties. Studies were conducted in health maintenance organizations (HMOs), private practices, academic health care centers, physician training programs, and public health clinics, among providers in primary

care, internal medicine, family medicine, obstetrics, pediatrics, and dentistry. One study focused on reducing use of smokeless tobacco.

Provider reminder systems can include prompts for additional preventive services. No other positive or negative effects were identified in the review.

We did not find any economic evaluations of these interventions.

The burden of administering provider reminder systems is a potential barrier to their implementation.

In conclusion, the Task Force recommends multicomponent interventions including provider reminder systems and provider education, with or without client education, on the basis of strong evidence of effectiveness in increasing the number of providers who advise their clients to quit smoking and in increasing the number of clients who quit. These findings should be applicable to most clinical settings in the United States and to relevant clinical specialties. Reminder systems can include prompts for additional preventive services.

Healthcare Provider Education Alone: Insufficient Evidence to Determine Effectiveness

The goal of provider education is to increase providers' knowledge about tobacco use and cessation, to change their attitudes and practices, and increase or improve their interactions with clients who use tobacco. These interactions can include identifying more tobacco-using clients, increasing delivery of advice to quit, improving the quality of advice to quit, and both increasing and improving providers' efforts to assist clients in their attempts to quit and to remain tobacco-free.

Information can be delivered in a variety of ways, including lectures, written materials, videos, and continuing medical education seminars. Physicians, nurses, physician assistants, students, and office staff can receive this education.

Provider education efforts are frequently combined with other interventions, such as provider reminders and client education efforts. Multicomponent interventions that include provider reminders are considered above (see Healthcare Provider Reminder Systems with Provider Education, with or without Client Education).

Effectiveness

- We found insufficient evidence to determine the effectiveness of provider education alone in increasing the number of people who quit using tobacco products.
- Evidence was insufficient because (1) few studies measured the effect of the intervention on tobacco use cessation and (2) the results of studies that

measured changes in the number of clients whom providers advise to quit smoking were inconsistent.

- Insufficient evidence means that we were not able to determine whether or not the intervention works.

The findings of our systematic review are based on 16 studies that evaluated the effectiveness of provider education interventions when implemented alone.^{272,275,285,294,301,302,329–338} Two additional papers provided information on studies already included in the review.^{339,340} Nine other studies were identified but did not meet our quality criteria and were excluded from the review.^{327,341–348}

Provider education techniques evaluated in the reviewed studies included day-long seminars, lectures for practitioners and for resident physicians, lectures and office visits or contacts, small group tutorial sessions, mock interviews with feedback, and education materials. The provider education sessions ranged from two hours to three days (median, two and a half hours) in the 11 studies that provided this information.

The 16 qualifying studies reported a total of 19 measures of change in provider counseling skills or behaviors and 2 measures of client tobacco use. Of the 10 studies that measured differences in provider delivery of advice to quit, 4 observed either no effect or a negative effect (median change 2.2 percentage points; range, –5 to 73). Only two studies reported differences in client tobacco use cessation, showing small increases (1.7 and 5.2 percentage points, respectively). Five studies measured differences in provider determination of client smoking status, with percentage differences ranging from 0.1 to 35 percentage points (median, 8).

These results provide insufficient evidence to determine whether health-care provider education alone is effective in changing providers' knowledge, attitudes, and practices about tobacco use or in increasing the number of people who stop using tobacco products.

Because we could not establish the effectiveness of these interventions, we did not examine situations in which they would be applicable, information about economic efficiency, or possible barriers to implementation.

No harms or benefits of provider education alone were identified.

In conclusion, the Task Force found insufficient evidence to determine the effectiveness of provider education interventions when implemented alone in increasing the number of people who quit using tobacco products. Evidence was insufficient because (1) few studies evaluated the effect on client tobacco use cessation and (2) studies that evaluated provider delivery of advice to quit had inconsistent results.

Healthcare Provider Feedback and Assessment: Insufficient Evidence to Determine Effectiveness

Feedback interventions inform and motivate providers by assessing their performance in identifying client tobacco use status, delivering advice to quit, or both. Assessment techniques include chart reviews and the use of computerized records. These interventions can be combined with other activities, such as provider reminders and provider education, and these combinations were considered in our review.

Provider assessment and feedback can motivate providers to increase and improve their interactions with clients in such areas as advising clients to stop using tobacco. Evaluation of provider assessment and feedback is timely because (1) clinical information systems are improving and are increasingly common; (2) effective cessation therapies are available, and an increase in provider interactions with tobacco-using clients could increase the use of these therapies; and (3) quality assurance approaches such as the Health-plan Employer Data and Information Set (HEDIS) are being used more often.

Effectiveness

- We found insufficient evidence to determine the effectiveness of provider assessment and feedback in increasing either provider advice to clients to quit using tobacco or the number of clients who quit using tobacco products.
- Evidence was insufficient because the small number of available studies did not measure these outcomes.
- Insufficient evidence means that we were not able to determine whether or not the intervention works.

The findings of our systematic review of the effectiveness of provider assessment and feedback interventions in changing provider behaviors toward tobacco-using clients are based on three studies.^{349–351} Two additional studies were identified but did not meet our quality criteria and were excluded from the review.^{352,353}

A provider assessment and feedback program was evaluated alone in one study, and in combination with other components in two studies that included a provider education program and a provider reminder flowsheet. In all three studies, provider documentation or recognition of a client's tobacco use status was only 1 of up to 26 preventive care practices for which assessment and feedback were provided. Only one study used a computer system to collect information and enable providers to obtain feedback information.

None of the qualifying studies attempted to measure changes in provider delivery of advice to quit or whether clients quit using tobacco. The three studies did, however, provide measures of effectiveness in increasing provider recognition of client tobacco use status, showing a median increase of

21 percentage points (range, 13 to 39) in study periods that ranged from three months to six years. This improvement, however, provides insufficient evidence to determine the effectiveness of healthcare provider feedback alone in changing providers' knowledge, attitudes, and practices about tobacco use or in increasing the number of people who stop using tobacco products.

Because we could not establish the effectiveness of these interventions, we did not examine situations in which the programs would be applicable, information about economic efficiency, or possible barriers to implementation.

An additional benefit of increased provider delivery of other preventive care practices was found in two studies. No other positive or negative effects were identified in this review.

In conclusion, the Task Force found insufficient evidence to determine the effectiveness of provider assessment and feedback interventions, when implemented alone, in increasing either provider advice to clients to quit using tobacco or the number of clients who quit using tobacco products. Evidence was insufficient because the small number of available studies did not provide measurements of provider advice to clients to quit using tobacco or the number of clients who quit using tobacco products.

***Reducing Client Out-of-Pocket Costs for Effective Cessation Therapies:
Recommended (Sufficient Evidence of Effectiveness)***

Reducing the financial barriers that may prevent clients from using effective cessation therapies such as nicotine replacement,⁶ other pharmacologic therapy,⁶ behavioral therapies such as cessation groups,⁶ or a combination of these approaches is intended to increase the use of effective therapies, increase the number of people who try to quit, and increase the number of people who succeed in quitting.

Effectiveness

- Reducing client out-of-pocket costs is effective in increasing the number of people who successfully quit using tobacco by approximately 8 clients per 100.
- The intervention is also effective in increasing the number of people who use cessation therapies by approximately 7 clients per 100.

Applicability

- These findings should be applicable in a variety of clinical settings in the United States, in rural and mixed rural-urban settings.

Other Effects

- Clients may use nicotine gum beyond the recommended length of time.

Barriers

- Insurance requirements to combine pharmaceutical therapies with behavioral programs may discourage some clients from trying to quit.

The findings of our systematic review are based on five studies that evaluated the effectiveness of reducing clients' out-of-pocket costs for nicotine gum or nicotine replacements.^{354–358} In two studies, nicotine gum or a nicotine replacement were provided as part of, or in addition to, a behavioral program. Access to a behavioral program was provided but rarely used in a third study. In three studies, nicotine gum or nicotine replacement was provided free of charge to participants in the intervention group. In one study, the out-of-pocket costs of the combination of behavioral program and nicotine replacement were \$10 for intervention group clients and \$52.50 for comparison group clients.

Overall, studies showed improvement in both the use of cessation therapies and the number of clients who quit using tobacco. For example, three studies reported a median difference in use of cessation therapies of 7 percentage points (range, 6.5 to 28). Four studies that measured changes in the number of people who stopped using tobacco showed a median increase of 7.8 percentage points (range, 2.1 to 11) in follow-up periods that ranged from 6 to 12 months (median, 9 months). These findings show that reducing client out-of-pocket costs for tobacco cessation therapies is effective in increasing both the use of these therapies and the number of tobacco users who quit.

These findings should be applicable to different settings and populations. Studies were conducted in the United States; in HMOs, private practices, and a Department of Defense hospital; in rural and mixed rural-urban settings; and among a low-income population.

A potential harm of nicotine replacement therapy was found in the extended use of nicotine gum beyond the recommended duration (four months) in one study. No other potential benefits or harms were identified in this review

The findings of our systematic review of economic evaluations are based on two studies.^{355,356} One study,³⁵⁵ a cost-effectiveness analysis that reported program cost per quitter, was conducted in a healthcare setting in Washington State for employees enrolled in a health plan. The intervention consisted of insurance coverage for clients in a behavioral program that included nicotine replacement, with a 12-month follow-up. Four types of insurance coverage, with different out-of-pocket costs to users, were available: (1) standard coverage: a 50% co-payment for the behavioral program and the usual \$5 co-

payment per prescription for nicotine replacement therapy; (2) reduced coverage: a 50% co-payment for both the behavioral program and nicotine-replacement therapy; (3) flipped coverage: no co-payment for the behavioral program but a 50% co-payment for nicotine-replacement therapy, and; (4) full coverage: no co-payment for the behavioral program and the usual \$5 co-payment per prescription for nicotine replacement therapy. Costs measured included drugs, personnel, and cost of the behavioral program. Development, marketing, and implementation of the coverage plan were not included in the analysis. The adjusted program costs per quitter were \$135, \$141, \$149, and \$195 for standard, reduced, flipped, and full coverage, respectively.

The second study³⁵⁶ was a cost-benefit analysis conducted in Vermont, reporting net benefit. The intervention, conducted at a rural family practice clinic with low-income clients, consisted of brief physician advice and a prescription for free nicotine gum, with a six-month follow-up. Costs measured included physician time, nicotine gum, smoking cessation booklets, and client time. Development, promotion, and evaluation costs were not included. The adjusted quit rate for the intervention group was 9.4%. When costs and benefits from averted illness were compared, the intervention was shown to be cost-saving.

Potential barriers to increased use of effective cessation therapies are created by coverage requirements that tie pharmacotherapy to behavioral therapy interventions. Recent reviews have identified each strategy as effective alone.⁶ The combinations demonstrate higher cost-effectiveness³⁵⁹ but also limit the use of effective therapies for smokers who are unwilling to participate in the behavioral program. Including proactive telephone counseling as a behavioral therapy option might reduce these barriers.³⁶⁰

In conclusion, the Task Force recommends reducing out-of-pocket costs on the basis of sufficient evidence of effectiveness in increasing the number of people who use cessation therapies and in increasing the number of people who successfully quit using tobacco. This approach has been tried successfully in a variety of clinical settings in both rural and rural-urban settings. A potential harm is that clients may continue to use nicotine gum beyond the recommended length of time. Healthcare coverage requirements for behavioral programs along with pharmaceutical therapies may discourage clients who do not wish to be part of the behavioral programs.

***Multicomponent Interventions That Include Client Telephone Support:
Recommended (Strong Evidence of Effectiveness)***

Telephone support for people trying to stop using tobacco provides counseling or assistance in quitting and in staying tobacco-free. Depending on the

program, tobacco users or healthcare providers can initiate contact. Telephone support can include trained counselors, healthcare providers, or taped messages in single or multiple sessions that usually follow a standardized protocol for providing advice and counseling. Telephone support is usually combined with other interventions, such as client education materials, individual or group cessation counseling, or nicotine replacement therapies.

Telephone contact is intended to increase the motivation of tobacco users to attempt to quit, and can help to reduce relapses by providing support and assistance to recent quitters. In community settings, telephone support typically provides access to self-help cessation materials and available local resources (such as group sessions), and may provide counseling and motivation sessions. In clinical settings, telephone follow-up calls usually support other clinical cessation interventions such as provider counseling, group cessation sessions, or nicotine replacement or other therapies.

Effectiveness

- These multicomponent interventions were effective in increasing the number of people who stop using tobacco by approximately 3 people per 100.

Applicability

- These findings should be applicable to most adults in a variety of clinical and community-wide settings in the United States.

The findings of our systematic review are based on 32 studies that evaluated the effectiveness of telephone cessation support.^{248,285,288,289,293,297,300,304,361-384} Sixteen additional papers provided information on studies already included in the review.^{309,310,312,315-319,321,385-391} Seven additional studies were identified but did not meet our quality criteria and were excluded from the review.^{216,328,392-396}

In all of the reviewed studies, telephone support was coordinated with additional interventions including client education (29 studies), provider-delivered counseling (17 studies), nicotine replacement (4 studies), a smoking cessation clinic (1 study), and a televised cessation series (1 study). Telephone support was reactive (the caller initiated all contact) in 5 studies and proactive (the provider initiated contact or the caller initiated contact, with provider follow-up) in 27 studies.

Thirty studies compared differences in tobacco use cessation based on use of or exposure to telephone support. In follow-up periods of 5 weeks to 34 months (median, 12 months) the median difference was an increase in tobacco use cessation of 2.6 percentage points (range, -3.4 to +23). Studies that compared telephone support plus client education to client education alone found similar increases in cessation. These findings show that multi-component interventions that include client telephone support are effective in increasing tobacco use cessation.

These findings should be applicable in many settings and to many populations throughout the United States. Studies were conducted in HMOs, private practices, public health clinics, medical centers and hospitals, and resident training programs. Provider specialties included dentistry, obstetrics, gynecology and family planning, primary care, family practice, and internal medicine. Clients included hospitalized smokers, veterans, pregnant women, African Americans, and smokers over 60 years of age. One study focused on reducing the use of smokeless tobacco.

We found no other positive or negative effects of telephone cessation support.

The findings of our systematic review of economic evaluations are based on five cost-effectiveness studies.^{389,397-400} Two studies reported program costs per quitter,^{398,400} and three studies^{389,397,399} reported program costs per life-year saved ratios, which were converted to cost per QALY using preference weights reported by Fiscella and Franks (a standard economic approach used to adjust health-related quality-of-life measures on a continuum from 0.0 [death] to 1.0 [optimal health]).²²⁰

Both studies reporting program costs per quitter evaluated interventions to increase tobacco use cessation among pregnant women. The first study was conducted in Southern California in an HMO setting.³⁹⁸ The intervention consisted of a combined prenatal nutrition counseling and smoking cessation program aimed at reducing the incidence of low-birthweight infants. The smoking cessation program consisted of an eight-week home correspondence program that included weekly telephone calls to an automated answering service. Smoking cessation increased by 12 percentage points over the comparison group cessation rate of 38%. Costs included salaries, overhead, supplies, printing, phone, and postage. Adjusted program cost per quitter was \$677. The second study was a nationwide modeled intervention in the United States.⁴⁰⁰ It consisted of a single 15-minute counseling session conducted by a nonmedical counselor, instructional material, and two follow-up telephone calls. The change in cessation was an increase of 15 percentage points modeled from earlier randomized trials of smoking cessation among pregnant women. Costs included instructional materials, staff time, overhead, and training. The adjusted program cost per quitter was \$292. The difference in program cost between the two studies can be explained by the fact that the first study looked at a comprehensive intervention using more resources.

Of the three studies reporting program costs in terms of life-years saved, two studies looked at interventions conducted in hospital settings with adult clients who smoked. One study was conducted at the Mayo Clinic in Minnesota,³⁹⁷ and the other was conducted at HMO hospitals in Oregon and Washington.³⁸⁹ The comparison group quit rates for the studies were 10.7% and 9.2%, respectively; the intervention group showed cessation increases

of 12 percentage points and 4 percentage points above the comparison quit rates, respectively. The Mayo Clinic intervention consisted of two programs: an individual nicotine-dependency treatment program and a relapse prevention program. The relapse prevention program included telephone follow-up calls, letters, and a mailed survey. The comparison group consisted of clients who received no program. Costs included personnel, supplies, telephone, drugs, and capital equipment. The adjusted program cost per QALY was \$2532. The HMO hospital intervention consisted of a 20-minute bedside counseling session, a video, self-help materials, and follow-up calls. Costs included program development, personnel, communications, and overhead. The adjusted program cost per QALY of this intervention was \$1248. The Mayo Clinic intervention had a higher program cost per QALY in spite of showing a higher net effect size, because programs costs of this intervention included letters, surveys, and treatment for nicotine dependency in addition to counseling and telephone calls. The third study,³⁹⁹ conducted at a Boston hospital with clients who had had an acute myocardial infarction, modeled an intervention consisting of nurse-managed smoking-cessation counseling including telephone support after discharge. The comparison group—clients exposed to standard smoking cessation counseling designed for survivors of acute myocardial infarction—had a quit rate of 45%. Cessation increased by 26 percentage points in the intervention group. Costs included were personnel and instructional materials. Time spent on the phone, follow-up time, program development, and training costs were not included. The adjusted program cost per QALY was \$73.

Lack of client awareness of, or interest in, support lines can limit the effectiveness of this intervention. Making clients aware of this available support (e.g., through media messages) is one way to increase use of support (quit) lines.

In conclusion, the Task Force Recommends telephone cessation support on the basis of strong evidence of effectiveness in increasing tobacco use cessation when implemented with other interventions (e.g., other educational approaches or clinical therapies) in both clinical and community settings. Effective interventions combined at least proactive telephone support and client cessation materials.

Reducing Exposure to Environmental Tobacco Smoke

Interventions to reduce exposure to environmental tobacco smoke (ETS) require or encourage the establishment of smoke-free areas in workplaces, in public areas, and in the home in an effort to reduce tobacco-related morbid-

ity and mortality. Having smoke-free areas can reduce exposure to ETS and ETS-related illness and death.^{12,13,401} Smoke-free policies can change the attitudes and behaviors of smokers and increase both the number of people who try to quit and the number of attempts made by each person. Smoke-free policies may also improve the success rate for each quit attempt by reducing opportunities for relapse.⁴⁰² Smoke-free policies also challenge the perception of smoking as a normal adult behavior.⁴⁰³ By changing this perception, these policies can change the attitudes and behaviors of adolescents, resulting in a reduction in tobacco use initiation.⁴⁰⁴

The interventions reviewed here are smoking bans and restrictions to address exposure in the workplace and in public areas and community education to reduce exposure to ETS, especially among children, in the home environment.

Smoking Bans and Restrictions: Recommended (Strong Evidence of Effectiveness)

Smoking bans and restrictions are policies, regulations, and laws established by private, nongovernment, and government groups and agencies. Smoking bans entirely prohibit smoking in geographically defined areas, whereas smoking restrictions limit smoking to designated areas. Smoking bans and restrictions can be implemented with additional interventions, such as education and tobacco use treatment programs.

Businesses establish smoking policies to protect employees and customers from exposure to ETS in the workplace. Accrediting agencies (e.g., the Joint Commission on Accreditation of Healthcare Organizations) set regulations to protect employees and patrons within their organizations. Federal, state, or local laws are implemented to protect people from ETS exposure in public areas, and to establish minimum standards for both public and private workplaces. Standards for regulations and laws establishing smoking restrictions often include the size, location, and ventilation requirements for designated smoking areas.

Effectiveness

- Smoking bans and restrictions were effective in decreasing the amount of ETS by approximately 72%.
- Bans and restrictions were also effective in reducing exposure to ETS by approximately 60%.

Applicability

- These findings should be applicable to most indoor workers in the United States.

Other Effects

- Smoking bans and restrictions also helped to reduce cigarette consumption and to increase the number of people who quit smoking.
- We found no adverse economic impacts on business or tourism as a result of these policies.

Barriers

- Preemption, the adoption or existence of a law at the state level that supercedes or precludes stronger local laws, can prevent implementation of smoking bans or restrictions.

The findings of our systematic review are based on 10 studies that evaluated the effect of smoking bans and restrictions on exposure to ETS.⁴⁰⁵⁻⁴¹⁴ Seven additional studies were identified but did not meet our quality criteria and were excluded from the review.⁴¹⁵⁻⁴²¹

The 10 studies provided a total of 12 measures of the effect of smoking bans and restrictions on exposure to ETS. Overall, 9 of the 10 studies observed reductions or differences in ETS exposure in workplaces that had smoking bans or restrictions. In four studies that measured environmental components of ETS (such as nicotine vapor) before and after implementation of the smoking ban or restriction, the median change, assessed 6 to 12 months after implementation of the ban or restriction, was a decrease of 72% (range, 44% to 97%). Six studies provided a total of eight measures of differences in self-reported exposure to ETS. In assessments conducted 4 to 18 months after implementation, the median change in self-reported ETS exposure was a decrease of 60% (range, 4% increase to 94% decrease).

Four studies evaluated the effect of smoking restrictions, four studies measured the effect of smoking bans, and two studies measured differences in workplace ETS exposure for both. In general, reductions in ETS exposure were greater in workplaces that had smoking bans than in those with only smoking restrictions.

These results show that smoking bans and restrictions are effective in decreasing both the amount of and exposure to ETS.

These results should be applicable to most indoor workers in the United States. Smoking bans and restrictions were evaluated in a variety of settings including hospitals and medical centers, healthcare provider offices, government or public sector workplaces, and a university. Studied bans and restrictions were created through a government law, private-sector policies, workplace policies, and local ordinance. Studies on representative samples of indoor workers in the states of California and Missouri, and on large, diverse samples of government employees in Texas and HMO employees in Oregon showed that smoking bans and restrictions reduced self-reported ETS expo-

sure in workplaces community-wide. No studies evaluated the effect of smoking bans or restrictions in public settings outside of the workplace, such as public transportation systems or sports and entertainment venues.

A number of additional benefits of smoking bans and restrictions were described in the studies in this review. Workers exposed to a workplace smoking ban or restriction reported a greater reduction in daily consumption of cigarettes (median, -1.2 cigarettes per day, nine qualifying studies^{409,410,412,422-427}) than did workers not exposed to a workplace smoking policy. Four studies of workplace smoking bans^{423,425-427} found that tobacco users exposed to the ban quit at a greater rate than did tobacco users who were not exposed to a ban in the workplace. Six studies⁴²⁸⁻⁴³⁴ (in seven reports) identified in this review evaluated the economic impact of smoking ordinances and found no adverse economic effects on businesses (including bars and restaurants) or on tourism.

The findings of our systematic review of economic evaluations are based on one study conducted in the United States, which modeled the costs and benefits of a proposed national smoke-free environment act to restrict or ban smoking inside all nonresidential buildings regularly entered by 10 or more people per week.⁴³⁵ Costs included implementation of the restriction or ban by the establishment, construction and maintenance of smoking lounges, and enforcement. Benefits included savings on medical costs by averting heart disease, the value of lives saved, costs averted by reduced smoking-related fires, and productivity improvements. The net present benefit to society (benefits minus costs) was in the range of \$42 to \$78 billion. This range was based on high and low estimates of benefits and costs.

A major barrier to efforts by local governments to adopt smoking bans is preemption, which is the passage or presence of a state law with weaker restrictions that prevents implementation and enforcement of stronger local laws. (Eliminating preemption statutes is one of the tobacco objectives of *Healthy People 2010*¹⁵ [Table 1-1].) Political opposition to legislative efforts to reduce ETS exposures in all workplaces and in a variety of public areas can be significant, and may include organizations representing tobacco users, businesses concerned about potential changes in revenue, and groups sponsored by the tobacco industry.

In conclusion, the Task Force recommends smoking bans and restrictions on the basis of strong evidence of effectiveness in decreasing both the amount of, and exposure to, environmental tobacco smoke. The findings of this review should be applicable to most indoor workers in the United States. Additional benefits of these interventions include reductions in daily consumption

of cigarettes among workers exposed to bans or restrictions and increases in tobacco use cessation by smokers exposed to workplace smoking bans.

Community Education to Reduce Exposure to Environmental Tobacco Smoke in the Home: Insufficient Evidence to Determine Effectiveness

Community education includes all efforts to increase knowledge and to change attitudes about the health effects of exposure to environmental tobacco smoke (ETS). Techniques may include mass media messages, small media messages (including educational materials), and counseling provided outside of healthcare settings.

Community education provides information to parents, other occupants, and visitors about the health risks for nonsmoking adults and for children caused by smoking in the home (infants and children get most of their ETS exposure in the home⁴³⁶). Information is disseminated to households to motivate (1) tobacco users to reduce exposures to ETS in the household by quitting or by smoking outdoors, (2) nonsmokers in the household to assist smokers in their efforts to quit, and (3) members of the household to establish home smoking bans or restrictions. The combination of reduced indoor smoking and increased cessation will result in a reduction in indoor ETS exposure and, therefore, a reduction in tobacco-related illness and death.

Effectiveness

- We found insufficient evidence to determine the effectiveness of community education to reduce exposure to ETS in the home.
- Evidence was insufficient because of the small number of available studies and limitations in their design and execution.
- Insufficient evidence means that we were not able to determine whether or not the intervention works.

The findings of our systematic review are based on one study.⁴³⁷ Two additional studies were identified but did not meet our quality criteria and were excluded from the review.^{438,439} The reviewed study evaluated the effect on infant exposure to ETS of education provided by nurses during home visits. At one-year follow-up, the difference in ETS exposure between intervention and comparison households was a reduction of 4 percentage points; overall exposure, however, increased in both study arms. The inconsistency of these findings provides insufficient evidence to determine the effectiveness of community education in reducing home exposure to ETS.

Because we could not establish the effectiveness of this intervention, we did not examine situations in which it would be applicable, information about economic efficiency, or possible barriers to implementation.

Potential benefits of education to reduce ETS exposure in the home include motivating tobacco users in the household to try to quit. No harms were identified.

In conclusion, the Task Force found insufficient evidence to determine the effectiveness of community education in reducing exposure to ETS in the home because of the small number of available studies and limitations in their design and execution.

USE OF THESE RECOMMENDATIONS

The evidence reviews and recommendations presented in this chapter provide a list of effective options to support efforts by states, communities, and healthcare systems to reduce tobacco use and exposures to environmental tobacco smoke. Prevention programs and planners can compare their current prevention activities with these recommendations, take steps to ensure that existing interventions are adequately implemented and funded, and consider additional interventions in the ongoing effort to build and maintain comprehensive tobacco prevention programs.

Based on evidence of effectiveness documented in the scientific literature, recommendations from the Task Force support the following population-based tobacco prevention and control efforts:

- Clean indoor air legislation prohibiting tobacco use in indoor public and private workplaces.
- Federal, state, and local efforts to increase tobacco product excise taxes as an effective public health intervention to promote tobacco use cessation and to reduce the initiation of tobacco use among youth.
- The funding and implementation of long-term, high-intensity mass media campaigns using paid broadcast times and media messages developed through formative research.
- Proactive telephone cessation support services (quit lines).
- Reduced or eliminated co-payments for effective cessation therapies.
- Reminder systems for healthcare providers.
- Combinations of efforts to mobilize communities to identify and reduce the commercial availability of tobacco products to youth.

In reflecting the available evidence on effectiveness, recommendations from the Task Force confirm the importance of coordinated or combined intervention efforts in tobacco prevention. Evidence of effectiveness in efforts to reduce tobacco use among youth through access restrictions, to disseminate anti-tobacco messages through mass media, and to assist tobacco users in their efforts to quit via telephone comes predominantly from studies that implemented these interventions in combination with other strategies.

The contribution to our available evidence on the effectiveness of multi-component intervention efforts should be fully appreciated by program planners. The available evidence on effectiveness for any single-component intervention is small and is concentrated in evaluations of policy interventions. In this review, only one single-component program intervention—healthcare provider reminder systems—had a sufficient body of evidence on effectiveness to support a Task Force recommendation for use. For the multicomponent reviews described in this chapter, readers are encouraged to go beyond the short recommendation summaries and to learn more about the intervention combinations described in the studies contributing to the recommendation from the Task Force.

A comprehensive tobacco prevention program is often interpreted to represent concurrent intervention efforts to promote or assist tobacco use cessation, to reduce tobacco use initiation, and to implement clean indoor air policies. The *Community Guide* reviews suggest that effectiveness within each of these strategic directions (cessation, initiation, reducing secondhand smoke) demands a similar comprehensive approach in the combination and coordination of interventions.

Recommendations from the Task Force also confirm the effectiveness (and the importance) of laws and policies in tobacco prevention. State and community clean indoor air laws are effective in reducing exposure to secondhand tobacco smoke. Excise taxes on tobacco products are effective in reducing tobacco use among both adults and youth. Healthcare system policies reducing out-of-pocket costs for effective cessation therapies increase and improve client cessation efforts. Although public policies have political implications and opposition, these effective intervention options should not be prematurely “taken off the table” for consideration by prevention programs and planners.

Although these reviews include summary measurements of the magnitude of effect, readers are strongly advised to also consider the size and scope of their target population for the intervention when drawing comparisons. Mass media campaigns and policies (excise tax increases, clean indoor air legislation) deliver an intervention impact across a very broad (and potentially very large) population. Interventions with effects of relatively small magnitude, when applied across an entire community, can contribute to significant change within the population.

In many states, preemption is a major barrier to the implementation of effective tobacco prevention policies and programs. It is a direct obstacle to the adoption of local clean indoor air ordinances and to local efforts to restrict youth access to tobacco products from commercial sources. In settings where effective options are blocked, programs should determine whether or not effective intervention combinations are still feasible to address the prevention

objective. In some cases, program resources may be better spent on implementing effective interventions to address other prevention goals. Programs must also remain vigilant for the introduction of new preemption legislation.

The work of the Task Force on Community Preventive Services complements an array of useful evidence reviews and guidelines^{2,3,6,17,84,440,441} available to tobacco prevention and control programs. These reviews, employing different methods to select, appraise, and summarize the available evidence, report similar findings and evidence-based conclusions.

In summary, *Community Guide* reviews provide programs and planners with a (1) concise summary on effectiveness of interventions and recommendations for use; (2) convenient guide to specific studies contributing to the evidence-based conclusions on effectiveness; and (3) complementary review to support similar conclusions across the available guidelines. The reviews and the recommendations provided in this chapter, therefore, can contribute in different ways to tobacco prevention and control efforts across a range of audiences, settings, and situations.

CONCLUSION

This chapter summarizes conclusions and recommendations to date from the Task Force on interventions to reduce the initiation of tobacco use, to increase tobacco use cessation, and to reduce exposure to ETS. To reduce the initiation of tobacco use, the Task Force recommends increasing the unit price for tobacco products; mass media education campaigns combined with other interventions; and community mobilization combined with additional interventions to restrict minors' access to tobacco products. Evidence was insufficient to determine the effectiveness of restricting minors' access to tobacco through the following interventions when implemented alone: sales laws directed at retailers; laws directed at minors' purchase, possession, or use of tobacco products; active enforcement of sales laws; retailer education with reinforcement; retailer education without reinforcement; and community education.

To increase cessation of tobacco use, the Task Force recommends increasing the unit price for tobacco products; mass media campaigns combined with other interventions; healthcare provider reminder systems; provider reminders combined with provider education; reducing client out-of-pocket costs for effective cessation therapies; and multicomponent interventions that include client telephone support (quit lines). Evidence was insufficient to determine the effectiveness of mass media cessation series; mass media cessation contests; healthcare provider education alone; and healthcare provider feedback and assessment.

To reduce exposure to ETS, the Task Force recommends smoking bans and

restrictions. Evidence was insufficient to determine the effectiveness of community education to reduce exposure to ETS in the home.

Details of these reviews have been published¹⁸⁻¹⁹ and these articles, along with additional information about the reviews, are available at www.thecommunityguide.org/tobacco.

Acknowledgments

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