

Promoting tobacco cessation and relapse prevention

Susan L. Kenford, PhD^{a,*},
Michael C. Fiore, MD, MPH^b

^a*Department of Psychology, Xavier University, 3800 Victory Parkway, Cincinnati, OH 45207-6411, USA*

^b*Center for Tobacco Research and Intervention, Department of Medicine, University of Wisconsin Medical School, 1930 Monroe Street, Suite 200, Madison, WI 53711, USA*

Tobacco use continues to be the number one preventable cause of morbidity and mortality in the United States. Each year approximately 430,000 deaths are attributable to tobacco use and smoking [1]. Smoking-related diseases include cancer, heart disease, stroke, chronic obstructive pulmonary disease, and complications of pregnancy [2]. Although there have been steady declines in smoking prevalence since 1964, the date of the first Surgeon General's report warning of the dangers of smoking, around 23% of the adult population continues to smoke [3]. Increased education and knowledge about the risks of smoking have been powerful motivators for many adults to cease tobacco use. In the early 1990s the public health initiative "Healthy People 2000" set as a target goal an overall smoking prevalence of 20% or less by the year 2000 [4]. Regrettably, this goal was not accomplished. Moreover, beginning about 1990, a dramatic increase was seen in youth smoking. Although this peaked around 1997 and has since declined, cohort rates for smoking remain remarkably stable over time [5]. This means that the upsurge in youth smoking 10 years ago has caused adult smoking rates to remain highly stable. As such, the number one priority in public health today remains effective interventions to reduce rates of tobacco dependence.

Tobacco dependence is best conceptualized as a chronic disease state. The course of tobacco use and abstinence parallels that seen in other chronic diseases. The typical smoker progresses through a series of remissions (successful cessation episodes) and exacerbations (relapse episodes) during their battle with the disease. Research has consistently shown that most

* Corresponding author.

E-mail address: kenford@xavier.xu.edu (S.L. Kenford).

smokers not only want to quit, but have made serious quit attempts. Recent epidemiologic data show that more than 70% of smokers in the United States today have made at least one prior quit attempt, and approximately 46% try to quit each year [6]. Most of those who quit are not able to maintain their abstinence long term. At 1 year postquit, general population rates of successful cessation have been shown to hover around 3% to 7% of all attempters [7,8]. The high relapse rate has led many in the health care professions to feel dispirited and pessimistic about the worth of smoking cessation interventions. Those who have actively provided intervention see many of their patients return to smoking and believe that their efforts were ineffective. The authors propose, however, that this is unwarranted pessimism and is driven by viewing tobacco dependence as an acute, rather than chronic disease state.

The chronic disease model holds considerable appeal as a means of understanding tobacco dependence. First, it recognizes the long-term nature of the disorder. Just as clinicians do not expect to cure the diabetic, they must move away from the idea that one should be able to cure the patient with tobacco dependence. Rather, a more realistic approach is to work with the patient to identify ways to keep the disease controlled or in remission, with the awareness the patient may always remain vulnerable to relapse. By conceptualizing tobacco dependence in this way, the focus naturally shifts to a more counseling and advising approach, working with the patient over time to develop effective strategies to combat relapse. Just as with diabetes or hypertension, effective treatment of tobacco dependence requires an ongoing commitment from the clinician and recognition that the first intervention may not by itself achieve long-term remission. Understanding smoking cessation interventions in this way represents a considerable shift in thinking for many clinicians and a recognition that they have unparalleled access and influence on their patients' smoking. In fact, clinicians can be very powerful motivators and facilitators of smoking cessation. Although there is no single cure for tobacco dependence, there are numerous effective treatments for promoting cessation. In the following sections, using the chronic disease model of advising and counseling, a model for helping patients overcome tobacco dependence is outlined. This model consists of the 5 *A's*: *Ask*, *Advise*, *Assess*, *Assist*, and *Arrange*. Although most of the article focuses on how clinicians who are bound by time constraints can be effective in promoting tobacco cessation, key elements for more intensive interventions are briefly touched on, and suggestions for dealing with the less motivated patient are offered.

Using the 5 *A's* model

Step 1: ASK about tobacco use

Arguably, the most important step in treating tobacco dependence is becoming aware of its existence. Up to 70% of smokers see a physician each year and more than 50% see a dentist [9–11]. More than one third of

smokers, however, report never having been asked about their current smoking status [12,13]. Regular and systematic methods for inquiring about tobacco use should be a routine part of clinical care and supported at a systemic level (Fig. 1). Inquiring about tobacco use can be integrated into the check-in portion of each visit. If conceptualized as an additional vital sign, tobacco use information can be collected and recorded with blood pressure, weight, temperature, and heart rate (Table 1). Over time, tobacco-use status stickers can be affixed to patient charts or electronic files can be flagged as current tobacco users. This practice serves several functions. First, it alerts all care providers about the patient's tobacco use habits. This alone has been shown to increase rates of clinician intervention significantly, particularly when systematically placed in front of the clinician (see Table 1) [14–16]. Second, it communicates to the patient that their tobacco use is relevant to their health care. Research has shown that merely asking about something sensitizes people to its importance and can subtly shift the patient toward increased openness to the idea of quitting.

Step 2: ADVISE to quit smoking

All patients who use tobacco should be advised to quit smoking. Although all clinicians should adopt this practice, physicians in particular should advise their patients to quit smoking. The impact of physician-delivered message to quit smoking has been shown to be quite powerful, with long-term abstinence rates increasing by 33% to 50% [17–19]. The advice to quit should be delivered in a clear, strong, and personalized manner. This increases the power of the message and, in turn, enhances its effectiveness.

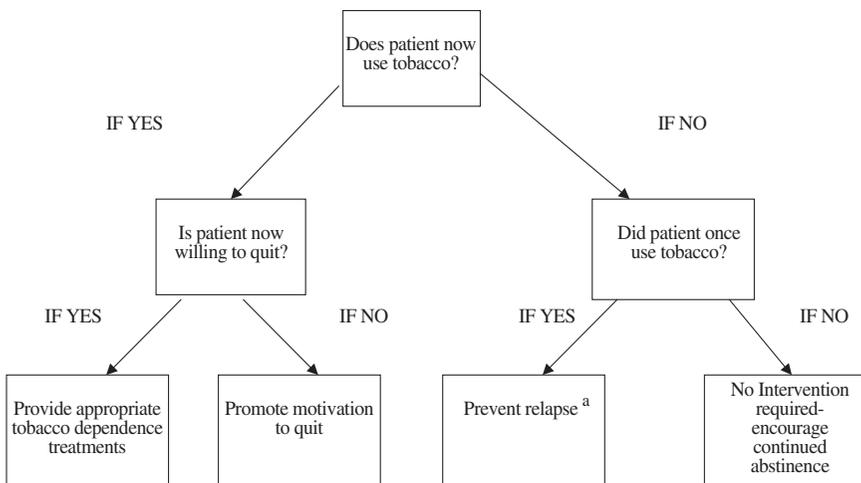


Fig. 1. Algorithm for treating tobacco use. ^a Relapse prevention interventions are not necessary in the case of the adult who has not used tobacco for many years.

(within the next 30 days). Patients vary considerably in their willingness to commit to a quit attempt but are often open, although equivocal. If the patient is willing to make a quit attempt, provide assistance (see later). If the patient is willing to participate in an intensive intervention, either personally provide or refer the patient to a qualified clinician (see later). If the patient is unwilling to commit to a quit attempt, use motivational strategies to shift his or her decisional balance toward quitting (see later).

Step 4: ASSIST the patient in developing a quit plan

Develop a plan

Once a patient agrees to a quit attempt, the clinician should work with him or her to develop a personalized quit plan. Although each plan should be crafted to reflect the unique life circumstances and challenges for the individual, effective plans have been shown to have certain key elements [17,20,21]. The four elements that should be addressed in all quit plans (set a quit date, tell all important others, anticipation of challenges, and removing all tobacco) can be easily remembered by the use of the mnemonic STAR (Table 2).

The first element in any effective quit plan is to set a quit date. While the patient is in the office have them identify a target quit date. Ideally this date should be within the next 2 weeks but no later than 30 days out. Having the patient select a quit date solidifies and makes concrete their decision to quit. By setting a date the abstract idea of quitting becomes a reality. Knowing their intended quit date also allows the clinician to arrange for follow-up contact close in time to the quit attempt, thereby increasing the likelihood of success.

The second element in an effective plan is for the patient to tell all important others, such as friends, family, and coworkers, about their decision to quit. This serves two purposes. First, the act of making their decision public strengthens the patient's commitment to quit and makes it more likely that they will make a genuine quit attempt and provides a context and explanation for any withdrawal-related mood changes and irritability. Second, and more importantly, it provides patients with the opportunity to ask for the types of support and help that are most useful to them. Patients should be encouraged to think about what they believe will

Table 2
Help to develop a quit plan

Action	Elements of plan: STAR
Help the patient develop a quit plan	<ul style="list-style-type: none"> • Set a quit date, ideally within the next 2 weeks • Tell family and friends and ask for social support • Anticipate challenges, including withdrawal • Remove all tobacco products. Before quitting, avoid smoking in places where you spend a lot of time (eg, work, house, car)

be most useful during their quit attempt and then to communicate this clearly to their friends and family. Patients vary widely in what they find helpful. Some appreciate having friends, family, and coworkers check-in often about their quitting and offer other types of hands-on assistance. Others want to be left largely alone while they negotiate the early days of life without cigarettes. Problems can arise when well-intentioned others select a support strategy that runs counter to what the patient desires.

The next element of a quit plan is anticipation of challenges. Preparedness is the best weapon in the patient's arsenal for fighting relapse. Patients need to identify high-risk situations. These can include positive interpersonal situations, such as an evening with friends; negative interpersonal situations, such as conflict or stress; seemingly innocuous situations, such as following a familiar routine; and physiologically based events, such as withdrawal [22]. Particularly powerful high-risk situations are negative affective states [23,24]. Patients need to not only identify their high-risk situations but also to generate realistic plans for dealing with these events if and when they occur. Finally, effective quit plans include removing all tobacco and tobacco-related products from their home, car, work, and surrounding environment.

Provide information

Within the context of developing the quit plan, clinicians should provide as much direct guidance and information as time constraints allow. It is key that patients understand the importance of total abstinence from the quit date forward. The risks of relapse from having “even one puff” from a cigarette should be discussed clearly with patients. Any smoking at all, particularly in the first 2 weeks of a quit attempt, significantly increases relapse rates [25,26]. It can be useful to reframe slips during the acute period of withdrawal as something that prolongs rather than relieves their discomfort. For most patients, physical withdrawal peaks within 1 to 3 weeks and then recedes. Although there is mounting evidence that for some individuals the affective components of withdrawal may persist over time and heighten relapse risk, this is not the case for most quitters [27]. Knowing the typical symptoms and time-frame for withdrawal allows patients to normalize their experiences and underscores that it is time-limited. Similarly, patients should be provided information about the relapse risks imposed by alcohol. Patients should be encouraged to refrain from alcohol use during the first few weeks or months of quitting. Alcohol is highly related to smoking relapse [28]. This seems to be caused by multiple factors. From a physiologic standpoint, alcohol and nicotine have been shown to serve as cross-primers. Using one increases urges and cravings for the other. Coupled with this physiologic process are environmental and cognitive factors. Relapse risk is particularly high in social situations that involve alcohol. Conditioned associations between drinking and smoking serve to increase urges and craving and the direct effects of alcohol on thinking and problem

solving decreases the patient's ability actively to cope with these urges. Additionally, cigarettes are likely to be accessible in such situations, further increasing the chance of relapse.

For most patients, this is not their first quit attempt and their past experiences are an invaluable source of information. Rather than viewing past attempts as failures, patients should view them as learning experiences that allow them to be more prepared and able to succeed on this attempt. It can be particularly useful to share with patients who have had multiple unsuccessful quit attempts the fact that research shows having had past attempts does not reduce the likelihood that they will be successful [29]. Encourage patients to review their prior quit experiences, paying particular attention to what was helpful and what was hurtful during those attempts. If time allows, one can review with patients what led to relapse in the past and help them devise appropriate coping strategies for similar situations. If time is more limited, instruct patients to spend time on their own between the office visit and their quit date thinking carefully about their prior attempts and planning how to increase what was helpful and deal with what was hurtful. Also helpful for patients in the week or two before their quit date is to begin actively to break some of their conditioned associations for smoking. This is done by reducing the number of smoking places (ie, no more smoking in the car, in the family room, or at their desk). Patients who live with a smoker are subject to particular challenges. Patients should agree to talk with their housemates about their decision to quit. Although it is optimal for the housemate to quit alongside the patient, it is unrealistic to expect most to agree. Additionally, it is important that the patient not see his or her quitting as being tied to the behavior (success or failure) of someone else. For most patients the best strategy is to ask their housemates to respect their decision to quit by not smoking around them and by keeping all cigarettes and related paraphernalia out of shared areas.

Recommend a pharmacotherapy

Another key facet of assisting the patient to quit smoking is recommending one of the six Food and Drug Administration (FDA)-approved pharmacotherapies. Some clinicians are hesitant to recommend and prescribe pharmacotherapy for their patients who smoke. This hesitancy is largely driven by beliefs that smoking is a lifestyle choice and not a true dependence disorder; that pharmacotherapy should be reserved for only the most heavily dependent smokers and offered only in conjunction with intensive cessation treatment; and that patients should first try to quit unassisted (pharmacotherapy should be given only after a solo attempt has failed). Both clinical and epidemiologic evidence strongly counters such beliefs. Nicotine has been unequivocally shown to be a dependence-producing drug. In most users, tobacco use produces tolerance, a well-defined withdrawal syndrome, and an inability to control future use [30]. If viewed in terms of relapse likelihood, nicotine is the most addictive drug

Box 1. Clinical guideline for prescribing pharmacotherapy for smoking cessation*Who should receive pharmacotherapy?*

All smokers trying to quit, except in special circumstances.

Special consideration before using pharmacotherapy should be given to those with medical contraindications, smoking less than 10 cigarettes/day, pregnant/breastfeeding women and adolescents

Which first-line, FDA-approved pharma-cotherapies should be used?

All six of the FDA-approved treatments for smoking cessation have been shown to be effective and are recommended. These include bupropion SR, nicotine gum, nicotine inhaler, nicotine nasal spray, nicotine patch and the nicotine lozenge.

What should be considered when choosing a pharmacotherapy?

Choice of which medication to use should be based on patient needs and characteristics. At present, insufficient data exist to rank order the approved treatments and patient preferences, concerns and past experiences should be the basis of selection.

Are pharmacotherapeutic treatments appropriate for lighter smokers (eg, 10–15 cigarettes/day)?

If pharmacotherapy is used with lighter smokers, clinicians should consider reducing the dose of first line NRT treatments. No adjustment is necessary when using bupropion SR.

What second-line pharmacotherapies are recommended?

Clonidine and nortriptyline.

When should second-line agents be used?

Consider using second line treatments with patients who are unable to use first-line treatments due to contraindications or for patients for whom first-line medications are not helpful. Monitor patients carefully for the known side-effects of second-line treatments.

Which agents should be used with patients with a history of depression?

Bupropion SR and nortriptyline appear to be effective with this population.

Should nicotine replacement therapies be avoided in patients with a history of cardiovascular disease?

No. The nicotine patch in particular is safe and has been shown not to cause adverse cardiovascular effects

May pharmacotherapies be used long-term (eg, 6 months or more)?

Yes. This approach may be particularly useful with those smokers who experience persistent, prolonged withdrawal. A minority of successful quitters will use ad libitum NRT medications long term. There is no known health risk to long-term use. Additionally, the FDA has approved bupropion SR for long-term maintenance.

May pharmacotherapies ever be combined?

Yes. There is evidence that combining the nicotine patch with either the gum or nasal spray increases long-term abstinence rates over those obtained with a single form of NRT.

What pharmacotherapy should be used with patients particularly concerned about weight gain?

Bupropion SR and nicotine replacement therapies, particularly nicotine gum, have been shown to delay, but not prevent, weight gain.

available and produces the most chronic pattern of use. Clearly, tobacco dependence warrants medical treatment and appropriate medications just as do other dependence-producing drugs and chronic diseases. Further, pharmacologic treatment should not be reserved for only the most highly dependent or those in the most intensive treatment environments. Rather, research has shown that pharmacotherapy increases quit rates across all levels of treatment intensity and across a broad range of smokers. Although a recurrent finding in cessation research has been a clear dose-response relationship between intervention and outcome (with patients who are willing to engage in multifaceted, intensive treatments doing better than those who opt for minimal interventions), minimal intervention has been shown to be markedly better than no intervention [31]. Between 93% and 97% of smokers who attempt to quit on their own fail. Use of pharmacotherapy alone can double or triple the patient's chance of success. Based on these findings, recommending pharmacotherapy should be a routine part of all smoking cessation interventions with all patients, except in the context of contraindications, provided special consideration is given to certain patient groups (ie, pregnant or breast-feeding women, adolescents, and those smoking less than 10 cigarettes per day) (Box 1).

Table 3

Suggestions for the clinical use of pharmacotherapies for smoking cessation

Pharmacotherapy	Precautions/contraindications	Side effects
<i>First-line pharmacotherapies (approved for use for smoking cessation by the FDA)</i>		
Bupropion SR	History of seizure History of eating disorder	Insomnia, dry mouth
Nicotine gum	—	Mouth soreness, dyspepsia
Nicotine inhaler	—	Local irritation of mouth and throat
Nicotine nasal spray	—	Nasal irritation
Nicotine patch	—	Local skin reaction, insomnia
Nicotine lozenge	—	Mouth soreness, dyspepsia
<i>Second-line pharmacotherapies (not approved for use for smoking cessation by the FDA)</i>		
Clonidine catapres	Rebound hypertension (transdermal)	Drug mouth, drowsiness, dizziness, sedation
Nortriptyline	Risk of arrhythmia	Sedation, dry mouth

The information contained within this table is not comprehensive. Please see package insert for additional information.

There are six approved pharmacotherapies for nicotine addiction (Table 3). Five are nicotine-replacement therapies and work by reducing withdrawal symptoms by providing lower doses of nicotine through an alternate administration route. Two of these medications (Nicotrol Nasal Spray and Nicotrol Inhaler) are available only by prescription. The other three (nicotine patches, nicotine gum, and nicotine lozenge) are available over-the-counter (OTC). All of these medications have been proved safe and effective in most patients [32–35]. Importantly, although nicotine-replacement therapies should be used with caution in patients in the first 2 weeks following myocardial infarct, in those with serious arrhythmias, and in those with serious or worsening angina pectoris, they are not related to acute

Table 3 (continued)

Dosage	Duration	Availability
150 mg every am for 3 d, then 150 mg 2×d (beginning treatment 1–2 wk prequit)	7–12 wk maintenance up to 6 mo	Zyban (prescription only)
1–24 cigs/d—2 mg gum (up to 24 pcs/d)	Up to 12 wk	Nicorette
25+ cigs/d—4 mg gum (up to 24 pcs/d)		Nicorette Mint (OTC only)
6–16 cartridges/d	Up to 6 mo	Nicotrol Inhaler (prescription only)
8–40 doses/d	3–6 mo	Nicotrol NA (prescription only)
21 mg/24 h	4 wk then	Nicoderm CQ, (OTC only)
14 mg/24 h	2 wk then	Generic patches
7 mg/24 h	2 wk	(prescription and OTC) Nicotrol (OTC only)
15 mg/16 h	8 wk	
Smoke 1st cig >30 min after awakening—2 mg (min 9, max 20 lozenge/d)	Wk 1–6: 1 lozenge every 1–2 h	Commit Lozenge (OTC only)
Smoke 1st cig <30 min after awakening—4 mg (min 9, max 20 lozenge/d)	Wk 7–9: 1 lozenge every 2–4 h Wk 10–12: 1 lozenge every 4–8 h	
0.15–0.75 mg/d	3–10 wk	Oral Clondine (generic), Catapres (prescription only)
75–100 mg/d	12 wk	Transdermal Nortriptyline HCl (generic) (prescription only)

cardiovascular events even in patients who continued to smoke intermittently while on the nicotine patch. As a group nicotine-replacement therapies increase the odds of successful quitting up to threefold. Although they are effective for both men and women, this class of pharmacotherapy seems to be more efficacious in men [36,37]. Nicotine gum, lozenge, nasal spray, and inhaler are all used ad libitum, whereas the nicotine patch is applied once daily and delivers a steady dose of nicotine transdermally. The nicotine patch has been shown to have maximal effectiveness by 8 weeks of use; longer courses of therapy do not improve outcome. Nicotine gum is recommended for up to 3 months of use. Although it can be administered ad libitum, some data suggest that it is most effective when taken on a regular

dosing schedule for 1 to 3 of those months. Both the nicotine inhaler and nasal spray have effective treatment time frames of 3 to 6 months. The nicotine nasal spray has a dependence-producing potential that is intermediate between cigarettes and other nicotine-replacement treatments. The newest nicotine agent is the Commit Lozenge [38]. The nicotine lozenge does not share some limitations of other forms of nicotine-replacement treatments. For instance, it does not produce nasal irritation (spray); require a special chewing technique (gum); adhere to dental work (gum); or create possible embarrassment when used in social situations (inhaler, spray). Additionally, it may be more pharmacologically effective because 2- and 4-mg lozenges deliver some 25% to 27% more nicotine than do 2- and 4-mg nicotine gum [39]. All nicotine-replacement therapies should be initiated from the quit date forward, once use of cigarettes has stopped. The various nicotine-replacement strategies should be viewed as independent options. A patient who does not respond to one type of nicotine replacement may do well with another. Additionally, for patients with particularly strong physiologic dependence, a combination of treatments may be warranted [33,40]. If a client does not succeed in using the nicotine patch alone, perhaps because of lapses in the face of acute cravings, the addition of one of the ad libitum methods may prove useful.

The other approved pharmacotherapy is bupropion SR (Zyban). This is a non-nicotine-based medication that works by blocking reuptake of dopamine and norepinephrine. This medication is contraindicated for patients with a seizure disorder, history of eating disorder, who have taken a monoamine oxidase inhibitor in the past 14 days, or are prescribed other medication that contains bupropion. Bupropion SR is available only by prescription both with an indication for smoking cessation (Zyban) and with an indication for depression (Wellbutrin). Bupropion SR has been shown to be an effective treatment of nicotine addiction, doubling the odds of successful quitting. Bupropion SR is also approved as a first-line treatment for depression. Major depression is overrepresented among smokers with up to 30% of patients seeking smoking cessation services having a history of major depression [24]. As such, it makes particular sense to recommend bupropion SR to patients with current or historical depressive disorders. Unlike nicotine-replacement therapies, bupropion SR treatment is initiated 1 to 2 weeks before the planned quit date. In many cases, although not instructed to do so, patients spontaneously reduce or even cease smoking before their quit date. Bupropion therapy should continue, however, for a minimum of 7 to 12 weeks postquit. For some patients, maintenance therapy for up to 6 months is warranted.

Provide supplemental materials

After having developed a plan and recommended a pharmacotherapy, the final way that clinician's can assist their patients in quitting is by providing supplementary materials. Information about the process of

quitting, the effects of smoking, and the benefits of cessation is readily available free of charge from numerous health organizations and agencies. This literature can be very beneficial to the patient as he or she plans the quit attempt. Many contain self-assessments that help patients identify why and how they use cigarettes, and quit tips and strategies. This literature should be kept on hand at each clinical workstation and given both to patients who agree to quit and to those who are less interested. Appendix 1 lists where to obtain materials. It is useful for clinicians to familiarize themselves with the content of the various pamphlets and handouts to ensure that they are selecting materials that are culturally, educationally, and age appropriate for their patient.

Step 5: ARRANGE for follow-up contact

Once the clinician has asked about tobacco use, advised the patient to quit, assessed that the patient is willing to make a quit attempt, and assisted in the development of a quit plan, the final step is to arrange for follow-up contact. Ideally, contact should occur within a week of the quit date. Contact can be either in-person or by telephone. When possible, scheduling an in-person visit is preferable because it underscores to the patient that the clinician believes quitting smoking is important and that he or she is invested in their quit attempt. Additionally, face-to-face contact increases the clinician's salience as a person and for some patients the knowledge that they have to come and face the clinician may be beneficial to their commitment and follow-through. Telephone contact, however, is an acceptable alternative. Regardless of the method, during the contact it is key to reinforce and praise the patient's success. If the patient has had one or more slips, it is important to process with them these events. Patient slips should be viewed as learning sessions that now provide them with needed information for success. Particular care should be made, however, to have patients renew their commitment to complete abstinence. If the patient has made no progress toward quitting, use motivational strategies to move them toward committing to a sincere quit attempt. A second follow-up should be arranged. For the patient who is struggling, this contact should be closer in time; for the successful patient, it may be appropriate to have the contact occur several weeks out. In addition to the formal follow-up, patients should be encouraged to initiate contact if they begin to experience difficulty. Most relapse occurs within the first 3 months of quitting and patients should be monitored, success reinforced, and offered relapse prevention interventions during this time [26].

Elements of intensive treatments

Patients should always be provided with the most intensive treatment that they agree to enter. Intensive treatments are interventions that have four or more sessions, each lasting 10 or more minutes. Intensive interventions are

best conceptualized as providing expanded assistance to the patient. Intensive treatments can be provided by any suitably trained clinician who has the resources available to provide an intensive intervention. Clinicians from a variety of fields (physicians, nurses, health educators, dentists, psychologists, pharmacists, and so forth) are effective in increasing rates of tobacco cessation and a multidisciplinary approach has considerable value because it allows for a comprehensive intervention approach. For example, a primary care clinician can discuss the health benefits of quitting, a pharmacist can review medication options, and nonmedical or behavioral clinicians can deliver psychosocial and behavioral interventions.

Counseling and behavioral therapy are at the heart of intensive interventions. Counseling and behavioral therapy can be provided through individual, group, self-help, and proactive telephone contact formats. Although use of any single strategy increases patient success, outcome is enhanced if multiple formats are used. For example, patients can meet with a tobacco cessation specialist to formulate and discuss their personal quit plan individually, but also attend group meetings for social support. Regardless of format, effective counseling needs to include three elements: (1) practical counseling (problem solving or skills training); (2) provision of intratreatment support; and (3) facilitation of extratreatment support.

Practical counseling or skills training involves working with patients to develop detailed quit plans. Patients who are more prepared for and informed about successful quitting do better. Intensive interventions devote considerable time to helping patients identify high-risk situations and plan for them. A clear focus is on developing coping skills to manage danger situations. Coping skills include cognitive strategies, such as self-talk and reframing; behavioral strategies, such as distraction; and lifestyle changes to reduce stress, improve quality of life, and enhance general satisfaction. A detailed review of skills training is beyond the scope of this article but the interested reader is encouraged to consult Marlatt and Gordon [41]. In addition to practical counseling, intensive treatments provide ongoing support during the quit process. A recurrent finding across all therapies is that nonspecific factors, such as empathy, warmth, and concern, are central to patient success. When treating the tobacco-dependent patient, it is key that clinicians provide an open and caring environment for the patient to explore his or her concerns during the quit process. Clinicians should offer clear encouragement and communicate their belief in the patient's ability to quit. This is most effectively done by listening carefully to patients; allowing them to discuss their fears and ambivalence; reflecting their feelings (both good and bad); asking questions that convey interest, concern, and willingness to help; and always promoting the message of belief in their capacity to succeed. Similarly, effective counseling includes working with clients to facilitate their access to extratreatment support. This can involve concrete skills acquisition training (eg, role-playing asking family members to refrain from smoking in the house) and working with patient's to identify

sources of support and directly arranging social support (eg, assign “quit buddies,” hold family sessions, and so forth).

Enhancing motivation

Not all patients are initially receptive to the idea of quitting. When faced with such a patient, clinicians should not abandon the idea of fostering tobacco cessation [42]. Rather, it is important to deliver a personalized, brief intervention designed to enhance motivation. This message should be built around five elements, which can be conveniently remembered as the 5 *R*'s (Table 4). (1) The message should be *Relevant* to the patient. Encourage the patient to think about how tobacco use is impacting his or her life, family, and health. Review again the specific ways in which he or she benefits from cessation. (2) Next, review the *Risks* of continued use. Touch on both the acute and long-term risks, and the environmental hazards that their smoking causes (ie, share information about the risk of second-hand smoke to family members by reviewing conditions and diseases linked to exposure). (3) The next part of the message should emphasize the *Rewards* of cessation. It is important that the patient generate as many of the potential rewards as possible. It can be useful to ask an open-ended question, such as “just imagine for a moment you did decide to quit. What would be some benefits?” Although research has shown that motivation is enhanced when the patient, not the clinician, identifies the benefits of quitting, with some patients it is necessary to suggest and highlight rewards that seem most relevant to the patient. Examples of rewards include improved health; saving money; food tastes better; clothes, home, and car smell better; family's health is protected; feel better physically; improved physical performance; and reduced aging and wrinkling of skin. (4) After identifying the rewards of quitting, ask the patient to identify *Roadblocks* to quitting. Patients should be asked what is stopping them from wanting to quit. Clinicians should listen carefully and note any elements that could be addressed through treatment. For example, if a patient reports the primary reason they do not want to quit is the discomfort of withdrawal, the clinician can discuss the pharmacologic options available and provide information about their effectiveness in attenuating the withdrawal process. Similarly, weight gain, lack of social support, and depression can all be dealt with through individualized treatment programs. Many smokers cite enjoyment of tobacco as their primary impediment to change. Clinicians should not give up on cessation efforts with these patients. Rather, the clinician should acknowledge the pleasure that the patient derives from tobacco use, encourage them to talk about all the “good” things about continued use but then follow-up this discussion with the question “what are some of the not-so-good things?” This serves to increase ambivalence about use and shift the patient's decisional balance. This strategy is derived from Miller and Rollnick's [42] motivational interviewing model. Formal

Table 4
Enhancing motivation to quit tobacco the 5 R's

<u>R</u>everance	Encourage the patient to indicate why quitting is personally relevant being as specific as possible. Motivational information has the most impact if it is relevant to a patient's disease status/risk, family or social situation, health concerns, age, gender.
<u>R</u>isks	The patient should be encouraged to identify possible negative consequences of tobacco use. The clinician should suggest/highlight those most relevant to the patient and emphasize that low-tar/nicotine cigarettes or other forms of tobacco (eg, cigars, pipes) will not eliminate these risks. Examples of risks: <ul style="list-style-type: none"> • <i>Acute risks</i>: Shortness of breath, harm to pregnancy, worsening of asthma, impotence, infertility, increased serum carbon monoxide • <i>Long-term risks</i>: Heart attacks and strokes, lung and other cancers, COPD, long term disability and need for extended care • <i>Environmental risks</i>: Increased lung and heart disease in spouse, increased risk for low birth weight, SIDS, asthma, middle ear infections and smoking behavior in children
<u>R</u>ewards	The clinician should ask the patient to identify potential benefits of stopping tobacco use. Again, the clinician can suggest and highlight those most relevant to the patient. Examples of rewards: <ul style="list-style-type: none"> • Improved health • Food will taste better • Improved sense of smell • Save money • Feel better about self • Home, car, clothing and breath will smell better • Can stop worrying about quitting • Set a good example for children • Reduced wrinkling/aging of skin • Feel better physically/perform better physically • Have healthier babies and children
<u>R</u>oadblocks	The patient should be asked to identify barriers of impediments to quitting. The clinician should then offer treatment (pharmacotherapy/problem solving) to address these barriers. Typical barriers include: <ul style="list-style-type: none"> • Withdrawal symptoms • Fear of failure • Weight gain • Lack of support • Depression • Enjoyment of tobacco
<u>R</u>epetition	The motivational intervention should be repeated every time an unmotivated patient visits the clinic setting. Tobacco users who have failed in previous quit attempts should be told the most people make repeated quit attempts before they succeed.

Abbreviation: NRT, nicotine-replacement therapy.

motivational interviewing is well suited for brief office-based interventions and excellent training resources are available for the interested clinician [42,43]. (5) Finally, when dealing with the nonmotivated client, Repetition of the quit message is essential. At every visit the topic of tobacco use should be

revisited and the risks, rewards, and roadblocks to quitting should be reviewed.

Systems interventions

This article offers a model for the individual clinician to use in his or her practice. Fully achieving the goals of treating tobacco dependence requires not only individual commitment, however, but institutional commitment. Awareness of and dedication to the treatment of tobacco dependence needs to be embraced and implemented at a systems level. Effective systems interventions include personnel, procedural, and marketplace elements (**Box 2**). From a personnel stance, all providers at all levels need to be provided with training, resources, and feedback to promote cessation efforts. All staff must be instructed in the importance of tobacco treatment, support cessation efforts, and serve as nonsmoking role models. Additionally, clinical sites should have designated staff members dedicated to tobacco intervention efforts. For example, a nurse, medical assistant or health psychologist could serve as the coordinator and overseer of all tobacco cessation efforts. This individual should then be made responsible for ensuring tobacco interventions are being administered and manage the specifics of treatment plans (ie, arrange follow-up visits, track quit dates, and so forth). From a procedural stance, an office-wide tobacco use

Box 2. System-level strategies for treatment of tobacco dependence

- Implement a tobacco-user identification system in every clinic.
- Provide education, resources, and feedback to promote provider intervention.
- Dedicate staff to provide tobacco dependence treatment and assess the quality of this treatment in staff performance evaluations.
- Create hospital policies that provide and support tobacco dependence services (eg, reimburse for consultation services, offer tobacco-dependence treatment to all hospitalized patients, expand formularies to include all Food and Drug Administration approved treatments).
- Include effective tobacco treatment interventions (both pharmacotherapy and counseling) as paid or covered services for all subscribers or members of health insurance packages.
- Reimburse clinicians and specialists for delivery of effective tobacco-dependence treatments and include these treatments among defined clinician duties.

assessment policy should be in place so that the tobacco use status of every patient at every visit is queried and documented. Ways to do this include adding a tobacco use vital sign, revising computer and paper charts to include tobacco use status, and developing prompts for clinicians to provide tobacco use interventions.

The other system elements that need to be in place require concerted policy efforts and the assistance of health administrators and insurers. Within organizations, personnel can be actively encouraged to pursue tobacco treatment by creating a culture where it is reinforced and rewarded. Fee-for-service clinicians and specialists should be reimbursed for time spent delivering effective tobacco-dependence treatments and salaried positions should include tobacco treatment as an expected activity. Using information about the cost savings associated with treating tobacco dependence, appropriate market forces should be harnessed to force insurance carriers and HMOs to cover fully all effective tobacco interventions (both pharmacologic and counseling based) for all program subscribers [44,45]. Clinicians with hospital appointments should work in conjunction with administrators to suggest and support the adoption of hospital-wide tobacco-treatment initiatives such that every patient admitted for any reason is screened for tobacco use and provided with appropriate intervention. Only through implementing change at both the individual and institutional level will clinicians gain ground in treating tobacco dependence.

Summary

Tobacco dependence is most appropriately viewed as a chronic disease state that requires ongoing assessment and intervention. As such, a shared goal of all clinicians should be routine and effective tobacco-dependence treatment. This can be accomplished through both individual and systemic behaviors. All patients should routinely be screened and tracked for tobacco use and those identified as tobacco positive should be given at least a minimal intervention. Minimal interventions involve advising the patient strongly to quit using tobacco, assessing if they are willing to make a quit attempt, assisting those patients who are willing to make a quit attempt, and arranging for follow-up contact regarding the quit effort. Smokers unwilling to make a quit attempt should be offered a brief motivational intervention. Smokers interested in quitting should be informed of the variety of effective interventions available to them and provided with assistance in selecting the most appropriate option for their circumstances and needs. Clinicians should ensure that intensive interventions are available by referral if they do not personally provide such services. Regardless of intensity, all interventions should involve three key components: (1) pharmacologic treatment, (2) clinician-provided social support, and (3) information on problem-solving and skills training.

On a systems level, hospitals, clinics, and private practices should view tobacco treatment as a required element in the minimum standard of care for patients. To this end, generalists and specialists should routinely provide tobacco-dependence interventions. The frequency and efficacy of intervention services should be monitored and reflected on annual performance reviews. To underscore the value of tobacco-intervention activities, it is essential that clinicians be reimbursed for time spent on cessation activities. Collectively, health care providers and purchasers (corporations, companies, or consortia that purchase health care benefits for a group of individuals) should work with HMOs and insurers to make tobacco assessment and treatment a contractual obligation of their policies. Routine provision of tobacco-dependence interventions should be endorsed and advocated by all clinicians because they are a highly effective way to reduce both the human and monetary costs associated with tobacco use.

Appendix 1. Helpful web site addresses and source numbers

The inclusion of Web sites in this appendix is intended to assist readers in finding additional information and access resources. It does not constitute endorsement of the contents of any particular site.

- Addressing Tobacco in Managed Care
www.aahp.org/atmc.htm
- Agency for Healthcare Research and Quality
www.ahrq.gov
- American Academy of Family Physicians
www.aafp.org
- American Cancer Society
www.cancer.org
- American Legacy Foundation
www.americanlegacy.org
- American Psychological Association
www.apa.org
- National Cancer Institute
www.nci.nih.gov
- National Center for Tobacco-Free Kids
www.tobaccofreekids.org
- National Guideline Clearinghouse
www.guideline.gov
- National Heart, Lung and Blood Institute
www.nhlbi.nih.gov/index.htm
- National Institute on Drug Abuse
www.nida.nih.gov/NIDAHome1.nhtml
- Office on Smoking and Health at the Centers for Disease Control and Prevention
www.cdc.gov/tobacco/statehi/statehi/htm

- Society for Research on Nicotine and Tobacco
www.snrt.org
- World Health Organization
www.who.int

Copies of the AHCPR Clinical Practice Guideline and related informational products can be obtained by calling any of the following Public Health Service organization's toll-free numbers.

- Agency for Healthcare Research and Quality (AHRQ)
800-358-9295
- Centers for Disease Control and Prevention (CDC)
800-CDC-1311
- National Cancer Institute (NCI)
800-4-CANCER

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