



## Background

Fifty years after Surgeon General Luther Terry's landmark report on smoking and lung cancer, tobacco use remains the leading cause of death in the United States and the leading cause of preventable death [1]. Worldwide, tobacco use is a growing cause of morbidity and mortality. In many developing countries, it is overtaking infectious diseases as a leading public health hazard. Although great progress has been made in curbing this man-made epidemic, the human and economic costs associated with smoking remain enormous.

In the United States, each year about 437,000 Americans die from smoking [1]. An additional 41,000 die from exposure to secondhand smoke, largely as a result of living with a smoker. The conditions associated with death from secondhand smoke exposure include lung cancer and coronary artery disease, residential fires, and prenatal and perinatal conditions such as sudden infant death syndrome [1]. Smoking is a causative agent in dozens of diseases, enumerated in Surgeon General's reports dating back to 1964 and summarized in the most recent 2014 report [1]. These diseases are listed in Table 1. Of note, even half a

century after publication of the first major Surgeon General's report on smoking, epidemiologic research continues to reveal new associations between smoking and certain cancers, such as renal cell carcinoma, pancreatic cancer, and acute myeloid leukemia.

The terms "smoking" and "tobacco use" are often used interchangeably. They are not. "Smoking" refers to the consumption of burned tobacco, in the United States, that is largely in the form of cigarettes. Other forms of burned tobacco include cigars, cigarillos, and hookah. In developing countries, bidi and kretek are also popular forms of consuming burned tobacco.

Smokeless tobacco may be consumed as well, in the form of snus (moist pouched tobacco placed between the lip and gum), chewing tobacco, dip, and snuff (dried, insufflated tobacco). Newer products include nicotine-containing water.

Electronic cigarettes, which consist of a heating element that vaporizes a nicotine-containing solution, which is then inhaled, constitute a new and rapidly growing product. E-cigarettes, as they are known, come in a variety of delivery devices. Most solutions contain nicotine; some do not. There is no uniformity in the design or manufacture of these products,

**Table 1** Relative risks for adult mortality from smoking-related diseases, adults 35 years of age and older, based on Cancer Prevention Study II, United States

Disease category (ICD-10 codes)	Males		Females	
	Current smoker	Former smoker	Current smoker	Former smoker
<b>Malignant neoplasms</b>				
Lip, oral cavity, pharynx (C00–C14)	10.89	3.40	5.08	2.29
Esophagus (C15)	6.76	4.46	7.75	2.79
Stomach (C16)	1.96	1.47	1.36	1.32
Pancreas (C25)	2.31	1.15	2.25	1.55
Larynx (C32)	14.60	6.34	13.02	5.16
Trachea, lung, bronchus (C33–C34)	23.26	8.70	12.69	4.53
Cervix uteri (C53)	n/a	n/a	1.59	1.14
Kidney and renal pelvis (C64–C65)	2.72	1.73	1.29	1.05
Urinary bladder (C67)	3.27	2.09	2.22	1.89
Acute myeloid leukemia (C92.0)	1.86	1.33	1.13	1.38
<b>Cardiovascular diseases</b>				
Coronary heart disease (I20–I25) persons 35–64 years of age	2.80	1.64	3.08	1.32
Persons ≥65 years of age	1.51	1.21	1.60	1.20
Other heart disease (I00–I09, I26–I28, I29–I51)	1.78	1.22	1.49	1.14
Cerebrovascular disease (I60–I69) Persons 35–64 years of age	3.27	1.04	4.00	1.30
Persons ≥65 years of age	1.63	1.04	1.49	1.03
Atherosclerosis (I70)	2.44	1.33	1.83	1.00
Aortic aneurysm (I71)	6.21	3.07	7.07	2.07
Other arterial disease (I72–I78)	2.07	1.01	2.17	1.12
<b>Respiratory diseases</b>				
Influenza, pneumonia (J10–J11, J12–J18)	1.75	1.36	2.17	1.10
Bronchitis, emphysema (J40–J42, J43)	17.10	15.64	12.04	11.77
Chronic airways obstruction (J44)	10.58	6.80	13.08	6.78

From the 2014 Surgeon General's report  
*ICD* international classification of diseases

which have recently come under the regulatory purview of the Food and Drug Administration's (FDA's) Center for Tobacco Products. The potential for e-cigarettes to cause illness, including cancer, cardiovascular disease, and addiction, is not well understood. They are currently the subjects of intense study, as well as substantial marketing efforts by the traditional tobacco companies, many of which have acquired e-cigarette manufacturers. Because of the paucity of data surrounding their health effects, they will not be discussed at length.

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## Diagnosis of Tobacco Use

Tobacco-related illness is common in the ED. A complete listing would include diseases directly caused by smoking, such as chronic obstructive pulmonary disease (COPD), and conditions like asthma whose acuity or treatment is complicated by co-occurring tobacco use. Table 1 summarizes the list of tobacco-caused illnesses. An early paper found that about 5 % of all ED visits, 7 % of all admissions, and 10 % of ED charges are attributable to smoking [2].

Emergency physicians and nurses screen for smoking irregularly. Tobacco use is more likely to be solicited for patients with conditions that are clearly tobacco related, less so for others.

There are various ways to screen for tobacco use. In research contexts, a two-question screener is often used. The screener is used by two large annual surveys, managed by the Centers for Disease Control and Prevention: the Behavioral Risk Factor Surveillance System (BRFSS) and the National Health Interview Survey (NHIS).

The two questions are:

1. Have you smoked at least 100 cigarettes in your entire life?
  - No
  - Yes
  - Don't Know/Not Sure
  - Refused
2. Do you now smoke cigarettes every day, some days, or not at all?
  - Every day
  - Some days
  - Not at all
  - Don't know/Not sure
  - Refused

Individuals who endorse having smoked at least 100 cigarettes in a lifetime and are every- or some-day smokers are considered to be current smokers. Individuals who endorse at least 100 cigarettes in a lifetime but do not currently smoke are considered to be former smokers. Those smoking less than 100 cigarettes in a lifetime are considered never-smokers.

Of note, these questions do not capture the use of other forms of burned tobacco: cigars, cigarillos, and hookah or unburned forms, such as smokeless tobacco, chew, and snus. Electronic cigarettes (e-cigarettes) and related products, known collectively as electronic nicotine delivery systems (ENDS), constitute a new and growing means of nicotine administration. The oncogenic and pathogenic potential of ENDS is only starting to be studied, although the market share of these products is growing rapidly.

However, in the context of routine clinical care, it is probably sufficient to ask the patient if he or she currently smokes. In our experience, smokers tend to be forthcoming in disclosing their tobacco use. In the current era of data capture via electronic medical records (EMRs), there is typically a defined field in the social history (or elsewhere) to record smoking status. In that case, the provider's choices may be constrained by the responses offered in the "smoking box" of the EMR.

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## Diagnosis of Tobacco-Related Illness

The list of conditions in Table 1 is extensive but does not cover all clinical scenarios in which EM practitioners might discuss smoking with patients. For example, wound healing is often compromised in smokers, with higher risks of poor cosmesis and infection [3]. Injury comprises about 22 % of all ED visits [4], so smokers with injuries are common. Tobacco abstinence should be advised for all smokers with lacerations, fractures, abscesses, and other skin, soft tissue, and musculoskeletal injuries. Discharge summaries generated by electronic medical records should mention tobacco avoidance for patients with traumatic injury.

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## Illnesses Associated with Tobacco Use

The number of diseases associated with tobacco use is profound, and Surgeon General's reports since 1964 continue to identify new conditions associated with smoking. The list of tobacco-related illnesses, along with their associated relative risks for mortality, is summarized in Table 1.

Note that many of these conditions are commonly seen in the ED. These are largely the cardiovascular diseases, such as chest pain, acute coronary syndromes including myocardial infarction and unstable angina pectoris, and respiratory disease including pneumonia, influenza, exacerbations of chronic bronchitis and emphysema, and asthma. Patients with cancer are, of course, seen in the ED. They generally present with a complication of treatment or the cancer itself.

Cancer is occasionally, albeit rarely, diagnosed de novo in the ED. It is important to note that these diagnoses are presumptive, because no tissue diagnosis has yet been made.

Some possible scenarios in which cancer may be presumptively diagnosed include:

- A heavy smoker who presents with a cough, dyspnea, or weight loss and has a new pulmonary mass seen on chest x-ray.
- A heavy smoker who presents with marked weight loss, progressive difficulty swallowing, and a mediastinal mass contiguous with the esophagus seen on chest x-ray or CT scan.
- A woman who presents with vaginal bleeding and has an irregular appearance to the uterine cervix.
- A previously healthy person who presents with fever and generalized bleeding and is found to be thrombocytopenic with many blast cells in the peripheral blood smear.

For ED patients with a known diagnosis of cancer who continue to smoke, clinicians (and patients) may question the value of treating tobacco dependence. While interventions should be individualized and patient centered, there is considerable evidence to support tobacco cessation attempts in those with a cancer diagnosis. Continued smoking reduces the efficacy of all forms of cancer treatment, including surgery, radiotherapy, and chemotherapy. As is true for other tobacco-related diseases, cancer patients who continue to smoke experience an increase in treatment-related complications, including postoperative complications [5] and treatment-related adverse effects [6]. After successful cancer treatment, continued smoking increases the risk of cancer recurrence as well as the incidence of developing a second primary cancer. For all patients, continued smoking decreases disease-specific survival and overall survival [7].

Of note, tobacco use also is relevant in the ED management of conditions not formally associated with smoking. For example, acute exacerbations of asthma are commonly treated in the ED [8]. Although asthma is not caused by smoking, tobacco use is common in ED asthmatics. It increases the frequency and severity of attacks and prolongs the duration of the exacerbation.

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## Emergency Department Treatment of Tobacco Dependence

Because of tobacco's great burden of illness and death, its disproportionate use by individuals of low socioeconomic status (SES), and the heavy use of EDs by low SES individuals, the ED has been regarded as an opportune venue in which to initiate treatment for smoking. Interestingly, tobacco treatment is not part of the training curriculum for emergency medicine residents. Much of the research in this area has entailed understanding provider facilitators and barriers to ED-initiated interventions for smoking.

The general approach to ED-initiated intervention for smoking is adapted from the model known as Screening, Brief Intervention, and Referral to Treatment (SBIRT) [9]. SBIRT entails using one or two questions to identify an individual with a risky health behavior, offering an abbreviated form of motivational interview [10] to promote behavioral change and then referring to an appropriate source of after-care. Initially developed to identify and intervene with persons with alcohol use disorders, SBIRT has been endorsed by the Substance Abuse and Mental Health Services Administration and other professional bodies for use in the ED [11]. ED-based studies with more intensive interventions have generally offered a combination of SBIRT (tailored for smokers) and motivational interviewing.

There are numerous evidence-based treatments for tobacco dependence. These may be divided into two broad categories: medication and counseling. Each is effective; used in combination, they provide even greater efficacy.

There are seven FDA-approved medications: nicotine patch, gum, lozenge, nasal spray, inhaler, varenicline, and bupropion. Counseling strategies with proven efficacy include one-on-one in-person sessions, group counseling, and telephone quitlines. The evidence base supporting these treatments is reviewed extensively in the 2008 Public Health Service guideline on tobacco dependence treatment and in the 2014 Surgeon General's report on smoking.

Of note, quitlines are widely available in all 50 states. They can be accessed by a single phone number: 1-800-QUIT NOW. Services vary somewhat from state to state, but as a rule include counseling by a trained provider, provision of written materials, starter doses of nicotine replacement, Web-based services, and, increasingly, smartphone-based texting services. Quitlines are open 7 days a week, and languages other than English are available. Referrals can be made by providers or smokers. There is no cost to individuals or health systems, and insurance is not needed. Additional information is available at [www.naquitline.org](http://www.naquitline.org), the home page of the North American Quitline Consortium.

Most smoking cessation counseling uses principles of motivational interviewing or cognitive behavioral therapy. Of note, neither hypnosis nor acupuncture have demonstrated efficacy.

These treatments are summarized in Table 2.

The pharmacotherapy of nicotine dependence treatment is relatively straightforward. Smokers who consume five or more cigarettes daily are good candidates for treatment. Medication is typically begun with a single agent, usually the nicotine patch or gum. A single cigarette contains 1–3 mg of nicotine, which can be used to guide dosing. In general, nicotine should be replaced milligram for milligram. A 21-mg

**Table 2** Tobacco dependence treatment medications

Products OTC	Dosage	Duration	Precautions	Adverse effects	Patient education
Nicotine patch 21 mg 14 mg 7 mg	One patch per day >10 cpd: 21 mg 4 weeks, 14 mg 2 weeks ≤10 cpd: 14 mg 4 weeks, 7 mg 2 weeks	8–12 weeks	Do not use if Pt has severe eczema or psoriasis Caution within 2 weeks of MI	Local skin reaction Insomnia	Apply each day to clean, dry, hairless skin Focal rash is common: Rotate site daily. Available without prescription
Nicotine gum 2 mg 4 mg	First cigarette ≤30 min after waking, 4 mg First cigarette >30 min after waking, 2 mg One piece every 1–2 h	12 weeks	Caution with dentures Do not eat or drink 15 min before or during use. Limit 24 in 24 h	Mouth soreness Stomachache Hiccups	<i>Do not chew like ordinary gum</i> Alternate chewing and parking between cheek and gum (chew until mouth tingles, then park for 1 min, and continue for 30 min) Nicotine absorbed across buccal mucosa Avoid food and acidic drinks before and during use. Available without prescription
Nicotine lozenge 2 mg 4 mg	First cigarette ≤30 min after waking, 4 mg First cigarette >30 min after waking, 2 mg 1 every 1–2 h	12 weeks	Do not eat or drink 15 min before use One lozenge at a time Limit to 20 in 24 h	Heartburn Local irritation of mouth and throat Coughing Hiccups	<i>Do not bite, chew, or swallow</i> Dissolve in mouth slowly Each lozenge takes 20–30 min to dissolve Avoid food and acidic drinks before and during use. Available without prescription
Nicotine inhaler Nicotrol Inhaler®	6–16 cartridges/day Each cartridge = 2 cigs Use 1 cartridge q 1–2 h	6 months; taper	Reactive airway disease	Mouth and throat irritation Cough	Patient is not to puff like a cigarette. Gentle puffing recommended Absorption via the buccal mucosa Avoid food and acidic drinks before and during use
Nicotine nasal spray Nicotrol NS®	1–2 sprays each nostril/h 8–40 doses/day	3–6 months; taper	Not for patients with asthma	Nasal irritation Sneezing Cough Tearful eyes	Instruct patient to tilt head back and spray Tolerance to local adverse effects develops first week after use
Bupropion SR150 Zyban® or Wellbutrin®	Start 1–2 weeks before quit date Days 1–3, 150 mg each morning Days 4–end, 150 mg BID	2–6 months	Contraindications: Seizure disorder Current use of MAO inhibitor Eating disorder Alcohol dependence Head trauma	Insomnia Dry mouth Anxiety	Take second pill early evening to reduce insomnia Never double dose
Varenicline Chantix®	Start 1 week before quit date 0.5 mg/d for 3 days then 0.5 mg BID for the next 4 days After the first 7 days, 1 mg/BID	3–6 months	Persons with kidney problems require dose adjustment Serious psychiatric illness	Nausea Insomnia Abnormal dreams	Take after eating and with water (full glass) Never double dose. Take missed dose as soon as remembered. If close to the next dose, wait and take at regular dose time Nausea is usually transient. If nausea persists, dose reduction is recommended

patch, applied daily, would be a typical treatment for someone who smokes ten or more cigarettes daily. Higher dosing or additional forms of nicotine replacement therapy (NRT) may be added if the patient experiences cravings. Recent studies suggest combination therapy, using both a long-acting and a short-acting agent (e.g., patch and gum or nasal spray or inhaler), may be more effective than monotherapy. The reason is that transdermal nicotine generally does not replace enough nicotine to prevent cravings and other symptoms of withdrawal. NRT products that cross the blood–brain barrier quickly and easily can offer rapid relief for smokers with cravings.

Bupropion is a drug whose mechanism of action is incompletely understood. It was initially approved for treatment of mood disorders, but also shows efficacy in smoking cessation. Varenicline is an interesting drug that blocks nicotinic receptors in the brain that mediate reward and craving. It is an agonist–antagonist. Varenicline prevents nicotine from binding to receptors, but stimulates the release of a small amount of dopamine, generally sufficient to prevent symptoms of withdrawal. These drugs are beyond the scope of practitioners of emergency care and are not indicated for initiation in the ED.

The clinical trials of ED-initiated tobacco dependence treatment are summarized in Tables 3 and 4 [12–20]. These trials have all been conducted since the 2000s. They were largely single-institution studies with modest sample sizes and limited methodological rigor, including poorly specified inclusion criteria, inadequate attention to fidelity of the intervention, and limited use of biochemical confirmation of cessation. Only two followed subjects up to 1 year after enrollment.

Most studies did not show an effect of the intervention. One recent study [16] found that a multicomponent intervention was able to produce a statistically significant higher rate of tobacco abstinence in subjects at the primary endpoint, 3 months, compared to controls. At 1 year, the effect attenuated but nearly reached statistical significance. The intervention consisted of provision of 6 weeks of nicotine patches and gum, initiation of the patch in the ED, a brief motivational interview (10–15 min) by a trained interventionist, a referral faxed to the state smokers' quitline, a phone call 2–3 days after enrollment, and a smoking cessation brochure. This study was the first to demonstrate the efficacy of ED-initiated tobacco dependence treatment. Although efficacious, the intervention has limited generalizability because of the use of nonclinical personnel to perform the motivational interview and the provision of a substantial supply of nicotine replacement medication. Future work for ED-based tobacco treatment should focus on effective interventions

that are scalable. The use of mobile health technologies to “push” behavioral change messages to smokers, such as short-message-service (SMS) texting, is one possibility [21].

Table 5 reviews the components of an effective ED-initiated tobacco intervention. The individual components are all supported by evidence from high-grade clinical trials in various settings, with at least one high-quality ED trial to support their use.

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## Cost

Tobacco dependence treatment is among the most inexpensive, most cost-effective interventions in clinical medicine [23]. Integrating tobacco dependence screening, treatment, and referral into ED clinical workflows can be quite inexpensive. Several models of practice are available. The cheapest is to allow providers—physicians, nurses, and midlevel practitioners—to perform the screening as part of routine clinical care. Brochures advertising the state tobacco quitline, generally available from health departments in bulk from little to no cost, can be distributed to smokers. Advice to quit, a referral to the quitline, or perhaps a visit to a locally available smoking cessation clinic can be templated and added to discharge summaries. Directed referrals to quitlines via fax can be made by clinical or clerical personnel. Some electronic medical records are integrating quitline referrals into their order sets for tobacco dependence [24].

A more intensive, and expensive, model of care entails placing lay educators, or health promotion advocates, in EDs to screen patients for tobacco use and other risky health behaviors [25]. These models are effective in identifying and referring patients, but their impact on long-term abstinence rates is unclear.

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## Conclusion

Tobacco use is widely prevalent in emergency department patients, and tobacco-related illness is a common reason for presentation. Recent evidence suggests that an approach that combines nicotine replacement therapy, behavioral counseling, and referral to a telephone quitline may result in sustained tobacco abstinence. As a result of the accumulating evidence regarding the efficacy of ED-initiated tobacco control, both the US Public Health Service clinical practice guideline [26] and a report by the Institute of Medicine [27] recommend EDs as effective loci for tobacco screening and treatment. Tobacco use carries a sufficient burden of illness and death to warrant routine screening and intervention in ED patients.

**Table 3** Characteristics of studies included in a meta-analysis of emergency department-initiated tobacco control. Adapted from Rabe et al. [19]

Year of publication, authors, country	Number of participants randomized, intervention, control group, target group	Setting, size of yearly patient load	Smoking definition	Treatment in the intervention group	Treatment in the control group	Definition of tobacco abstinence
2000, Antonacci and Eyck, USA	42, 21, 21, adults	Military ED, 30,000	Answer "yes" to the question "Do you smoke?"	Referral to a formal smoking cessation program	Brief counseling	Answer "no" to the question "Do you smoke?"
2000, Richman et al., USA	152, 78, 74, adults	Suburban ED, 47,000	Answer "yes" to the question "Do you smoke cigarettes now?"	Referral to a smoking cessation program	Two-page "Stop Smoking" pamphlet from the AHA	Answer "no" to the question "Do you smoke cigarettes now?"
2007, Horn et al., USA	75, 41, 34, adolescents	Suburban ED, 40,000	Smoking on 1 or more days in the past 30 days	+ Counseling + AHA pamphlet and information packet ≤30 min MI on site	Brief advice (<2 min)	7-day tobacco abstinence
2007, Schiebel and Ebbert, USA	40, 20, 20, adults	Urban ED, 70,000	Current daily cigarette smoking for at least 1 year	+ Workbook with audio + Personal postcard + Maximum three booster phone calls Proactive telephone counseling (≤45 min)	+ QL referral + Follow-up phone call at study end Self-help manual	7-day tobacco point prevalence abstinence
2008, Bock et al., USA	543, 271, 272, adults with acute chest pain	Urban ED (24-h observation unit), >100,000	Current, regular smokers (>5 cigarettes/day for the past 3 months)	+ Maximum four booster phone calls ≤30 min MI on site	One-page referral sheet to local smoking cessation resources	7-day tobacco point prevalence abstinence
2008, Boudreaux et al., USA	90, (36; 37) <sup>a</sup> , 17, adults	Urban ED, 47,000	At least one cigarette per day	+ Maximum two booster phone calls Group 1. ≤30 min MI on site	Self-help brochures (from the AHA and the hospital's tobacco dependence clinic)	7-day tobacco abstinence
2009, Neuner et al., Germany	1044, 515, 529, adults	Urban ED, 40,000	Minimum of one cigarette smoked per day during the last 7 days	+ Self-help brochures + Maximum three booster phone calls Group 2. Same treatment but all MI sessions by phone after discharge <sup>a</sup> ≤30 (-45) min MI on site	Counseling at study end	7-day tobacco abstinence
2011, Bernstein et al., USA	338 adults, 168, 170	Urban ED, 90,000	100 cigarettes in a lifetime+ current or everyday smoker	+ Maximum four booster phone calls 6-week patch, passive quitline referral, MI, booster phone	Brochure	7-day tobacco point prevalence abstinence + carbon monoxide confirmation or cotinine
2014, Bernstein et al., USA	778 adults, 390, 388	Urban ED, 90,000	100 cigarettes in a lifetime+ current or everyday smoker	6-week patch+ gum begun in ED, active quitline referral, MI, booster phone call, brochure	Brochure	7-day tobacco point prevalence abstinence+ carbon monoxide confirmation

Efficacy of emergency department-initiated tobacco control—systematic review and meta-analysis of randomized controlled trials. Adapted from Rabe et al. [19]  
MI motivational interviewing, QL quitline, AHA American Heart Association

<sup>a</sup>This study randomized two intervention groups and one control group

**Table 4** Number and proportion of abstinent smokers at follow-up, results of individual studies

Year of publication, authors	Type of group	No. of randomized participants	Number and proportion of abstinent smokers at follow-up			
			1 month	3 months	6 months	12 months
2000, Antonacci and Eyck	Intervention	21			0 (0 %)	
	Control	21			1 (4.8 %)	
2000, Richman et al.	Intervention	78		5 (6.8 %)		
	Control	74		6 (7.7 %)		
2007, Horn et al.	Intervention	41	2 (4.9 %)	1 (2.4 %)	1 (2.4 %)	
	Control	34	NEV	NEV	1 (2.9 %)	
2007, Schiebel and Ebbert	Intervention	20		2 (10.0 %)	4 (20.0 %)	
	Control	20		1 (5.0 %)	0 (0 %)	
2008, Bock et al.	Intervention	271	44 (16.2 %)	39 (14.4 %)	30 (11.1 %)	
	Control	272	27 (9.9 %)	29 (10.7 %)	29 (10.7 %)	
2008, Boudreaux et al.	Intervention	73		8 (11.0 %)		
	Control	17		1 (5.9 %)		
2009, Neuner et al.	Intervention	515	33 (6.4 %)	45 (8.7 %)	61 (11.8 %)	73 (14.2 %)
	Control	529	26 (4.9 %)	41 (7.8 %)	55 (10.4 %)	60 (11.3 %)
2011, Bernstein et al.	Intervention	170		25 (14.7 %)		
	Control	168		22 (13.2 %)		
2014, Bernstein et al.*	Intervention	390		47 (12.2 %)*		62 (16.3 %)
	Control	388		19 (4.9 %)		45 (11.7 %)

\* $P=0.0003$ **Table 5** Components of an effective ED-initiated intervention for tobacco dependence

Component	Comments
Counseling	Brief counseling intervention employing principles of motivational interviewing; cognitive behavioral treatment may be efficacious
Medication	Provision of at least 4 weeks of nicotine replacement therapy. Combining short- and long-acting forms, e.g., patch and gum, likely to be more efficacious than monotherapy
Post-discharge treatment: quitline, texting	Aftercare should extend at least 30 days beyond visit. Active referral to state smokers' quitline, via fax or electronic health record, may achieve that. Newer interventions such as the use of cell phone texting warrant further study
Interventionist	Ideally, a nonclinical individual, such as a health promotion advocate or health educator. Can be delivered by physicians, midlevel providers, and nurses, but constraints of time and clinical burden are substantial

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