

## Treating Tobacco Use and Dependence: 2008 Update U.S. Public Health Service Clinical Practice Guideline Executive Summary

The 2008 PHS Guideline Update Panel, Liaisons, and Staff

**Context**  
**Guideline Origins**  
**Guideline Style and Structure**  
**Findings and Recommendations**  
**Ten Key Guideline Recommendations**  
**Guideline Update: Advances**  
**Future Promise**

### Context

The 1996 *Smoking Cessation Clinical Practice Guideline*<sup>1</sup> emphasized the dire health consequences of tobacco use and dependence, the existence of effective treatments, and the importance of inducing more smokers to use such treatments. It also called for newer, even more effective tobacco dependence treatments. All of these points still are germane. Nevertheless, heartening progress has been made in tobacco control since that time, and this progress is part of a larger pattern of change that stretches back over the past 40 years. This progress reflects the achievements of clinicians, the public health community, scientists, government agencies, health care organizations, insurers, purchasers, and smokers who have successfully quit. As a result, the current prevalence of tobacco use

among adults in the United States (about 20.8%) is less than half the rate observed in the 1960s (about 44%).<sup>2,3</sup>

This Guideline concludes that tobacco use presents a rare confluence of circumstances: (1) a highly significant health threat;<sup>4</sup> (2) a disinclination among clinicians to intervene consistently;<sup>5</sup> and (3) the presence of effective interventions. This last point is buttressed by evidence that tobacco dependence interventions, if delivered in a timely and effective manner, significantly reduce the smoker's risk of suffering from smoking-related disease.<sup>6-13</sup> Indeed, it is difficult to identify any other condition that presents such a mix of lethality, prevalence, and neglect, despite effective and readily available interventions.

---

SEE THE RELATED EDITORIAL ON PAGE 1166

---

Although tobacco use still is an enormous threat, the story of tobacco control efforts during the last half century is one of remarkable progress and promise. In 1965, current smokers outnumbered former smokers three to one.<sup>14</sup> During the past 40 years, the rate of quitting has so outstripped the rate of initiation that, today, there are more former smokers than current smokers.<sup>15</sup> Moreover, 40 years ago smoking was viewed as a habit rather than a chronic disease. No scientifically validated treatments were available for the treatment of tobacco use and dependence, and it had little place in health care delivery. Today, numerous effective treatments exist, and tobacco use assessment and intervention are considered to be requisite duties of clinicians and health care delivery entities. Finally, every state now has a telephone quitline, increasing access to effective treatment.

---

This article is a reprint of a document in the public domain, and thus may be used and reprinted without special permission. However, the Public Health Service appreciates citation as to its source: Fiore MC, Jaén CR, Baker TB, Bailey WC, Benowitz N, Curry SJ, et al. Treating tobacco use and dependence: 2008 update. Clinical Practice Guideline. Executive Summary. Rockville MD: US Department of Health and Human Services. Public Health Service. May 2008.

The full text of the Guideline (including financial disclosure information for all authors), with and without the text references and the meta-analyses references (listed by evidence table), is available by visiting the Surgeon General's Web site at: [www.ahrq.gov/path/tobacco.htm#clinic](http://www.ahrq.gov/path/tobacco.htm#clinic).

Correspondence: Michael C Fiore MD MPH, Center for Tobacco Research and Intervention, University of Wisconsin, Madison, Wisconsin 53711. Email: [mcf@ctri.medicine.wisc.edu](mailto:mcf@ctri.medicine.wisc.edu)

The scant dozen years following the publication of the first Guideline have ushered in similarly impressive changes. In 1997, only 25 percent of managed health care plans covered any tobacco dependence treatment; this figure approached 90 percent by 2003,<sup>16</sup> although this increased coverage often includes barriers to use. Numerous states added Medicaid coverage for tobacco dependence treatment since the publication of the first Guideline so that, by 2005, 72 percent offered coverage for at least one Guideline-recommended treatment.<sup>16-18</sup> In 2002, The Joint Commission (formerly JCAHO), which accredits some 15 000 hospitals and health care programs, instituted an accreditation requirement for the delivery of evidence-based tobacco dependence interventions for patients with diagnoses of acute myocardial infarction, congestive heart failure, or pneumonia ([www.coreoptions.com/new\\_site/jcahocore.html](http://www.coreoptions.com/new_site/jcahocore.html); hospital-specific results: [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov)). Finally, Medicare, the Veterans Health Administration, and the United States Military now provide coverage for tobacco dependence treatment. Such policies and systems changes are paying off in terms of increased rates of assessment and treatment of tobacco use.

Data show that the rate at which smokers report being advised to quit smoking has approximately doubled since the early 1990s.<sup>19-22</sup> Recent data also suggest a substantial increase in the proportion of smokers receiving more intensive cessation interventions.<sup>23,24</sup> The National Committee for Quality Assurance (NCQA) reports steady increases for both commercial insurers and Medicaid in the discussion of both medications and strategies for smoking cessation.<sup>25</sup> Finally, since the first Guideline was published in 1996, smoking prevalence among adults in the United States has declined from about 25 percent to about 21 percent.<sup>26</sup>

An inspection of the 2008 Guideline update shows that substantial progress also has been made in treatment development and delivery. Telephone quitlines have been shown to be effective in providing wide access to evidence-based cessation counseling.<sup>27,28</sup> Seven U.S. Food and Drug Administration (FDA)-approved medications for treating tobacco dependence are now available, and new evidence has revealed that particular medications or combinations of medications are especially effective.

This Guideline update also casts into stark relief those areas in which more progress is needed. There is a need for innovative and more effective counseling strategies. In addition, although adolescents appear to benefit from counseling, more consistent and effective interventions and options for use with children, adolescents, and young adults clearly are needed. Smoking prevalence remains discouragingly high in certain populations, such as in those with low socioeconomic status (SES)/low educational attainment, some American Indian populations, and individuals with psychiatric disorders, including substance use disorders.<sup>3</sup> New techniques and treatment delivery strategies may be required before the needs of these groups are adequately addressed. Moreover, although much of the avail-

able data come from randomized clinical trials occurring in research settings, it is imperative that new research examine implementation of effective treatments in real-world clinical settings. Finally, new strategies are needed to create consumer demand for effective treatments among tobacco users; there has been little increase in the proportion of smokers who make quit attempts, and too few smokers who do try to quit take advantage of evidence-based treatment that can double or triple their odds of success.<sup>29</sup> New research and communication efforts must impart greater hope, confidence, and increased access to treatments so that tobacco users in ever greater numbers attempt tobacco cessation and achieve abstinence. To succeed, all of these areas require adequate funding.

Thus, this 2008 Guideline update serves as a benchmark of the progress made. It should reassure clinicians, policymakers, funding agencies, and the public that tobacco use is amenable to both scientific analysis and clinical interventions. This history of remarkable progress should encourage renewed efforts by clinicians, policymakers, and researchers to help those who remain dependent on tobacco.

### Guideline Origins

This Guideline, *Treating Tobacco Use and Dependence: 2008 Update*, a Public Health Service-sponsored Clinical Practice Guideline, is the product of the Treating Tobacco Use and Dependence Guideline Panel (“the Panel”), government liaisons, consultants, and staff. These individuals were charged with the responsibility of identifying effective, experimentally validated tobacco dependence clinical treatments and practices. This Guideline update is the third Public Health Service Clinical Practice Guideline published on tobacco use. The first Guideline, the 1996 *Smoking Cessation Clinical Practice Guideline No. 18*, was sponsored by the Agency for Healthcare Policy and Research (AHCPR, now the Agency for Healthcare Research and Quality [AHRQ]), U.S. Department of Health and Human Services (HHS). That Guideline reflected scientific literature published between 1975 and 1994. The second Guideline, published in 2000, *Treating Tobacco Use and Dependence*, was sponsored by a consortium of U. S. Public Health Service (PHS) agencies (AHRQ; Centers for Disease Control and Prevention [CDC]; National Cancer Institute [NCI]; National Heart, Lung, and Blood Institute [NHLBI]; National Institute on Drug Abuse [NIDA]), as well as the Robert Wood Johnson Foundation (RWJF) and the University of Wisconsin Center for Tobacco Research and Intervention (UW-CTRI). That Guideline reflected the scientific literature published from 1975 to 1999. The current 2008 update addresses literature published from 1975 to 2007.

The updated Guideline was written in response to new, effective clinical treatments for tobacco dependence that have been identified since 1999. These treatments promise to enhance the rates of successful tobacco cessation. The original 1996 Guideline was based on some 3,000 articles

on tobacco treatment published between 1975 and 1994. The 2000 Guideline required the collection and screening of an additional 3,000 articles published between 1995 and 1999. The 2008 Guideline update screened an additional 2,700 articles; thus, the present Guideline update reflects the distillation of a literature base of more than 8,700 research articles. This body of research of course was further reviewed to identify a much smaller group of articles, based on rigorous inclusion criteria, which served as the basis for focused Guideline data analyses and review.

The 2008 updated Guideline was sponsored by a consortium of eight Federal Government and private nonprofit organizations: AHRQ, CDC, NCI, NHLBI, NIDA, American Legacy Foundation, RWJF, and UW-CTRI. All of these organizations have as their mission reducing the human costs of tobacco use. Given the importance of this issue to the health of all Americans, the updated Guideline is published by the PHS, HHS.

### Guideline Style and Structure

This Guideline update was written to be applicable to all tobacco users—those using cigarettes as well as other forms of tobacco. Therefore, the terms “tobacco user” and “tobacco dependence” will be used in preference to “smoker” and “cigarette dependence.” In some cases, however, the evidence for a particular recommendation consists entirely of studies using cigarette smokers as participants. In these instances, the recommendation and evidence refers to “smoking” to communicate the parochial nature of the evidence. In most cases, though, Guideline recommendations are relevant to all types of tobacco users. Finally, most data reviewed in this Guideline update are based on adult smokers, although data relevant to adolescent smokers are presented in Chapter 7.

The updated Guideline is divided into seven chapters that integrate prior and updated findings:

Chapter 1, Overview and Methods, provides the clinical practice and scientific context of the Guideline update project and describes the methodology used to generate the Guideline findings.

Chapter 2, Assessment of Tobacco Use, describes how each patient presenting at a health care setting should have his or her tobacco use status determined and how tobacco users should be assessed for willingness to make a quit attempt.

Chapter 3, Clinical Interventions for Tobacco Use and Dependence, summarizes effective brief interventions that can easily be delivered in a primary care setting. In this chapter, separate interventions are described for the patient who is *willing* to try to quit at this time, for the patient who is *not yet willing* to try to quit, and for the patient who has recently quit.

Chapter 4, Intensive Interventions for Tobacco Use and Dependence, outlines a prototype of an intensive tobacco

cessation treatment that comprises strategies shown to be effective in this Guideline. Because intensive treatments produce the highest success rates, they are an important element in tobacco intervention strategies.

Chapter 5, Systems Interventions, targets health care administrators, insurers, and purchasers, and offers a blueprint to changes in health care delivery and coverage such that tobacco assessment and intervention become a standard of care in health care delivery.

Chapter 6, Evidence and Recommendations, presents the results of Guideline literature reviews and statistical analyses and the recommendations that emanate from them. Guideline analyses address topics such as the effectiveness of different counseling strategies and medications; the relation between treatment intensities and treatment success; whether screening for tobacco use in the clinic setting enhances tobacco user identification; and whether systems changes can increase provision of effective interventions quit attempts and actual cessation rates. The Guideline Panel also made specific recommendations regarding future research needs.

Chapter 7, Specific Populations and Other Topics, evaluates evidence on tobacco intervention strategies and effectiveness with specific populations (eg, HIV-positive smokers; hospitalized smokers; lesbian/gay/bisexual/transgender smokers; smokers with low SES/limited educational attainment; smokers with medical comorbidities; older smokers; smokers with psychiatric disorders, including substance use disorders; racial and ethnic minorities; women smokers; children and adolescents; light smokers; pregnant smokers; and noncigarette tobacco users). The Guideline Panel made specific recommendations for future research on topics relevant to these populations. This chapter also presents information and recommendations relevant to weight gain after smoking cessation, with specific recommendations regarding future research on this topic.

### Findings and Recommendations

The key recommendations of the updated Guideline, *Treating Tobacco Use and Dependence: 2008 Update*, based on the literature review and expert Panel opinion, are as follows:

#### Ten Key Guideline Recommendations

The overarching goal of these recommendations is that clinicians strongly recommend the use of effective tobacco dependence counseling and medication treatments to their patients who use tobacco, and that health care systems, insurers, and purchasers assist clinicians in making such effective treatments available.

1. Tobacco dependence is a chronic disease that often requires repeated intervention and multiple attempts to quit. Effective treatments exist, however, that can significantly increase rates of long-term abstinence.
2. It is essential that clinicians and health care delivery systems consistently identify and document tobacco use status and treat every tobacco user seen in a health care setting.
3. Tobacco dependence treatments are effective across a broad range of populations. Clinicians should encourage every patient willing to make a quit attempt to use the counseling treatments and medications recommended in this Guideline.
4. Brief tobacco dependence treatment is effective. Clinicians should offer every patient who uses tobacco at least the brief treatments shown to be effective in this Guideline.
5. Individual, group, and telephone counseling are effective, and their effectiveness increases with treatment intensity. Two components of counseling are especially effective, and clinicians should use these when counseling patients making a quit attempt:
  - Practical counseling (problemsolving/skills training)
  - Social support delivered as part of treatment
6. Numerous effective medications are available for tobacco dependence, and clinicians should encourage their use by all patients attempting to quit smoking—except when medically contraindicated or with specific populations for which there is insufficient evidence of effectiveness (ie, pregnant women, smokeless tobacco users, light smokers, and adolescents).
  - Seven first-line medications (5 nicotine and 2 non-nicotine) reliably increase long-term smoking abstinence rates:
    - Bupropion SR
    - Nicotine gum
    - Nicotine inhaler
    - Nicotine lozenge
    - Nicotine nasal spray
    - Nicotine patch
    - Varenicline
  - Clinicians also should consider the use of certain combinations of medications identified as effective in this Guideline.
7. Counseling and medication are effective when used by themselves for treating tobacco dependence. The

combination of counseling and medication, however, is more effective than either alone. Thus, clinicians should encourage all individuals making a quit attempt to use both counseling and medication.

8. Telephone quitline counseling is effective with diverse populations and has broad reach. Therefore, clinicians and health care delivery systems should both ensure patient access to quitlines and promote quitline use.
9. If a tobacco user currently is unwilling to make a quit attempt, clinicians should use the motivational treatments shown in this Guideline to be effective in increasing future quit attempts.
10. Tobacco dependence treatments are both clinically effective and highly cost-effective relative to interventions for other clinical disorders. Providing coverage for these treatments increases quit rates. Insurers and purchasers should ensure that all insurance plans include the counseling and medication identified as effective in this Guideline as covered benefits.

#### Guideline Update: Advances

A comparison of the findings of the 2008 Guideline update with the 2000 Guideline reveals the considerable progress made in tobacco research over the brief period separating these two works. Among many important differences between the two documents the following deserve special note:

- The updated Guideline has produced even stronger evidence that counseling is an effective tobacco use treatment strategy. Of particular note are findings that counseling adds significantly to the effectiveness of tobacco cessation medications, quitline counseling is an effective intervention with a broad reach, and counseling increases abstinence among adolescent smokers.
- The updated Guideline offers the clinician a greater number of effective medications than were identified in the previous Guideline. Seven different effective first-line smoking cessation medications are now approved by the FDA for treating tobacco use and dependence. In addition, multiple combinations of medications have been shown to be effective. Thus, the clinician and patient have many more medication options than in the past. The Guideline also now provides evidence regarding the effectiveness of medications relative to one another.
- The updated Guideline contains new evidence that health care policies significantly affect the likelihood that smokers will receive effective tobacco dependence treatment and successfully stop tobacco use. For in-

stance, making tobacco dependence a benefit covered by insurance plans increases the likelihood that a tobacco user will receive treatment and quit successfully.

### Future Promise

The research reviewed for this 2008 Guideline update suggests a bright future for treating tobacco use and dependence. Since the first AHCPH Clinical Practice Guideline was published in 1996, encouraging progress has been made in tobacco dependence treatment. An expanding body of research has produced a marked increase in the number and types of effective treatments and has led to multiple new treatment delivery strategies. These new strategies are enhancing the delivery of tobacco interventions both inside and outside health care delivery systems. This means that an unprecedented number of smokers have access to an unprecedented number of effective treatments.

Although the data reviewed in this Guideline update are encouraging and portend even greater advances through future research, for many smokers, the progress has been an undelivered promissory note. Most smokers attempting to quit today still make unaided quit attempts,<sup>29-32</sup> although the proportion using evidence-based treatments has increased since the publication of the 1996 AHCPH Guideline.<sup>33-35</sup> Because of the prevalence of such unaided attempts (those that occur without evidence-based counseling or medication), many smokers have successfully quit through this approach.<sup>6,36</sup> It is clear from the data presented in this Guideline, however, that smokers are significantly more likely to quit successfully if they use an evidence-based counseling or medication treatment than if they try to quit without such aids. Thus, a future challenge for the field is to ensure that smokers, clinicians, and health systems have accurate information on the effectiveness of clinical interventions for tobacco use, and that the 70 percent of smokers who visit a primary care setting each year have greater access to effective treatments. This is of vital public health importance because the costs of failure are so high. Relapse results in continuing lifetime exposure to tobacco, which leads to increased risk of death and disease. Additional progress must be made in educating clinicians and the public about the effectiveness of clinical treatments for tobacco dependence and in making such treatments available and attractive to smokers.

Continued progress is needed in the treatment of tobacco use and dependence. Treatments should be even more effective and available, new counseling strategies should be developed, and research should focus on the development of effective interventions and delivery strategies for populations that carry a disproportionate burden from tobacco (eg, adolescents; pregnant smokers; American Indians and Alaska Natives; individuals with low SES/limited educational attainment; individuals with psychiatric disorders, including substance use disorders). The decrease in the prevalence of tobacco use in the United States during the past 40 years, however, has been a seminal public health achievement. Treatment of tobacco use and dependence has played an important role in realizing that outcome.

### Guideline Panel

**Michael C Fiore MD MPH (Panel Chair)**  
**Carlos Roberto Jaén MD PhD (Panel Vice Chair)**  
**Timothy B Baker PhD (Senior Scientist)**  
**William C Bailey MD**  
**Neal L Benowitz MD**  
**Susan J Curry PhD**  
**Sally Faith Dorfman MD MSHSA**  
**Erika S Froelicher PhD RN MA MPH**  
**Michael G Goldstein MD**  
**Cheryl G Heaton DrPH**  
**Patricia Nez Henderson MD MPH**  
**Richard B Heyman MD**  
**Howard K Koh MD MPH**  
**Thomas E Kottke MD MSPH**  
**Harry A Lando PhD**  
**Robert E Mecklenburg DDS MPH**  
**Robin J Mermelstein PhD**  
**Patricia Dolan Mullen DrPH**  
**C Tracy Orleans PhD**  
**Lawrence Robinson MD MPH**  
**Maxine L Stitzer PhD**  
**Anthony C Tommasello PhD MSc**  
**Louise Villejo MPH CHES**  
**Mary Ellen Wewers PhD MPH RN**

### Guideline Liaisons

**Ernestine W Murray RN BSN MAS (Project Officer)**  
**Agency for Healthcare Research and Quality**

**Glenn Bennett MPH CHES**  
**National Heart Lung and Blood Institute**

**Stephen Heishman PhD**  
**National Institute on Drug Abuse**

**Corinne Husten MD MPH**  
**Centers for Disease Control and Prevention**

**Glen Morgan PhD**  
**National Cancer Institute**

**Christine Williams MEd**  
**Agency for Healthcare Research and Quality**

### Guideline Staff

**Bruce A Christiansen PhD (Project Director)**  
**Megan E Piper PhD (Project Scientist)**  
**Victor Hasselblad PhD (Project Statistician)**  
**David Fraser MSc (Project Coordinator)**  
**Wendy Theobald PhD (Editorial Associate)**  
**Michael Connell (Database Manager)**  
**Cathlyn Leitzke MSN RN-C (Project Researcher)**

## REFERENCES

1. Fiore MC, Bailey WC, Cohen SJ. Smoking cessation: Clinical practice guideline No. 18. Rockville, MD, U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research, 1996.
2. National Center for Health Statistics. Health, United States, 2006, with chartbook on trends in the health of Americans. Hyattsville, MD, 2006.
3. Centers for Disease Control and Prevention. Cigarette smoking among adults - United States, 2006. *MMWR* 2007;56(44):1157-1161.
4. U.S. Department of Health and Human Services. The health consequences of smoking: a report of the Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2004.
5. Rothemich SF, Woolf SH, Johnson RE, Burgett AE, Flores SK, Marsland DW, Ahluwalia JS. Effect on cessation counseling of documenting smoking status as a routine vital sign: an ACORN study. *Ann Fam Med* 2008;6(1):60-68.
6. U.S. Department of Health and Human Services. Reducing tobacco use: a report of the Surgeon General. Atlanta, GA, U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2000.
7. Baumeister SE, Schumann A, Meyer C, John U, Volzke H, Alte D. Effects of smoking cessation on health care use: is elevated risk of hospitalization among former smokers attributable to smoking-related morbidity? *Drug Alcohol Depend* 2007;88(2-3):197-203.
8. Lightwood J. The economics of smoking and cardiovascular disease. *Prog Cardiovasc Dis* 2003;46(1):39-78.
9. Lightwood JM, Glantz SA. Short-term economic and health benefits of smoking cessation: myocardial infarction and stroke. *Circulation* 1997;96(4):1089-1096.
10. Rasmussen SR, Prescott E, Sorensen TI, Sogaard J. The total lifetime health cost savings of smoking cessation to society. *Eur J Public Health* 2005;15(6):601-606.
11. Hurley SF. Short-term impact of smoking cessation on myocardial infarction and stroke hospitalisations and costs in Australia. *Med J Aust* 2005;183(1):13-17.
12. Critchley J, Capewell S. Smoking cessation for the secondary prevention of coronary heart disease. *Cochrane Database Syst Rev* 2004;(1):CD003041.
13. Ford ES, Ajani UA, Croft JB, Critchley JA, Labarthe DR, Kottke TE, et al. Explaining the decrease in U.S. deaths from coronary disease, 1980-2000. *N Engl J Med* 2007;356(23):2388-2398.
14. Centers for Disease Control. Cigarette smoking among adults—United States, 2004. *MMWR Morb Mortal Wkly Rep* 2005; 54(44):1121-1124.
15. Centers for Disease Control. Tobacco use among adults - United States, 2005. *MMWR Morb Mortal Wkly Rep* 2006;55(42):1145-1148.
16. Bjornson W, White E, Woods M, Jolicouer D, Swartz S; Tobacco Cessation Leadership Network. Trends in the delivery and reimbursement of tobacco dependence treatment. January 2006. Available at: [http://www.tcln.org/resources/pdfs/trends\\_in\\_delivery\\_and\\_reimbursement\\_final.pdf](http://www.tcln.org/resources/pdfs/trends_in_delivery_and_reimbursement_final.pdf) Accessed June 27, 2008.
17. Centers for Disease Control and Prevention. State Medicaid coverage for tobacco-dependence treatments—United States, 2005. *MMWR Morb Mortal Wkly Rep* 2006;55(44):1194-1197.
18. Bellows NM, McMenamin SB, Halpin HA. Adoption of system strategies for tobacco cessation by state Medicaid programs. *Med Care* 2007;45(4):350-356.
19. Centers for Disease Control and Prevention. Physician and other health-care professional counseling of smokers to quit – United States, 1991. *MMWR* 1993;42(44):854-857.
20. Centers for Disease Control and Prevention. Receipt of advice to quit smoking in Medicare managed care – United States, 1998. *JAMA* 2000;284(14):1779-1781.
21. Denny CH, Serdula MK, Holtzman D, Nelson DE. Physician advice about smoking and drinking: are U.S. adults being informed? *Am J Prevent Med* 2003;24(1):71-74.
22. Chase EC, McMenamin SB, Halpin HA. Medicaid provider delivery of the 5A's for smoking cessation counseling. *Nicotine Tob Res* 2007;9(11):1095-1101.
23. Quinn VP, Stevens VJ, Hollis JF, Rigotti NA, Solberg LI, Gordon N, et al. Tobacco-cessation services and patient satisfaction in nine non-profit HMOs. *Am J Prev Med* 2005;29(2):77-84.
24. California Department of Health Services Tobacco Control Section. Smokers and quitting. Available at: <http://www.cdph.ca.gov/programs/tobacco/documents/ctcpcessation05.pdf>. Accessed June 27, 2008.
25. National Committee for Quality Assurance. State of health care quality 2007. Available at: <http://web.ncqa.org/tabid/543/default.aspx>. Accessed June 27, 2008.
26. Centers for Disease Control and Prevention. State-specific prevalence of cigarette smoking among adults and quitting among persons aged 18-35 years – United States, 2006. *MMWR Morb Mortal Wkly Rep* 2007;56(38):993-996.
27. Swartz SH, Cowan TM, Klayman JE, Welton MT, Leonard BA. Use and effectiveness of tobacco telephone counseling and nicotine therapy in Maine. *Am J Prev Med* 2005;29(4):288-294.
28. Centers for Disease Control. Best practices for comprehensive tobacco control programs - 2007. Atlanta, GA, Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2007.
29. Cummings KM, Hyland A. Impact of nicotine replacement therapy on smoking behavior. *Annu Rev Public Health* 2005;26:583-599.
30. Fiore MC, Novotny TE, Pierce JP, Giovino GA, Hatziaudreu EJ, Newcomb PA, et al. Methods used to quit smoking in the United States. Do cessation programs help? *JAMA* 1990;263(20):2760-2765. Erratum in: *JAMA* 1991;265(3):358.
31. Westmaas JL, Langsam K. Unaided smoking cessation and predictors of failure to quit in a community sample: effects of gender. *Addict Behav* 2005;30(7):1405-1424.
32. Centers for Disease Control and Prevention. Use of cessation methods among smokers aged 16-24 years—United States, 2003. *MMWR Morb Mortal Wkly Rep* 2006;55(50):1351-1354.
33. Cokkinides VE, Ward E, Jemal A, Thun MJ. Under-use of smoking cessation treatments: results from the National Health Interview Survey, 2000. *Am J Prev Med* 2005;28(1):119-122.
34. Pierce JP, Gilpin EA. Impact of over-the-counter sales on effectiveness of pharmaceutical aids for smoking cessation. *JAMA* 2002; 288(10):1260-1264.
35. West R, DiMarino ME, Gitchell J, McNeill A. Impact of UK policy initiatives on use of medicines to aid smoking cessation. *Tob Control* 2005;14(3):166-171.
36. Centers for Disease Control and Prevention. Public health focus: effectiveness of smoking-control strategies – United States. *MMWR Morb Mortal Wkly Rep* 1992;41(35):645-647.