

CAMPAIGN For TOBACCO-FREE Kids®

TOBACCO CESSATION: AN OVERVIEW

“Recent comprehensive analyses of hundreds of research reports have revealed that numerous, effective tobacco dependence treatments now exist. Not only do such treatments more than double a smoker’s likelihood of achieving long-term abstinence, but also research shows that such treatments are highly cost-effective. In terms of life-years saved per dollar spent, effective counseling and medications for smoking cessation have been found to be among the most cost-effective healthcare practices. In fact, tobacco dependence treatment is more cost effective than the treatment of hypertension, diabetes and hyperlipidemia.”

- A Nation Action Plan for Tobacco Cessation (February 2003)¹

What is Tobacco Cessation?

Depending upon who you ask, the answer to the question, “what is tobacco cessation?” can have multiple answers, all of which are correct. Ultimately, cessation is about getting tobacco users to stop using tobacco. It is in the means of achieving this goal that the responses differ. There are two main approaches: individual treatment services and interventions and population-based approaches. Individual services include behavioral treatment (individual or group counseling, face-to-face or phone counseling) and pharmacotherapy such as the use of nicotine replacement products like nicotine gum, patch and lozenges. Population-based approaches include such interventions as increases in cigarette excise taxes, clean indoor air/smoke free workplace laws, and paid media campaigns. There are also services that bridge the gap between population-based and individual to link both approaches, including health care systems changes, education of health care providers on cessation, and telephone quitlines.

Why is Quitting Tobacco Use So Difficult?

The *Surgeon General* has concluded that:

- “Cigarettes and other forms of tobacco are addicting.
- Nicotine is the drug in tobacco that causes addiction.
- The pharmacologic and behavioral processes that determine tobacco addiction are similar to those that determine addiction to drugs such as heroin and cocaine.”²

According to the *National Institute on Drug Abuse*:

- “The use of tobacco products may be the Nation's most critical public health problem. It is, in fact, addiction to nicotine that is at the root of this enormous health, social, and financial burden.”³
- “[N]icotine is addictive. Most smokers use tobacco regularly because they are addicted to nicotine. Addiction is characterized by compulsive drug-seeking and use, even in the face of negative health consequences, and tobacco use certainly fits the description.”⁴

U.S. Public Health Service Clinical Treatment Guidelines state:

- “Tobacco dependence shows many features of a chronic disease. Although a minority of tobacco users achieve permanent abstinence in an initial quit attempt, the majority persist in tobacco use for many years and typically cycle through multiple periods of relapse and

remission. A failure to appreciate the chronic nature of tobacco dependence may undercut clinicians' motivation to treat tobacco use consistently."⁵

- “[M]uch smoking cessation research and clinical practice over the last three decades has focused on identifying the ideal intervention that would turn all smokers into permanent non-smokers ... A more productive approach is to recognize the chronicity of tobacco dependence. A chronic disease model has many appealing aspects. It recognizes the long-term nature of the disorder with an expectation that patients may have periods of relapse and remission. If tobacco dependence is recognized as a chronic condition, clinicians will better understand the relapsing nature of the ailment and the requirement for ongoing, rather than just acute, care.”⁶

How Effective are Cessation Services?

Individual Level Interventions - Counseling

The U.S. Public Health Service Clinical Treatment Guidelines confirm the fact that the more frequent a tobacco user talks to and interacts with his/her doctor, dentist, pharmacist, nurse, psychologist (or other health care professional involved his/her quit attempt), the greater the chances he/she has of successfully quitting and remaining abstinent. The clinical guidelines concluded that four specific types of counseling and behavioral therapy categories yield statistically significant increases in abstinence (in relation to no intervention), including:

- providing practical counseling such as problem solving skills, training/relapse prevention, and stress management;
- providing support during a smoker's direct contact with a clinician;
- intervening to increase social support in the smoker's environment; and,
- using aversive smoking procedures (rapid smoking, rapid puffing, other smoking exposure).⁷

Individual Level Interventions - Pharmacotherapy

In addition to counseling, the PHS Guidelines strongly recommend the use of drug treatment (where clinically appropriate) in conjunction with counseling, to increase the likelihood of a successful quit attempt. The types of drugs recommended break down into two main categories – those that are nicotine-based (nicotine replacement therapies) and those that treat other symptoms experienced by individuals attempting to quit (e.g., depression). The treatments recommended include:

- Nicotine Gum (commercially available as: Nicorette, Nicorette Mint, Nicorette Orange, generic)⁸ has an established record of clinical efficacy and increases long-term abstinence rates (over placebo – no drug treatment) by 30 to 80 percent. It is available only as an over-the-counter product.
- Nicotine Patch (commercially available as: Nicoderm CQ, Nicotrol, Habitrol, generic) has an established record of clinical efficacy and approximately doubles long-term abstinence rates (over placebo – no drug treatment). It is available both over-the-counter and as a prescription medication.
- Nicotine Inhaler (commercially available as: Nicotrol Inhaler) has an established record of clinical efficacy and more than doubles long-term abstinence rates (over placebo – no drug treatment). It is available only as a prescription medication.

- Nicotine Nasal Spray (commercially available as: Nicotrol NS) has an established record of clinical efficacy and more than doubles long-term abstinence rates (over placebo – no drug treatment). It is available only as a prescription medication.
- Bupropion SR (commercially available as: Zyban) has an established record of clinical efficacy and approximately doubles long-term abstinence rates (over placebo – no drug treatment). This is a non-nicotine medication and is available only in prescription as either a smoking cessation product (Zyban) or an anti-depressant (Wellbutrin).

[Note, a nicotine lozenge, known as Commit, has since been approved by FDA for use as an approved, over-the-counter, nicotine-based cessation aid – but it was not studied as part of the PHS Guideline review.]

How Do Individual Tobacco Cessation Services Compare to Other Preventive Services?

A study in the July 2001 issue of *American Journal of Preventive Medicine* provided an exhaustive research review that ranks the effectiveness of various clinical preventive services recommended by the U.S. Preventive Services Task Force, using a one to ten scale, with ten being the highest possible score.⁹ Of the thirty preventive services evaluated, tobacco cessation ranked second in its degree of effectiveness, scoring a nine out of 10 (the highest ranking was for childhood vaccines which scored a 10). Among other preventive services covered by Medicare, colorectal cancer screening received a score of eight and mammography screening scored a six.

Population Level Interventions – Excise Tax Increases

- Numerous economic studies in peer-reviewed journals have documented that cigarette tax or price increases reduce both adult and underage smoking. The general consensus is that every 10 percent increase in the real price of cigarettes will reduce overall cigarette consumption by approximately three to five percent and reduce the number of kids who smoke by about six or seven percent.¹⁰
- As with cigarettes, raising the price of smokeless tobacco products through state tax increases or other means will prompt a reduction in smokeless tobacco use, especially among adolescents and young adults. For example, one recent study found that a 10 percent increase in smokeless tobacco prices reduces adult consumption by 3.7 percent and reduces male youth consumption by 5.9 percent, with two-thirds of that reduction coming from kids stopping any use of smokeless tobacco at all.¹¹
- Low-income smokers are much more likely to quit because of state tobacco-tax increases than higher-income smokers. State cigarette-tax work much more powerfully to prompt lower-income smokers to quit or cutback and to stop lower-income kids from every starting than they do among higher-income smokers and youths.¹² Most notably, smokers with family incomes at or below the national median are four times as likely to quit as those with higher incomes because of cigarette price increases.¹³ Accordingly, low-income families that currently suffer from direct and secondhand smoking-caused health risks, disease, and related costs are much more likely to have those harms and costs reduced by a cigarette tax increase than similar families with higher-incomes. And those cost reductions (including reduced family expenditures on cigarettes) will also mean more to the lower-income households.

Population Level Interventions – Smoke Free/Clean Indoor Air Laws

- The *Surgeon General's 2000 Report on Reducing Tobacco Use* found that clean indoor air laws that prohibit smoking “have been shown to decrease daily tobacco consumption and to increase smoking cessation among smokers.”¹⁴
- According to the *National Cancer Institute's* exhaustive review of the scientific literature related to population-based cessation programs:

“Multiple workplace observations have demonstrated that instituting a change in workplace smoking restrictions is accompanied by an increase in cessation attempts and a reduction in number of cigarettes smoked per day by continuing smokers. Once restrictions on smoking in the workplace have been successfully implemented, they continue to have effects. Observations ... demonstrate that being employed in a workplace where smoking is banned is associated with a reduction in the number of cigarettes smoked per day and an increase in the success rate of smokers who are attempting to quit.”¹⁵
- A study in the August 9, 2000 issue of the *Journal of the American Medical Association* found that, “The results from these national surveys [on youth smoking] strongly suggest that smoke-free workplaces and homes are associated with significantly lower rates of adolescent smoking.”¹⁶

What are the benefits of quitting?

Quitting produces fast, major health benefits, some within minutes from smoking that last cigarette.

At 20 minutes after last cigarette: blood pressure decreases; pulse rate drops; and body temperature of hands and feet increases.

At 8 hours after quitting: carbon monoxide level in blood drops to normal; and oxygen level in blood increases to normal.

At 24 hours after quitting: chance of a heart attack decreases.

At 48 hours after quitting: nerve endings start regrowing; and ability to smell and taste is enhanced.

After 2 weeks to 3 months: circulation improves; walking becomes easier; lung function increases.

After 1 to 9 months: coughing, sinus congestion, fatigue, shortness of breath decreases.

After 1 year: excess risk of coronary heart disease is decreased to half that of a smoker.

After 5 to 15 years: stroke risk is reduced to that of people who have never smoked.

After 10 years: risk of lung cancer drops to as little as one-half that of continuing smokers; risk of cancer of the mouth, throat, esophagus, bladder, kidney, and pancreas decreases; risk of ulcer decreases.

After 15 years: risk of coronary heart disease is now similar to that of people who have never smoked; and risk of death returns to nearly the level of people who have never smoked.¹⁷

Are Tobacco Cessation Insurance Benefits/Services Cost Effective?

According to the PHS Clinical Treatment Guidelines:

- “[S]moking cessation treatments ... are cost-effective in relation to other medical interventions. Cost-effectiveness analyses have shown that smoking cessation treatments compare quite favorably with routine medical interventions such as the treatment of hypertension and hypercholesterolemia, and with other preventive interventions such as periodic mammography.”¹⁸
- “Treating tobacco dependence is particularly important economically in that it can prevent a variety of costly chronic diseases, including heart disease, cancer, and pulmonary disease. In fact, smoking cessation treatment has been referred to as the ‘gold standard’ of preventive interventions.”¹⁹
- “For hospitalized patients, successful tobacco abstinence not only reduces general medical costs in the short-term, but also reduces the number of future hospitalizations. Smoking cessation interventions for pregnant women are especially cost-effective because they result in fewer low birth weight babies and perinatal deaths, fewer physical, cognitive, and behavioral problems during infancy and childhood, and also yield important health benefits for the mother.”²⁰

National Center for Tobacco Free Kids, October 21, 2003 / Matt Barry

More Campaign for Tobacco-Free Kids factsheets on cessation are on the TFK website at: <http://tobaccofreekids.org/research/factsheets/index.php?CategoryID=25>, including:

- *Tobacco Cessation Works: An Overview of Best Practices and State Experiences*
- *Benefits from Tobacco Use Cessation*
- *Resources for Quitting Smoking*
- *How Safe Are Novel Nicotine Products?*
- *State Cessation Statistics & Potential Savings from Reducing Smoking by One Percentage Point*

¹ *Preventing 3 Million Premature Deaths, Helping 5 Million Smokers Quit: A National Action Plan for Tobacco Cessation*, Prepared by the Subcommittee on Cessation, Michael C. Fiore, M.D., M.P.H., Chair, Interagency Committee on Smoking and Health, February 3, 2003.

² *The Health Consequences Of Smoking: Nicotine Addiction - A Report of the Surgeon General (1988)*, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Center for Health Promotion and Education, Office on Smoking and Health, Rockville, Maryland 20857, http://www.cdc.gov/tobacco/sgr_1988.htm.

³ National Institute on Drug Abuse Research Report Series: Nicotine Addiction, *NIH Publication No. 01-4342*, <http://www.nida.nih.gov/researchreports/nicotine/nicotine.html>.

⁴ Ibid.

⁵ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

⁶ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

⁷ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

⁸ These listings here and elsewhere on this factsheet of actual brands are NOT product endorsements but just statements of fact about products available to consumers.

⁹ Coffield, A, et al. “Priorities Among Recommended Clinical Preventive Services,” *American Journal of Preventive Medicine*, July 2001, 21(1),

www.meddevel.com/site.mash?left=/library.exe&m1=1&m2=1&right=/library.exe&action=home&site=AJM&jcode=AMEPRE.

¹⁰ See, e.g., Chaloupka, F., "Macro-Social Influences: The Effects of Prices and Tobacco Control Policies on the Demand for Tobacco Products," *Nicotine and Tobacco Research*, 1999, and other price studies at <http://tigger.uic.edu/~fjc/>; Tauras, J., et al., "Effects of Price and Access Laws on Teenage Smoking Initiation: A National Longitudinal Analysis," Bridging the Gap Research, ImpacTeen, April 24, 2001, and other price studies at <http://www.impactteen.org/researchproducts.htm>. Chaloupka, F. & R. Pacula, *An Examination of Gender and Race Differences in Youth Smoking Responsiveness to Price and Tobacco Control Policies*, National Bureau of Economic Research, Working Paper 6541, April 1998), <http://tigger.uic.edu/~fjc>. Emery, S., et al., "Does Cigarette Price Influence Adolescent Experimentation?," *Journal of Health Economics* 20:261-270, 2001. Evans, W. & L. Huang, *Cigarette Taxes and Teen Smoking: New Evidence from Panels of Repeated Cross-Sections*, working paper, April 15, 1998, www.bsos.umd.edu/econ/evans/wrkpap.htm. Harris, J. & S. Chan, "The Continuum-of-Addiction: Cigarette Smoking in Relation to Price Among Americans Aged 15-29," *Health Economics Letters* 2(2) 3-12, February 1998, www.mit.edu/people/jeffrey.

¹¹ Chaloupka, F. et al., "Public Policy and Youth Smokeless tobacco use," *Southern Economic Journal*, 64(2): 503-516, 1997, <http://tigger.uic.edu/~fjc/Presentations/Scans/Final PDFs/sej1997.pdf>

¹² See, e.g., U.S. Centers for Disease Control and Prevention (CDC), "Responses to Cigarette Prices By Race/Ethnicity, Income, and Age Groups – United States 1976-1993," *Morbidity and Mortality Weekly Report (MMWR)* 47(29): 605-609 (July 31, 1998), <http://www.cdc.gov/mmwr/preview/mmwrhtml/00054047.htm> or <ftp://ftp.cdc.gov/pub/Publications/mmwr/wk/mm4729.pdf>. Chaloupka, F. J. & R. Pacula, *An Examination of Gender and Race Differences in Youth Smoking Responsiveness to Price and Tobacco Control Policies*, National Bureau of Economic Research, Working Paper 6541 (April 1998).

¹³ CDC, *MMWR* 47(29): 605-609 (July 31, 1998), <http://www.cdc.gov/mmwr/preview/mmwrhtml/00054047.htm> or <ftp://ftp.cdc.gov/pub/Publications/mmwr/wk/mm4729.pdf>.

¹⁴ U.S. Department of Health and Human Services (HHS), *Reducing Tobacco Use: A Report of the Surgeon General*, 2000, http://www.cdc.gov/tobacco/sgr_tobacco_use.htm.

¹⁵ National Cancer Institute, *Population Based Smoking Cessation: Proceedings of a Conference on What Works to Influence Cessation in the General Population*, Smoking and Tobacco Control Monograph No. 12, NIH Pub. No. 00-4892, November 2000.

¹⁶ Farkas, A., et al. "Association Between Household and Workplace Smoking Restrictions and Adolescent Smoking," *Journal of the American Medical Association* 284(6), August 9, 2000, <http://jama.ama-assn.org/issues/v284n6/rfull/joc00094.html>.

¹⁷ When Smokers Quit – The Health Benefits of Quitting. American Cancer Society, http://www.cancer.org/docroot/SPC/content/SPC_1_When_Smokers_Quit.asp. *The Health Benefits of Smoking Cessation: A Report of the Surgeon General* (1990). U.S. Department of Health and Human Services. Public Health Service. Center for Disease Control. Office on Smoking and Health. DHHS Publication No. (CDC) YO-K-116. 1990, <http://sgreports.nlm.nih.gov/NN/B/B/C/T/>; *The Health Consequences Of Smoking – Nicotine Addiction: A Report of the Surgeon General* (1988), U.S. Department of Health and Human Services. Public Health Service. Centers for Disease Control. Center for Health Promotion and Education. Office on Smoking and Health. Rockville, Maryland 20857, http://www.cdc.gov/tobacco/sgr_1988.htm.

¹⁸ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

¹⁹ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.

²⁰ Fiore MC, Bailey WC, Cohen SJ, et al. *Treating Tobacco Use and Dependence*. Clinical Practice Guideline. Rockville, MD: U.S. Department of Health and Human Services. Public Health Service. June 2000, http://www.surgeongeneral.gov/tobacco/treating_tobacco_use.pdf.