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The Paradox of Tobacco Control

Under the best of circumstances, knowledge brings about changes in behavior and public policy. When thinking about what we know and what we have accomplished in the realm of smoking and health, we perceive a paradox. Decades of careful medical research have documented the hazards of smoking. Social scientists continue to investigate and define the factors that impede efforts to prevent the use of tobacco. We know that nicotine is an addictive substance and that our children are very vulnerable to this addiction. We know that smoking is the single greatest cause of death in the United States.¹ Yet, we are still plagued by an entirely preventable problem, and this is the paradox of tobacco control.

To better understand this paradox and perhaps be better able to reconcile what we know and what we do, we have developed a framework that provides an organized approach to categorizing tobacco control efforts. Interventions to prevent and control tobacco use can be organized within six categories: those that (1) prevent the onset of tobacco use, (2) treat nicotine addiction, (3) protect nonsmokers from exposure to environmental tobacco smoke (ETS), (4) promote nonsmoking messages while limiting the effect of tobacco advertising and promotion on young people, (5) increase the price of tobacco products, and (6) regulate tobacco products.

Articles in this issue of THE JOURNAL highlight the challenges facing us in preventing the onset of tobacco use, protecting nonsmokers from exposure to ETS, and limiting the effect of tobacco advertising and promotion on young people, and add to our knowledge about treating nicotine addiction. Not addressed are such policy issues as the impact of price on tobacco consumption and whether product regulation, such as warning labels or generic packaging, can reduce tobacco use.

Klonoff and colleagues² explore the critical issue of minors' access to tobacco and present disturbing data on the ability of minors to purchase single cigarettes. Not only do minors have greater success than adults at purchasing single cigarettes, but Klonoff and colleagues report that these illegal sales occur in minority neighborhoods at twice the rate observed in white neighborhoods.

Evidence continues to accumulate that ETS is not innocuous. In their analysis of hair samples from neonates and their mothers (active smokers, passive smokers, and a nonexposed control group), Eliopoulos and colleagues³ report a significant level of nicotine and cotinine not only in the hair of infants whose mothers smoked, but also in infants of mothers who reported having been exposed to ETS while pregnant. We expect this finding will be heavily criticized by the tobacco industry (as have most peer-reviewed reports of ETS) and that contrary evidence, most likely from tobacco industry-

sponsored symposia, will be cited. The public policy debate over the effects of ETS will benefit from review of the article by Bero et al⁴ who examined the articles presented at industry-sponsored symposia and compared them with the peer-reviewed literature on ETS. Bero et al found that the industry-sponsored articles were more likely to be reviews that reached conclusions contrary to independent scientific consensus, were typically from non-peer reviewed journals, and more likely to be written by tobacco industry-affiliated authors.

The analysis of tobacco advertising patterns and uptake of smoking by women described by Pierce and colleagues⁵ adds to the growing body of literature on the impact of tobacco advertising on tobacco consumption. They conclude that the ad campaigns accompanying the introduction of the Virginia Slims and other women's brands in the 1960s were associated with the initiation of smoking among teenaged girls. Smoking by teenaged girls continues to be a major public health problem. One in four 17- to 18-year-old females are past-month smokers. Seventeen percent of female high school seniors are daily smokers (as well as 17% of male high school seniors).⁶

Three of the articles in this issue address practical clinical concerns about treating nicotine addiction. Because most of the 46 million smokers⁷ in the United States would like to quit smoking,⁸ new data on achieving smoking cessation should be appreciated. These articles analyze the effectiveness of nicotine replacement systems, specifically the nicotine patch.

Hurt and colleagues⁹ found that cessation rates at 8 weeks and at 1 year were twice as high for persons randomly assigned to receive the nicotine patch, low-intensity physician intervention, and nurse follow-up than for the placebo patch control subjects. Successful cessation may well be dependent on tailoring our follow-up efforts to the needs of our patients. Kenford and colleagues¹⁰ found that the best predictor of cessation at 6-month follow-up was not smoking at all during the first 2 weeks of a quit attempt, suggesting that a clinician's most intensive support (pharmacologic and/or behavioral) should be in the first 2 weeks. Orleans and colleagues¹¹ in their investigation of nicotine patch use by low-income elderly persons came to the sobering conclusion that both providers and patients have problems with the nicotine patch. About half of the elderly interviewees reported not having received initial advice about how to use the patch from either their physician or pharmacist, and half reported continuing to smoke while using the patch. Even so, no adverse outcomes were reported, and 29% gave a nonbiochemically confirmed report of successful cessation at 6-month follow-up. More effective and consistent physician counseling might be anticipated if medical schools heed the advice of Fiore and colleagues¹² and incorporate smoking cessation education in their curricula.

At least 40 000 books and articles and 22 Surgeon General's reports on tobacco and health have added to our understanding of tobacco use and our abilities to ameliorate its harms. As we have continued to learn about tobacco, its effects, and how to

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control its use, we have witnessed some progress: the number of tobacco-attributable deaths has been slightly reduced,¹³ per capita cigarette consumption is at its lowest level since World War II,^{14,15} and the number of former smokers (43 million) is nearly that of current smokers (46 million).⁷ In fact, among men alive today, more are former smokers than current smokers.⁷

Yet the paradox continues. While our nationwide efforts to control tobacco use may be viewed by some as a public health success story, smoking is responsible each year for more than 400 000 deaths and more than 5 million years of potential life lost.¹³ Furthermore, the most recent data on smoking prevalence provide no basis for optimism. The decline in smoking rates enjoyed during the past 25 years appears to have stalled. The 1991 smoking prevalence estimate of 25.7% is virtually no different from the previous year's estimate of 25.5%.⁷ If current trends persist, we will not meet one of the nation's health objectives—a smoking prevalence of no more than 15% by the year 2000.¹⁶

The outlook for smoking among children and adolescents is even worse. When comparing the use of alcohol, cigarettes, and other drugs, only cigarette use did not decline substantially among high school seniors between 1981 and 1991.¹⁷ During the last decade, smoking among white teens has scarcely declined at all.¹⁸ An estimated 3000 young people, mostly children and adolescents, become regular smokers each day.¹⁹ This represents about 1 million new smokers each year who partially replace the approximate 2 million smokers who either quit or die each year.^{13,19} Since most children can buy cigarettes whenever they want to²⁰—even though the sale of tobacco products to minors is illegal in all 50 states—it is clear that the war against the onset of tobacco use has not been won.

To resolve the paradox of tobacco control, the responsibility for change must be shared by all. The federal government is increasingly involved in tobacco control through the US Department of Health and Human Services and other government agencies. In 1994, every state will have a tobacco-control program funded by the Centers for Disease Control and Prevention, the National Cancer Institute, or dedicated state excise taxes (as in California). The US Department of Health and Human Services will soon publish *Preventing Tobacco Use Among Young People*,⁶ the Surgeon General's 23rd report on smoking and health, but the first of these reports devoted to the study of tobacco and youth. The Centers for Disease Control and Prevention will release guidelines for schools on preventing tobacco use and addiction among young people, and we will sponsor a national town meeting on this topic. The US Department of Health and Human Services is finalizing regulations to implement provisions of the Synar Amendment, which will strengthen the laws limiting the sale of tobacco products to minors.

In addition to the symbolic step of having made the White House smoke-free, the current administration has proposed quadrupling the excise tax on cigarettes—from 24 cents to 99 cents—an action of great significance to public health. Not only will this action raise much-needed revenue for health care, but it should also contribute to a major reduction in cigarette consumption. We expect that, as a result of an increased cigarette tax, the annual decline in smoking prevalence will begin again. The leveling off, which began in 1991, corresponded with an increase in the availability of discount cigarettes and cost-saving promotions sponsored by the tobacco industry.⁷ There is

reason to expect that by providing a financial incentive, the proposed tax increase will encourage current smokers to quit and teens never to start, rather than merely encourage smokers to smoke fewer cigarettes.²¹ The greatest effect is expected on teen smoking behavior, since teens are the most sensitive to changes, both up and down, in the price of cigarettes.²² Furthermore, the US Department of Agriculture has predicted that substantial progress in tobacco control can be accomplished with a relatively minor impact on the economy of tobacco farm regions. The US Department of Agriculture estimates that a 30% drop in tobacco production will reduce the total economic activity in any tobacco-growing area by less than 3%.²³

But even more important to tobacco control than federal action are the continued commitment and involvement of physicians and other health care professionals; health care, civic, business, educational, and religious organizations; and the US public. Only through a broad-based approach to preventing tobacco use can we hope to end the staggering toll of needless disability and death. The paradox of tobacco control is one contradiction that must come to an end.

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