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Reducing the Health Consequences of Smoking—a Progress Report

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SYNOPSIS

Smoking has been identified as one of the health priority areas to be addressed by the Public Health Service's Objectives for the Nation initiative. Several gains in moving toward the 1990 goals for smoking and health have been recorded. Only 32.6 percent of the U.S. population over 16 years old were smokers in 1980, compared with 41.7 percent in 1965. The proportion of high school seniors who were daily smokers fell from nearly 30 percent in 1977 to 20 percent in 1981. Changes in smoking prevalence were related to critical events, such as the Surgeon General's reports on smoking. A variety of information and education programs aimed at specific groups are being carried out by Federal, State, and local governmental agencies and voluntary health organizations.

CIGARETTE SMOKING IS CURRENTLY RECOGNIZED as the largest single preventable cause of premature death and disability in our society. The death rate for those who smoke two or more packages of cigarettes a day is twice as high as the death rate for people who do not smoke. On the average, smokers have a risk of lung cancer death that is 10 times greater than that of nonsmokers; a risk of fatal heart attack that is 2 times greater; and a risk of death from chronic obstructive lung disease that is 6 times greater than for nonsmokers.

In light of these serious health risks, smoking and health has been identified as 1 of the 15 health priority areas to be addressed through the Public Health Service's Objectives for the Nation initiative (*1*). The 10 priority objectives related to smoking and health are aimed at reducing risk factors, increasing public and professional awareness of the health hazards of smoking, increasing services and protection, and improving surveillance and evaluation (see box). Overall, public and private efforts to meet the 1990 objectives for smoking and health appear to be on target.

Progress Towards 1990 Objectives

Reducing risk factors. Perhaps the most important of the four sets of goals, reducing risk factors, can be attained by reducing cigarette consumption. Adult per capita consumption has been going down since 1964, and this decline appears to be continuing. Cigarette smoking in the United States reached its zenith in the early 1960s, just before publication of the 1964 Report of the Surgeon General's Advisory

Committee (*2*). In 1965, the National Health Interview Survey on smoking found that 51.1 percent of men and 33.3 percent of women 17 years and older were smokers. Adult per capita consumption stood at 4,259 cigarettes per year. By 1980, the proportion of adult smokers had dropped to 36.7 percent of men and 28.9 percent of women (32.6 percent overall), and per capita consumption had dropped to 3,845 (tables 1 and 2).

The objectives relating to reducing risk factors call for reducing the prevalence of smoking to less than 25 percent of the adult population and to less than 6 percent of young people by 1990. It is not unreasonable to hope that this goal will be reached and perhaps exceeded. However, in order to reach it, two events must occur—more adults must give up cigarettes and more young people must be encouraged not to start smoking.

'Cigarette smoking is currently recognized as the largest single preventable cause of premature death and disability in our society.'

There are more than 33 million persons in our population who have quit smoking, and every year hundreds of thousands more join them (unpublished data from the National Health Interview Survey, National Center for Health Statistics, 1980). The long-term success rate of quitting, however, remains relatively low; for every person who succeeds in quitting, four or five fail and must try again. One of the challenges facing the research and health care communities is to find more effective ways to help smokers give up the habit.

A challenge of even greater significance for the future is persuading young people not to take up the habit in the first place. A decline is already taking place in the percentage of young people who smoke, and this must be continued and accelerated. In 1979, for the first time in history, a lower proportion of boys than girls ages 12–18 were smokers (10.7 percent compared to 12.7 percent, table 3). The percentage of girls 12–18 who smoke rose during the 1960s and continued to rise into the mid-1970s. This trend of increased smoking among teenage girls appears now to be reversing (*3*). The percentage of high school seniors who are daily smokers fell from nearly 30 percent in 1977 to 20 percent in 1981 (*4*), and there is now a smaller percentage of teenage boys smoking than probably at any time in the past several decades.

It is interesting to relate these changes in smoking prevalence to the events that brought them about. In the case of every downward trend since the 1950s, an immediate precedent has been increased public concern about the hazards of smoking. There were four critical events that took place during these years which led to this increased awareness.

Table 1. Estimates of the percentage of current smokers, ages 17 years and over, in the U.S. population

Year	Total	Male	Female
1965	41.7	51.1	33.3
1970	36.9	43.5	31.1
1974	37.0	42.7	31.9
1980	32.6	36.7	28.9

SOURCE: National Health Interview Survey.

Table 2. Annual per capita consumption of cigarettes by people 18 and older, 1925–1979

Year	Number of cigarettes	Year	Number of cigarettes
1925–29	1,285	1963	4,345
1930–34	1,389	1964	4,195
1935–39	1,779	1965	4,259
1940–44	2,558	1966	4,287
1945–49	3,459	1967	4,280
1950	3,522	1968	4,186
1951	3,744	1969	3,993
1952	3,886	1970	3,985
1953	3,778	1971	4,037
1954	3,546	1972	4,043
1955	3,597	1973	4,148
1956	3,650	1974	4,141
1957	3,755	1975	4,123
1958	3,953	1976	4,092
1959	4,073	1977	4,051
1960	4,171	1978	3,967
1961	4,266	1979	3,924
1962	4,265	1980	3,845

SOURCE: U.S. Department of Agriculture.

Table 3. Percentage of teenagers smoking, 1968–79

Year	12–18 years	
	Male	Female
1968	14.7	8.4
1970	18.5	11.9
1972	15.7	13.3
1974	15.8	15.3
1979	10.7	12.7

SOURCE: National Institute of Education.

1990 Priority Objectives for Smoking and Health

Reducing risk factors

1. By 1990, the proportion of adults who smoke should be reduced to below 25 percent.
2. By 1990, the proportion of children and youth ages 12 to 18 years old who smoke should be reduced to below 6 percent.

Increased public and professional awareness

3. By 1990, the share of the adult population aware that smoking is one of the major risk factors for heart disease should be increased to at least 85 percent.
4. By 1990, at least 90 percent of the adult population should be aware that smoking is the major cause of lung cancer, as well as a cause of multiple other cancers including laryngeal, esophageal, bladder, and other sites.
5. By 1990, at least 85 percent of the adult population should be aware of the special risk of developing and worsening chronic obstructive lung disease, including bronchitis and emphysema, among smokers.
6. By 1990, at least 85 percent of women should be aware of the special health risks for women who smoke, including the effect on outcomes of pregnancy and the excess risk of cardiovascular disease for women who both smoke cigarettes and use oral contraceptives.

Improved services and protection

7. By 1985, tar, nicotine, and carbon monoxide yields should be prominently displayed on each cigarette package and promotional material.
8. By 1985, the present cigarette warning should be strengthened to increase its visibility and impact, and to give the consumer additional needed information on the specific multiple health risks of smoking. Special consideration should be given to rotational warnings and to identification of special vulnerable groups.

Improved surveillance and evaluation

9. By 1990, continuing epidemiologic research should have delineated the unanswered research questions regarding low yield cigarettes, and preliminary partial answers to these should have been generated by research efforts.
10. By 1990, in addition to biomedical hazard surveillance, continuing examination of the changing tobacco product and the sociologic phenomena resulting from those changes should have been accomplished.

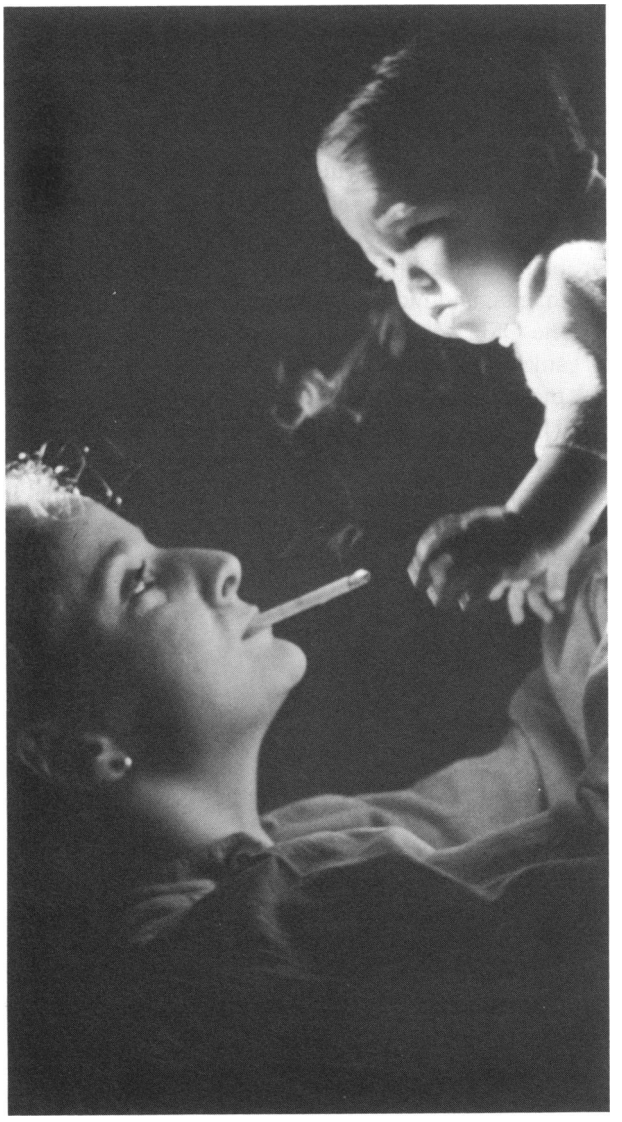
1. In 1952–53, reports appeared in the press identifying cigarette smoking as a cause of lung cancer. Smokers began to switch to filtered cigarettes, a change that was encouraged by aggressive advertising on the part of the cigarette companies.

2. In 1964, the Surgeon General's Report was issued. This was a seminal event. It brought about passage of the 1965 Federal Cigarette Advertising and Labeling Act and the requirement of a modest health warning for cigarette packages; it caused the Public Health Service and many private medical and educational agencies to establish programs on smoking and health; and it resulted in a greatly increased public awareness of smoking's hazards.

3. In 1967, the Federal Communications Commission acted to require television and radio stations to air antismoking announcements. This ruling may have helped to bring about a decreased consumption of cigarettes as well as a significant decline in the percentage of smokers in the population (*5*). The major participants in developing the antismoking announcements were the American Cancer Society, the American Heart Association, the American Lung Association, and the Public Health Service.

4. In 1979, the landmark 15th anniversary Surgeon General's report on the health consequences of smoking was issued (*6*). The release of this report strengthened public interest in the smoking issue and brought about new government and private sector programs addressed to the smoking issue.

Increasing awareness. The second category of 1990 objectives on smoking and health calls for increasing understanding of the hazards of smoking on the part of the general public and health professionals. The need for increased awareness was highlighted in May 1981, when the Federal Trade Commission issued a staff report following its 5-year investigation of cigarette advertising (*7*). Reviewing data from many sources, the staff found serious, significant gaps in consumer knowledge of the specific health hazards of smoking. They found that 30 percent of the public was unaware of the relationship between smoking and elevated death rates from heart disease, that nearly 50 percent of all women did not



know that smoking during pregnancy increases the risk of stillbirth and miscarriage, and that about 30 percent of women did not know about the relationship between smoking, birth control pills, and the increased rate of heart attack. Further, the percentage of smokers who were aware of these health risks was significantly less than that of the nonsmokers or of the survey population as a whole.

The FTC staff reported as well that substantial numbers of people continue to underestimate the risks of smoking. Although from 80 to 85 percent of all lung cancer cases are smoking-related, more than 40 percent of those polled in one of the FTC-cited surveys did not acknowledge that smoking causes "most" cases, and nearly one-quarter did not even acknowledge that it causes "many" cases. Similar lack of knowledge was exhibited in the case of emphysema.

Despite these gaps in public awareness of smoking-related illness, Gallup polls have shown a trend towards increased levels of knowledge. According to the Gallup poll released in August 1981, 74 percent of the survey population believed smoking to be a cause of heart disease, compared with 60 percent in 1968; 83 percent believed smoking to be a cause of lung cancer, compared with 71 percent in 1971 (*8*).

'More than almost any other goal in preventive medicine and health promotion, reducing cigarette smoking calls for a national effort. . . . an estimated 53 million adults continue to smoke and hundreds of thousands of young people take up the habit every year.'

A number of federally and privately sponsored programs are aimed at increasing the public's knowledge of smoking's hazards. Some of these involve direct communication with the public through public service announcements on radio and television and publicity in magazines and newspapers; others are programs which reach the public indirectly. Such programs reach children at school, through health education classes, cessation classes, and other health messages; they reach adults through the health care system, primarily through information from a physician or clinic; and, increasingly, information reaches adults through their employers, via health units, cessation clinics, or nonsmoking policies.

More than almost any other goal in preventive medicine and health promotion, reducing cigarette smoking calls for a national effort. However much progress has been made, an estimated 53 million adults continue to smoke and hundreds of thousands of young people take up the habit every year. Cigarette smoking enjoys a social acceptance that only in recent years has begun to be questioned.

Information and Education Measures

One of this year's notable achievements in smoking and health was the release of the 1982 Report on "The Health Consequences of Smoking: Cancer" (*9*). The Surgeon General's 1982 Report is a comprehensive evaluation of the relationship between cigarette smoking and cancer, concluding that smoking is responsible for an estimated 30 percent of all

cancer deaths in this country. More than 10,000 copies of the report were distributed in response to widespread media coverage.

In addition to the annual report on the health consequences of smoking, the 1990 information objectives are being addressed through a continuing public information program. The cornerstone of this program is a media campaign designed to reach specific targeted groups. Over the past 4 years, the Office on Smoking and Health (OSH), working with its contract advertising agency, has developed television and radio public service announcements directed towards women, pregnant women, teens, children, minorities, and smokers of lower tar cigarettes. Print advertisements and posters have also been produced in conjunction with these campaigns.

A unique and essential information activity is found in the OSH Technical Information Center. The Center has served the national and worldwide research community for more than 16 years. Its collection of documents and publications was begun by the National Library of Medicine in the early 1960s as a support service to the Surgeon General's Advisory Committee on Smoking and Health. The collection covers subjects ranging from agriculture and chemistry to tobacco economics and legislation. The Technical Information Center serves as one of four World Health Organization Collaborating Centers on Smoking.

Technical Assistance, Cooperative Measures

Critical to a successful national smoking and health effort is a wide range of activities conducted at Federal, State, and local levels. Activities generated by the State and local health departments have increased greatly in the past 2 years. This increase has occurred primarily in response to State risk reduction grant programs and local smoking and health demonstration grant programs administered by the Centers for Disease Control. The CDC staff is working closely with States to identify the most successful and best documented projects among both the 125 smoking and alcohol demonstrations and the 31 other lifestyle projects at the local level. Perhaps 30 of these will serve as models to document and publicize successful efforts, to encourage their continuation through non-Federal funding sources, and to allow other States and communities to learn from them and to adapt them as appropriate in their own health promotion programs.

During the past months, the Office on Smoking and Health has begun working with health departments in major metropolitan areas in the country to institute individual smoking and health media programs. Public service announcements developed by OSH have been adapted for local use by inserting the identifying logos of local health departments. The spots are then aired locally. Cooperative activities such as this will, at very moderate expense to the Government, achieve several things—focus the attention of the departments on the smoking problem, build up local identity for the health departments, and increase the exposure of the materials.

The OSH continues to work with voluntary health organizations to develop and coordinate public service materials. The American Cancer Society, American Lung Association, and American Heart Association are actively involved in smoking and health activities and play a particularly important role in implementing educational programs, cessation programs, and media campaigns.

'Critical to a successful national smoking and health effort is a wide range of activities conducted at Federal, State, and local levels.'

Within the Federal sector, education and information programs are being carried out by the National Cancer Institute's Office of Cancer Communications and by the Office of Prevention, Education and Control of the National Heart, Lung, and Blood Institute (NHLBI). In addition to producing and disseminating public information pamphlets on smoking and health and smoking cessation, the Office of Cancer Communications has prepared a quit smoking kit for physicians and dentists and is developing a similar kit for pharmacists. The High Blood Pressure Education Program of NHLBI is preparing guidelines for physicians of patients with hypertension who smoke. This material will advise physicians on effective ways to help these patients stop smoking. A publication listing State and local programs on smoking cessation and education was published jointly by NHLBI, NCI, OSH, and CDC (*10*).

Research and Surveillance Measures

The Department of Health and Human Services spends an estimated $40 million annually for smoking-related activities, primarily for biomedical and behavioral research grants and contracts. Research programs are being carried out by the National Can-

cer Institute, National Heart, Lung, and Blood Institute, National Institute for Child Health and Human Development, National Institute of Environmental Health Sciences, and National Institute on Drug Abuse.

Surveillance efforts are also vitally important as measures of progress towards the 1990 goals. The National Center for Health Statistics is conducting a number of surveys that will provide data on smoking prevalence; smoking habits and lifestyle risk factors; cessation attempts; smoking and pregnancy; exposure to varying levels of tar, nicotine, and carbon monoxide; and smoking-related morbidity and mortality. Analysis of some of the survey results already is underway.

'In addition to our knowledge of the effects of smoking on smokers themselves, we are increasingly aware of the possible health risks to children whose parents smoke, to wives or husbands of spouses who smoke, and to workers who are exposed to secondhand smoke on the job.'

In addition to our knowledge of the effects of smoking on smokers themselves, we are increasingly aware of the possible health risks to children whose parents smoke, to wives or husbands of spouses who smoke, and to workers who are exposed to secondhand smoke on the job. The evidence from three studies published in 1981 was examined in "The Health Consequences of Smoking: Cancer." In two studies, a statistically significant correlation was found between involuntary smoking and lung cancer risk in nonsmoking wives of husbands who smoked. In the third study, an increased risk was noted, but it was not statistically significant. In his foreword to the 1982 Report, the Assistant Secretary for Health noted that "while the nature of this association is unresolved, it does raise the concern that involuntary smoking may pose a carcinogenic risk to the nonsmoker. Any health risk resulting from involuntary smoke exposure is a serious public health concern because of the large numbers of nonsmokers in the population who are potentially exposed" (*9a*). More research is clearly needed in this important area.

The Federal sector, in cooperation with voluntary health agencies, State and local health departments, and the education community, can, as demonstrated by recent declines in smoking, continue to reduce the public health burden caused by smoking.

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