

Preface

The recent increase in cigar consumption began in 1993 and was dismissed by many in public health as a passing fad that would quickly dissipate. Recently released data from the U.S. Department of Agriculture (USDA) suggests that the upward trend in cigar use might not be as temporary as some had predicted. The USDA now projects a total of slightly more than 5 billion cigars were consumed last year (1997) in the United States. Sales of large cigars, which comprise about two-thirds of the total U.S. cigar market, increased 18 percent between 1996 and 1997. Consumption of premium cigars (mostly imported and hand-made) increased even more, an astounding 90 percent last year and an estimated 250 percent since 1993. In contrast, during this same time period, cigarette consumption declined 2 percent.

This dramatic change in tobacco use raises a number of public health questions: Who is using cigars? What are the health risks? Are premium cigars less hazardous than regular cigars? What are the risks if you don't inhale the smoke? What are the health implications of being around a cigar smoker?

In order to address these questions, the National Cancer Institute (NCI) undertook a complete review of what is known about cigar smoking and is making this information available to the American public. This monograph, number 9 in a series initiated by NCI in 1991, is the work of over 50 scientists both within and outside the Federal Government. Thirty experts participated in the multi-stage peer review process (see acknowledgments). The conclusions presented in the monograph represent the best scientific judgment, not only of the NCI, but also of the larger scientific community.

There is sufficient evidence to conclude that a causal relationship exists between regular cigar use and cancers of the lung, larynx, oral cavity, and esophagus. Heavy cigar smoking, particularly for those who inhale, causes an increased risk of coronary heart disease and chronic obstructive pulmonary disease. There is also suggestive evidence for a relationship between cigar smoking and cancer of the pancreas, but the evidence is insufficient at this time to draw a causal inference. The data in this monograph strengthen and extend the conclusions on disease risks contained in several reports of the Surgeon General on smoking and health.

After a careful assessment of the available scientific evidence, the following overall conclusions are warranted:

Cigar smoking can cause oral, esophageal, laryngeal, and lung cancers. Regular cigar smokers who inhale, particularly those who smoke several cigars per day, have an increased risk of coronary heart disease and chronic obstructive pulmonary disease.

Regular cigar smokers have risks of oral and esophageal cancers similar to those of cigarette smokers, but they have lower risks of lung and laryngeal cancer, coronary heart disease, and chronic obstructive pulmonary disease.

Cigar use in the U.S. has increased dramatically since 1993. Adult prevalence of cigar use in California has increased predominantly among occasional cigar smokers. A substantial number of adult former and never smokers of cigarettes are currently smoking cigars. In contrast to cigarettes, much of the increased use of cigars by adults appears to be occurring among those with higher incomes and greater educational attainment.

Adolescent cigar use is occurring at a substantial level and is currently higher than that recorded for young adults prior to 1993. Currently, cigar use among adolescent males exceeds the use of smokeless tobacco in several states. This use of cigars is occurring among both males and females.

Some in the cigar trade have made the claim that cigar smokers experience little or no increased disease risk. This claim is not supported by the available scientific evidence and misleads cigar smokers to believe that cigar smoke is less harmful than cigarette smoke. We believe an accurate statement is that **the risks of tobacco smoke exposure are similar for all sources of tobacco smoke, and the magnitude of the risks experienced by cigar smokers is proportionate to the nature and intensity of their exposure.**

Differences in the intensity of tobacco smoke exposure between cigarette and cigar smokers result from differences in the inhalation of the smoke and differences in the proportion of smokers who smoke every day. While almost all cigarette smokers inhale, the majority of cigar smokers do not. This may be due to differences in the pH of the smoke produced by these two products. Cigar smoke contains a substantial fraction of its nicotine as free nicotine, which can be readily absorbed across the oral mucosa. In contrast, cigarette smoke is more acidic, and the protonated form of nicotine it contains is much less readily absorbed by the oral mucosa. As a result, cigarette smokers must inhale to get their desired quantity of nicotine, whereas cigar smokers can ingest sufficient quantities of nicotine without inhaling. This reduction in inhalation is one of the reasons for the difference in disease risks between cigarette and cigar smokers.

However, even those who do not inhale have disease risks higher than those who have never smoked any tobacco product. As this monograph clearly demonstrates, regular cigar smokers who have never smoked cigarettes, even those who do not inhale, experience significantly elevated risks for cancers of the larynx, oral cavity (including pharynx), and esophagus.

¹ For the California survey, current prevalence among adults was defined as a positive response to:
1) Have you ever smoked cigars? and 2) Do you now smoke cigars every day or some days?

Another reason for a difference in risk between cigarette and cigar smokers is a difference in the frequency with which the two products are used. Most cigarette smokers smoke every day. In contrast, as many as three-quarters of cigar smokers smoke only occasionally, and some may only smoke a few cigars per year. This difference in frequency of exposure translates into lower disease risks.

We do not know the risk of addiction posed by cigar smoking. But the difference in smoking patterns suggests a potential difference in addictive properties between cigarettes and cigars.

Of special concern are the risks for those individuals who are mixed smokers (current smokers of both cigars and cigarettes), or who switch to smoking cigars from smoking cigarettes. A sizable fraction of today's cigar smokers are current or past cigarette smokers. These individuals are much more likely to continue to inhale when they switch to smoking cigars, and may therefore remain at much higher risk for all the major smoking related diseases than are cigar smokers who have never smoked cigarettes.

To those individuals who may be thinking about smoking cigars, our advice is — don't. Cigars are not safe alternatives to cigarettes and *may* be addictive.

To those cigarette smokers who are thinking of switching to cigars, don't be misled. Unless you substantially reduce your exposure to smoke, your risks will remain unchanged.

To those currently smoking cigars, quitting is the only way to eliminate the documented harm that can result from cigar smoking.

Once regular tobacco use is established, no matter whether it's cigarettes, cigars, or smokeless tobacco, quitting *may* become extremely difficult.

To all smokers and nonsmokers, tobacco smoke contains over 4,000 compounds, including dozens of carcinogens. Because of their greater mass, cigars generate much higher levels of many of these indoor pollutants than do cigarettes. Smoke from a single cigar burned in a home can require 5 hours to dissipate, thereby exposing other household members to a sizable involuntary health risk.

A special concern generated by the data in this monograph is the rate of cigar use among adolescents. Prior to the current upswing in cigar use, most cigar smokers were middle aged or older men, and they began smoking cigars as adults. In contrast, several studies now report cigar smoking prevalence rates among adolescent males that are more than double the rates of smokeless tobacco use. In a 1996 survey of Massachusetts school students in grades 6 through 12, prevalence of current cigar use among males ranged from 3.2 percent in 6th graders to 30 percent in high school. Adolescent girls also report surprisingly

high rates of cigar use, with 6-7 percent of girls in high school reporting they smoked cigars in the past 30 days. Similar findings are reported in other studies.

This high rate of cigar use among adolescents raises significant public health questions and has serious implications for public health programming. Will these high rates of cigar use continue as these youth move into adulthood? Will nicotine addiction develop in these adolescent users and thereby influence their inhalation and consumption patterns? Will cigar smoking transition large numbers of youth into regular cigarette use later in life? If regular cigar use develops, will quitting prove as difficult for cigars as it is for cigarettes?

It is premature to label cigar use as the next tobacco epidemic in the making; but we would be wise to remember that a similar problem of smokeless tobacco use confronted us in the late 1970's, and it was a number of years before the public health community became concerned. Now, 20 years later, consumption of smokeless tobacco, especially moist snuff, has reached record levels — 60 million pounds last year, and shows no sign of waning. The vast majority of all snuff users are younger-age adults and adolescents, a pattern not dissimilar to the current pattern of cigar use.

This monograph provides us with a snapshot of a rapidly changing pattern of behavior with important potential public health consequences. I commend the authors for providing the nation with clear and invaluable information about this disturbing change in tobacco use.

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