



**Testimony
Before the
Subcommittee on Health
Committee on Energy and Commerce
United States House of Representatives**

Hearing entitled, "Smokeless Tobacco: Impact on the Health of our Nation's Youth and Use in Major League Baseball"

Statement of

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Mr. Chairman, Ranking Member, and distinguished members of the Subcommittee, thank you for the opportunity to participate in this hearing. My name is Dr. Terry Pechacek, and I am the Associate Director for Science of the Office on Smoking and Health at the Centers for Disease Control and Prevention (CDC), an agency of the Department of Health and Human Services (HHS). I will provide a brief overview of the health effects of smokeless tobacco products, recent trends in the use of these products, and the evolving forms in which these products are available and marketed.

No Safe Form of Tobacco Use

I want to begin by emphasizing a very important point. There is NO safe form of tobacco use. The use of ANY tobacco product is hazardous to health. As a result, the only proven way to reduce the staggering toll that tobacco-related disease, death, and economic costs take on our society is to prevent people from ever starting to use tobacco products and to help those who already use these products to quit as early in their lives as possible.

What Is Smokeless Tobacco?

Smokeless tobacco products consist of tobacco or a tobacco blend that is chewed, placed in the oral cavity outside the gums, or inhaled or snorted through the nose, rather than smoked. Smokeless tobacco includes chewing tobacco and snuff. Chewing tobacco comes in several forms, including loose leaf, plug, twist, and roll. Snuff, which is finely ground tobacco, also comes in several forms, including moist, dry, or packaged in sachets.

Smokeless tobacco in the United States has traditionally been available in the form of chewing tobacco and dry snuff. During the 1980s, moist snuff became more widely available and more heavily marketed in the United States. The moist varieties, sold either in tins or in sachets, accounted for 97 percent of sales of snuff by weight in 2006. These moist snuff products were heavily advertised and promoted, including through ads featuring popular athletes that were likely to appeal to youth. Since the mid-1980s, smokeless tobacco use spread beyond its traditional base of older rural white men, and rates of smokeless tobacco use increased substantially, especially among young white males.

The questions in national surveys that we will be relying on to report on trends in smokeless tobacco use ask respondents about use of all smokeless tobacco products, without disaggregating this information by specific product types.

Smokeless Tobacco Use is Hazardous

The scientific evidence clearly shows that smokeless tobacco use is hazardous to health. At least 28 carcinogens have been identified in smokeless tobacco products. The International Agency for Research on Cancer (IARC) and HHS's National Toxicology Program have concluded that smokeless tobacco is a known human carcinogen. IARC has concluded that smokeless tobacco causes oral cancer, which can require disfiguring surgery, and pancreatic cancer, which is an especially deadly form of cancer. Smokeless tobacco use also has significant cardiovascular effects, and has been linked to fatal heart attacks. Some studies have also linked smokeless tobacco use to adverse reproductive outcomes during pregnancy, including preeclampsia, premature birth, and low birthweight. Finally, smokeless tobacco use is associated with leukoplakia (a precancerous lesion in the mouth), gum recession and disease of the gums, and tooth decay.

Smokeless Tobacco is Addictive

Like cigarettes and other tobacco products, smokeless tobacco products contain nicotine and are highly addictive. Like smoking, smokeless tobacco use can lead to nicotine dependence. As individuals continue to use smokeless tobacco products over time, they typically increase their intensity of use in order to increase their nicotine dose, in the process also increasing their exposure to the carcinogens in these products. Smokeless tobacco users also tend to switch brands to increase their nicotine intake as they become more experienced users, "graduating" from brands with lower nicotine levels to brands with higher levels.

Smokeless Tobacco Use by Demographic and Geographic Characteristics

Smokeless tobacco use is not spread evenly through the U.S. population. In 2009, data from the National Survey on Drug Use and Health (NSDUH), which is conducted by HHS's Substance Abuse and Mental Health Services Administration, provided an overview of recent patterns in

smokeless tobacco use in the United States. Combined 2002 to 2007 data indicated that an annual average of 3.2 percent of persons 12 years of age or older (an estimated 7.8 million persons) used smokeless tobacco in the past month. Certain demographic subgroups were more likely to use smokeless tobacco than others. Smokeless tobacco was more likely to be used among persons 18 to 25 years than among 12- to 17-year olds and those 26 years or older. Males were more likely than females to have used smokeless tobacco (6.2 vs. 0.4 percent). American Indians or Alaska Natives were more likely than persons in any other racial/ethnic category to have used smokeless tobacco.

Rates of smokeless tobacco use also varied geographically. Past month smokeless tobacco use was highest among persons who lived in completely rural and less urbanized counties in non-metropolitan areas and lowest among persons who lived in large metropolitan areas. Persons who lived in the South and Midwest were more likely than persons who lived in the West and Northeast to have used smokeless tobacco.

The highest prevalence of smokeless tobacco use in recent years has been observed among young adults, especially males. As with use of other tobacco products, NSDUH finds that smokeless tobacco initiation rates are highest among adolescents and young adults. These patterns have also been observed in other major national surveys. Therefore, this testimony will focus on recent trends in smokeless tobacco use among adolescents and young adults, especially males.

Recent Trends in Smokeless Tobacco Use

Three HHS national data sources provide the best available data on these trends: (1) NSDUH, which tracks tobacco use among persons 12 years and older; (2) Monitoring the Future, supported by the National Institute on Drug Abuse, which tracks tobacco use among 8th, 10th, and 12th grade students; and (3) CDC's Youth Risk Behavior Survey (YRBS), which tracks tobacco use among high school students.

NSDUH

NSDUH reported a significant increase in smokeless tobacco use among persons 12 years of age and older, from 3 percent in 2004 to 3.5 percent in 2008. During these years, patterns of use among persons 26 years of age and older have remained stable at around 3 percent. Patterns of use among adolescent girls and women have also remained stable at low levels. The observed increase appears to have arisen primarily from an increase among men 18 to 25 years of age, especially men in two specific demographic groups. Among non-Hispanic white men, rates increased significantly, from 13.6 percent in 2003 to 15.4 percent in 2008. Additionally, among Hispanic men aged 18 to 25 years of age, rates of past month smokeless tobacco use increased significantly, from 1.9 percent in 2003 to 3.4 percent in 2008.

Monitoring the Future

While the NSDUH does not show significant increases among 12- to 17-year-olds, recent data from Monitoring the Future survey suggest that smokeless tobacco use may be increasing among male students in the 8th, 10th, and 12th grades. For example, the prevalence of smokeless tobacco use in the past 30 days among male 8th grade students increased from 4.7 percent in 2007 to 6.3 percent in 2009. Also, among 12th grade boys, rates of use in the past 30 days increased overall, from 11.0 percent in 2006 to 15.8 percent to 2009.

Data on perceived risk of harm has been found to be a reliable leading indicator for emerging trends in adolescent cigarette smoking, marijuana use, and alcohol use. In 2009, perceptions of health risk from smokeless tobacco use declined among 8th, 10th, and 12th grade students, with the decline among 10th graders being significant. This decrease reversed a previous trend toward increased perceived risk.

YRBS

Data from the YRBS show similar trends. Smokeless tobacco use among female high school students remained unchanged and very low from 1995 to 2009, at about 2 percent. However, the most recent data indicate that rates of use among male high school students are increasing significantly. Unpublished analyses of trends in smokeless tobacco use within the YRBS, including data for 2009 which will be released by this summer, show recent significant increases

in smokeless tobacco use among males overall and among non-Hispanic whites overall from 2003 to 2009.

Most Smokeless Tobacco Users Initiate Use as Teens or Young Adults

As with smoking, most smokeless tobacco use begins during the adolescent and young adult years. Combined data from the NSDUH from 2002 to 2007 indicates that few adults 26 years or older reported initiating smokeless tobacco use. Data from the NSDUH also show that the number of Americans 12 years and older who used smokeless tobacco products for the first time in the past 12 months increased significantly, from 951,000 in 2002 to 1.4 million in 2008. Almost half of the first-time users in 2008 reported that they were younger than 18 when they first used smokeless tobacco products, and almost three-fourths of them were male. From 2004 to 2007, rates of smokeless tobacco use initiation increased significantly for males 12 to 17 and 18 to 25 years of age.

Many People Are Using Both Cigarettes and Smokeless Tobacco

Traditionally, cigarette smokers and smokeless tobacco users were fairly distinct groups. However, in recent years there appears to be a trend toward dual use of these products. In looking at patterns of smokeless tobacco use across several national surveys, we find that a large proportion of smokeless tobacco users are also smoking cigarettes. This pattern of dual use is more common among adolescents and young adults than among older Americans.

An analysis of data from CDC's Behavioral Risk Factor Surveillance System from 10 states found a pattern of current smoking being associated with current use of another tobacco product, particularly smokeless tobacco, particularly for males 18 to 29 years of age. This analysis found that 26 percent of adult male smokers used another tobacco product, particularly smokeless tobacco. The proportion of adult smokers using other tobacco products was twice as high among 18- to 29-year-olds as among those 45 years and older.

In 2008 NSDUH data, 23.9 percent of persons 12 years and older were current cigarette smokers, and 3.5 percent used smokeless tobacco. Data reported from the NSDUH for the years 2002 to 2007 show that more than a third (38.8 percent) of all past-month smokeless tobacco users 12

years of age and older had also used cigarettes in the past month. Thus, the proportion of the overall population 12 years and older of both genders that reported using both products was about 1.4 percent.

However, patterns of use of both cigarettes and smokeless tobacco are not evenly distributed across the U.S. population. The proportion of past-month smokeless tobacco users who also used cigarettes in the past month increased to more than one half (52.8 percent) for persons 12 to 17 years and to two-thirds (66.9 percent) for persons 18 to 25 years of age. In 2008, 15.4 percent of non-Hispanic white men 18 to 25 years of age reported past month use of smokeless tobacco. Therefore, about 10 percent of this population of young men report past month use of both cigarettes and smokeless tobacco.

A recent, more detailed study examined this pattern of current smokers also using smokeless tobacco products using data from four national surveys. This study found that this association appears to be different for younger people than for older men who use smokeless products daily. This report found that the prevalence of daily smoking is very high among male students in middle school and high school who use smokeless tobacco. Additionally, these researchers found that non-daily, or "some day," users of moist snuff were more likely to be current smokers than any other group, and that this pattern was especially common among adolescents and young adult users of smokeless tobacco products.

The Changing Context of Tobacco Use in the United States

These patterns of use of smokeless tobacco products need to be placed within the changing context of tobacco use in the United States, including declining cigarette use, increasing smoking restrictions and decreasing social acceptability of smoking, and a change in the cigarette and smokeless tobacco industry and in marketing of these products.

Cigarette Use

Per capita cigarette consumption has decreased to its lowest point in over 60 years, and prevalence of current cigarette smoking among youth is at its lowest point since consistent public health tracking began in 1975.

Smoking Restrictions

Additionally, the number of Americans living under state or local laws banning smoking in workplaces and public places has increased significantly in recent years, reducing opportunities to smoke in many indoor settings.

The Changing Smokeless Tobacco Market

Researchers have pointed out that the smokeless tobacco product market has changed in recent years. In contrast to the situation that existed until 2006, when the smokeless tobacco market in the United States was represented primarily by companies that did not manufacture cigarettes, recent mergers and acquisitions have resulted in most of the production and sales of smokeless tobacco products concentrated in major cigarette manufacturing companies.

Smokeless Tobacco Is Available in a Number of New Forms

In recent years yet another new generation of smokeless tobacco products has entered the U.S. market. These products are now widely available in a number of new forms, including snus, a form of moist snuff, and “dissolvable” products such as lozenges, orbs, sticks, and strips. These novel smokeless products are available in a range of flavors, which research suggests makes products more attractive to youth. Like snus, these products may also be more appealing than traditional smokeless tobacco products to youth and females because they do not require spitting and can be used discreetly. In fact, young people can use these products in school or at home without their teachers or parents being aware that they are using tobacco. The appearance of these products, some of which look like breath mints, may also lead children and teens to perceive that they are harmless and may even disguise the fact that they contain tobacco.

Smokeless Tobacco Products Are Heavily Promoted

These moist snuff varieties and more recent variations of smokeless tobacco products are heavily advertised and promoted. Sales of the “moist snuff” category of smokeless tobacco products have increased annually since 1986, with the volume sold doubling over this period.

Additionally, the advertising and promotional expenditures for this moist snuff category of smokeless tobacco products increased from \$210 million in 2005 to \$308 million in 2006, the most recent year for which these data have been reported. The timing of this increase is significant, since, as noted above, 2006 was the year when U.S. cigarette manufacturers began acquiring large smokeless tobacco concerns and marketing smokeless tobacco and snus named after leading cigarette brands. Researchers have suggested that test marketing of new smokeless tobacco product lines and other promotional campaigns have been concentrated in areas with large college student populations and in large urban areas with recently implemented smoke-free laws. There is also evidence that youth continue to be exposed to smokeless tobacco advertising in magazines, including sports-oriented magazines.

Professional athletes in certain sports, including baseball and rodeo, have traditionally had high levels of smokeless tobacco use. Athletes serve as role models for youth, and smokeless tobacco manufacturers have used advertising, images, and testimonials featuring athletes and sports to make smokeless tobacco products appear attractive to youth. Children and teens closely observe athletes’ actions, including their use of tobacco products, and are influenced by what they see. Adolescents tend to mimic the behaviors of those they look up to and identify with, including baseball players and other athletes. Research suggests that male high school athletes may be at especially high risk for smokeless tobacco use.

Of particular concern, many of the new smokeless tobacco products are being marketed as a way for smokers to satisfy and sustain their nicotine addiction when they are in settings where they cannot smoke. In fact, ads for snus and other smokeless tobacco products explicitly promote these products as a way to use tobacco in workplaces, restaurants, sports arenas, airplanes, and other locations covered by smoke-free policies. Smokers may readily interpret these advertising

messages to mean that they can use smokeless tobacco products when they are in locations where they are not allowed to smoke while continuing to smoke in other locations. This may contribute to the trend towards dual use of cigarettes and smokeless tobacco discussed previously.

Potential Impact on Population Public Health

These emerging trends toward dual use of cigarettes and smokeless tobacco products among young adults raise some potentially serious concerns. First, public health researchers have suggested that many smokers who would otherwise have quit in response to the widespread implementation of smoke-free policies in workplaces and public places will continue smoking, since they can use smokeless tobacco products where smoking is prohibited and still continue to smoke where such bans are not in effect, thereby eradicating any beneficial behavioral modification that smoke-free policies would encourage. Second, the emerging trends suggest that the behavior pattern of using both cigarettes and smokeless tobacco products is changing among adolescents and young adults. This is of concern because long-term use of both of these products may pose health risks beyond those posed by smoking cigarettes alone. Even if dual use of cigarettes and smokeless tobacco products delay quitting rather than preventing it altogether, this would still pose a significant threat to public health. Duration of smoking is a key factor determining risk of adverse health effects, especially with regard to lung cancer and other forms of cancer. Even if concurrent use of smokeless tobacco leads smokers to smoke fewer cigarettes per day, the fact that they are continuing to smoke results in an increased risk for many diseases caused by smoking, particularly heart disease. The longer dual use of cigarettes and smokeless tobacco postpones complete cessation of smoking and tobacco use, the greater smokers' risk of developing lung cancer and other serious diseases.

Conclusion

Significant progress has been made toward ending the tobacco epidemic in the United States in recent decades. However, the data I have presented on the national trends in smokeless tobacco product use raise concerns that could potentially put this progress in jeopardy. Again, the bottom line is that there is NO safe form of tobacco use, including smokeless tobacco use. The best way

to protect one's health is to refrain from using ANY tobacco product or, if one is already a user, to quit ALL tobacco use. The recent increases in smokeless tobacco use by adolescent boys and young adult men and the increasing dual use of cigarettes and smokeless tobacco products may portend a leveling off or even a reversal in the decline in smoking, the perpetuation of nicotine dependence, and continuing high levels of tobacco-related disease and death in the country.

Thank you again for this opportunity. I would be happy to answer any questions.