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Safety Agency Issues Warning on Air Bag Danger to Children

The National Highway Traffic Safety Administration (NHTSA) warns that children who are not protected by a seat belt could be injured seriously or killed by an air bag, and urges parents to insist that their children ride belted in the back seat whenever possible. The NHTSA repeatedly has issued warnings of the dangers of placing a rear-facing infant seat in front of an air bag. The warning was broadened in late October 1995 to include older children and even adults who may be riding unrestrained.

The safety agency considers air bags to be *supplemental* frontal crash protection. The seat belt, which provides protection in all kinds of crashes, is the primary and most essential item of safety equipment.

The NHTSA was expected to issue in early November a request for public comment on overall air bag performance to better understand their crash experience. Comments will be sought from the motor vehicle industry, safety and medical organizations, individual citizens, and others interested in the issue. These comments will be the basis for any actions that may be necessary to improve motor vehicle occupant protection.

Dr. Ricardo Martinez, a board-certified emergency physician and head of the NHTSA, explained that children are very different physiologically than adults and more vulnerable to injury in a crash. "Parents and others who drive children ages 12 and under need to be aware of the added risk and make a fundamental decision that children will not ride without a seat belt or child safety seat. Preferably, they should ride in the back seat, which is a much safer environment in a crash. . . . If a child must ride in the front seat, move the seat back as far as it will go to put as much distance as possible between the child and the air bag."

Air bags have a good overall safety record and have been credited with saving more than 900 lives since they were introduced in the late 1980s. But the NHTSA is aware of six crashes, some of which occurred at low speeds, in which a child riding in the front seat without a lap/shoulder belt was killed when the air bag deployed. In two other crashes, infants riding in a rear-facing child seat were killed when the air bag struck the child seat and caused head injuries.

The lap and shoulder belt in combination with air bags is about 50% effective in preventing fatal injuries compared to being unrestrained. However, it is important for the public to understand that no safety device is a panacea and that deaths and injuries sometimes occur even when occupants have the benefit of both seat belts and air bags.

NHTSA crash investigators believe that all of the air bag-related child fatalities involved unbelted or improperly belted children. Because of pre-crash braking, the children probably were positioned on or very near the dashboard at the time the air bag deployed. They were injured by the force of the deploy-

In This Issue...

ing air bag or by being propelled against structures within the vehicle.

"It is alarming that after years of unprecedented national awareness about the importance of seat belts, and belt use laws in all but two states, that 40% of children still ride unprotected, without the critical protection of a seat belt or child safety seat. Seventy-two percent of children who were injured fatally in the front seat of a motor vehicle were riding unrestrained," Martinez said.

"Seventy-two percent of children who were injured fatally in the front seat of a motor vehicle were riding unrestrained."

NHTSA's Federal Motor Vehicle Safety Standard No. 208 requires driver and front seat passenger air bags in all passenger cars and light trucks by 1999. But air bags already are standard equipment, at least on the driver-side, in most passenger vehicles sold today. The seat belt, which provides protection in all kinds of crashes, is the primary and most essential item of safety equipment.

As part of NHTSA's plan to open a public dialogue on air bag performance, Martinez said he would solicit the support of NHTSA's many highway and motor vehicle safety partners to encourage such measures as tougher state seat belt use laws and to ensure that even more is done to educate the public on the absolute need for seat belt use (see box for patient education handout). ®

Children and Air Bags

What's the Problem?

- Most new cars have air bags for front-seat passengers. When used with lap/shoulder belts, air bags work very well to protect older children and adults who ride facing the front of the car.
- *Air bags do not work with rear-facing child seats* (those used with infants).
- Air bags could seriously injure or even kill an *unbuckled child or adult* who is sitting too close to the air bag or who is thrown toward the dash during emergency braking.
- In a crash, the air bag inflates very quickly. It could hit anyone or anything too close to the dashboard with enough force to cause severe injuries or even death. Because the back of a rear-facing child seat sits very close to the dashboard, the seat could be struck with enough force to cause serious, or even fatal injuries to a baby.
- Even older children (who have outgrown child seats) are at risk from a deploying air bag, if they are not properly restrained with a lap/shoulder belt.

What Should I Do?

- Have children sit in the rear seat, restrained. The *rear seat* is the safest place for children of any age to ride.
- Place babies under 1 year of age and under 20 pounds in a *rear-facing* child seat *in the back seat.* A *rear-facing* child seat should *never* be used in the front seat if the vehicle has a passenger side air bag.
- Make sure that everyone in the front seat is properly *buckled up* and seated as far back from the air bags as is reasonably possible.
- Make sure that all young children are properly secured in a child safety seat, and older children by a lap/shoulder belt. Know how to properly install your child seat in the vehicle. Read both the owner's manual for the vehicle and the instructions for your child safety seat.

Where Can I Get More Information?

- Call the National Highway Traffic Safety Administrator's toll-free Auto Safety Hotline at 800-424-9393.
- Written information and "tip sheets" are available by writing to: Child Safety Seats, National Highway Traffic Safety Administration, 400 7th Street S.W. NTS-13, Washington, DC 20590.

Tobacco, Culture, and Health Among American Indians: A Historical Review*

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Abstract

This article explores possible historical and cultural reasons for the high prevalence of contemporary tobacco use among North American Indian populations. A literature review of American Indian tobacco use in early precontact and colonial times reveals that tobacco was used extensively for ceremonial, spiritual, social, political, and medicinal purposes. Centuries of aboriginal sacred use of tobacco, combined with increasing commercial use since the fur trade, may have provided a residual base of susceptibility for later secular use, an old form with a new meaning. Because of its high prevalence rate among most American Indian social groupings, tobacco is very probably the greatest threat to the health of American Indians today. Its addictive qualities place it on a par with alcohol as a source of physical and psychological dependency, a fact not always recognized in American Indian social contexts.

Introduction

In the summer and early fall of 1992, two of the authors (Hill and Solomon) attended meetings (as evaluators) of the Cherokee Nation's Substance Abuse Prevention Project [supported by a grant from the Center for Substance Abuse Prevention (CSAP) of the Substance Abuse and Mental Health Services Administration (SAMHSA)] in the five-county area closest to the tribal complex near Tahlequah, in northeastern Oklahoma. Based on participant observations at meetings, self-report surveys at local high schools, and self-report survey questionnaires and interviews with adult and youth CSAP coalition members from local communities, the authors determined that tobacco has a distinctive place in the mix of health-harming substances currently used by the Cherokee people. In an evaluative report to the CSAP project in late 1992, the authors (Hill and Solomon) wrote the following:

> As shown in the baseline surveys and interviews, tobacco would appear to be the distinguishing drug preferred by Indian-American youth in the high schools, as well as by youth in the Cherokee coalition. . . . Cigarette smoking is also common on the part of adult members of the coalition, as well as among outside [national] presenters brought in to be role models for substance abuse prevention. By contrast, the substance of almost exclusive focus in the [CSAP] Project is alcohol.[1]

What is there about tobacco that gives it an apparent "hands-off" exemption in substance abuse prevention programs for American Indians? Are American Indian populations more subject to its use prevalence and harmful effects? Why has tobacco not been recognized as a powerful source of American Indian disease and death, on a par with alcohol and greatly eclipsing other drug problems in this population?

Tobacco Use and Contemporary American Indians

One of the greatest general health threats that the United States population currently faces is tobacco use. With long-term use, tobacco has been specifically associated with conditions such as cardiovascular disease; lung cancer; chronic obstructive pulmonary disease; cancers of the larynx, bronchus, trachea, and pancreas; as well as fetal and infant morbidity and mortality. Recent studies suggest that substantial dangers are also associated with "secondhand" tobacco smoke, resulting in considerable cost to both families and the national health care system. Smoking, by itself, is responsible for approximately 419,000 U.S. deaths each year.[2] Lung cancer rates continue to rise for both men and women and have surpassed the rates of death caused by other common forms of cancer, including prostate and breast cancer.[3]

Data from the general population indicate that, although smoking is prevalent among all ethnic groups, American Indian rates are consistently the highest.[4] Table 1 shows contemporary reported prevalence rates of smoking among a variety of North American Indian population groupings.[5] These are compared with non-Indian rates in almost half of the listings. Most of the

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Table 1. Contemporary reported prevalence rates of smoking among a variety of North American Indian populations.

Population Description	Sample Size	Percentage Using (by group)	Associations with Use	Source/ Note
U.S. National: Probability sample of adults	300,540	44.5 (Indian men)* 26.6 (Indian women) 25.7 ("white" men)	Indians smoked fewer cigarettes per day. Rates were directly related to social class for Indians and inversely related for whites.	4
U.S. National: High school seniors: 1976-1989	17,000	36.8 (Indian males)*	Indian students had highest rate among all ethnic groups.	5 (Bach.)
U.S. National: Indian Health Service reservation areas: Grades 7-12	13,454	20.5 (Alaska area)† 10.6 (Other areas)	Students with "below average" grades had highest use rates.	5 (Blum)
U.S. National Youth Survey: 1988-1990	102,194	80.0 (reservation 12th graders)* 74.0 (reservation 8th graders)	Non-reservation Indian rates were 10% lower. "White" rates were 50% lower.	5 (Beauv.)
Northwest Territories of Canada: Adults	20,000	70.0 (Inuit)* 60.0 (status Indian) 40.0 ("white") 30.0 (all Canada)	Inuit women have the highest rate of lung cancer ever recorded.	5 (Gand.)
Canadian Arctic Youth: Ages 15-19	230	75.0 (Inuit)* 64.0 (Dene/Metis) 43.0 (Non-Indian)	None listed.	5 (Millar)
Western U.S.: Blackfeet Reservation of Montana: Adults	463	34.0 (men)* 50.0 (women)	None listed.	5 (Goldberg)
North Central U.S.: Seventh graders	4,319	33.0 (Indian)*	None listed.	5 (Murray)
Southwest U.S. and U.S. Plains area: Indian adults	805	18.1 (SW men)* 14.7 (SW women) 48.4 (Plains men) 57.3 (Plains women)	None listed.	5 (Sugar.)
Southwest U.S.: Indian youth	226	54.0 (Navajo)*	None listed.	5 (Wolfe)
South Central U.S.: Cherokee tribal area: Youth grades 9-12	972	38.1 (Indian)* 25.8 ("whites")	Indian users had lower expectations for college; lower school, religion, and family involvement; and higher rates of alcohol and marijuana use.	5 (Sol.)
South Central U.S.: Cherokee Nation Industries: Adult sample, mostly women.	144	37.8 (Indian)*	None listed.	5 (Hill)

* Current use.
† Daily use.

reports summarized in Table 1 are based on data collected during the last decade. The data suggest that smoking prevalence rates are especially high among American Indian populations in the northwestern regions of the United States and Canada; they are especially high in reservation areas, where traditional institutions, values, and sentiments are also most prevalent. Recent reports of prevalence rates for smokeless tobacco use (not show in Table 1) reflect a similar epidemiologic pattern; i.e., the highest rates are among American Indians in the Northwest or on reservations.[6] Surprisingly, American Indian prevalence rates are also substantially higher than white rates among those with a college education, according to one listing—a large, national, random telephone survey conducted by the U.S. Centers for Disease Control. This contrasts with substantial research over the years, which has shown a higher prevalence of use associated with lower educated whites.[7]

The significantly higher rates of tobacco use among contemporary American Indians, especially in the more rural, remote, culturally traditional areas, and even among the best educated, suggest that ethnohistorical factors may play some part. Is it possible that tobacco distribution and use patterns in precontact and colonial North America may somehow inform or help explain contemporary prevalence rates, with their long-term, ominous health implications? A common stereotype of this earlier historical period is the bronze-skinned Indian chief, smoking a long-stemmed Indian pipe for pleasure or peacemaking, and generously passing this wonderful practice to naive, curious, trusting Europeans. A more cynical image might be that of the sly, smiling cigar store Indian, gracing the entrance of tobacco shops the world over, stolidly foisting "the Indian's revenge" on foolish Europeans. Both these images are vivid, colorful, and appealing, albeit to different groups (based on their ethnic background or political persuasion). More importantly, neither of these images reflects historical reality.

Acquisition of Historical Information

Historical information on American Indians and tobacco was acquired through systematic searches of various libraries' literature holdings. Searches were done using computerized bibliographical retrieval systems: Native American Research Information Systems, MEDLINE, Sociological Abstracts, Health, CINAHL, and PSYCINFO. Most work was done in the Native American collection of Bird Library of the University of Oklahoma Health Sciences Center. The University of Oklahoma's Bizzell Library and Western History Collection were also used. John Berry, a reference specialist with the U.S. Food and Drug Administration, Washington, D.C., and now a faculty member at Oklahoma State University in Stillwater, completed additional literature searches and secured access to rare manuscripts. This research made it clear that the earliest history of tobacco use is relatively scarce. More information is available for the period after European traders penetrated the North American heartland.

Tobacco Use in Historical American Indian Cultures

The introduction of tobacco into European culture. In Table 2, we present a summary of the historical period of American Indian tobacco usage. The first European contact with the custom of tobacco use seems to have come with the first European voyage to the New World.[8] It is said that Columbus encountered tobacco on his first voyage to San Salvador, where his men noted natives smoking tobacco in the form of cigars. This was the first time any European had seen the plant used for such a purpose. (Appropriately, the word *tobacco* is a Spanish derivation of the Arawak term for cigar.)[9] It was not specified in what context the men saw this tobacco-smoking event, whether it was during ceremonial use and, if so, what kind of ceremony. Smoking was, however, "thoroughly established throughout eastern North and South America at the time of European discovery; and the early explorers, from Columbus on, speak of it as a strange and novel practice which they often find hard to describe."[10] Columbus's men gradually became aware of the social and medical motive behind smoking, and of the role that tobacco played in myths and festivals, including pipe ceremonialism. Eventually they became aware of other variants of tobacco use, including chewing, drinking, licking, snuffing, and use in enemas.[11]

Tobacco was brought to Europe during the early sixteenth century, although it did not receive much attention there until nearly half a century later.[12] When it finally did become popular during the middle of the sixteenth century, it was hailed as a "divine sent remedy" that was capable of curing practically every human ailment. It was prescribed as a treatment for nearly every malaise that affected Europeans. In its initial popularity, the medicinal uses of tobacco were much more well known than the pleasurable one.[13] A full century passed before its recreational use spread throughout the European continent.[14]

Tobacco species and location. There are approximately sixty species of tobacco within the genus *Nicotiana.* Among these, only *Nicotiana rustica* and *Nicotiana tabacum* are or ever were in widespread human use.[15] Other species had limited use, including *N. multivalvis, N. quadrivalvis,* and *N. bigelovvi* in Washington and Oregon, along the Missouri River, and in California, respectively.[16]

In times prior to European contact, the most commonly used species of tobacco was *N. rustica.* It was used primarily by American Indians in the eastern United States and throughout the Great Plains. *N. tabacum* is the species that was popularly cultivated for commercial use by Europeans.[17] It has been said that *N. tabacum* was initially too strong for North American Indians and that they preferred *N. rustica.*[18] According to an observer of the Mandan in 1843,

> The tobacco of the Whites, unmixed, is too strong for the Indians, because [the whites] draw smoke into their lungs; hence [the Indians] do not willingly smoke cigars.[19]

Table 2. Summary of tobacco use among American Indians in the New World.

Idea or Evidence	Source/Note
Tobacco use in all its many forms (smoking, chewing, sniffing, drinking, etc.) originated in the New World and was widespread among the hundreds of native tribal groupings in both North and South America.	14
Some tribes used tobacco strictly ceremonially before European contact; others used no tobacco before European contact.	8,14,50
During the precontact period, tobacco may have been smoked less frequently by American Indians than it is today, and also less frequently than among Europeans during the colonial period and the years to follow.	10,14,50,68
Pipe smoking (calumet ceremonialism), though a product of American Indian culture, was propagated by French explorers and may have been introduced by the French to some tribes who were not aware of its existence.	8,20
Tobacco was often used in ceremonies in ways other than smoking. Smoking tobacco was often not the primary feature of the ceremonies in which it was observed.	8,20,14
Tobacco, specifically its active component, nicotine, was used medicinally and in medical ceremonies. It was used as an analgesic and as a treatment for ailments such as asthma, rheumatism, convulsions, intestinal disorders, childbirth pains, and coughs. It was applied to snake and insect bites and was used in the treatment of open wounds because of its presumed antiseptic qualities.	8,15,36
The tobacco that spread to Europe and to the rest of the world, *Nicotiana tabacum,* originated in South America and was noted for its richer taste and higher potency (i.e., the ability to produce hallucinations and supernatural visions).	15
Kinnikinnik, a mixture of *N. rustica,* bark, and herbs, was often smoked by American Indians rather than pure tobacco because of its milder taste.	8,20
Tobacco was often used in agricultural ceremonies. There were many rituals concerning its cultivation when it was grown for sacred purposes.	8,10,14
Tobacco was viewed as a means of communication with the gods. Tobacco smoke was an important visual symbol of contact with the supernatural world.	8,14
The harmful effects of tobacco smoking were recognized by some early American Indians.	8
There were gender differences in treatment of tobacco, including methods for its cultivation. Women generally were not allowed to participate in its cultivation, although they were responsible for other crops.	8,10
Tobacco was often used socially as a peace offering or to bind agreements.	8,14

Often native peoples mixed tobacco with other substances such as bark, leaves, herbs, or oil to form a milder substance called *kinnikinnik,* which was smoked ceremonially.[20]

Acquisition and cultivation. It is difficult to determine by what method American Indians initially came into possession of tobacco. Most researchers conclude that precontact tobacco use originated among the native peoples of South America, then spread through Central America and, later, North America, except for the Arctic, parts of the sub-Arctic, and parts of the Columbian Plateau.[21] Some forms of tobacco grew wild, and others were cultivated. According to Driver and Massey,[22] precontact North American Indians on the West Coast gathered tobacco wild for the most part. On the East Coast and the central Plains, they cultivated it for use. As might be expected, a group of intermediate tribes obtained their tobacco through interaboriginal trade.

By the end of the sixteenth century, the European penetration of North America had picked up momentum from all directions, and with it a new era of tobacco distribution and use. Tobacco, the "gift" of American Indians to the rest of the world, now came back to them in a new much more potent, abundant form. Most of this reverse diffusion of tobacco came by way of the French fur trade.

Table 3 shows the approximate chronology of the arrival of French "trade tobacco" to selected American Indian tribes from east to west.[23] The trade tobacco was undoubtedly the stronger variety, *N. tabacum,* imported from commercial fields in Bahia, Brazil.[24] It is interesting to note that the largest part of this tobacco-for-furs trade in the North American heartland encompassed the area where American Indian tribes had, before contact, obtained their aboriginal tobacco from cultivation or intertribal trade.[25] The new dependence on manufactured trade goods – corn, cornmeal, cloth, knives, axes, kettles, awls, beads, and brandy (known as "Ononthio's milk" after the Huron word for the king of France) – established early the situational climate for a dual or parallel tobacco classification system. Aboriginal tobacco was in small supply and was sacred. Trade tobacco was more plentiful in exchange for furs, but it belonged symbolically in the secular, European realm, like Ononthio's milk.

There were several interesting differences in the way aboriginal *(N. rustica)* tobacco was cultivated compared to other nonfood crops – differences that testify to its distinctive, sacred status. In some tribes, women were not allowed to cultivate tobacco.[26] Such a difference suggests a separate cultural meaning for tobacco, since women took responsibility for or shared in the working of most other crops, at least in the eastern half of the continent.[27] Among the Plains tribes, there were tobacco societies. Initiation into their ranks was a prerequisite for the right to sow tobacco.[28] Duties as initiates included the sweatlodge ritual, the selection of medicine, and the planting of sacred tobacco, all of which were executed with the greatest symbolism and care. The Seneca took a different, more naturalistic, approach to its cultivation. They scattered the seeds on the ground and had a religious prohibition against its cultivation.[29]

Historic ceremonial and medicinal use. Tobacco was often used by shamans and in agricultural rites.[30] It was used in the harvesting of crops, to bless the harvest. Such a ceremony linked tobacco and the fertility of the land, a strong psychological bond made still stronger by tobacco-induced altered states of consciousness and supernatural visions.[31] The rising smoke of the tobacco was regarded as a method by which communication with the gods/Creator might be facilitated. The Iroquois believed that the smoke carried their petitions to the Great Spirit. The Delaware sacrificed tobacco to ensure success in the hunt. The Crow worshiped the sun, the moon, and tobacco. It was the only thing cultivated to "ensure the continued welfare of the people."[32] Among the Ojibwa/Chippewa, tobacco was placed on a rock to alert the spirit to ward off storms.[33] As stereotypes suggest, tobacco was commonly used to bind agreements between tribes, and it often accompanied invitations to individuals or families. Tobacco was also given as payment to a shaman, obligating him to fulfill the request of his client.[34]

There was a great deal of ceremony and spirituality involved in the traditional use of tobacco. "In Pawnee ceremonies the pipe was always tamped with an arrow captured from the enemy. It was forbidden to pack it with the fingers, as the gods might think that the man who did so offered himself with the tobacco and take his life."[35] This example illustrates what power tobacco was believed to have had and its overall, pervasive importance within the aboriginal culture.

In addition to its ceremonial uses, tobacco was traditionally employed medicinally by many different tribes. Accounts from tribes from different areas of the country describe tobacco as being used in very similar, if not identical, ceremonies. It served as a remedy for toothaches.[36] Open wounds and the bites of insects or snakes were treated with tobacco because of its presumed antiseptic properties.[37] The Winnebago and the Seminole, along with other tribes, scattered tobacco while repeating prayers to exorcise spirits or ward off the evil influences that caused disease.[38] One native practice was to blow tobacco smoke into the ear to kill the "Woodland insect" that was believed to cause insanity by drying up the brain.[39] Tobacco was also heralded as a remedy by some for asthma, rheumatism, chills, fevers, intestinal disorders, childbirth pains, and headaches. Scholars note that some reported medical uses may be a result of more recent European uses of tobacco (i.e., reverse diffusion), rather than original American Indian practices. Vogel, author of *American Indian Medicine,* states, "Reports of the therapeutic uses of tobacco by American Indians in the early period are rather sparse compared to the numerous applications of the plant by whites. . . . The more frequent reports of curative uses of tobacco in a late period are subject to the suspicion that they may be due to the example of the whites."[40] It also seems possible that some early healing ceremonies that employed tobacco were not

Table 3. Diffusion of "trade tobacco" to selected North American tribes, 1603-1743.

Tribe	Area	Year	Source/Note (23)
Abnaki	Maine	1608	Parkman
Huron, Wyandotte	New York, Ontario	1608	Goodman
Pequot	New England	1609	Joseph
Kickapoo	Wisconsin	1634	Gibson
Cheyenne	Minnesota	1650	Moore
Salish Confederacy	Oregon and Washington	1656	Joseph
Chickasaw, Choctaw, Osage	Louisiana/Mississippi River	1659	Gibson
Kansa, Ponca, Osage, Omaha, Quapaw	Illinois Confederacy	1680	Unrau
Caddoan et al.	Texas (52 tribes)	1685	Joseph
Taos and Picuris Pueblos	New Mexico	1695	Unrau
Pawnee	Kansas	<1700	Unrau
Comanche et al.	Louisiana, Texas, and Oklahoma	1719	Joseph
Mandan, Cree, Sioux, et al.	Montana and Dakotas	1724-43	Sanders
Sauk and Fox, Menominee, Ojibway	Wisconsin	1731	Gibson

shown to outsiders.

Calumet ceremonialism. Study of the calumet, an elaborately decorated clay shaft to which a pipe bowl might be attached, seems to be one of the better ways to assess traditional tobacco use. It was different from other pipes in that the calumet was the source of great ceremonialism and was held to be sacred.[41] The earliest Europeans to come into contact with the calumet were the first French explorers in the northern Mississippi Valley.[42] Calumet ceremonialism was probably established in this region, as well as in the Great Lakes region, well before the Europeans reached the area.[43] Author Ian Brown poses the question, "Did such ceremonialism originate in this area and spread with French exploration, or did it exist prehistorically as well?" He states that the calumet (like trade tobacco) was probably spread by the French, because the ceremony "provided balance in a rapidly changing world." The calumet was said to have had the potential to make friends out of mortal enemies and to have provided for peaceful interactions between strangers. Brown suggests that some native groups were oblivious to the existence of the calumet; only through the European practice did they become aware of smoking and calumet ceremonialism.[44]

There seems to be some evidence to indicate that clay pipesmoking developed with calumet ceremonialism but was not always featured in it. "The earliest renditions of the ceremony are characterized by dancing and much waving of the wands, but smoking, curiously, is not a prime feature in these accounts." With respect to the pipe of the Eastern Woodlands, it is said that smoking may have been important only for the last one thousand years, a relatively recent development but still well before European colonization.[45] The calumet apparently has a history independent of the pipe, in its ceremonial uses.[46] Its significance was once independent of its uses in tobacco consumption and ceremonialism. The pipe bowl,

however, eventually achieved its fame as the choice method for smoking tobacco in both the sacred and the secular realms. The union of calumet ceremonialism and tobacco proved to be a very powerful combination for Europeans and American Indians alike.

Europeans may not have understood the ceremonial acts they witnessed and thus may have undermined or underestimated the significance of the acts.[48] "Western observations tend to be ambiguous and contradictory . . . since most remarks are chance descriptions by Euro-Americans who often did not realize the significance of Native activities."[49] Misinterpre-tation by Euro-Americans of American Indian sweatlodge rituals as spa-like hygienic practices (rather than spiritual healing ceremonies) is another, more contemporary example.

Hedonistic tobacco use minimal in precontact period. Several sources from early periods support the idea that hedonistic smoking was minimal among American Indians and that they smoked only in moderation for medicinal or spiritual reasons. For example, in observing the Narragansett in 1643, Roger Williams noted the natives' practices of cultivating tobacco and the purposes for which they used it, including medicine.[50] As for their smoking habits, he said, "I never see any take so excessively as I have seen men in Europe."[51] Pawnee use of tobacco prior to European contact was strictly sacred and ceremonial.[52] The same is said of the Zuni, according to the observations of the wife of an Indian agent. The Ojibwa/Chippewa, as well, are noted for strictly ceremonial use of tobacco prior to European contact.[53]

Of the Montagnais-Naskapi people who lived north of the Huron in Ontario, it is said that they did not receive tobacco until after European contact.[54] Once tobacco was introduced into the society, it became a sacred object. The Ojibwa/Chippewa people also maintain that they were unaware of "true tobacco" (i.e., *N. tabacum)* before European contact.[55] This observation gives further credence to the idea that Euro-American men were sometimes responsible for the propagation of tobacco's influence in modern American Indian society.

An examination of the early smoking practices of some tribes such as the Northern Paiute of the Great Basin reveals that the early native peoples understood tobacco much better than did the Europeans and later Americans, even after a few hundred years' use. Smoking was practiced only by men; "young boys would not smoke because they were afraid it would impede their ability to pursue game."[56] This suggests that, although tobacco did have spiritual importance in their lives, its powerful physical effects as well as relative scarcity proscribed its use for individual pleasure.

Contemporary ceremonialism. Tobacco continues to play a requisite role in at least two contemporary religious healing ceremonies with deep roots in the past: (1) the Peyote religion (or Native American Church) and (2) the Plains Sun Dance. Both ceremonies have been the subject of many scholarly publications, and each has had its ritual features described extensively.[57]

The Peyote curing ceremony, based on ingestion of the hallucinatory peyote cactus plant, dates back to Pre-Columbian times in northern Mexico and, like indigenous tobacco, slowly spread to numerous North American tribal areas over the following centuries.[58] The standard ritual, according to LaBarre, is "an all-night meeting in a tepee around a crescent-shaped earthen mound and a ceremonially-built fire; here a special drum, gourd rattle, and carved staff are passed around after smoking purifying ceremonies, as each person sings four 'peyote songs.'"[59] In modern times, commercial tobacco (such as Bull Durham) was often traditionalized by rolling it into corn husk cigar-like cigarettes and smoking it in association with prayers. LaBarre's ethnographic description of a "Kiowa-Comanche type rite," representative of most Plains tribes (who were at the center of North American peyote diffusion), includes the following references to tobacco:

> Living beyond the habitat of peyote, all Plains tribes have to make pilgrimages for it or buy it. The journey is not ritualized, but there is a modest ceremony at the site: on finding the first plant, a Kiowa pilgrim sits west of it, rolls a cornshuck cigarette and prays, "I have found you, now open up, show me where the rest of you are. I want to use you to pray for the health of my people. . . ."[60]
>
> After the ceremony is considered begun . . . the leader . . . takes out this cedar incense bag, gourd, tobacco, etc. and arranges them conveniently near him. The first ceremony is smoking or praying together. The leader makes himself a cigarette of Bull Durham with cornhusk "papers" dried and cut to shape, and passes the makings clockwise to the rest, including women. His own made, the fireman presents the smoke-stick [a smoldering coal attached to a slender, decorated handle] to the leader . . . and this too is passed to the left. While all smoke, the leader prays: . . . "Be with us when we pray tonight. Tell your father to look at us and listen to our prayers." He holds his cigarette mouth end toward the peyote and motions upward that it may smoke as he prays. . . . All pray silently to . . . "earth creator" or "earth lord," and older men may add their prayers aloud after the leader. Then following the leader, all snuff their cigarettes in the ground and place them on the west curve of the altar, outside, or at either horn; the fireman may gather those of women, old people, or visitors.[61]

The above ethnographic descriptions, recorded in the 1930s, suggest religious cultural continuity with an earlier time. Like the generic shaman of old, the leader of the Peyote

ritual uses tobacco smoke, with prayer, to enhance the health of the group.

The Plains Sun Dance ceremony, based on the ritual of piercing the male chest, is perhaps even more generic in a religious sense than the Peyote ceremony. It appeals to the Great Spirit (through prayer or personal sacrifice) for tribal purification, health, wisdom, and renewal,[62] as well as for the curing of specific individuals.[63] As with the peyote ceremony, tobacco smoking is woven into most phases of the four-day ritual Sun Dance ceremony. While the tobacco receptacle is different (pipe instead of cigarette), the meaning of the ceremony and the place of tobacco in it are very similar. Artist-ethnographer Thomas Mails took part in numerous Sun Dances conducted during the 1970s by the Sioux of the Rosebud and Pine Ridge Indian reservations in South Dakota. His references to the use of tobacco include the following:

> When the lodge is finished, the leader enters it and offers pinches of tobacco to the winged powers of the earth, and to the place where the sun goes down and from where the living water comes that we will use in our ceremony. . . . After this, kinnikinnik, the sacred tobacco, is placed in the pipe bowl and a pinch of tobacco is offered to the power of the north, from which comes strength and purification, then to the east which sends peace and light for the eyes and the mind; then to the south, which is the source of life and growth; and finally to the west, which gives rain and nourishment. . . .[64]
>
> [Later] The helper now offers the pipe to six directions. Then he lights it, takes a few deep puffs, and blows the smoke out so that he can rub it all over his body. He then hands the pipe to the men at his left. . . . The pipe is sent sunwise . . . until it comes back to the leader. . . .[65]
>
> Thus the holy men say that the pipe itself has power to transport power, and it is sacred for it came from god. . . . Those who use the pipe with reverence to seek enlightenment regarding sacred things will receive special help. For when the pipe is understood, smoked, and pointed to the other sources of power as one prays, it becomes the very channel through which their power flows from them to the petitioner.[66]

In getting a description from a Sun Dance leader regarding the second day of the ceremony, the ethnographer asks about fasting: "Do your pledgers [those who will be pierced] really go, as you do, without food and water for the entire four days?" The leader answers,

> They can smoke but they are not to take water or food. Men smoke because the act is associated in the Indian mind with ceremonies, and the spirits have never told me to deny the men commercial cigarettes.[67]

Thus the line between the sacred pipe tobacco (kinnikinnik) and commercial cigarette tobacco has become blurred.

Clinical Observations Concerning Tobacco Use Among American Indians

Again, the early historical record suggests that tobacco was smoked by men of most North American tribes both aboriginally and after contact, but only rarely to excess. A 1908 work makes the statement that "it (tobacco) is never the cause of any sickness."[68] This may imply that none of the morbidities currently associated with tobacco use (e.g., lung cancer, emphysema) occurred, or they occurred in very small numbers or were not recognized as such. One can then speculate that, although American Indians in most areas did cultivate, trade for, and smoke tobacco, their use of the substance was in relatively small amounts, largely for ceremonial purposes, and did not result in a significant number of incapacitating morbidities.

Current medical research seems to lend credence to this notion. Results of recent studies indicate that cancer is only now becoming a significant health problem among American Indians.[69] Ironically, researchers once claimed that American Indians were immune to cancer.[70] The sharp increase in modern prevalence rates seems to suggest that heavy smoking is a newly acquired habit for some native groups, such as the Navajo population in the Southwest, although history proves conclusively that the use of tobacco is not a novel practice in the region. As an increasing number of American Indians have adopted the habitual use of commercial tobacco, the prevalence rates of cancer in certain tribes has risen steadily throughout the century, until now they approximate or even surpass the rates for non-American Indians.[71]

Discussion and Conclusions

As a group, American Indians currently have the highest prevalence rate of tobacco use in the U.S. This fact has even been recognized by the U.S. government in National Health Objective No 3.4 of the *Healthy People 2000 Report:* namely, reduce the prevalence of smoking among American Indians and Alaska Natives to 20% or less, compared to a reduction goal of 15% or less for the general population.[72]

Despite this recognition of the gravity of tobacco use prevalence in American Indian communities, substance abuse prevention efforts have often given priority to alcohol and other drugs. Anecdotal evidence suggests that this has been the general norm for early CSAP efforts nationwide, especially those involving American Indian populations. The question remains, Why has tobacco been given relatively "protected" status in the national war against death and disability among American Indians?

A review of historical literature on tobacco use by Pre-Columbian American Indian groups of varying levels of social organization (bands, tribes, chiefdoms, nation-states), suggests a long-term, extensive, substantial but highly varied pat-

tern of acquisition and use by geographical region. However, the commercial development and manufacture of tobacco and its preferred paraphernalia (cigarettes, clay pipes, wooden pipes), for world consumption were carried forward later, during the seventeenth century, by Europeans and Euro-Americans, with the most potent nicotine species *(N. tabacum)* imported from South American fields. This rediffusion of commercial tobacco back into Indian populations, beginning with the French fur traders and ending with the Second World War, may have given rise to a new distinction between two types of Indian tobacco use: sacred (which was mostly still acquired and used for religious and ceremonial purposes in the old, traditional way) and secular (provided by and through the acculturation and assimilation of American Indians into Euro-American society and used for individual, hedonistic purposes, in the modern way). During the past half-century, the distinction between sacred and secular tobacco has become blurred. Traditional sacred tobacco is seldom grown and thus is unavailable for religious ceremonies. More and more American Indians clearly have become addicted to commercial Euro-American tobacco, especially cigarettes. Moreover, tribal governments or their affiliates in many parts of North America have become the modern traders of commercial tobacco in Indian country establishments called "smoke shops." The "Indians' revenge" against Europeans for the loss of life, land, and livelihood has been turned into a revenge against their own people for profit. What began many centuries ago as a way to control the gods now symbolizes a loss of control to the power of addiction and tobacco corporations.

Contemporary examples of the blurred distinction between sacred tobacco and commercial tobacco are (1) the preference for Bull Durham in Peyote ceremonies of the Native-American Church, described above; (2) the use of commercial cigarette tobacco (with paper removed) at a recent (1993) Sun Dance organized by members of the Oklahoma Cheyenne tribe, observed by one of the authors (Solomon); and (3) an American Indian pilgrim's passionate stuffing of a pack of Camel cigarettes through a wire fence holding the sacred white buffalo calf in Wisconsin, observed by one of the authors (Hill), during a 1994 broadcast of the Cable News Network (CNN). These ethnographic vignettes suggest a fairly wide distribution of this trend, although further ethnographic and other empiric substantiation clearly is called for.

Based on the findings of this study, the authors recommend a return to the distinction between sacred and secular tobacco in American Indian communities, especially with regard to substance abuse prevention programs. Symbols are important. Sacred tobacco might again be defined as that cultivated by members of the tribe, specifically for ceremonial use. Secular tobacco, cultivated and manufactured by Europeans and Euro-Americans for commercial profit, should be avoided. Like Ononthio's milk, commercial tobacco is a threat to the health and well-being of all American Indian exposed to its toxins. Because of the harmful effects of secondhand smoke on family members, especially children and the elderly, tobacco addiction has more in common with alcohol addiction than has been generally recognized. Both are health-harming threats to individual addicts as well as their families. Both have negative economic consequences for individuals and families, especially those at the bottom end of the economic spectrum. Both have negative impacts on vocational performance and productivity at work due to increased use of health services and increased absenteeism. Moreover, the use of one is highly predictive of the use of the other. In the authors' recent study of Cherokee adolescents, the "any use" prevalence congruence of alcohol and tobacco was greater than 80%.[73]

A major limitation to a study such as this is its dependence on anecdotal or secondary historical sources, whose data were gathered for purposes other than those pursued here. Thus this study may have led to wrong or unwarranted conclusions. On the other hand, these explorations may also have opened an avenue for further study. The authors would like to know much more about the cultural meaning of tobacco in different American Indian social contexts, and why tobacco's prevalence of use rates are consistently higher than those of other North American ethnic groups. It is clear that such research, based on a recognition of great cultural differentiation in contemporary North American society, is essential to an improving health status for all Americans.[74]

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Your Slice of the Continuing Education Pie

There is anecdotal evidence that some facilities have come to the realization that, in these times of budget cutbacks and uncertainties, they may come to rely more and more on their own in-house continuing education (CE) activities. The logic of this is undeniable: if there is less funding for CE, be it for sending individuals to outside meetings or for support for Indian Health Service (IHS) sponsored conferences, one of the few remaining sources of continuing education available is facility-based activities.

The IHS Clinical Support Center (CSC) is accredited by the Accreditation Council for Continuing Medical Education (ACCME), the American Council on Pharmaceutical Education (ACPE), and the American Nurses Credentialing Center Commission on Accreditation to sponsor continuing education activities for physicians, pharmacists, and nurses. If, indeed, more facilities will be offering educational activities, it is possible that the CSC will see an increasing volume of proposals for sponsorship of such activities. The CSC can handle more activities, but we would encourage anyone who is planning a new conference or hourly series to please submit their proposal as early as possible so that we have sufficient lead time to work on it with you. Only then can we give you all the help we have available to make yours the best educational experience possible. There are many products and services we can offer to help you, including assistance with planning, sample letters to speakers, development of learning objectives, design and preparation of brochures, and examples of evaluation forms. The staff at the CSC wants to help everyone get their slice of the CE pie. For more information, interested IHS or tribal employees should contact the IHS Clinical Support Center, 1616 East Indian School Road, Suite 375, Phoenix, AZ 85016 (phone: 602-640-2140; fax: 602-640-2138.

Nominations Sought for Physician of the Year Awards

The Physicians Professional Advisory Committee to the Surgeon General of the U.S. Public Health Service (USPHS) is seeking nominations for three awards to be presented to physicians who are either Civil Service employees or Commissioned Officers of the USPHS.

The first award is for **Clinical Physician of the Year.** This award will recognize a clinical physician who consistently achieves high standards in the practice of medicine. He/She is able to find innovative ways of delivering quality medical care despite constraints of budget and personnel. This individual is consistently looked upon as a role model by his/her peers.

The second award is for **Physician Researcher of the Year,** which recognizes individual initiative, accomplishment, and accountability for actions that increase the overall effectiveness of the USPHS through research. This individual has established research programs or approaches that enhance health care delivery or has improved existing research programs. In addition, he/she has developed and implemented research programs that have raised the health and safety consciousness of the public or resulted in significant cost savings or cost avoidance.

The third award, **Physician Executive of the Year,** recognizes a physician executive who plays a key role in the successful administration or management of an office or program activity in the Public Health Service. This individual makes exceptional contributions to the accomplishments, goals, and objectives of the PHS while serving as a manager, administrator, or supervisor. He/She exercises exceptional judgement in making managerial decisions and develops innovations that provide increased effectiveness in the management of programs. He/She makes choices that maximize the use of available resources and enhances the goodwill between the United States Government and the public.

The deadline for submission of nominations is March 15, 1996. Each nomination package should include a brief narrative (1-2 pages) explaining how the physician meets the award criteria, the nominee's title, agency, address, and telephone number. The nominee's curriculum vitae should also be included. Nominations should be addressed to: Steven Fox, MD, MPH, Chair, Physicians Professional Advisory Committee, Agency for Health Care Policy and Research, 2101 E. Jefferson Street, Rockville, MD 20852 (phone 301-594-1485; fax 301-594-3211).

Native Researchers' Cancer Control Training Program

The University of Washington, the University of Arizona's Native American Research and Training Program, and the Indian Health Service Cancer Prevention and Control Program announce the availability of three-week training fellowships in cancer prevention and control research. Applications are encouraged from American Indians, Alaska Natives, Native Hawaiians, and American Samoans. Women are strongly urged to apply.

The training will take place at the University of Washington in Seattle, Washington from July 14-27, 1996, with follow-up October 7-11, 1996.

Applications are due May 1, 1996. For further information and application forms, contact Martha Thomas, NW Center for Public Health Practice, University of Washington School of Public Health and Community Medicine, Box 357660, Seattle, WA 98195-7660 (phone: 206-685-1130; e-mail: mthomas@u.washington.edu).

New Educational Video on End-Stage Renal Disease Available

A new videotape on end-stage renal disease (ESRD) for patient education has recently been produced. This 16-minute video shows six American Indian patients treated with hemodialysis, peritoneal dialysis, or transplant. The video focuses on the adjustment to kidney failure rather than the technical aspects of renal replacement therapy. The video was produced under a grant from Baxter Healthcare with technical consultation from the Indian Health Service (IHS) Kidney Disease Program and the IHS Albuquerque Area Health Educators. Single copies of the video can be requested from Bettye Lente, IHS Kidney Disease Program, 801 Vassar Drive N.E., Albuquerque, NM 87106 (phone: 505-256-4000).

Child Safety Seat Videotape Available

Indian Health Service employees demonstrate the use of safety belts and safety seats for infants and children in a 10-minute videotape, "Cross My Heart." The videotape, which can be used as a tool to assist injury prevention advocates with bringing safety belt use to the attention of tribal representatives and gaining support for safety program initiatives, is available for borrowing from the IHS Clinical Support Center, 1616 East Indian School Road, Suite 375, Phoenix, AZ 85016.

Continuing Education on Child Abuse Available

A new continuing education module on "Child Physical Abuse" is available for use at your facility either by individuals or in a group format. The module is based on a slide/tape program, "The Visual Diagnosis of Child Physical Abuse," developed in a cooperative venture between the C. Henry Kemp National Center on Child Abuse and Neglect (NCCAN), the National Resource Center on Child Abuse and Neglect, and the American Academy of Pediatrics. Included in the module are goals and objectives, discussion questions, an evaluation, a posttest, a sample announcement, and instructions about how to use the materials and obtain CE credit.

This activity is intended for physicians, nurses, and anyone else who is involved in the management of patients, families, and communities affected by child physical abuse. It is expected that after having completed the module, participants will be able to: (1) incorporate the elements of the history, physical examination, and laboratory and radiologic evaluation presented in the module into their evaluation of victims of child physical abuse, (2) recognize the physical findings of child abuse including bruises and abrasions, fractures, head and neck injuries, head trauma, ocular trauma, and burns, (3) make appropriate referrals for patients and families who have been affected by child physical abuse, (4) create accurate and medicolegally useful records of alleged child physical abuse, and (5) help design a response system at the service unit that can meet all of the needs of the patient, family, and community when this problem arises.

It takes between two and three hours to complete the module, and it can be divided into two or more sessions. This activity was developed in accordance with the

Accreditation Council for Continuing Medical Education (ACCME) Essentials and the Criteria of the American Nurses Credentialing Center Commission on Accreditation.

To participate, send your written request to the IHS Clinical Support Center, 1616 East Indian School Road, Suite 375, Phoenix, Arizona 85016.

NCME VIDEOTAPES AVAILABLE ®

Health care professionals employed by Indian health programs may borrow videotapes produced by the Network for Continuing Medical Education (NCME) by contacting the IHS Clinical Support Center, 1616 East Indian School Road, Suite 375, Phoenix, Arizona 85016

These tapes offer Category 1 or Category 2 credit towards the AMA Physician's Recognition Award. These CME credits can be earned by viewing the tape(s) and submitting the appropriate documentation directly to the NCME.

To increase awareness of this service, new tapes are listed in The IHS Provider *on a regular basis.*

NCME #687

Emporiatrics: Preventing and Treating Travel-Related Illness. (30 minutes) International travel by Americans to remote and exotic places is on the rise. Consequently, there is a growing need to address the illnesses related to such travel. Join our panel of experts in "Emporiatrics" (from the Greek Emporos [to go on board ship] and iatrike [medicine] as they present the latest information on immunizations, prophylaxis, treatment guidelines, and information resources.

Cutaneous Manifestations of Diabetes. (10 minutes) The skin has a surprising number and variety of diabetic manifestations. Dr. Josef Jelinek discusses three cutaneous conditions that are virtually diagnostic of diabetes, and describes other skin conditions which occur most commonly in the diabetic population.

NCME #688

Stroke Rehabilitation: AHCPR Clinical Practice Guideline. (60 minutes) The Agency for Health Care Policy and Research developed the guideline summarized in this program to assist primary care providers and rehabilitation specialists in the planning of care following the acute phase of treatment for stroke. Among the key recommendations presented in this video are the intervention of rehabilitation specialists as early as possible, and involvement of the patient's family in all phases of rehabilitation.

NCME #689

Recognizing Skin Signs of Systemic Disease. (30 minutes) Dermatologic signs may be the first clues to underlying systemic disease. Awareness of such cutaneous signs can be very important for physicians in all specialties. In this program, Dr. Irwin M. Braverman illustrates cutaneous manifestations of endocrine and metabolic disorders, hypersensitivity disorders, and disorders related to specific organ systems.

High Dose Chemotherapy with Autologous Hematopoietic Progenitor Cell Support for the Treatment of Breast Cancer. (12 minutes) High-dose chemotherapy with autologous bone marrow support is effective treatment for selected patients with poor-prognosis breast cancer. Dr. Elizabeth J. Shpall shows how CD34+ marrow and/or peripheral blood progenitor cells (PBPCs) provide reliable and timely hematopoietic reconstruction in breast cancer patients receiving high-dose chemotherapy. A positive technique for reducing contamination of both marrow and PBPCs with breast cancer cells is demonstrated.

NCME #690

Ocular Findings in Systemic Disease. (60 minutes) The human eye is often a window to underlying systemic disease. In this video guide for primary care physicians, Dr. Peter C. Donshik presents visual examples of ocular findings which provide early diagnostic clues to a variety of diseases. Ocular manifestations which suggest late developments in patients with known problems are also examined.

NCME #S103

Alzheimer's Disease . . . A Wilderness Explored. (30 minutes) This program provides an update on what we know and what we speculate about this devastating disease. Patients and their families present the human side while leading clinicians and researchers detail their work on the etiology, with a specific concentration on the genetic link which may yield the key to prevention and/or management.

NCME #S104

Challenges in Medicine . . . Avoiding the Post-Antibiotic Era. (17 minutes) This program reinforces the need for caution in prescribing antibiotics and provides specific guidelines for reducing the risks of encouraging the development of resistant bacterial strains.

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