Oregon Tobacco Prevention and Education Program

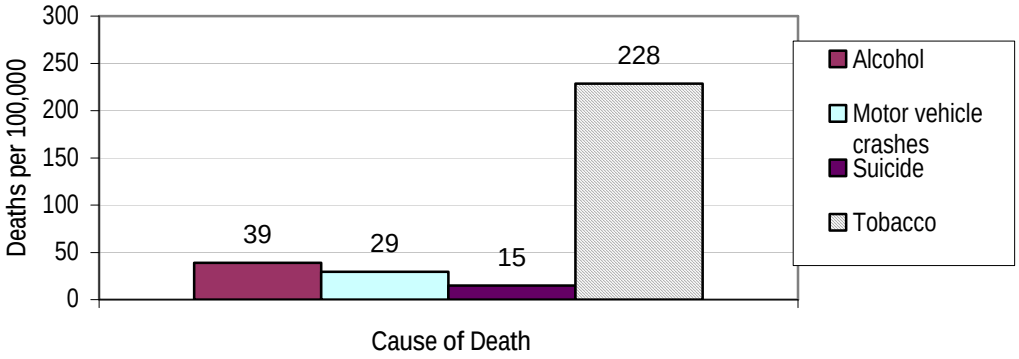
American Indian/Alaska Native Data Report – 2007

According to the 2005 U.S. Census of Oregon's 3.6 million inhabitants, 1.4 percent (47,805 individuals) identified themselves as American Indian/Alaska Native.

Tobacco's annual toll on American Indian/Alaska Natives in Oregon

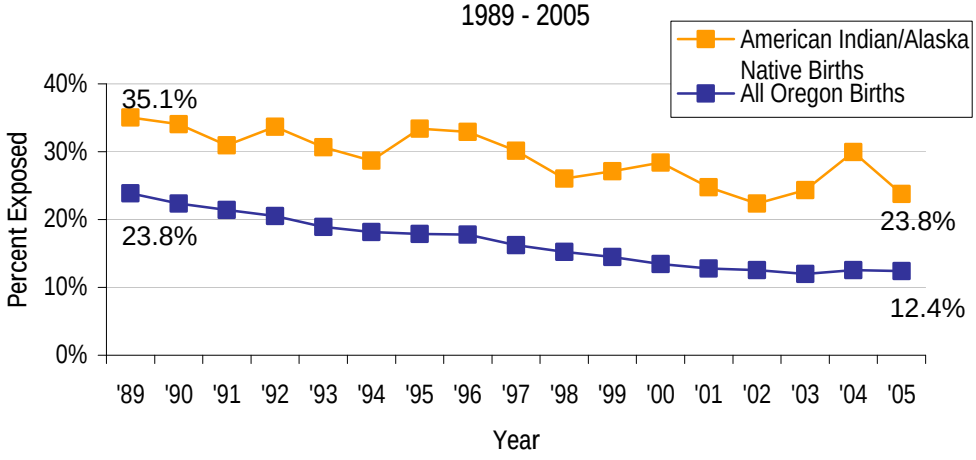
64 American Indian/Alaska Natives	die from tobacco use.
1,250 American Indian/Alaska Natives	suffer from a serious illness caused by tobacco use.
$10.1 million	is **spent** on medical care for American Indian/Alaska Natives for tobacco-related illnesses.
$10.1 million	in productivity is **lost** due to tobacco-related deaths.

Figure 1. Selected causes of death among Oregon American Indians/Alaska Natives, 2000-2004



Death among Oregon American Indian/Alaska Natives is 6 to 15 times more likely to be due to tobacco than due to alcohol, motor vehicle accidents or suicide.

Figure 2. Infants born to women who smoked during pregnancy 1989 - 2005

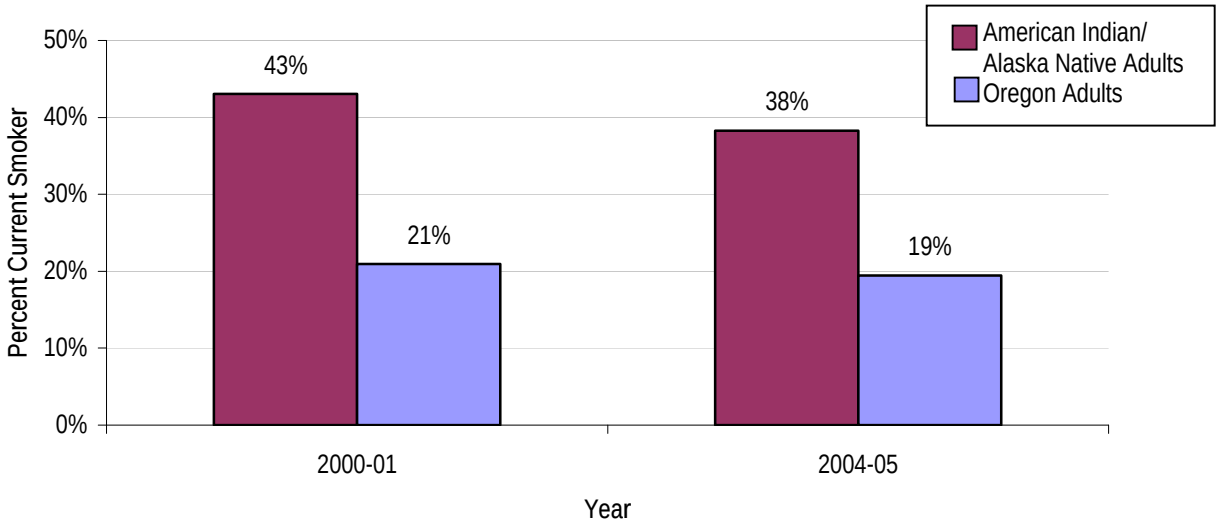


A lower percentage of the babies born to American Indian/Alaska Native mothers were exposed to their mother's cigarette smoking in the prenatal period in 2005 (23.8 percent) than in 1989 (35.1 percent).

The risk for perinatal mortality, both stillbirths and neonatal deaths, and the risk for sudden infant death syndrome (SIDS) are higher for the offspring of women who smoke during pregnancy - 2001 Surgeon General's Report[i]

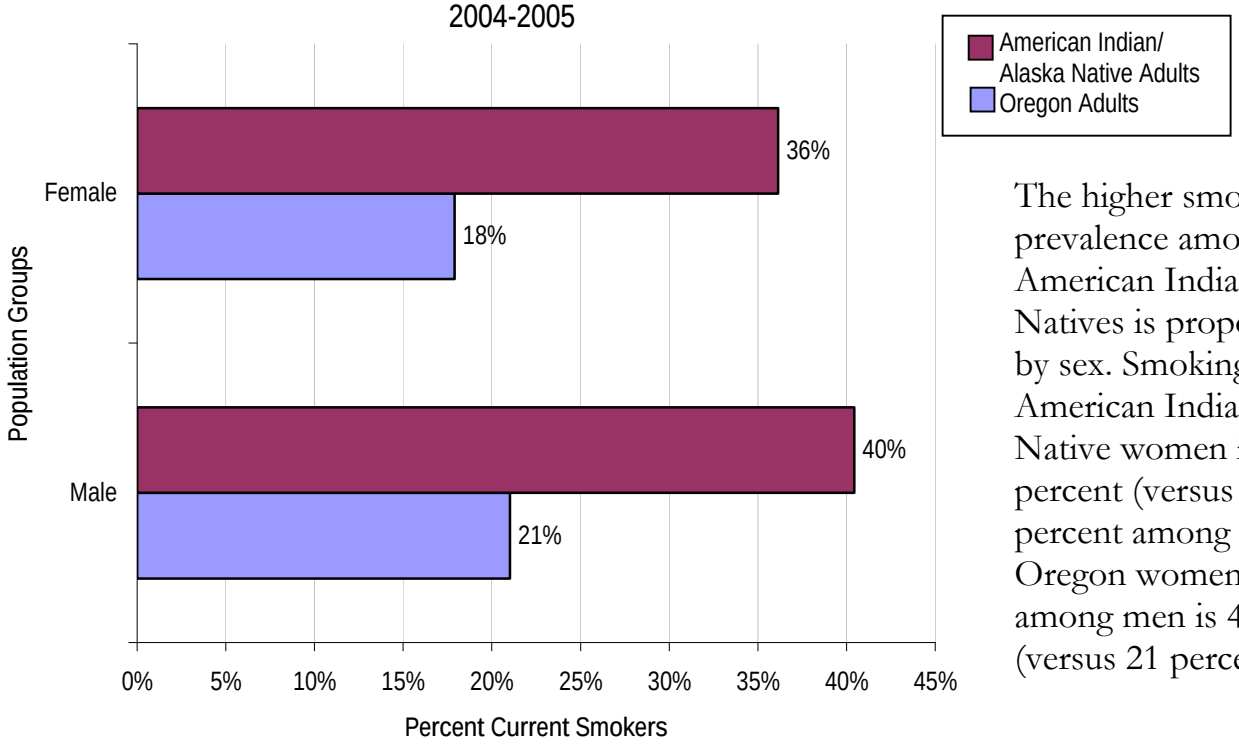
Adult smoking

Figure 3. Smoking prevalence among Oregon adults, 2000-01 and 2004-05



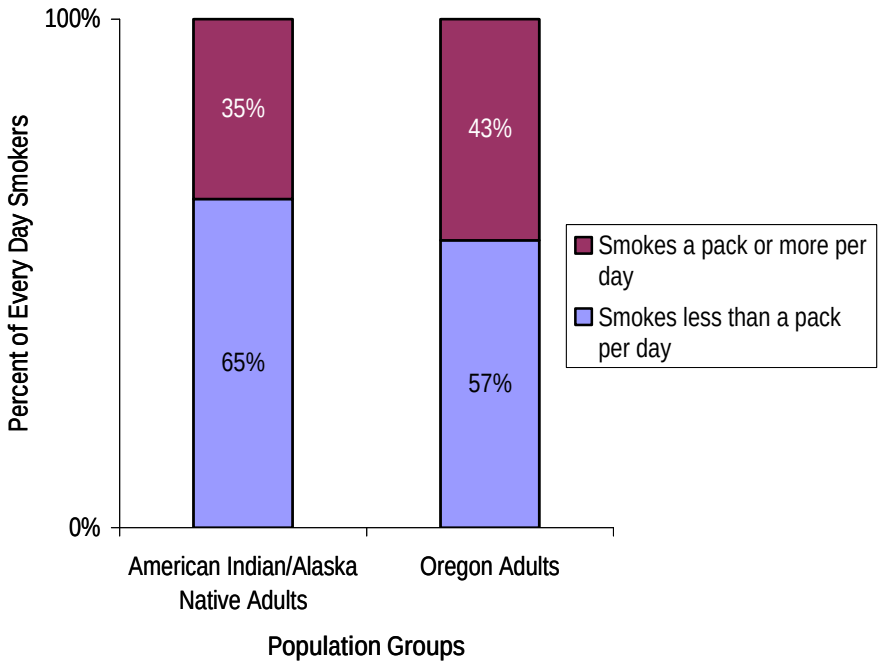
Although there appears to be a decrease in American Indian/Alaska Native smoking prevalence, it is not significant due to the small number of American Indian/Alaska Native respondents to the surveys. In addition, American Indian/Alaska Natives are twice as likely to smoke as overall Oregon adults.

Figure 4. Smoking prevalence among Oregon adults, by sex, 2004-2005



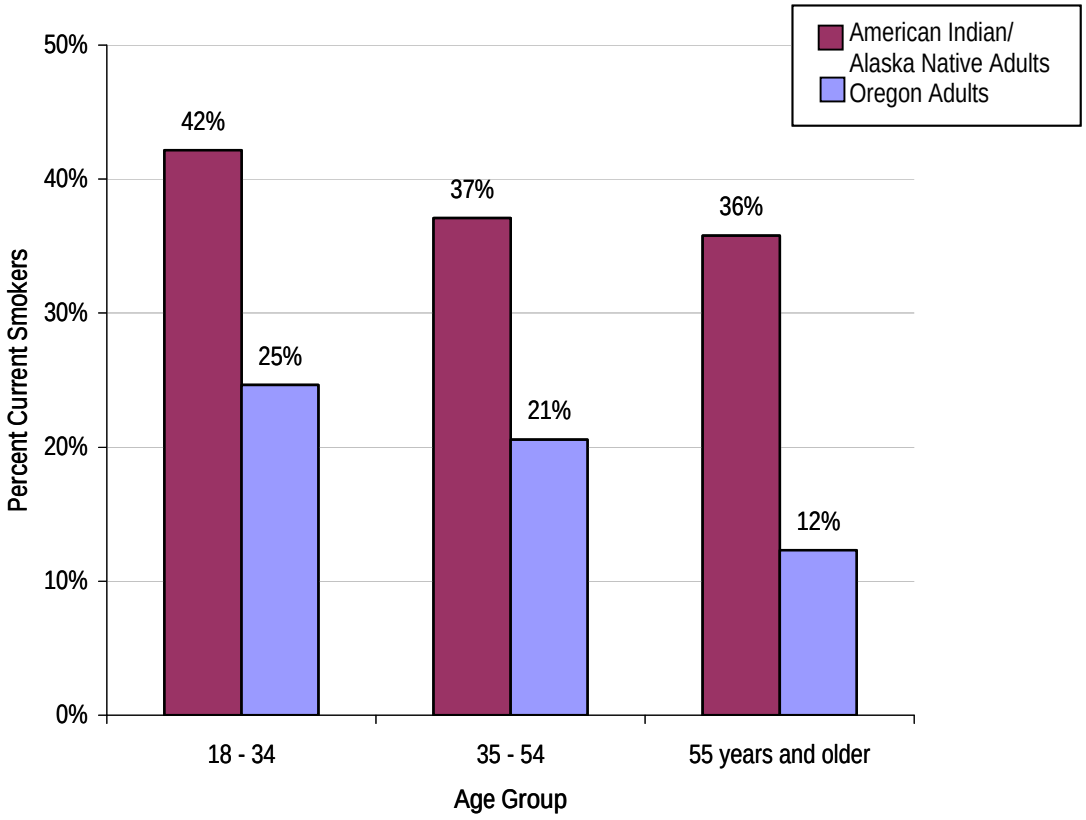
The higher smoking prevalence among American Indian/Alaska Natives is proportionate by sex. Smoking among American Indian/Alaska Native women is 36 percent (versus 18 percent among all Oregon women) and among men is 40 percent (versus 21 percent).

Figure 5. Cigarette consumption among every day smokers, 2004-2005



Although American Indian/Alaska Native adults are more likely to smoke, those who smoke every day appear to smoke fewer cigarettes per day on average. Sixty-five percent smoke less than a pack per day, as compared with only 57 percent of the overall Oregon population.

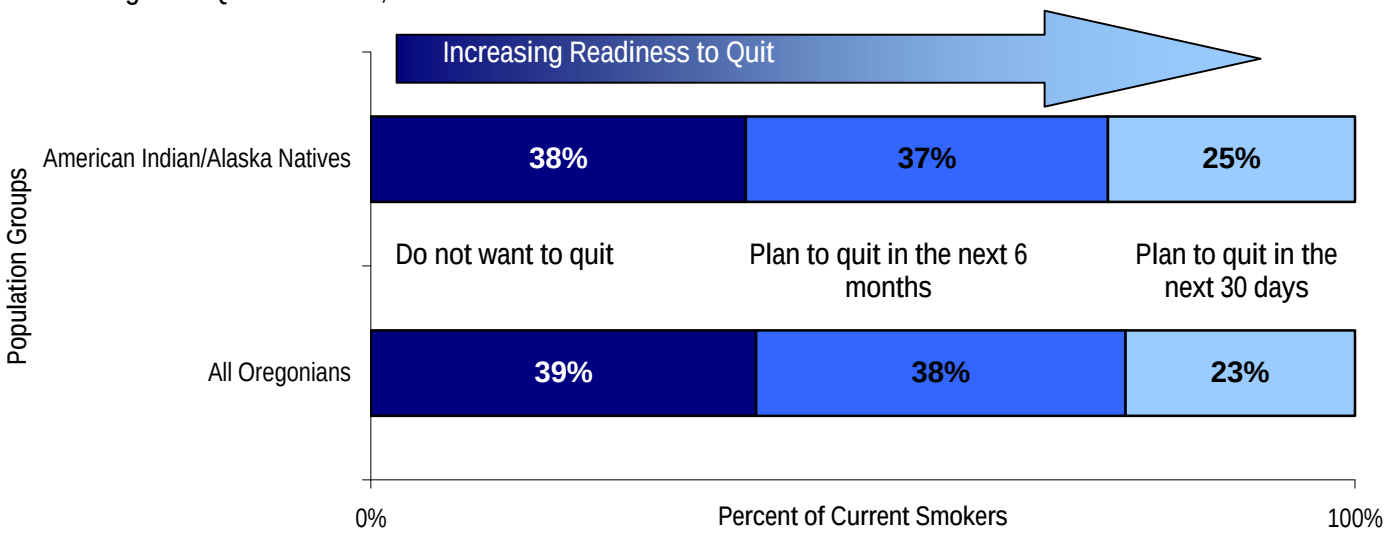
Figure 6. Smoking prevalence among Oregon adults, by age 2004-2005



Unlike the overall Oregon population, smoking among Oregon American Indian/Alaska Native adults does not dramatically decrease with age.

Adult quitting

Figure 7. Quit Intentions, 2004-2005



The figure above shows readiness to quit using the categories of the Transtheoretical Model.[ii] According to this model, smokers who do not want to quit are in the pre-contemplation phase. Those planning to quit in the next six months are contemplating, while those planning to quit in the next 30 days are in the preparation stage of change.

Quitting smoking is a complicated, nonlinear process for many people. A person often plans to quit, and then may quit for some period of time, before relapsing and starting the process again. The diagram above includes those who have relapsed, as well as those who have yet to attempt to quit smoking. The average person attempts to quit smoking two to three times before achieving lasting success.[iii]

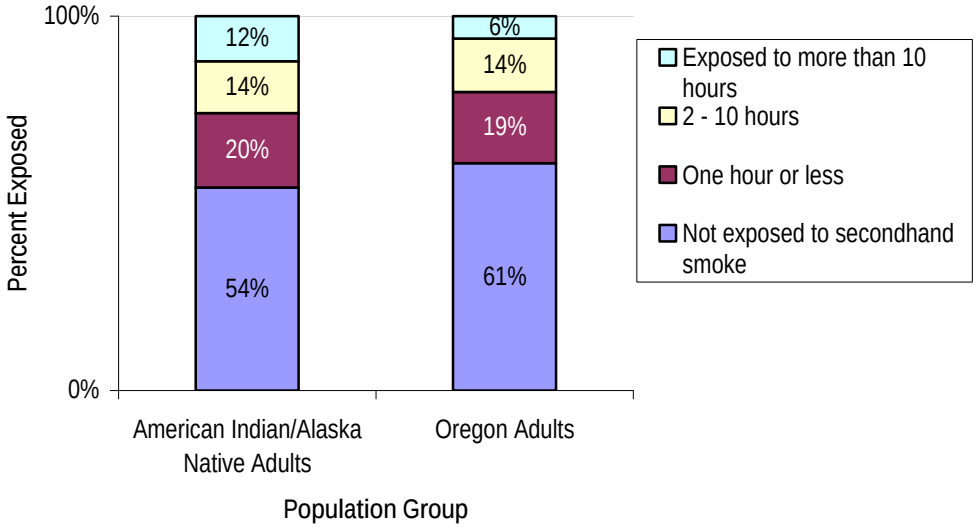
American Indian/Alaska Native smokers quit intentions appear to mirror those of the overall population. This implies similar levels of social pressure to quit as well as consciousness regarding the benefits of quitting.

1.9 percent of adult American Indian/Alaska Native smokers called the Oregon Quit Line in 2004-2005 as compared to 1.5 percent of all Oregon smokers.

Adult secondhand smoke exposure

According to the 2006 Surgeon General's Report – *The Health Consequences of Involuntary Exposure to Tobacco Smoke* – "There is no risk-free level of exposure to secondhand smoke: even small amounts of secondhand smoke exposure can be harmful to people's health."[iv]

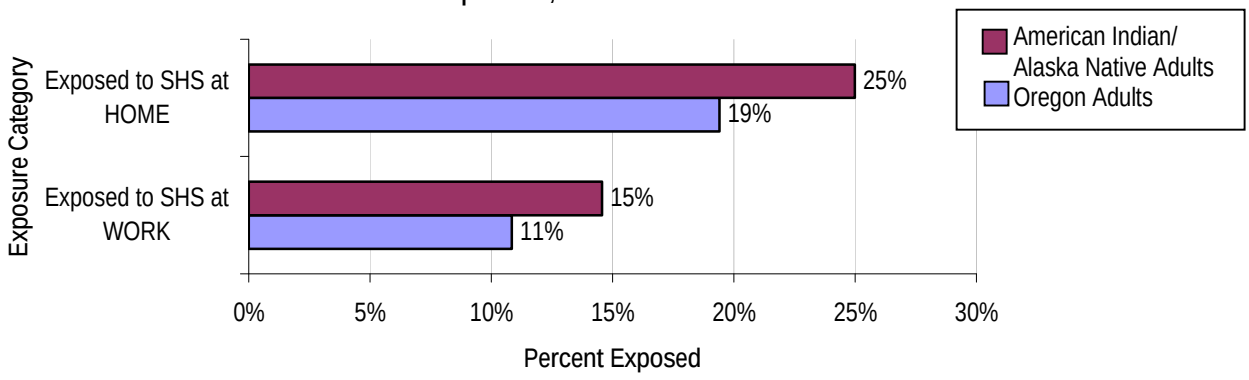
Figure 8. Hours of secondhand smoke exposure from all sources during a typical week, 2004-2005



Nonsmokers exposed to secondhand smoke at home or work increase their risk of developing heart disease by 25 to 30 percent and lung cancer by 20 to 30 percent.[iv]

Forty-six percent of American Indian/Alaska Native adults, compared with 39 percent of all Oregon adults, are exposed to secondhand smoke (SHS) in a typical week. American Indian/Alaska Native adults are more likely than Oregon adults, in general, to be exposed to 10 hours or more of SHS in a typical week. Figure 9 shows SHS exposure in the home and at work to be greater among American Indian/Alaska Native adults than all Oregon adults.

Figure 9. Secondhand smoke exposure during the last 30 days by source of exposure, 2004-2005

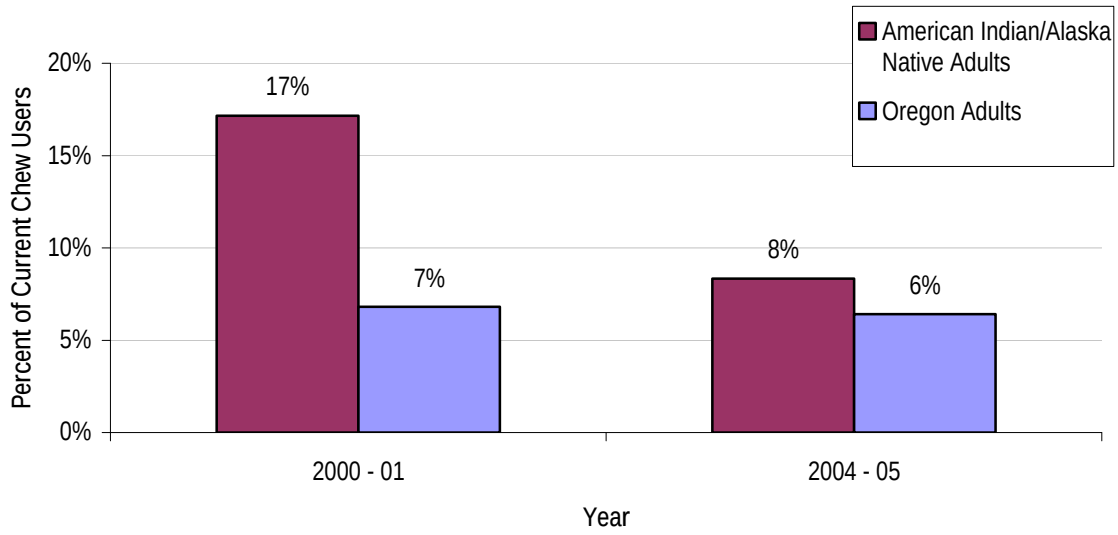


Eighty-five percent of American Indian/Alaska Natives think that people should be protected from secondhand smoke. However, only 38 percent of American Indian/Alaska Natives think smoking should not be allowed in bars. This is lower than the overall Oregon estimate (51 percent).

Adult male chew tobacco use

Chewing tobacco use was only assessed for males, as less than 0.1 percent of females in Oregon use smokeless tobacco.

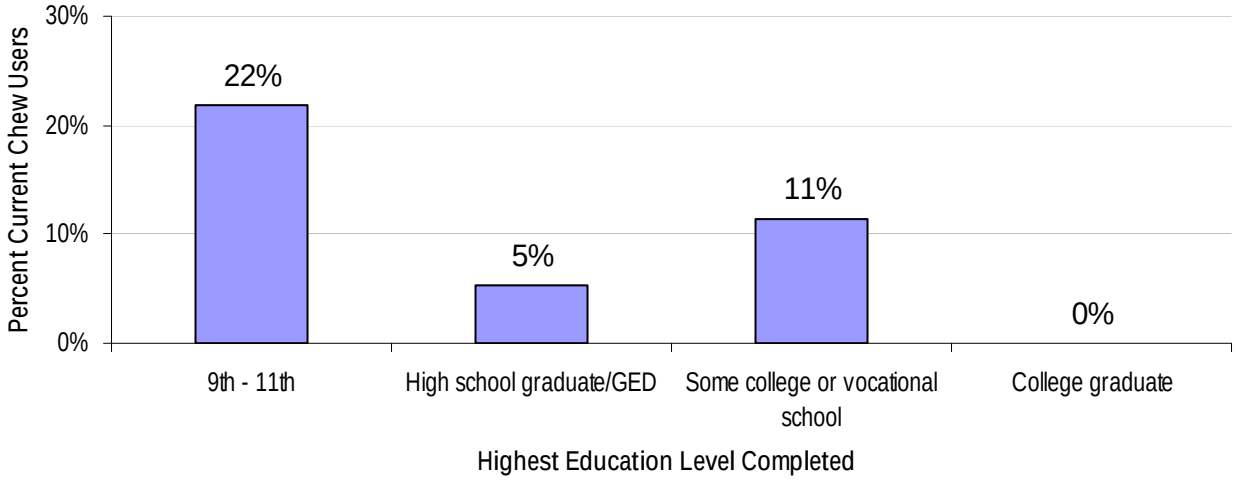
Figure 10. Chewing tobacco use among Oregon males 2000-01 and 2004-05



Despite having an overall higher prevalence of chewing tobacco use than male Oregonians, the 53 percent reduction in use among male American Indian/Alaska Natives since 2000-2001 is statistically significant.

Figure 11. Chewing tobacco use among American Indian/Alaska Native males, by highest education level completed, 2004-2005

*estimates are based on small population size and may not be reliable, despite clear statistical significance.

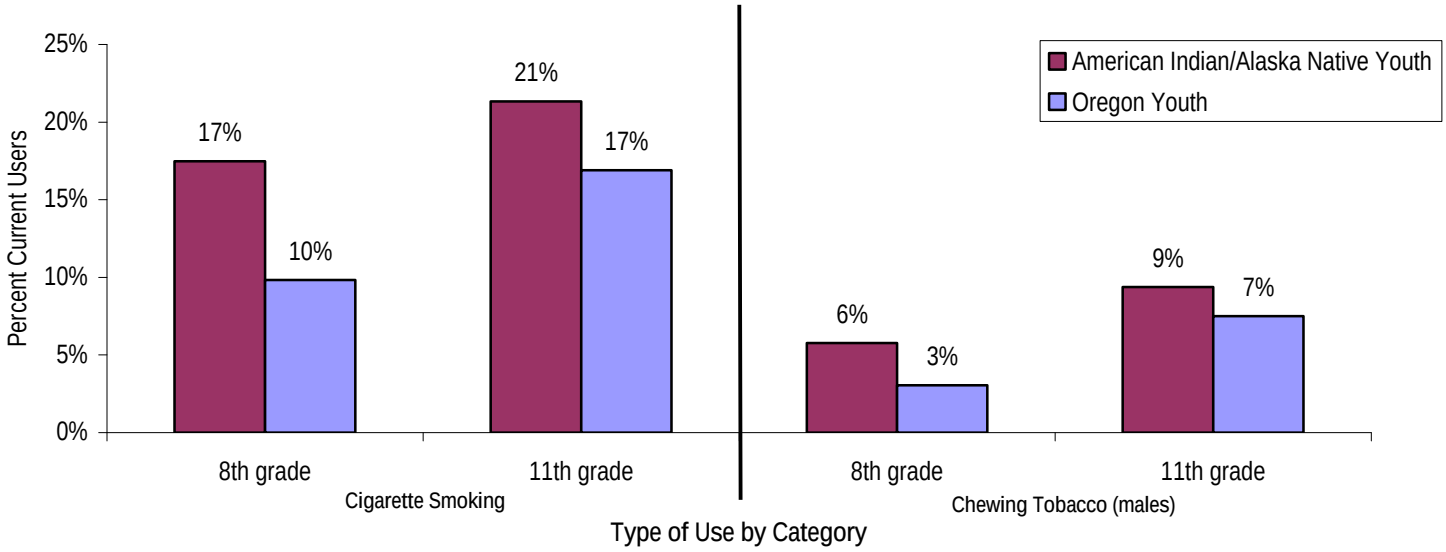


Chewing tobacco use is significantly correlated with education attainment among male American Indian/Alaska Native adults. Males whose highest level of education completed was 9th-11th grade have a higher prevalence (22 percent) than those who have graduated college (0 percent).

Youth tobacco use

As with adults, tobacco use among American Indian/Alaska Native youth is higher than among overall Oregon youth. The difference between the prevalence of smoking among American Indian/Alaska Native youth and all Oregon youth is significant, especially among 8th grade students. Chew prevalence is also higher among American Indian/Alaska Native males, with the 11th grade chew prevalence mirroring that of the adult American Indian/Alaska Native population.

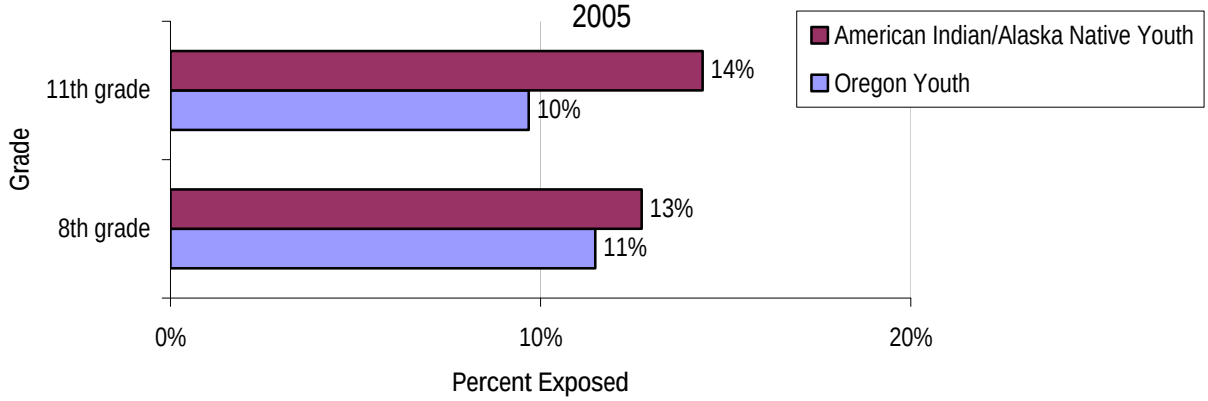
Figure 12. Tobacco Use Among 8th and 11th Graders, 2005



Youth exposure to secondhand smoke

Exposure to secondhand smoke in the home has been correlated with increased smoking prevalence among youth. Recent findings from the Global Tobacco Youth Survey indicate youth who never smoked are 1.4 to 2.1 times more likely to be susceptible to initiate smoking if they were exposed to secondhand smoke in the home.[v]

Figure 13. Secondhand smoke exposure in the home among Oregon youth, 2005



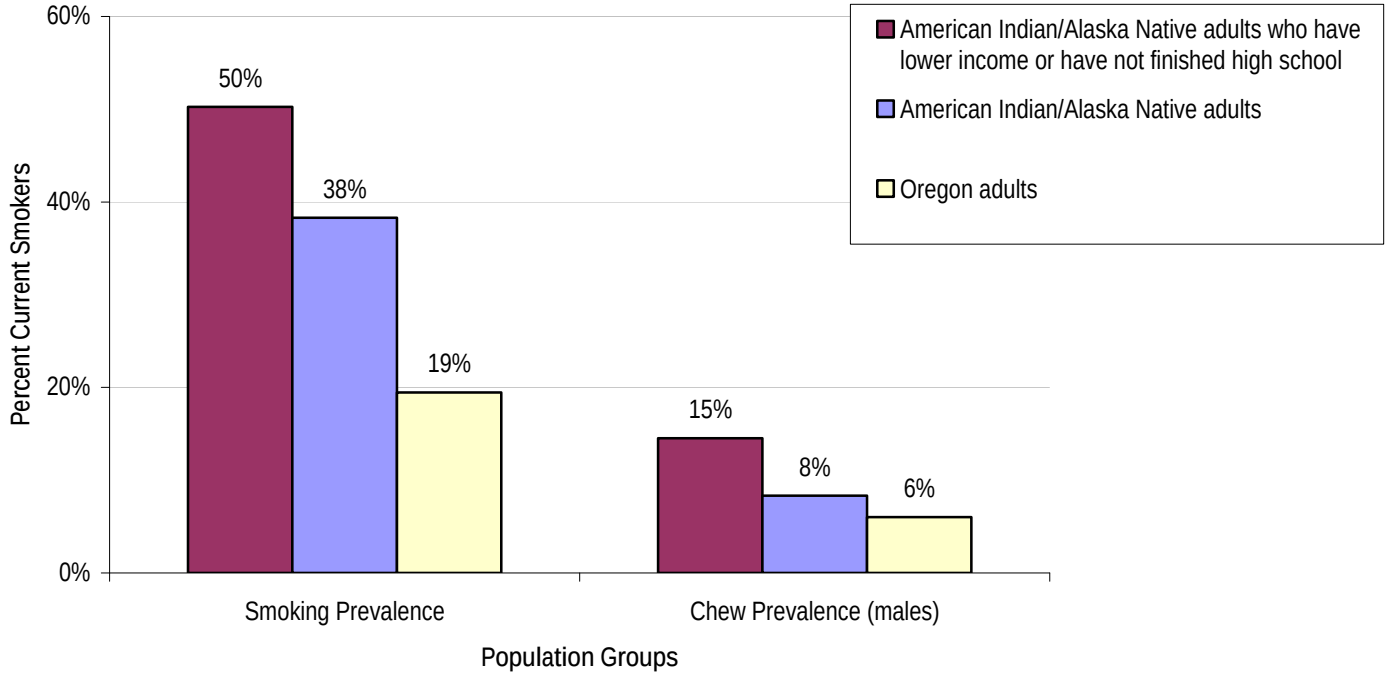
As with adults, American Indian/Alaska Native youth are more likely than overall Oregon youth to be exposed to secondhand smoke in the home.

Smoking among American Indian/Alaska Native adults who have lower income or have not finished high school

Smoking prevalence varies by race/ethnicity as well as by societal factors. Both income and level of education completed have been associated with increased prevalence of smoking. Americans living below the federal poverty line are 40 percent more likely to smoke than those living at or above the federal poverty line.[vi]

Thirty-five percent of American Indian/Alaska Native adults in Oregon have incomes lower than the federal poverty line or have not finished high school as compared with 18 percent of the overall Oregon population. This group is more likely to smoke and be exposed to secondhand smoke than the overall Oregon population.

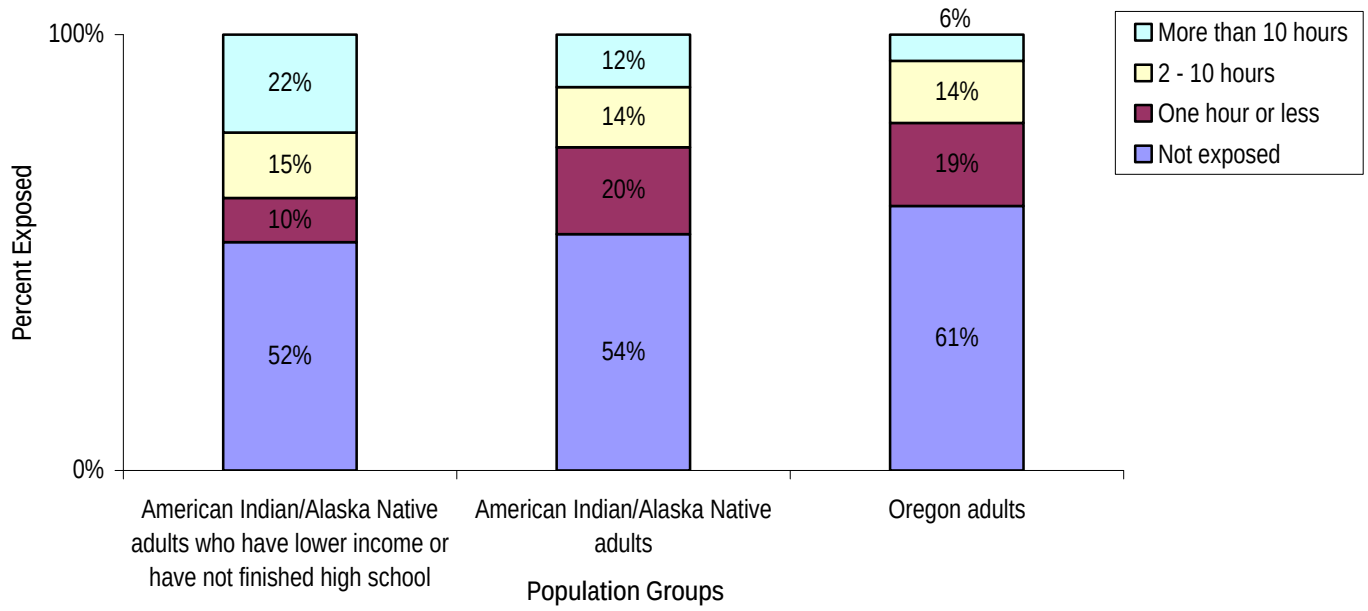
Figure 14. Tobacco use among Oregon adults, 2004-2005



In Oregon, American Indian/Alaska Native adults who have lower income or have not finished high school have a higher smoking prevalence (50 percent) than all American Indian/Alaska Native adults (38 percent) in general. This trend mirrors the elevated smoking prevalence among all Oregon adults who have lower income and have not completed high school (31 percent).

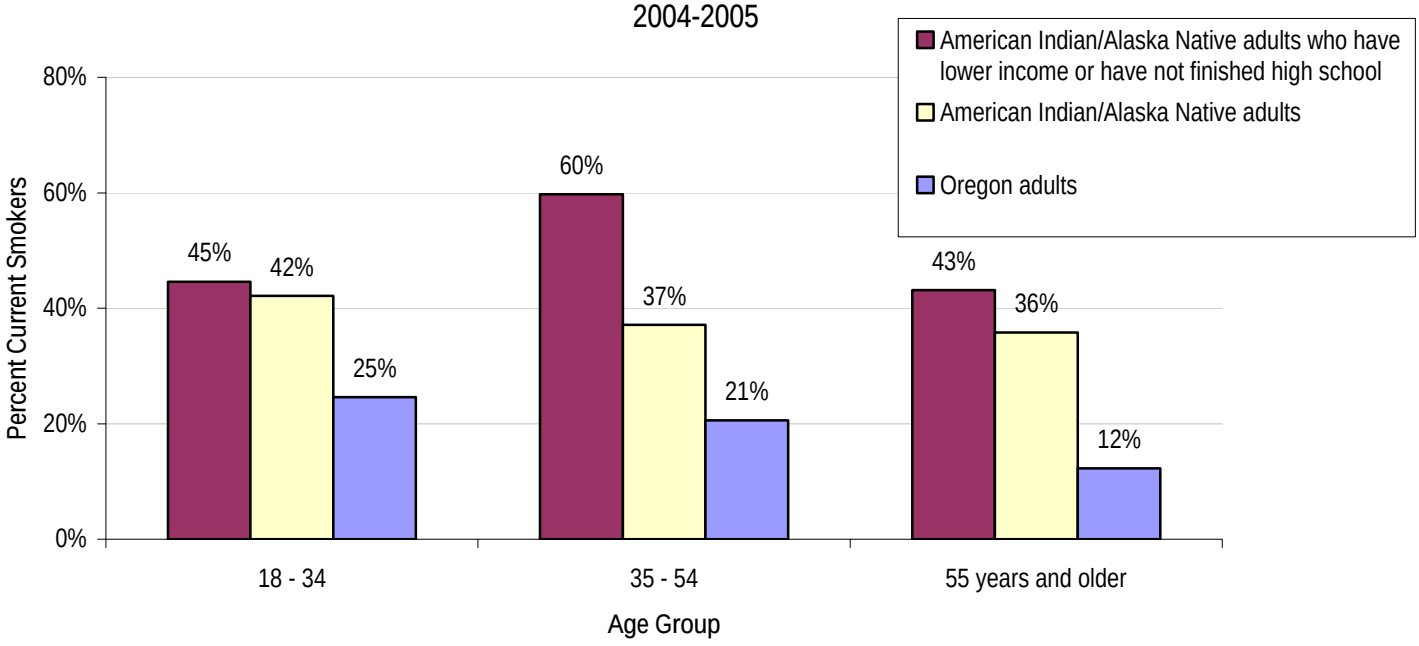
American Indian/Alaska Native males who have lower income or have not finished high school are 2.6 times more likely to chew than American Indian/Alaska natives living above the federal poverty line and possessing at least a high school education.

Figure 15. Hours of secondhand smoke exposure from all sources during a typical week, 2004-2005



In addition to higher prevalence of smoking, American Indian/Alaska Native adults who have lower income or have not finished high school are exposed to significantly more secondhand smoke (48 percent) than the overall Oregon adult population (39 percent). Twenty-two percent of those exposed are exposed to more that 10 hours of secondhand smoke.

Figure 16. Smoking prevalence among Oregon adults, by age 2004-2005



Sixty percent of 35 to 54 year old American Indian/Alaska Native adults who have lower income or have not finished high school smoke. This is almost *three* times higher than the percent of Oregon adults in the same age group (21 percent).

Methods

Denominator sizes for the survey data depicted in figures

Figure Number	All Oregonians	American Indian/Alaska Native	American Indian/Alaska Native adults who have lower income or have not finished high school	Oregon adults who have lower income or have not finished high school
5	4,173	220		
6	23,575	609		
7	1,222	124		
8	6,521	341		
9 - WORK	9,004	251		
9 - HOME	6,719	351		
11*		234		
14 - SMOKE		609	225	3,618
14 - CHEW		234	71	
15	6,521	241	136	
16	23,575	609	225	

* The denominator for chewing tobacco use by education attainment is 234, however, the numerators of some of the categories are <10 and data may be less reliable.

General

All survey data, unless otherwise specified, are age-adjusted and weighted. "Age adjustment is used to compare risks of two or more populations at one point in time or one population at two or more points in time."[vii] This method helps to better depict what is really happening in a population where age may be correlated with the outcome, in this case, tobacco use.

Weights were applied to survey data to account for Oregon's population distribution by age and sex during the survey year. Weights are an artificial adjustment to ensure that survey data reflect the population being studied.

All significance testing was conducted at the 95 percent confidence level using an immediate form of a Student's t-test in Stata 9.0.

Tobacco related deaths

Using Oregon Vital Statistics data, age-adjusted death rates for specific causes by race were calculated for 2000 – 2004 (numerator>=20).

Percent of live births to mothers that smoked

Using Oregon Vital Statistics data, proportions of live births in which the mother reported smoking during the prenatal period were calculated. Data are not age-adjusted or weighted. They are actual counts.

Adult smoking, quitting, chew prevalence and secondhand smoke exposure

Adult estimates were calculated using the 2004-2005 Behavioral Risk Factor Surveillance System (BRFSS) oversample, except when looking at trends including the 2000-2001

BRFSS oversample. "The Behavioral Risk Factor Surveillance System (BRFSS) is the world's largest, on-going telephone health survey system, tracking health conditions and risk behaviors in the United States yearly since 1984."[viii] Oregon data are age-adjusted and weighted.

A current smoker is defined as someone who has smoked at least 100 cigarettes in his or her life and currently smokes. Chewing tobacco use was only assessed for males, as less than 0.1 percent of females in Oregon use smokeless tobacco.

Youth tobacco use and exposure to secondhand smoke

All estimates are calculated using the 2005 Oregon Healthy Teens (OHT) survey. The Oregon Healthy Teens survey is a comprehensive, school-based, anonymous and voluntary survey. OHT monitors risk behaviors and other factors that influence the health and well being of Oregon's children and adolescents. Data are weighted by statewide youth population estimates, but are not age-adjusted because only 8th and 11th graders were surveyed, and the data can only reflect trends for these two groups.

Adults who have lower income or have not finished high school

Estimates were calculated using the 2004-2005 BRFSS race oversample, and were age-adjusted. The same weighting strategy used for adult estimates was applied to this analysis. Adults who have lower income or have not finished high school is defined as respondents living below 100 percent of the federal poverty line and/or possessing less than a high school education. The 100 percent federal poverty line variable was calculated using household size and income. Income on BRFSS is collected using categories rather than actual numbers. At the lower end of income, these categories increase by $5000 increments. The category that matched the 100 percent federal poverty line for household size in the year the survey was conducted was used for the calculation.

Potential limitations

BRFSS is the main source of population-level data to assess tobacco use and exposure among adults in the state of Oregon. American Indian/Alaska Native adults who do not have landline telephones would not be included in the sample.

According to a national study in 2006, 12.8 percent of American homes only used wireless telephones.[ix] Assuming the trend is similar in Oregon, the current BRFSS methodology may exclude almost one-eighth of adults from the sample.

Nationally, wireless only households have a significantly higher prevalence of smoking (29.6 percent) as compared with landline only households (18.9 percent). Households without telephone service have the highest smoking prevalence (41.5 percent).[xi] These limitations may lead to underreporting of smoking prevalence, as multiple studies have confirmed the correlation between cell phone usage and smoking. [x,xi]

Institutionalized populations (e.g. individual is hospitals, prisons, nursing homes, mental health facilities, etc.) are not included in BRFSS. These populations may have higher rates of smoking than the general population.

Additionally, ceremonial tobacco use may inflate the overall prevalence of tobacco use, as BRFSS does not ask questions to distinguish ceremonial use from commercial use of tobacco products.

ZIP code was not collected, so it is not possible to distinguish rural versus urban American Indian/Alaska Native respondents. Rural and urban American Indian/Alaska Native adults may have different rates of tobacco use related to acculturation and other factors that could not be elucidated in this report.

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[i] U.S. Department of Health and Human Services. *Women and Smoking: A Report of the Surgeon General*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2001.

[ii] Prochaska, James O. *Changing for good: the revolutionary program that explains the six stages of change and teaches you how to free yourself from bad habits*. New York: W. Morrow, 1994.

[iii] *You Can Quit Smoking: Consumer Guide*. U.S. Department of Health and Human Services, Public Health Service. June 2000.

[iv] U.S. Department of Health and Human Services. *The Health Consequences of Involuntary Exposure to Tobacco Smoke: A Report of the Surgeon General*. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2006.

[v] "Exposure to Secondhand Smoke Among Students Aged 13 – 15 years – Worldwide, 2000-2007." *CDC Morbidity and Mortality Weekly Report*. vol. 56 . no. 20, May 25, 2007.

[vi] Smoking Habits and Prevention Strategies in Low Socio-economic Status Populations. *National Network on Tobacco Prevention and Poverty*. 2004

[vii] National Center for Health Statistics Definitions Web Page. 22 May 2007 www.cdc.gov.mill1.sjlibrary.org/nchs/datawh/nchsdefs/ageadjustment.htm.

[viii] "Turning Information into Health, Behavioral Risk Factor and Surveillance System." Center for Disease Control.11 July 2007 www.cdc.gov/brfss/index.htm.

[ix] Blumeberg SJ, Luke JV. "Wireless Substitution: Early release of estimates based on data from the national Health Interview Survey, July – December 2006." National Center for Health Statistics. 14 May 2007 www.cdc.gov/nchs/nhis.htm.

[x] Blumeberg et al. "Telephone Coverage and Health Survey Estimates: Evaluating the Need for Concern About Wireless Substitution." *American Journal of Public Health.* vol. 96, no. 5, May 2006.

[xi] Nelson et al. "A Comparison of National Estimates from the National Health Interview Survey and the Behavioral Risk Factor Surveillance System." *American Journal of Public Health*. vol. 93, no 8, August 2003.

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