

# Oregon Tobacco Prevention and Education Program

## Oregon adults who have lower income or have not finished high school

### Data Report – 2007

Eighteen percent of Oregon adults have incomes lower than the federal poverty line or have not finished high school. Seventy percent of this population lives outside of the Tri-county area (Multnomah, Clackamas and Washington Counties).

#### Adult smoking

Economic status is the single greatest predictor of tobacco use in the United States. Americans living below the federal poverty line are 40 percent more likely to smoke than those living at or above the federal poverty line.<sup>i</sup> Oregon adults who have lower income or have not finished high school are 1.8 times more likely to smoke than Oregonians whose income is above the poverty line and have higher than a high school education. Twenty-seven percent of current smokers in Oregon have lower income or have not finished high school.

Figure 1. Oregon adults who have lower income or have not finished high school by race and ethnicity, 2004-2005

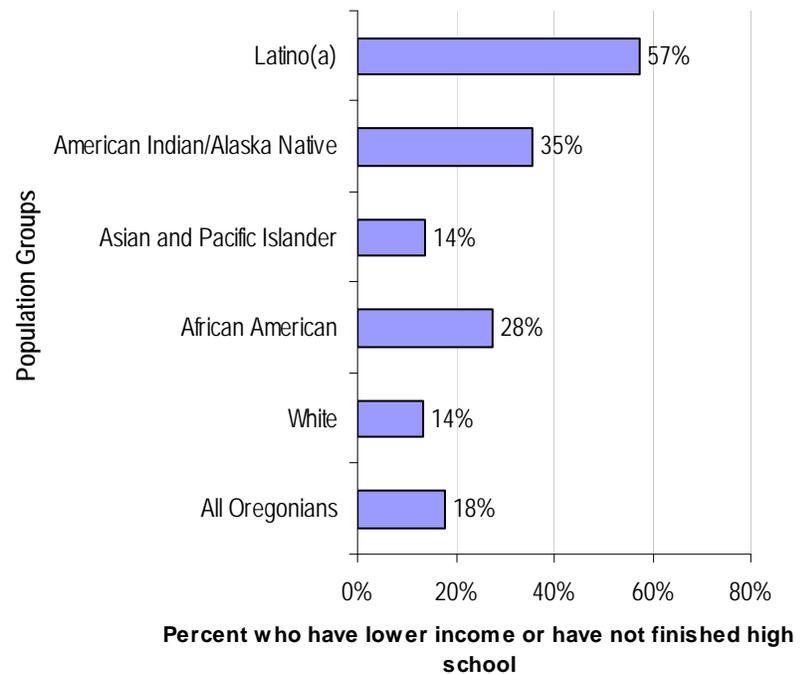
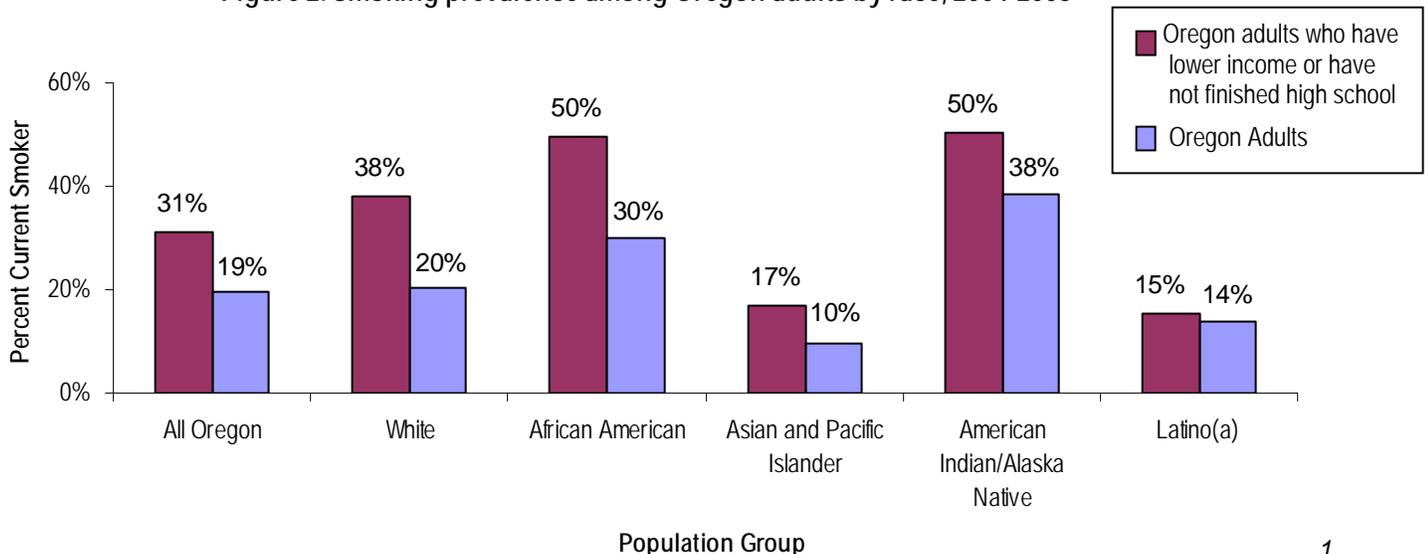
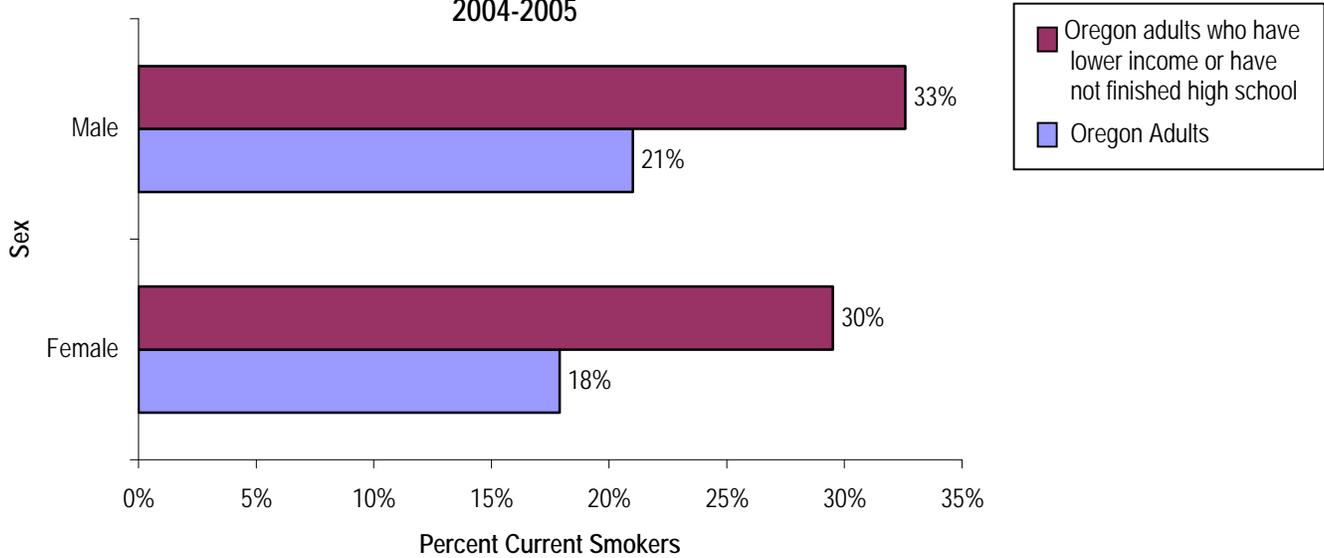


Figure 2. Smoking prevalence among Oregon adults by race, 2004-2005



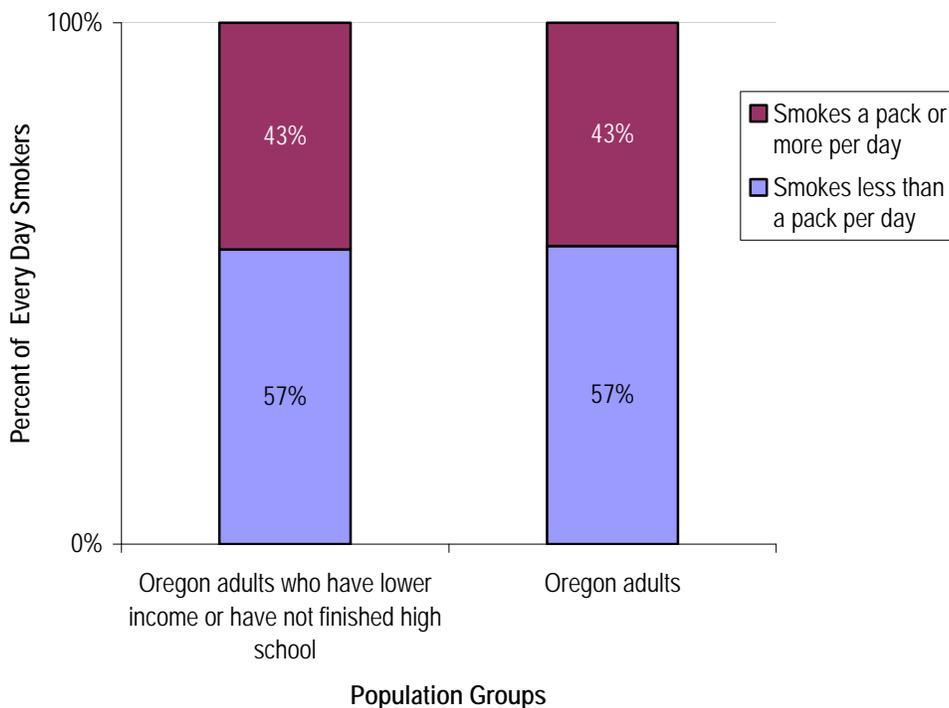
Poverty status is associated with higher smoking prevalence among all Oregonians and among specific populations, except for Latinos where prevalence is similar regardless of economic status.

**Figure 3. Adult smoking prevalence by sex, 2004-2005**



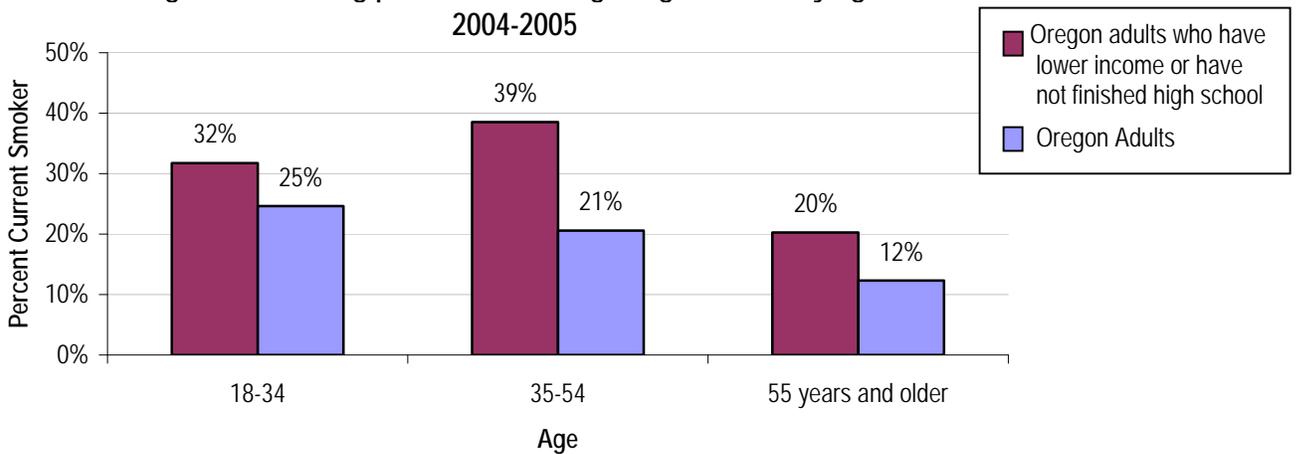
This increased smoking prevalence among the adults who have lower income or have not finished high school seems to affect both men and women proportionately.

**Figure 4. Cigarette consumption among every day smokers, 2004-2005**



Oregon adult every day smokers who have lower income or have not finished high school smoke a similar quantity of cigarettes as the overall population, with 57 percent smoking less than a pack per day.

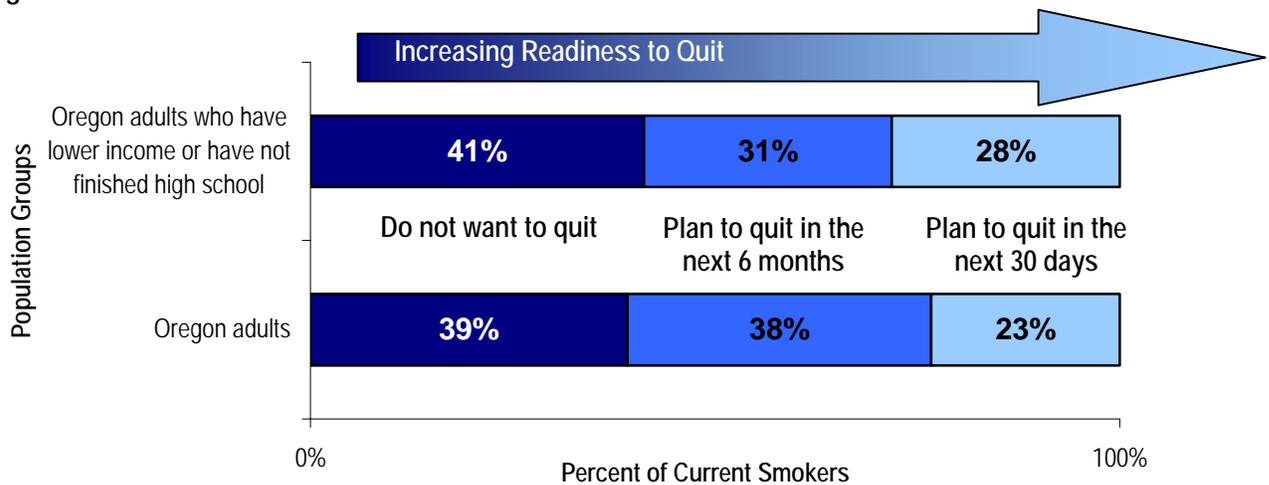
Figure 5 Smoking prevalence among Oregon adults by age, 2004-2005



Unlike the overall population in which smoking prevalence is highest for 18 – 24 year olds and then decreases with age, Oregon adults who have lower income or have not finished high school experience the highest prevalence among 35-54 year olds (39 percent).

### Adult quitting

Figure 6. Quit Intentions 2004-2005



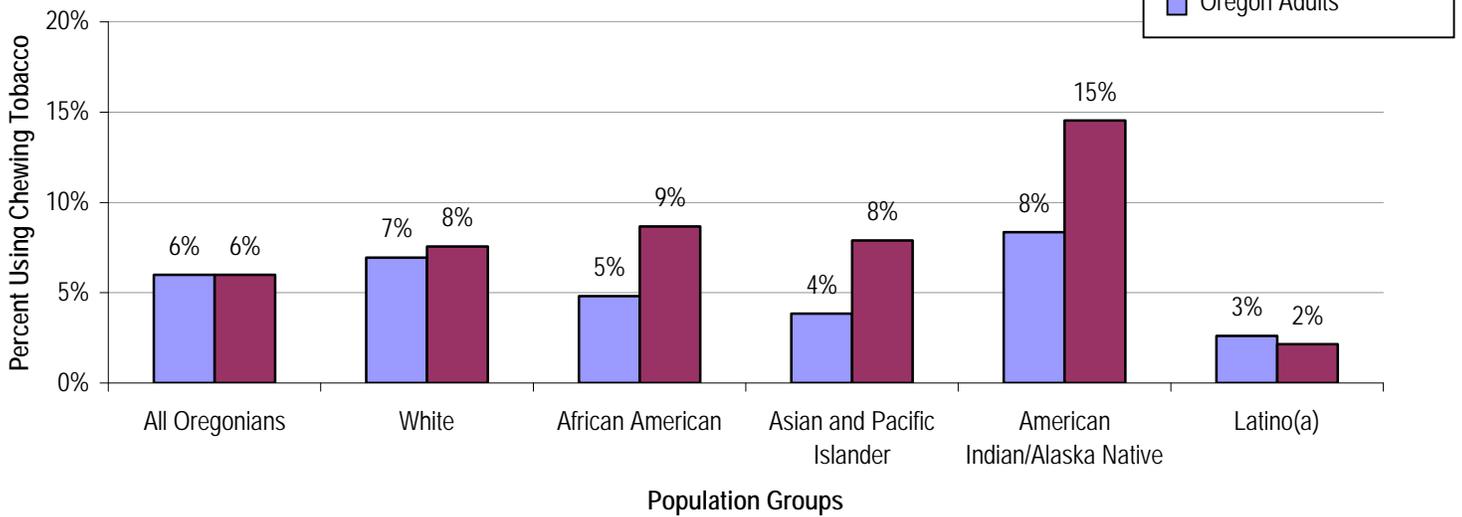
The figure above shows readiness to quit using the categories of the Transtheoretical Model.<sup>ii</sup> According to this model, smokers who do not want to quit are in the pre-contemplation phase. Those planning to quit in the next six months are contemplating; while those planning to quit in the next 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.<sup>iii</sup>

Twenty-eight percent of Oregon adults who have lower income or have not finished high school plan to quit in the next 30 days. They are preparing for change and have accepted responsibility to quit smoking. However, only 31 percent as compared with 38 percent of the overall Oregon population are contemplating quitting.

## Male chewing tobacco use

Figure 7. Chewing tobacco use among Oregon adult men, 2004-2005

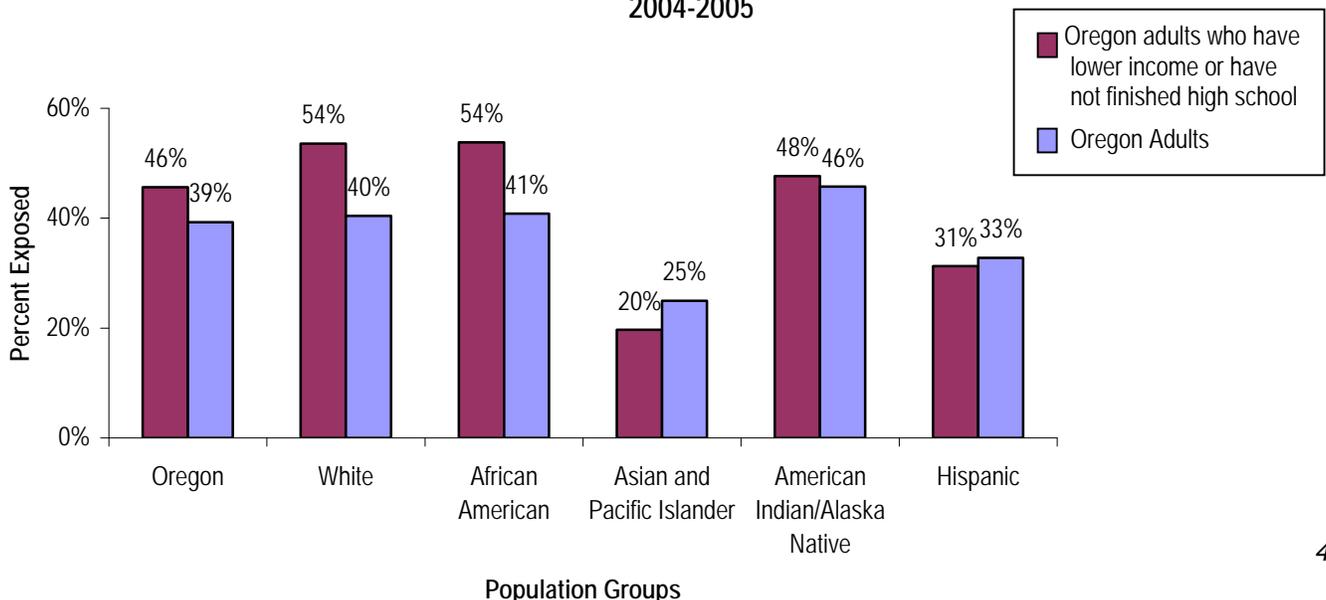


When looking at chewing tobacco usage in Oregon, Oregon adults who have lower income or have not finished high school report similar usage to the overall Oregon population. However, within some race/ethnicities, chewing tobacco use is significantly higher for adults who have lower income or have not finished high school. American Indian/Alaska Native adult males who have lower income or have not finished high school are 2.6 times more likely to chew tobacco than American Indian/Alaska Native adult males living above the federal poverty line or possessing at least a high school education.

## Adult exposure to secondhand smoke

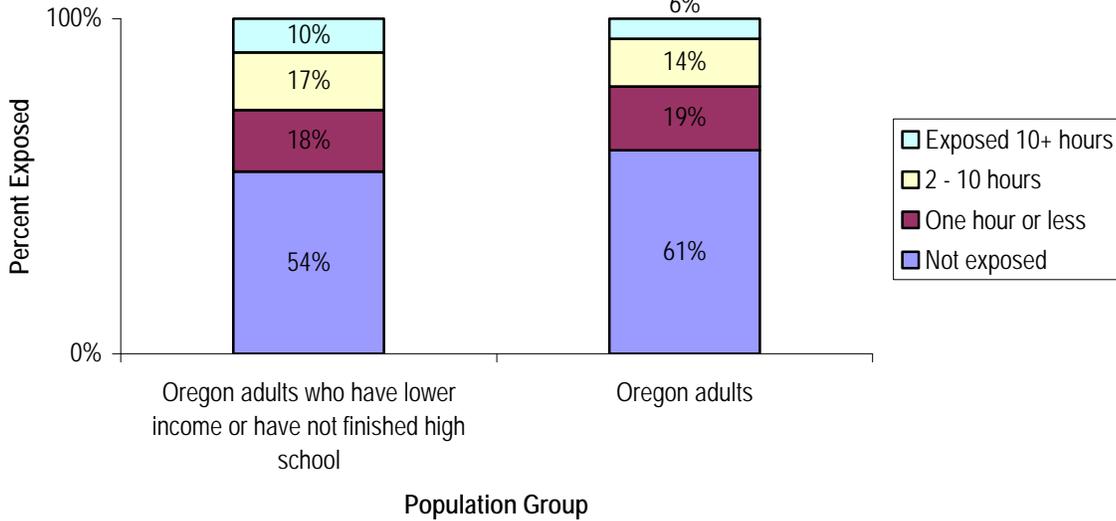
According to the 2006 Surgeon General’s Report – *The Health Consequences of Involuntary Exposure to Tobacco Smoke* – “There is no risk-free level of exposure to secondhand smoke: even small amounts of secondhand smoke exposure can be harmful to people’s health.”<sup>iv</sup>

Figure 8. Exposure to secondhand smoke from all sources during a typical week by race, 2004-2005



Exposure to all sources of secondhand smoke is higher among Oregon adults who have lower income or have not finished high school (46 percent) than the overall population (39 percent). White and African American adults who have lower income or have not finished high school are more likely to be exposed to secondhand smoke.

**Figure 9. Hours of secondhand smoke exposure from all sources during a typical week, 2004-2005**



Forty-six percent of Oregon adults who have lower income or have not finished high school are exposed to secondhand smoke in a typical week, as compared with 39 percent of all Oregonians. Among those exposed, Oregon adults who have lower income or have not finished high school have longer exposure than overall Oregonian adults, with 27 percent reported exposure in excess of 2 hours per week. 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.<sup>iv</sup>

## Methods

### Denominator sizes for the survey data depicted in figures

Figure Number	Oregon adults	Oregon adults who have lower income or have not finished high school
4	4,173	1,108
5	23,359	3,648
6	6,719	1,167
8	6,719	1,167
9	6,719	1,167
10	6,719	1,167
11	10,735	1,740

## **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.”<sup>v</sup> 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.

## **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.

## **Adult smoking, quitting and secondhand smoke exposure**

Adult estimates were calculated using the 2004-2005 Behavioral Risk Factor Surveillance System (BRFSS) dataset. “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.”<sup>vi</sup> All 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 is only assessed for males as less than 0.1 percent of females in Oregon use smokeless tobacco.

## **Potential limitations**

BRFSS is the main source of population-level data to assess tobacco use and exposure among adults in the state of Oregon. The survey is administered using random-digit-dialing of landline phones.

According to a national study in 2006, 15.8 percent of American homes do not have a landline.<sup>vii</sup> Assuming the trend is similar in Oregon, the current BRFSS methodology might exclude almost one-sixth of the population from the sample.

A majority of those without landlines have converted to cell phone only households, although approximately three percent of homes cannot afford any type of telephone. Additionally, 22.4 percent of households below the federal poverty line have wireless only households. Thus almost one-quarter of individuals who have lower incomes may not be included in BRFSS.

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).<sup>xi</sup> These limitations may lead to underreporting of smoking prevalence, as multiple studies have confirmed the correlation between cell phone usage and smoking.<sup>viii,ix</sup>

Additionally, institutionalized populations (e.g. individuals in 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, but would not be counted in overall prevalence estimates.

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<sup>i</sup> Smoking Habits and Prevention Strategies in Low Socio-economic Status Populations. *National Network on Tobacco Prevention and Poverty*. Centers for Disease Control and Prevention, Office on Smoking and Health, 2004.

<sup>ii</sup> 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.

<sup>iii</sup> *You Can Quit Smoking: Consumer Guide*. U.S. Department of Health and Human Services, Public Health Service. June 2000.

<sup>iv</sup> 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.

<sup>v</sup> National Center for Health Statistics Definitions Web Page. 22 May 2007  
[www.cdc.gov.mill1.sjlibrary.org/nchs/dataawh/nchsdefs/ageadjustment.htm](http://www.cdc.gov.mill1.sjlibrary.org/nchs/dataawh/nchsdefs/ageadjustment.htm).

<sup>vi</sup> "Turning Information into Health, Behavioral Risk Factor and Surveillance System." Center for Disease Control. 11 July 2007 [www.cdc.gov/brfss/index.htm](http://www.cdc.gov/brfss/index.htm).

<sup>vii</sup> 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](http://www.cdc.gov/nchs/nhis.htm).

<sup>viii</sup> 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.

<sup>ix</sup> 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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2007 Fact Sheet prepared by Dayna Kirk, MPH, Research Analyst  
and Stacey Schubert, MPH, Senior Research Analyst

Tobacco Prevention and Education Program  
Department of Human Services  
800 NE Oregon Street, Suite 730  
Portland, OR 97232  
(971) 673-0984  
[www.healthoregon.org/tobacco](http://www.healthoregon.org/tobacco)