Pennsylvania Tobacco Facts 2006

Bureau of Health Statistics and Research

and

Division of Tobacco Prevention and Control

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Executive Summary

This report provides tobacco facts regarding rates of cigarette and other tobacco products use, resulting health and financial costs, and exposure to secondhand smoke in Pennsylvania for adults and youth of this state. Data have been gathered from surveys, vital statistics, tax receipts, and sales inspections reports (Synar) for this report. These surveys, vital statistics, and other data sources are described in detail in Appendix A.

The information included here is intended for tobacco control program staff, researchers, healthcare providers, local health departments, and community partners.

Pennsylvania Tobacco Facts supports the programmatic goals of the Pennsylvania State Tobacco Prevention and Control Program, which are to 1) prevent the initiation of tobacco use among young people, 2) promote quitting among adults and young people, 3) eliminate nonsmokers' exposure to secondhand smoke, and 4) identify and eliminate tobacco-related disparities.

Key findings for Pennsylvania from this report show the following:

- **Cigarette sales in Pennsylvania declined by 28 percent between 1994 and 2004.**
- **Between 2003 and 2004, there was a statistically significant drop in smoking prevalence among adults in Pennsylvania ($p<0.05$)*.**
- **Approximately 20,000 Pennsylvania adults die annually, at a rate of 16 percent, from smoking-related causes.**
- **Tobacco-related personal health care costs total approximately four billion dollars annually in Pennsylvania.**
- **Smoking attributable productivity losses in Pennsylvania total 4.6 billion dollars annually.**
- **Smoking attributable years of potential life lost totaled approximately 268,000 years annually for Pennsylvania adults aged 35 and older.**
- **Statistically significant ($p<0.05$)* disparities exist in smoking rates based on age (lower rates are associated with older ages), race (higher rates of smoking are shown in African Americans compared to Whites), education (increasing education is associated with lower rates of smoking), and income (higher income is associated with lower smoking rates).**
- **Youth cigarette use in both Pennsylvania middle schools and high schools dropped significantly ($p<0.05$)*, between school year 2000-2001 and 2002-2003.**
- **Rates of illegal sales of cigarettes in Pennsylvania to minors have fallen dramatically from over 50 percent in 1996 to under 10 percent in 2004.**
- **Approximately seven in ten Pennsylvania adults favor a ban on smoking in indoor work areas and shopping malls.**
- **A drop of 13 percent was observed between 1996 and 2002 in the reported rate of smoking among pregnant residents of Pennsylvania who gave birth.**

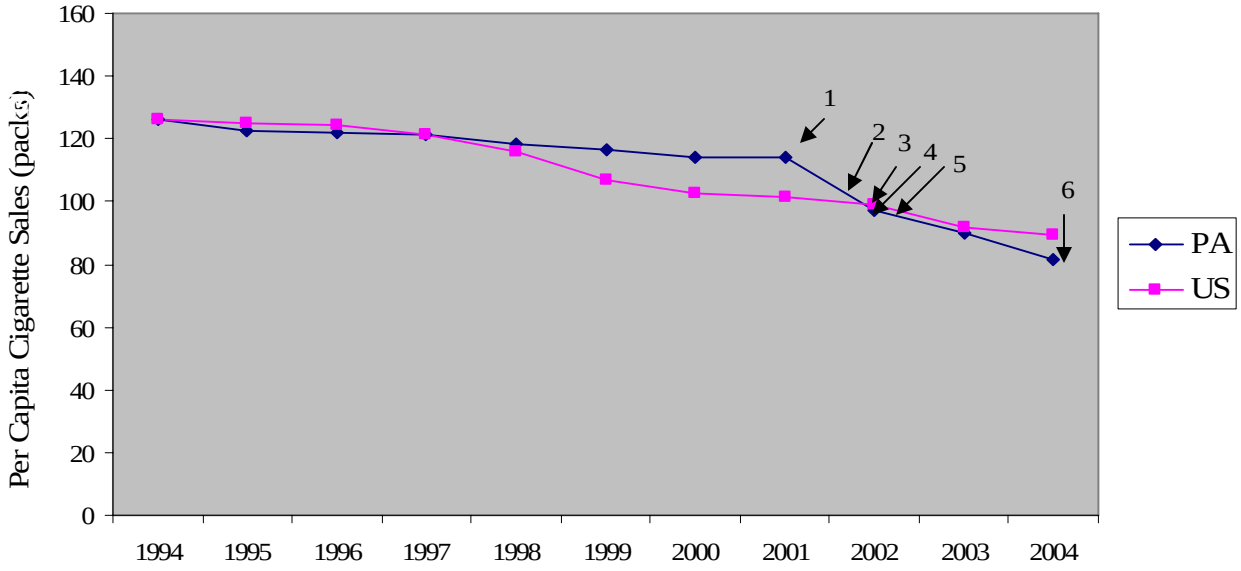
* p, the probability, is the degree of uncertainty that the statistical difference found may have been caused by a factor other than the actual tobacco use being discussed.

1. Cigarette Sales

Cigarette sales are falling in the United States as well as in Pennsylvania. The two charts on page 5 show that downward trend. Chart 1-1 illustrates per capita purchases of cigarettes using population 18 years and older. The per capita sales of cigarettes in the United States started to fall below that of Pennsylvania in 1998. Pennsylvania sales dropped dramatically between 2001 and 2002, when Tobacco Settlement Act funds were distributed to counties for tobacco control and cessation programs. In 2004, Pennsylvania per capita cigarette sales fell substantially below that of the nation.

Table 1-2 depicts the total packs of cigarettes sold in Pennsylvania between 1994 and 2004, using stamp sales from the Pennsylvania Department of Revenue. Pennsylvania smokers purchased 28 percent fewer packs of cigarettes in 2004, compared to 1994. The population growth during that ten-year period accounts for an even greater drop in the per capita purchase of cigarettes (using Pennsylvania population aged 18 and over) of 36 percent. Looking at these data between 1994 and 2001, per capita sales of cigarettes declined ten percent. Between 2001 and 2004, when counties began offering tobacco control and prevention programs, per capita sales fell approximately 30 percent. However, despite the decline in purchases of cigarettes, the amount of cigarette excise taxes collected increased due to an increase in the tax rate.

***Chart 1-1*. Trends in Annual Per Capita Sales of Cigarettes (Packs) Pennsylvania and the United States, 1994-2004**



Related Events Noted on Chart:

1. June 2001: Enactment of Act 77 of 2001, the Tobacco Settlement Act, established a special fund and account for money received by Pennsylvania from the Master Settlement Agreement with tobacco manufacturers
2. January 2002: $0.69 per pack cigarette excise tax increase, from $0.31 to $1.00
3. May 2002: 67 counties receive tobacco funds to establish comprehensive tobacco programs
4. June 2002: Launch of Pennsylvania Free Quitline (1-800-QUIT-NOW)
5. July 2002: Act 112 of 2002, amended Youth Access to Tobacco law
6. July 2004: $0.35 per pack cigarette excise tax increase, from $1.00 to $1.35

Sources:

PA per capita are data from PA Department of Revenue stamp sales, July through June for each year, divided by Census Bureau population estimates for Pennsylvanians 18 and over. Note: 1996 stamp sales had two missing months of data, and averages for that year were used for those months.

U.S. per capita data are from U.S. Department of Agriculture, Economic Research Service; The Economics of Food, Farming, Natural Resources, and Rural America. The data are provided based on per capita, using adults aged 18 and over, and in terms of total cigarettes sold. This can be found at http://www.ers.usda.gov/Briefing/Tobacco/Data/table07.pdf.

***Table 1-2*. Cigarette Sales in Packs, Pennsylvania, Change From 1994 to 2004**

	State Tax-paid Cigarette Sales	Annual PA Per Capita Cigarette Sales	Annual Cigarette Excise Tax Collected
1994	1.095 billion packs	126 packs	$347 million
2001	1.069 billion packs	114 packs	$319 million
Change from 1994 to 2001	86 million fewer packs sold (7 percent decrease)	12 packs per capita (10 percent decrease)	$28 million decrease (8 percent decrease)
2004	786 million packs	81 packs	$1.029 billion
Change from 2001 to 2004	290 million fewer packs (26 percent decrease)	33 fewer packs (29 percent decrease)	$710 million increase (205 percent increase)

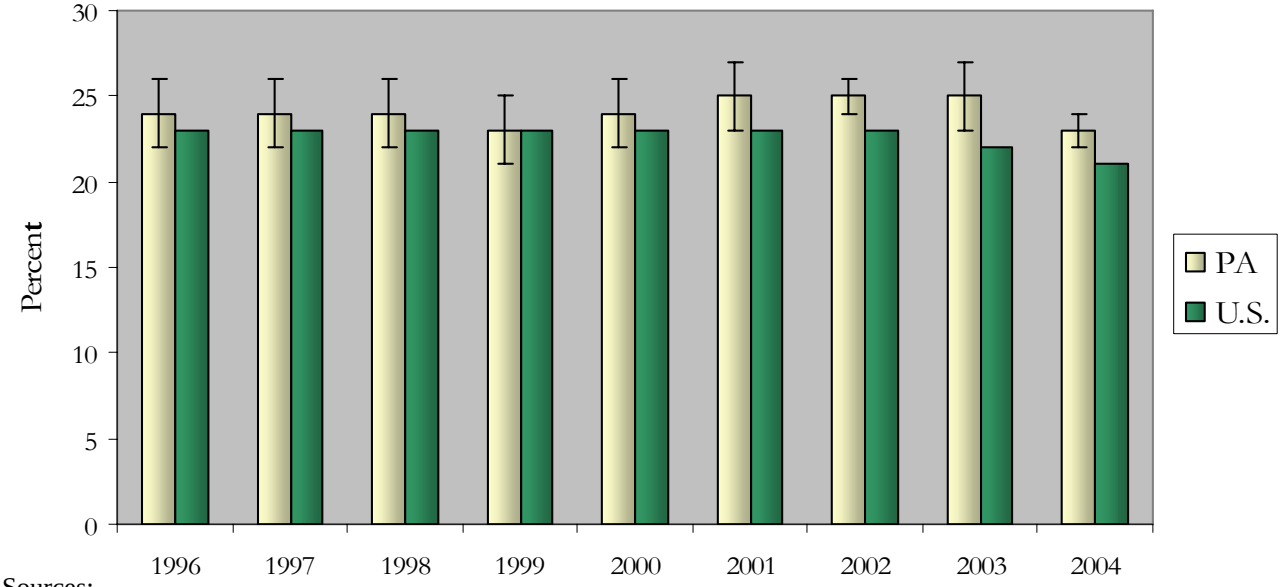
Source: PA per capita are data from PA Department of Revenue stamp sales, July through June for each year, divided by Census Bureau population estimates for Pennsylvanians 18 and over.

2. Prevalence of Tobacco Use

While tobacco sales have shown a steady decline, the prevalence of smoking in the United States and Pennsylvania has remained relatively unchanged. Chart 2-1 illustrates the trend in Pennsylvania to have a slightly larger percentage of smokers than the nation's median rate. It also shows that in 2004 there was a statistically significant drop in the smoking rate in Pennsylvania compared with the previous year.

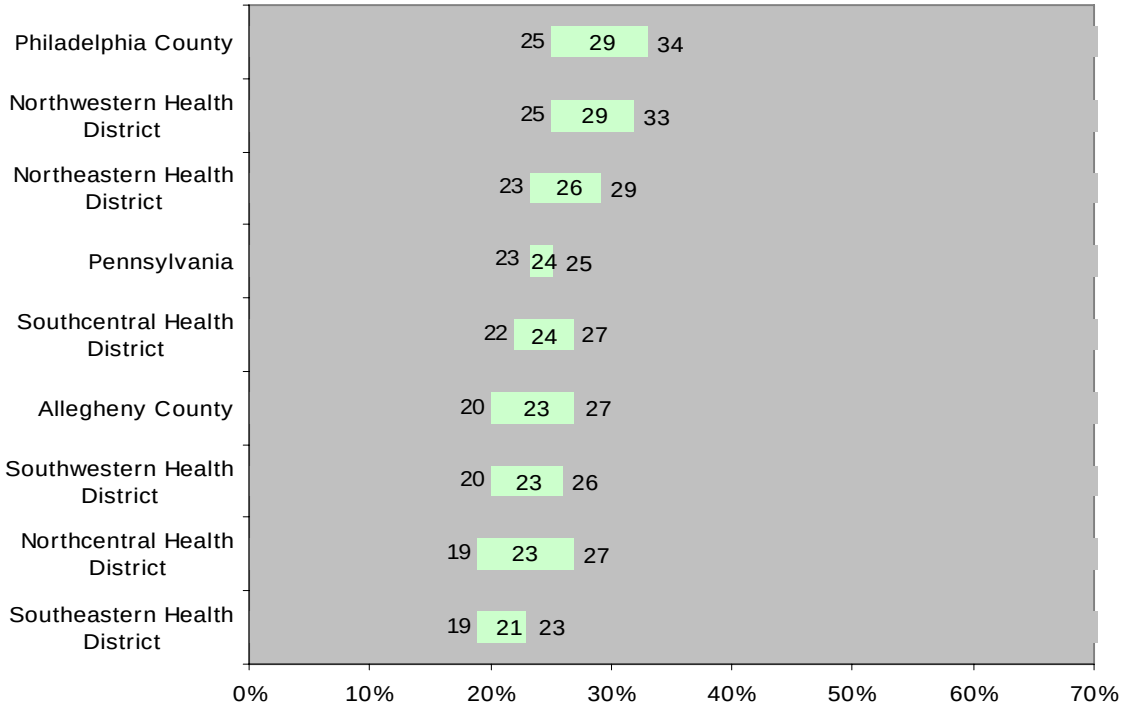
There are modest geographic differences in smoking prevalence, as seen in Chart 2-2. The Southeastern Health District, with Philadelphia excluded, had a slightly lower prevalence while the county of Philadelphia and the Northwestern Health District had slightly higher rates.

Chart 2-1. **Percentage of Adults Who Smoke by Year, Pennsylvania vs. United States, 1996 - 2004**



Sources:
Behavioral Risk Factor Surveillance System, 1996-2004, Pennsylvania Department of Health, Bureau of Health Statistics and Research and Behavioral Risk Factor Surveillance System, 1996-2004, U.S. Centers for Disease Control and Prevention.
I denotes 95% confidence interval.

Chart 2-2. **Percentage of Current Smoking* by Geographic Area, Pennsylvania, 2003-2004**



Source: Pennsylvania Behavioral Risk Surveillance Survey, 2003 and 2004, Pennsylvania Department of Health, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.
Note: The lower and upper numbers are the range of the 95% confidence interval, and the middle number is the estimated value of the prevalence of smoking in that area.

Northwestern Health District includes Warren, Clearfield, Lawrence, Mercer, Venango, Forest, McKean, Elk, Erie, Cameron, Clarion, Jefferson, and Crawford counties.

Northeastern Health District includes Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Susquehanna, Wayne, and Wyoming counties.

Southwestern Health District includes Washington, Westmoreland, Cambria, Indiana, Armstrong, Butler, Fayette, Green, Beaver, and Somerset counties.

Southcentral Health District includes York, Franklin, Fulton, Bedford, Adams, Perry, Lebanon, Huntington, Juniata, Cumberland, Dauphin, Blair, and Mifflin counties.

Southeastern Health District includes Berks, Bucks, Chester, Delaware, Lancaster, Montgomery, and Schuylkill counties.

Northcentral Health District includes Synder, Northumberland, Union, Columbia, Montour, Sullivan, Bradford, Tioga, Lycoming, Centre, Clinton, and Potter counties.

Adults around the state are trying to quit smoking. Nearly half of adult smokers in Pennsylvania, who were asked in 2005, had quit smoking for one day or more in the past year because they were trying to quit smoking. More than half said that they were seriously considering quitting in the next six months, and over a quarter of adult smokers were planning to quit in the next 30 days (Table 2-3).

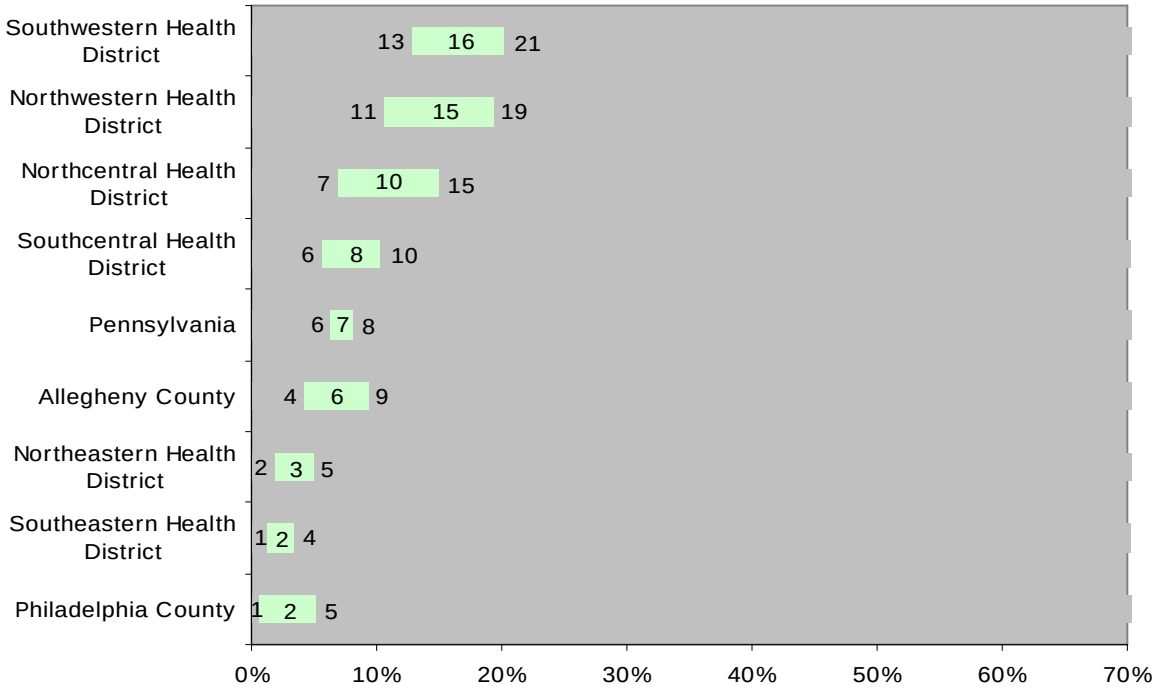
***Table 2-3*. Selected Characteristics for Smokers Trying to Quit, Pennsylvania Adults, 2005**

	Percent	**Confidence Interval**
Current smokers who are seriously considered stopping smoking in the next six months	55%	50%-60%
Current smokers who planned to stop smoking in the next thirty days	27%	22% - 31%
Current smokers who stopped smoking for 1 or more days in the past year because they were trying to quit	46%	41% - 51%
Current or former smokers who used assistance, either counseling or medication, the last time they tried to quit smoking	25%	20% - 31%

Source: Adult Tobacco Survey, 2005, Pennsylvania Department of Health, Bureau of Chronic Diseases and Injury Prevention, Division of Tobacco Prevention and Control.

The second most commonly used tobacco product in Pennsylvania is smokeless tobacco. Approximately seven percent of Pennsylvania adults had used smokeless tobacco in the past 30 days, according to combined 2002 and 2003 BRFSS data. Smokeless tobacco consumption is much higher among males than females. The use of snuff, chew, or spit tobacco is also more common in the rural parts of the state than in the urban areas. The geographical breakdown of smokeless tobacco use among males on the next page (Chart 2-4) shows the Southwestern and Northwestern areas had higher percentages than the rest of the state. The Northeastern and Southeastern Health Districts and Philadelphia County had lower percentages than the state.

Chart 2-4. **Percentage of Current Smokeless Tobacco Use by Geographic Area**
Pennsylvania Males, 2002-2003



Source: Pennsylvania Behavioral Risk Surveillance Survey, 2002 and 2003, Pennsylvania Department of Health, Bureau of Health Statistics and Research.
* Percentage of adults who used smokeless tobacco some days or every day of the 30 days prior to the survey.
Note: The lower and upper numbers are the range of the 95% confidence interval, and the middle number is the estimated value of the prevalence of smoking in that district.

3. Tobacco-Related Deaths and Economic Costs

During 2002 and 2003, it is estimated that in Pennsylvania over 20,000 lives were lost because of the effects of smoking. In comparison, in 2002 there were 1,650 deaths due to motor vehicle accidents, 629 homicides, and 1,326 suicides, according to Pennsylvania Department of Health, Bureau of Health Statistics and Research. Smoking-related deaths, by far, lead the list of preventable deaths. Table 3-1 depicts the average annual number of total deaths in each health district and in Philadelphia and Allegheny counties for the years 2002 and 2003. Using those death counts along with the associated causes of death and the smoking prevalence rate for the two years, smoking-related deaths were calculated using a standard formula adopted by the Center for Disease Control and Prevention (Smoking Attributable Morbidity, Mortality and Economic Costs [SAMMEC]: Adult SAMMEC software) for the state and for the eight regions of the state. These results are for adults aged 35 and over and do not include deaths due to burns or second-hand smoke. There was only a modest geographic difference in the percent of deaths due to smoking.

***Table 3-1*. Estimated Average Annual Smoking-Related Deaths by Geographic Area Pennsylvania, 2002-2003**

Area	Current Smoking Prevalence [1]	Smoking-Related Mortality [2]	Number All Deaths [3]	Deaths Percent
Pennsylvania	25% (±1)	20,318	129,143	16%
Southeastern Health District (Excluding Philadelphia County)	23% (±2)	4,811	30,967	16%
Northeastern Health District	27% (±3)	2,658	16,656	16%
Southcentral Health District	23% (±3)	2,251	15,031	15%
Northcentral Health District	23% (±5)	1,002	6,724	15%
Northwestern Health District	28% (±4)	1,557	10,320	15%
Southwestern Health District (Excluding Allegheny County)	24% (±2)	2,830	17,743	16%
Allegheny County	25% (±3)	2,429	15,102	16%
Philadelphia County	29% (±4)	2,784	16,600	17%

1. Current smoking prevalence, based on aggregated BRFSS, 2002 and 2003 data, Division of Statistical Support, Bureau of Health Statistics and Research, including 95% confidence interval.
2. Calculated using the Center for Disease Control and Prevention, Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software. Calculation is based on current smoking prevalence and deaths attributable to smoking-related causes.
3. Average annual deaths, based on death certificate data, 2002-2003, Division of Vital Records, Bureau of Health Statistics and Research.

Table 3-2 (on the next page) lists the diseases and other health effects that have been shown to cause death due to smoking, according to the 2004 Surgeon General's report, *The Health Consequences of Smoking*[1]. These health effects do not cause deaths in equal proportions. Each disease has a relative risk fraction associated that is used by the SAMMEC software formula to calculate the number of deaths.

Table 3-2. **Diseases and Other Health Effects for Which Smoking Is Identified as a Cause**

Malignant Neoplasms	**Respiratory diseases**
Bladder cancer	Chronic obstructive pulmonary disease
Cervical cancer	Pneumonia
Esophageal cancer	Respiratory effects
Kidney cancer	**Other effects**
Laryngeal cancer	Cataract
Leukemia	Diminished health status/morbidity
Lung cancer	Hip fractures
Oral cancer	Low bone density
Pancreatic cancer	Peptic ulcer disease
Stomach cancer	
Cardiovascular diseases	
Abdominal aortic aneurysm	
Atherosclerosis	
Cerebrovascular disease	
Coronary heart disease	

1. Source: U.S. Department of Health and Human Services. *The Health Consequences of Smoking: A Report of the Surgeon General*. Atlanta, GA: 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, 2004.

The direct health care costs, shown in Table 3-3, are those personal health care costs associated with smoking-related illnesses for adults aged 35 and over, and are estimated for 1998 to be approximately four billion dollars. These direct health care costs include ambulatory care, hospital care, prescription drugs, nursing home care, and other care (such as home health, nonprescription drugs, and non-durable medical products).

Table 3-3. **Smoking-Related Personal Health Care Costs, Pennsylvania, 1998**

	Smoking-Attributable Personal Health Care Expenditure
Ambulatory care	$1,231,000,000
Hospital care	$918,000,000
Prescription Drugs	$363,000,000
Nursing Home	$1,311,000,000
Other	$231,000,000
Total	$4,053,000,000

Source: Center for Disease Control and Prevention. Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software.

In addition to direct health care costs, annual costs associated with lost productivity due to smoking-related illness are estimated for Pennsylvania to be over 4.5 billion dollars annually (see Table 3-4) for 2002 and 2003.

Smoking-attributable years of potential life lost (YPLL) is the measure of total years of life lost because of cigarette smoking. Table 3-5 lists the major smoking-related health risks, and an estimated number of years of life lost due to that smoking-related disease and the fact of smoking, including approximately 268,000 years statewide. These calculations include adults aged 35 and over and do not include deaths due to burns or second-hand smoke.

***Table 3-4*. Smoking-Attributable Annual Productivity Losses by Major Illness Category Pennsylvania, 2002-2003**

Disease Category	Productivity Loss
Malignant Neoplasms	$2,197,468,000
Cardiovascular Diseases	$1,690,945,000
Respiratory Diseases	$627,590,000
Total	$4,516,002,000

Source: Center for Disease Control and Prevention. Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software.
Note: These calculations used statewide tobacco prevalence data from BRFSS using aggregated 2002 and 2003 data, average annual deaths, based on death certificate data, 2002-2003, Division of Vital Records, Bureau of Health Statistics and Research, and the 2001 Present Value of Future Earnings estimates provided by SAMMEC software.

***Table 3-5*. Smoking-Attributable Annual Years of Potential Life Lost by Major Illness Category Pennsylvania, 2002-2003**

Disease Category	Years of Productive Life Lost
Malignant Neoplasms	120,423
Cardiovascular Diseases	93,680
Respiratory Diseases	53,510
Total	267,612

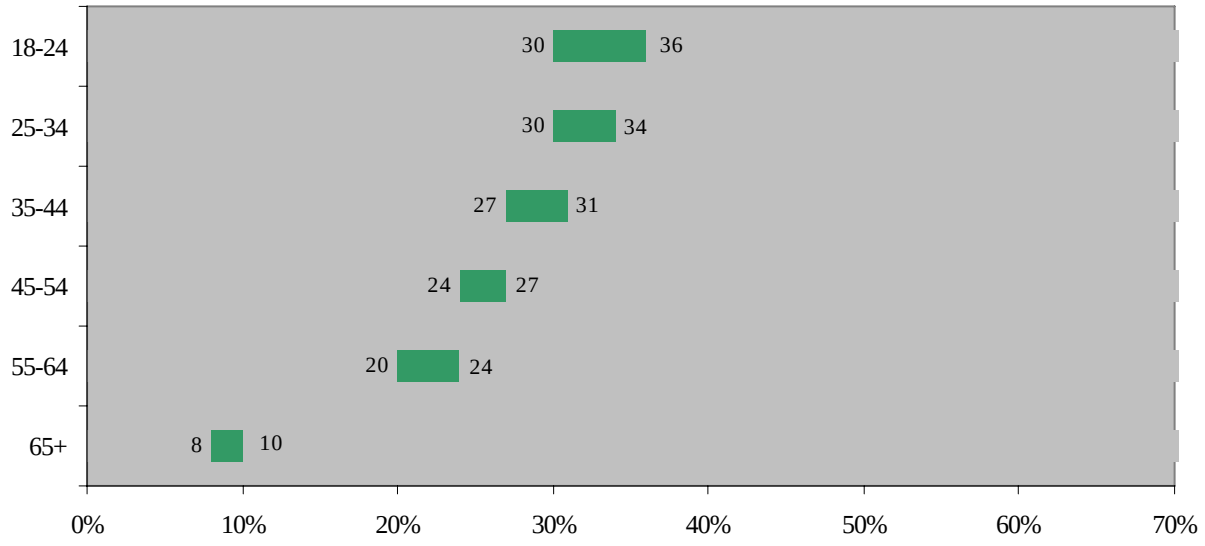
Source: Center for Disease Control and Prevention. Smoking Attributable Morbidity, Mortality and Economic Costs (SAMMEC): Adult SAMMEC software.
Note: These calculations used statewide tobacco prevalence data from BRFSS using aggregated 2002 and 2003 data, average annual deaths, based on death certificate data, 2002-2003, Division of Vital Records, Bureau of Health Statistics and Research.

4. Smoking-Related Disparities

Different population groups use tobacco products at different rates. This disparate use of tobacco impacts the health and well-being of some populations substantially more than others. In addition to affecting the health of certain groups differently, understanding different use patterns facilitates the development of appropriate smoking control programs.

Looking at the prevalence of current cigarette smoking among adults by age, we see that the younger adults use cigarettes most often, and older Pennsylvanians use cigarettes least. The charts below and on the following pages show the confidence intervals of current cigarette use among the various populations, including age, race, education, and income. For example, among Pennsylvania residents aged 25 to 34, based on three years (2002-2004) of BRFSS survey data, between 30 and 34 percent of adults were current cigarette smokers.

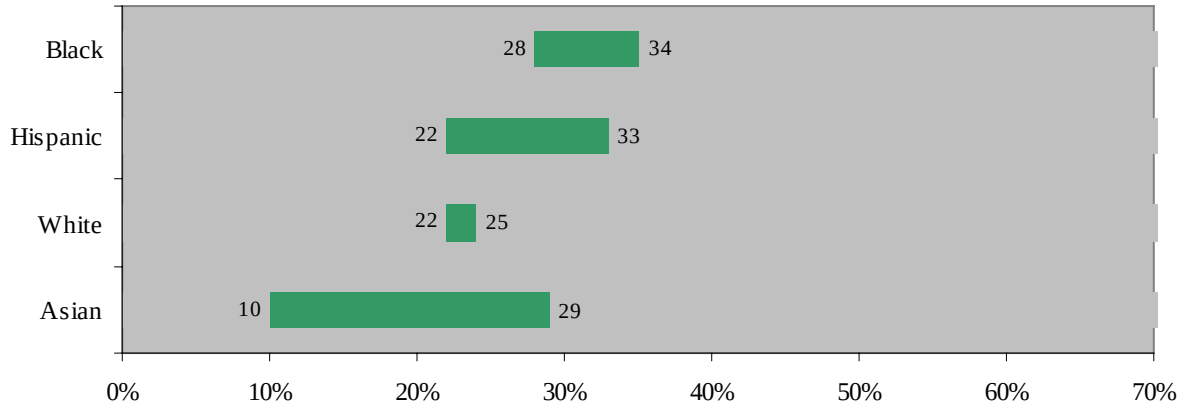
***Chart 4-1*. Percentage of Current Smoking* by Age, Pennsylvania Adults, 2002-2004**



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002, 2003, and 2004, Division of Statistical Support, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.

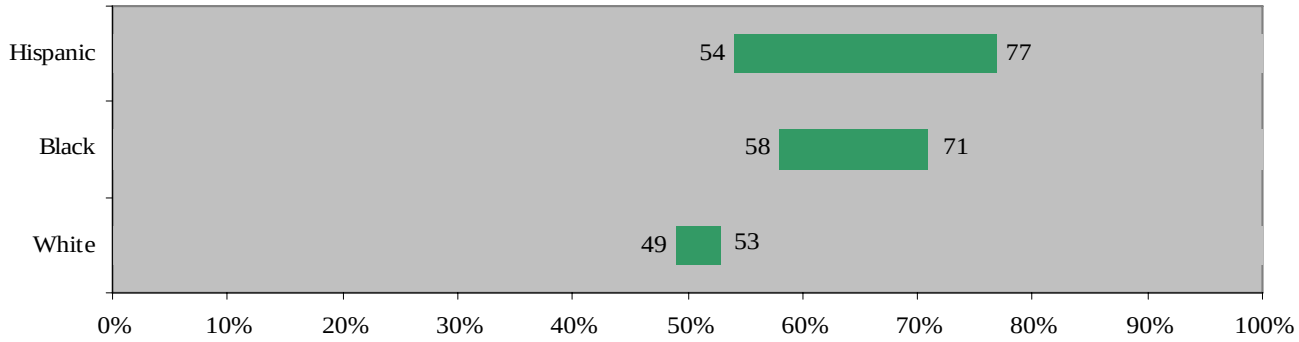
The aggregated 2002, 2003, and 2004 BRFSS surveys show that African American adults are smoking at significantly higher rates than Whites. However, while Pennsylvania adults who are African American are smoking at the highest rates, it is also true that they and Hispanics report more quit attempts in the past twelve months than do White adults (see Chart 4-3). The large confidence intervals shown in Chart 4-2, for Hispanic and Asian populations, are the result of small population samples.

***Chart 4-2*. Percentage of Current Cigarette Smoking* by Race, Pennsylvania Adults, 2002-2004**



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002, 2003, and 2004, Division of Statistical Support, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.
Note: The racial groups of Black, White, and Asian in this chart exclude those with Hispanic ethnicity.

***Chart 4-3*. Percentage of Current Cigarette Smokers* Who Stopped Smoking One or More Times in Past 12 Months by Race, Pennsylvania Adults, 2002-2004**

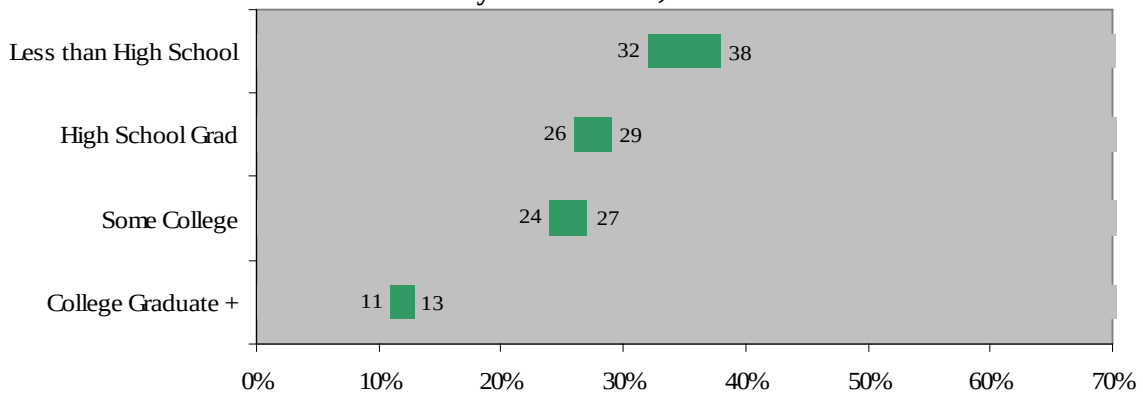


Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002, 2003, and 2004 data, Division of Statistical Support, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.
Note: The racial groups of Black, White, and Asian in this chart exclude those with Hispanic ethnicity.

Similar to race and age, there are notable differences in smoking prevalence based on education and income. Adults who reported having less than a high school diploma have a significantly higher rate of current tobacco use than those with more education. Adults with a college degree or more education smoke at much lower rates, as shown on Chart 4-4 below.

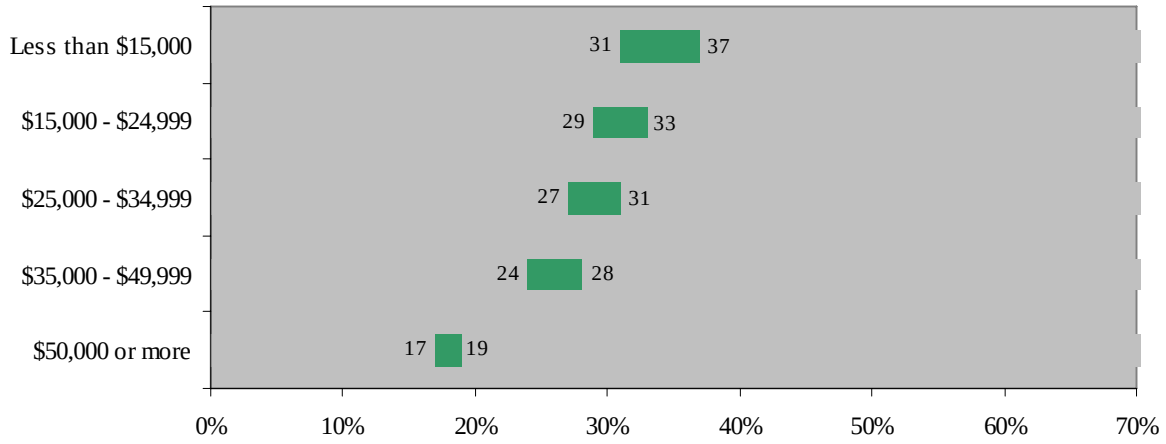
As with education, when smoking prevalence is broken out by household income, there is a similar trend toward higher rates for the lower incomes, and lower rates for higher incomes (see Chart 4-5).

***Chart 4-4.* Percentage of Current Cigarette Smoking* by Educational Status**
Pennsylvania Adults, 2002-2004



Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002, 2003, and 2004, Division of Statistical Support, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.

***Chart 4-5.* Percentage of Current Cigarette Smoking* by Household Income**
Pennsylvania Adults, 2002-2004



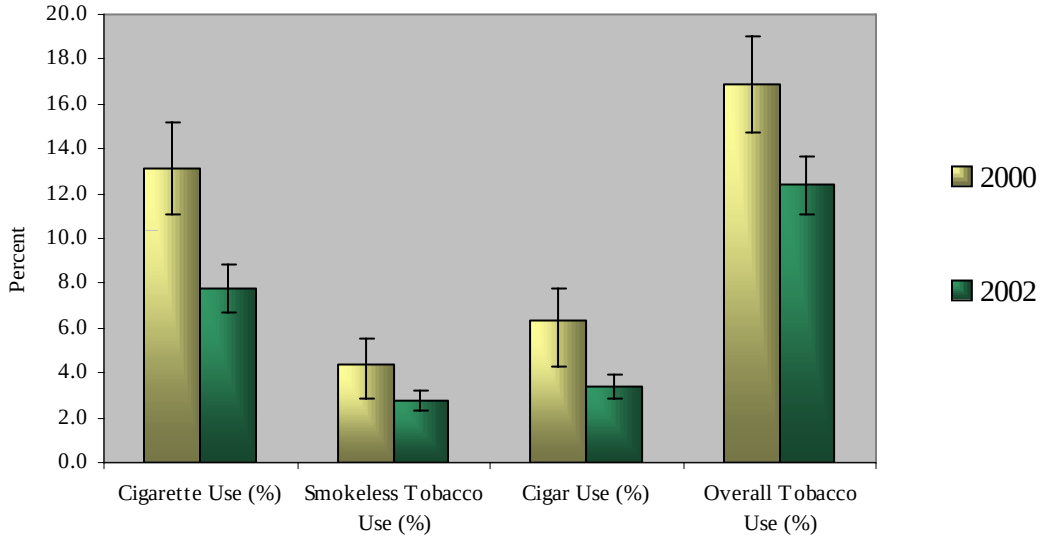
Source: Behavioral Risk Factor Surveillance System (BRFSS), 2002, 2003, and 2004, Division of Statistical Support, Bureau of Health Statistics and Research.
* Percentage of adults who smoked some days or every day of the 30 days prior to the survey, and had smoked 100 or more cigarettes in lifetime.

5. Youth Tobacco Use

Cigarette use among Pennsylvania students dropped significantly between the Youth Tobacco Survey for school year 2000-2001 and the subsequent survey conducted for school year 2002-2003, in both high school and middle schools. Middle school students used all tobacco products significantly less in 2002, as shown in Chart 5-1. High school students' use of all tobacco products showed a more modest decline, as depicted in Chart 5-2.

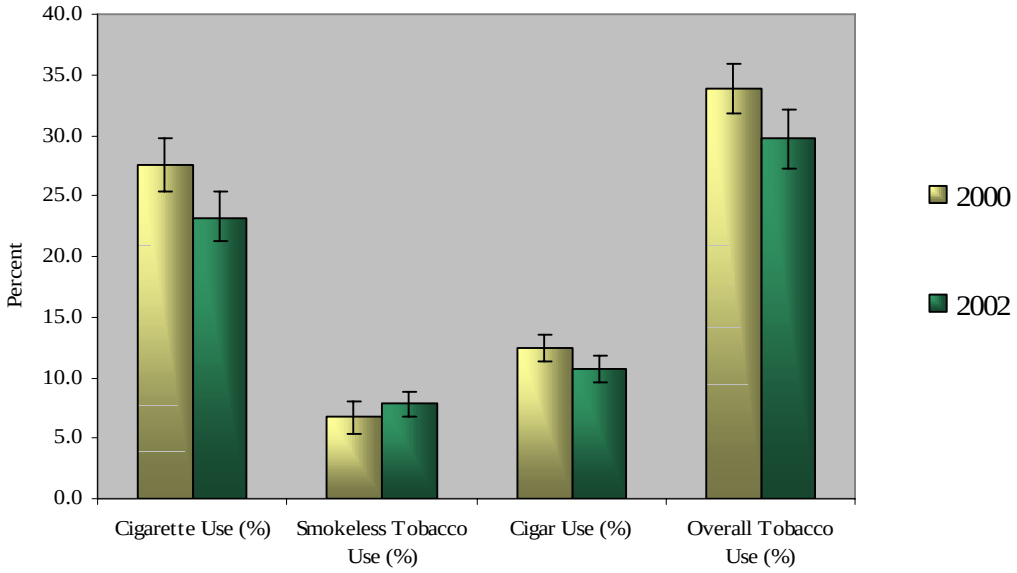
When asked about quitting, nearly 60 percent of students in both high school and middle school said that they wanted to quit. Additionally, nearly seven out of ten middle school students and six of ten high school students had stopped smoking one or more days in the year prior to the 2002 survey because they were trying to quit.

***Chart 5-1*. Percentage of Current Tobacco Use* Among Middle School Students (Grades 6-8) Pennsylvania 2000 and 2002**



Source: Pennsylvania Youth Tobacco Survey, 2000 & 2002, PA Department of Health, Bureau of Health Statistics and Research.
* Current tobacco use is using a tobacco product on one or more days of the past 30 days prior to the survey.
I denotes 95% confidence interval.

***Chart 5-2*. Percentage of Current Tobacco Use* Among High School Students (Grades 9-12) Pennsylvania, 2000 and 2002**

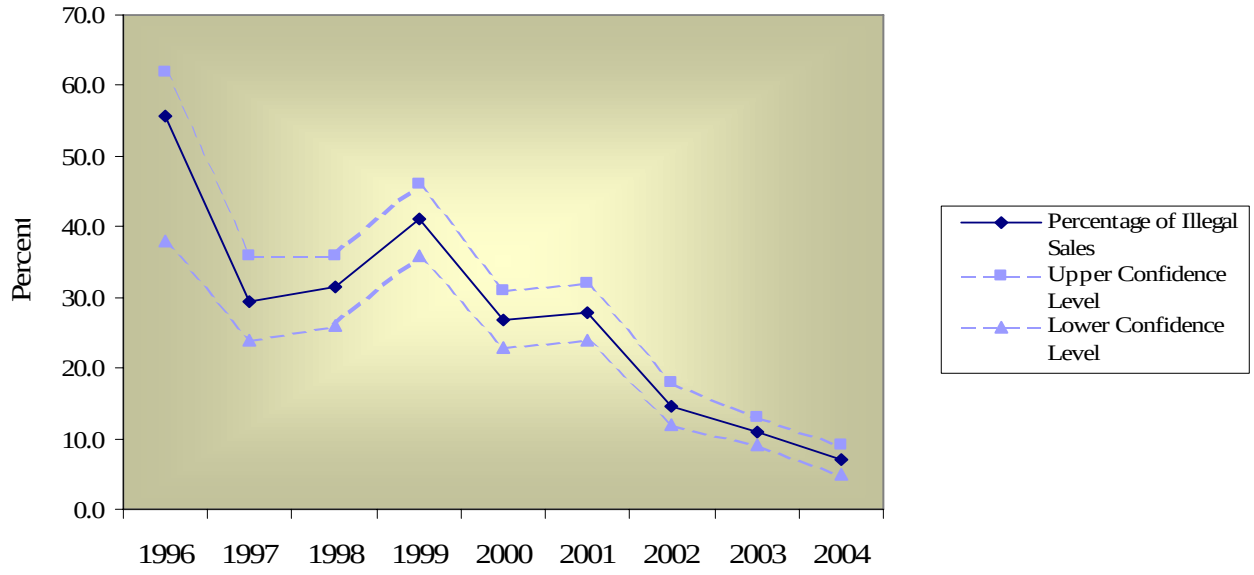


Source: Pennsylvania Youth Tobacco Survey, 2000 & 2002, PA Department of Health, Bureau of Health Statistics and Research.
* Current tobacco use is using a tobacco product on one or more days of the past 30 days prior to the survey.
I denotes 95% confidence interval.

6. Youth Access to Tobacco

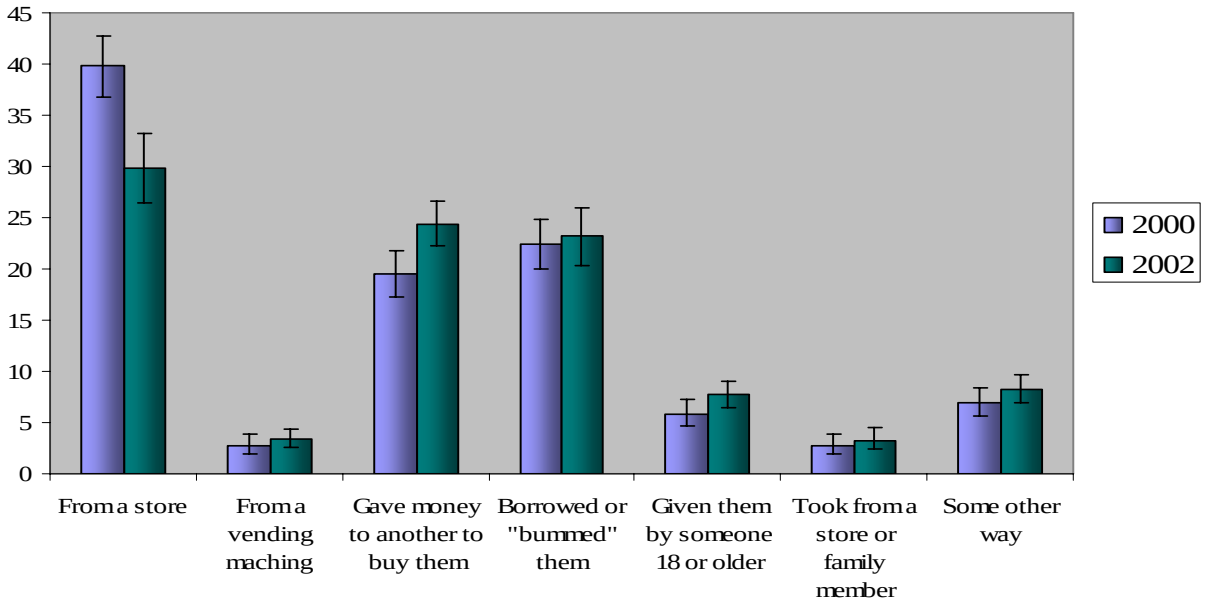
Cigarette use among youth is declining and one reason for that drop may be that retailers are selling fewer cigarettes to minors. The chart below, (6-1), shows the dramatic drop that has been seen in illegal sales to minors between the years 1996 and 2004. However, youth do continue to obtain cigarettes. Students were asked how they obtained cigarettes in the Youth Tobacco Surveys conducted for school years 2000-2001 and 2002-2003. While significantly fewer students purchased them at a store, there were increases in other ways students got their tobacco. One of the more common ways was to give money to another person to buy them (see Chart 6-2).

***Chart 6-1*. Results of Annual Synar* Compliance Checks of Tobacco Sales to Minors Pennsylvania, 1996-2004**



Source: Pennsylvania Department of Health, Bureau of Health Statistics and Research.
* The Federal Synar Regulation requires that each state annually conduct random, unannounced inspections, using hired youth inspectors, to assess their compliance with the state's access law. States are required to meet annual target inspection failure rates established by the federal government. Failure to meet requirements of the Synar Regulation can result in a penalty of 40% of a state's substance abuse prevention and treatment block grant allocation.

***Chart 6-2*. Percentage of Methods High School Students Used to Obtain Cigarettes Pennsylvania, 2000 and 2002**



Source: Pennsylvania Youth Tobacco Survey, 2000 & 2002, Pennsylvania Department of Health, Division of Tobacco Prevention and Control.

I denotes 95% confidence interval.

7. Secondhand Smoke

The Pennsylvania Adult Tobacco Survey results indicate that Pennsylvanians want restrictions on indoor smoking. Nearly all adults, nonsmokers as well as smokers, favor having restrictions on indoor smoking in work areas, dining areas of restaurants, and indoor shopping malls, as shown in Table 7-1. Nearly seven of every ten Pennsylvanians favor a complete ban on smoking in indoor work areas and indoor shopping malls.

***Table 7-1*. Public Attitudes Regarding Secondhand Smoke, Pennsylvania, 2005**

Site	Favor Some Restriction on Smoking (%) *	Favor Ban on Smoking (%) **
Indoor Work Areas	97 (C.I.:96 – 98)	71 (C.I.:69 – 73)
Dining Area of Restaurant	99 (C.I.:98 – 99)	54 (C.I.:52 – 56)
Indoor Shopping Malls	98 (C.I.:97 – 99)	68 (C.I.:66 – 70)

Source: Pennsylvania Adult Tobacco Survey, 2005, Pennsylvania Department of Health, Division of Tobacco Prevention and Control.

* Includes PA adults who answered a telephone survey and responded that smoking should not be allowed in any area in that site, or that it should be restricted in some areas of that site and 95% confidence interval (C.I.).
** Includes PA adults who answered a telephone survey and responded that smoking should not be allowed in any area of that site and 95% confidence interval (C.I.).

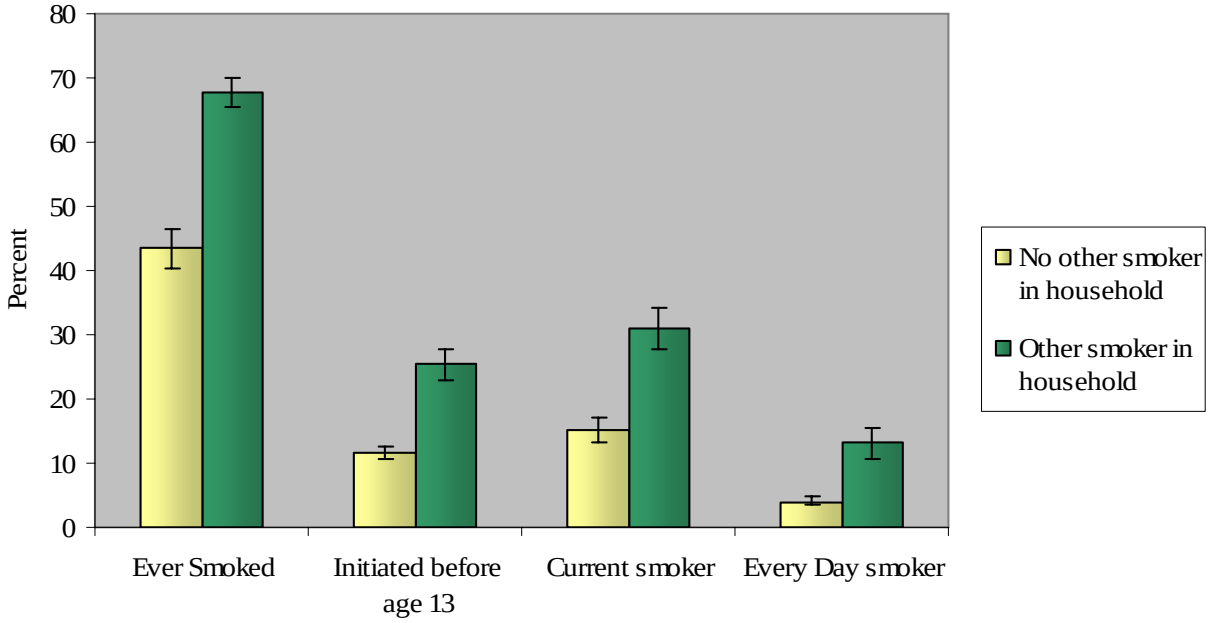
Secondhand Smoke in the Home and the Workplace:

- 71 (C.I.:69% – 73%) percent of Pennsylvania adults surveyed in 2005 prohibited smoking in their home
- In 2005, among Pennsylvania adults with children under the age of 18 at home, 25 percent (C.I.:22% – 28%) allowed smoking in some or all areas of the home.
- Among Pennsylvania adults who work indoors, 92 percent (C.I.:90% – 94%) have restrictions on smoking in at least some areas, and 77 percent (C.I.:74% – 80%) cannot smoke in any work area.

Source: Pennsylvania Adult Tobacco Survey, 2005, Pennsylvania Department of Health, Division of Tobacco Prevention and Control.

The presence of others in the household who smoke has a tremendous effect on youth tobacco use. High school students who participated in the Youth Tobacco Survey were asked if there were other smokers in their home. Those with other smokers in the household had much higher percentages of ever having tried a cigarette. Those who lived with other smokers were more likely to be a current smoker. They were also more than twice as likely to be an every day smoker as those in households without smokers.

***Chart 7-2*. Effects on High School Students of Other Smokers in the Household Pennsylvania, 2002**



Source: Pennsylvania Youth Tobacco Survey, 2002, Pennsylvania Department of Health, Division of Tobacco Control and Prevention.
I denotes 95% confidence interval.

8. Tobacco Use During Pregnancy

Tobacco use among mothers during pregnancy is dropping. In 1996, 18 percent of births were to women who reported smoking at least one cigarette during her pregnancy. By 2002, that figure had fallen to 16 percent. The table below (8-1) shows the percent decline between 1996 and 2002 in maternal cigarette use by age, marital status, race and ethnicity, education, and trimester that prenatal care started. There is a sharper decrease, for example, among black women (29%) than among white women (9%). Also while women in their thirties were smoking at a much lower rate in 2002 compared to 1996, women in their teens and early twenties did not reduce their cigarette smoking as dramatically.

***Table 8-1*. Number & Percent of Births to Mothers Who Smoked During Pregnancy By Maternal Characteristics, Pennsylvania Residents, 1996 and 2002 and Percent Change**

	1996		2002		1996 - 2002
Maternal Characteristic	**#Births**	**% Smokers**	**# Births**	**% Smokers**	**Percent Change**
Age					
<20	3,741	24.2	3,065	23.9	-1
20-24	7,622	25.3	7,633	24.8	-2
25-29	7,081	17.1	5,080	13.9	-19
30-34	5,189	13.6	3,736	10.1	-26
35-39	2,411	14.3	1,848	10.6	-26
40+	346	12.3	418	11.4	-7
Marital Status					
Married	10,902	11.2	8,060	8.8	-21
Unmarried	15,447	32.7	13,720	29.5	-10
Race/Ethnicity					
Asian	82	2.6	85	2.0	-23
Black	4,117	20.4	2,777	14.5	-29
Hispanic	922	13.9	949	11.2	-19
American Indian	60	28.4	46	13.7	-52
Other	97	13.4	353	15.5	16
White	22,035	18.3	18,519	16.5	-9
Highest Grade Achieved					
0 - 11	7,255	32.9	6,009	29.4	-11
12	13,272	24.3	10,345	22.7	-7
13 - 15	3,979	13.5	3,613	13.1	-3
16 or more	1,885	4.9	1,813	4.1	-16

Prenatal Care Begun					
1st Trimester	19,606	16.4	16,122	14.7	-11
2nd Trimester	4,336	25.0	3,242	20.8	-17
3rd Trimester	1,040	28.0	696	20.1	-28
No Prenatal Care	677	47.4	356	34.7	-27
Total	26,390	18.2	21,780	15.8	-13

Source: Certificate of Live Birth, Pennsylvania Department of Health, Bureau of Health Statistics and Research, Division of Statistical Support, 1996-2002.
Notes: Total counts of births exclude those who are either unknown in smoking status, or unknown in the category listed. Hispanics can be of any race. Percents may not add to 100.0 due to rounding.
* Percent change is change on rate per 100.

Births to women who report smoking during pregnancy have a greater likelihood of being born at low birth weight. Low birth weight here is defined as a baby weighing less than 2500 grams (5 pounds and 9 ounces). Table 8-2 shows that in 2002, approximately 13 percent of live births to mothers who smoked during pregnancy were under 2500 grams compared to seven percent to mothers who did not report smoking during pregnancy.

***Table 8-2*. Percentage Low Birth Weight by Smoking Status of Mother**
Pennsylvania Residents, 1996 - 2002

Year	% Low Birth Weight Births to Mothers Who Reported Smoking During Pregnancy	% Low Birth Weight Births to Mothers Who Did Not Report Smoking During Pregnancy
1996	12.4	6.4
1997	12.3	6.5
1998	11.8	6.7
1999	12.2	6.9
2000	11.8	6.8
2001	12.0	7.0
2002	12.6	7.2

Source: Certificate of Live Birth, Pennsylvania Department of Health, Bureau of Health Statistics and Research, Division of Statistical Support, 1996-2002.

Appendix A: Data Sources

I. Survey Data

Behavioral Risk Factor Surveillance System

The Behavioral Risk Factor Surveillance System (BRFSS) is an ongoing random-digit dialed telephone survey of adults concerning health-related behaviors. The BRFSS was developed and is funded by the Centers for Disease Control and Prevention (CDC) and is conducted in all states in the U.S. In 2001, 3,661 Pennsylvania adults were interviewed. In 2002, 13,491 Pennsylvania adults were interviewed, and, in 2003, 3,671 Pennsylvania adults were interviewed. The sample data were weighted to reflect unequal probabilities of selection. Post-stratification weights were computed to adjust for over and under-representation of certain population subgroups in the samples. Confidence intervals at the 95% level were also calculated using SAS/SUDAAN and shown as percentages to provide a basis for quality analysis and comparability.

Adult Tobacco Survey

The Pennsylvania Adult Tobacco Survey (ATS) was a point-in-time random-digit dialed telephone survey of adults in Pennsylvania concerning tobacco use and related behaviors and attitudes. The ATS was developed by the Centers for Disease Control and Prevention (CDC) and conducted in spring of 2005. A total of 2,919 adults were interviewed for this survey. The sample data were weighted to reflect unequal probabilities of selection. Post-stratification weights were computed to adjust for over and under-representation of certain population subgroups in the samples. Confidence intervals at the 95% level were also calculated using SAS/SUDAAN and shown as percentages to provide a basis for quality analysis and comparability.

Youth Tobacco Survey

The Youth Tobacco Survey (YTS) was developed by the Centers for Disease Control and Prevention (CDC) and was conducted in spring of the 2000-2001 Pennsylvania school year, and again in the fall of the 2002-2003 school year. The sample consisted of a two-stage cluster design, of middle school students and high school students. In both 2000 and 2002, 25 high schools and 25 middle schools were sampled in each of the six state health districts, and another 50 non-public high schools and 50 non-public middle schools were selected, for a total of 400 randomly selected survey schools. Of those 400 schools, 281 participated in 2000 and 325 participated in 2002. Second period classes at each school were randomly selected, so that each student had an equal chance of selection. The sample data were weighted for calculating percentages, in order to adjust for under-representation of certain population subgroups in the sample. Confidence intervals at the 95% level were also calculated using SAS/SUDAAN and shown as percentages to provide a basis for quality analysis and comparability.

Synar

The Federal Synar Regulation requires that each state annually conduct random, unannounced inspections, using hired youth inspectors, to assess their compliance with the state's access law. States are required to meet annual target inspection failure rates established by the federal government. Failure to meet requirements of the Synar Regulation can result in a penalty of 40% of a state's substance abuse prevention and treatment block grant allocation. Pennsylvania has conducted these inspections annually since 1996. The survey used a complex sample design incorporating stratification, clustering, and random sampling. The sampling frame was created from the Department of Revenue's cigarette license file, and did not include vending machines in 2005.

II. Vital Statistics Data

The Pennsylvania Department of Health's vital statistics registration system was the source for the birth and death statistics that are used in this report. The calculation of tobacco-related deaths used the vital records death certificate data, aggregating the years 2002 and 2003, which were the two most recent years available. The data were stratified by cause of death, and by sex, and summed in that form for use in calculations.

Birth certificate data were used to analyze tobacco use during pregnancy. While 2003 birth certificate data were available, changes in the birth certificate form caused the tobacco use question to be asked by trimester of use, rather than whether tobacco was used during pregnancy. This difference in the way the question was asked led to data that does not compare well with previous years. Therefore, only 1996 through 2002 birth data were included in this report. The birth data analyzed for this report consist of births to Pennsylvania residents and exclude missing and unknown values.

III. Other

Pennsylvania Department of Revenue Cigarette Tax Receipts

Data on the per capita cigarette sales rate for Pennsylvania were calculated using tobacco cigarette stamp sales and tax revenue collected by the Pennsylvania Department of Revenue. Packs per capita were calculated by dividing the stamp sales for the fiscal year (July through June), by the estimated population (aged 18 and over), of the state.

Smoking-Attributable Morbidity, Mortality, and Economic Costs (SAMMEC)

The SAMMEC software was developed by the Centers for Disease Control and Prevention (CDC). Adult SAMMEC calculates annual smoking-attributable deaths, years of potential life lost, smoking-attributable expenditures, and productivity losses for adults in the United States, individual states, and user-defined populations. The following data items were computed and entered into the SAMMEC software to calculate smoking attributable deaths: smoking prevalence and former smoker prevalence, by sex and by age, for each of those geographic areas, and death counts per area by smoking related cause and age. The same data items, smoking prevalence and numbers of deaths, were used by SAMMEC to compute the years of potential life lost.

Appendix B: Data with Confidence Intervals

Table B-1. **Percentage of Adults Who Smoke, Pennsylvania vs. United States, 1996-2004**

	PA Smoking Prevalence	PA Smoking 95% Confidence Intervals	U.S. Median Smoking Prevalence
1996	24	22-26	23
1997	24	22-26	23
1998	24	22-26	23
1999	23	21-25	23
2000	24	22-26	23
2001	25	23-27	23
2002	25	24-26	23
2003	25	23-27	22
2004	23	22-24	21

Sources:
Behavioral Risk Factor Surveillance System, 1996-2004, Pennsylvania Department of Health, Bureau of Health Statistics and Research, and U.S. Centers for Disease Control and Prevention.

***Table B-2*. Current Tobacco Use Among Middle School Students (Grades 6-8) Pennsylvania, 2000 and 2002**

	Cigarette Use (%)		Smokeless Tobacco (%)		Cigar Use (%)		Overall Tobacco Use (%)	
	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.
PA 2000	13.1	± 2.1	4.4	± 1.1	6.3	± 2.0	16.9	± 2.2
Male	13.4	± 1.9	6.8	± 2.2	8.9	± 3.6	19.3	± 2.6
Female	12.7	± 2.8	1.8	± 1.2	3.5	± 1.4	14.3	± 2.2
PA 2002	7.8	±1.1	2.8	± 0.5	3.4	± 1.5	12.4	± 1.3
Male	7.5	±1.3	4.5	± 0.9	4.5	± 0.8	13.2	± 1.5
Female	8.0	±1.3	1.0	± 0.5	2.2	± 0.7	11.4	± 1.5
U.S. 2000	11.0	± 1.2	3.6	± 0.9	7.1	± 1.0	15.1	± 1.5
Male	11.7	± 1.7	5.7	± 1.8	9.7	± 1.5	17.6	± 2.2
Female	10.2	± 1.3	1.5	± 0.3	4.6	± 0.8	12.7	± 1.5
U.S. 2002	10.1	± 1.2	3.7	± 0.8	6.0	± 0.7	13.3	± 1.4
Male	10.2	± 1.3	5.6	± 1.3	7.9	± 1.1	14.8	± 1.6
Female	10.0	± 1.4	1.8	± 0.4	4.1	± 0.7	11.8	± 1.4

Sources:
U.S. Centers for Disease Control and Prevention. CDC Surveillance Summaries, November 14, 2003. MMWR 2003; 52(45);1096-1098.
Pennsylvania Youth Tobacco Survey, 2000 & 2002, PA Department of Health, Division of Tobacco Prevention and Control.
Note: Current tobacco use is defined as using cigarettes, smokeless tobacco, cigars, or other tobacco products on one or more days of the past 30 days prior to the survey. Prevalence was rounded to the nearest tenth and 95% confidence intervals were rounded to the nearest one. The PA 2000 YTS survey was conducted in spring of 2000, as was the U.S. YTS survey. In 2002 the PA survey was conducted in fall of 2002, while the U.S. YTS was conducted in the spring of 2003.

***Table B-3*. Current Tobacco Use Among High School Students (Grades 9-12)**
Pennsylvania, 2000 and 2002

	Cigarette Use (%)		Smokeless Tobacco (%)		Cigar Use (%)		Overall Tobacco Use (%)	
	%	95% C.I.	%	95% C.I.	%	95% C.I.	%	95% C.I.
PA 2000	27.6	± 2.2	6.8	± 1.5	12.4	± 1.1	33.9	± 2.1
Male	26.9	± 2.5	12.3	± 2.4	17.6	± 1.9	36.8	± 2.6
Female	28.3	± 2.8	1.3	± 0.6	7.0	± 1.5	31.0	± 2.5
PA 2002	23.1	±2.2	7.9	± 1.1	10.7	± 1.1	29.7	± 2.5
Male	22.4	±2.5	13.8	± 1.6	15.9	± 1.8	32.9	± 3.3
Female	23.8	±2.5	1.9	± 0.8	5.2	± 0.8	26.3	± 2.3
U.S. 2000	28.0	± 1.7	6.6	± 0.9	14.8	± 1.1	34.5	± 1.9
Male	28.8	± 1.9	11.8	± 1.7	22.0	± 1.5	39.1	± 2.2
Female	27.3	± 2.0	1.4	± 0.4	7.3	± 0.9	29.8	± 1.9
U.S. 2002	22.9	± 1.6	6.1	± 1.1	11.6	± 0.9	28.4	± 1.7
Male	24.6	± 2.1	10.8	± 2.0	16.9	± 1.4	32.9	± 2.3
Female	21.2	± 1.8	1.4	± 0.4	6.2	± 0.9	23.9	± 1.8

Sources:
U.S. Centers for Disease Control and Prevention. CDC Surveillance Summaries, November 14, 2003. MMWR 2003; 52(45);1096-1098.
Pennsylvania Youth Tobacco Survey, 2000 & 2002, PA Department of Health, Division of Tobacco Prevention and Control.
Note: Current tobacco use is defined as using cigarettes, smokeless tobacco, cigars, or other tobacco products on one or more days of the past 30 days prior to the survey. Prevalence was rounded to the nearest tenth and 95% confidence intervals were rounded to the nearest one. The PA 2000 YTS survey was conducted in spring of 2000, as was the U.S. YTS survey. In 2002 the PA survey was conducted in fall of 2002, while the U.S. YTS was conducted in the spring of 2003.

***Table B-4*. Results of Annual Synar* Compliance Checks of Tobacco Sales to Minors Pennsylvania, 1996-2004**

	Illegal Sales Percent	95% Confidence Interval
1996	56%	38-62
1997	30%	24-36
1998	32%	26-36
1999	41%	36-46
2000	27%	23-31
2001	28%	24-32
2002	15%	12-18
2003	11%	9-13
2004	7%	5-9

Source: Pennsylvania Department of Health, Bureau of Health Statistics and Research.
* The Federal Synar Regulation requires that each state annually conduct random, unannounced inspections, using hired youth inspectors, to assess their compliance with the state's access law. States are required to meet annual target inspection failure rates established by the federal government. Failure to meet requirements of the Synar Regulation can result in a penalty of 40% of a state's substance abuse prevention and treatment block grant allocation.

***Table B-5*. Methods High School Students Used to Obtain Cigarettes, Pennsylvania, 2000 and 2002**

Method Used	2000	2000 95% C.I.	2002	2002 95% C.I.
From a store	39.8 %	36.8-42.8	29.9 %	26.5-33.3
From a vending maching	2.8 %	2.0-3.9	3.4 %	2.6-4.4
Gave money to another to buy them	19.5 %	17.2-21.7	24.4 %	22.2-26.6
Borrowed or "bummed" them	22.4 %	20.0-24.8	23.2 %	20.4-25.9
Given them by someone 18 or older	5.8 %	4.6-7.2	7.7 %	6.5-9.0
Took from a store or family member	2.8 %	2.0-3.9	3.3 %	2.4-4.5
Some other way	7 %	5.7-8.4	8.2 %	6.9-9.7

Source: Pennsylvania Youth Tobacco Survey, 2000 & 2002, Pennsylvania Department of Health, Division of Tobacco Prevention and Control.

***Table B-6*. Effects on High School Students of Other Smokers in the Household, Pennsylvania, 2002**

	No other smoker in household	95% Confidence Interval	Other smoker in household	95% Confidence Interval
Ever Smoked	43.4 %	40.4 – 46.3	67.7 %	65.4 – 70.0
Initiated before age 13	11.7 %	10.6 – 12.7	25.4 %	23.0 – 27.8
Current smoker	15.2 %	13.3 – 17.0	30.9 %	27.7 – 34.1
Every Day smoker	4 %	3.4 – 4.8	13.1 %	10.7 – 15.5

Source: Pennsylvania Youth Tobacco Survey, 2002, Pennsylvania Department of Health, Division of Tobacco Control and Prevention.