

**Arizona Adult Tobacco Survey 2002**  
**Executive Report**

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## **EXECUTIVE SUMMARY**

### **General Summary**

This report provides an overview of some of the key findings for the 2002 Arizona Adult Tobacco Survey, which was conducted by phone with over 6,000 adult Arizona residents.

Overall smoking prevalence remains at a rate close to the previous 1999 ATS prevalence rate (18.8% in 1999 and 20% in 2002), but when examined by age category, the 18-24 year olds show a significant increase (21% in 1999 to 29% in 2002). The increase in this age group is mostly driven by high rates reported by males. Also, the less educated (less than high school) show substantially higher proportions of current smoking rates than for those with some college education or a college degree. These results suggest the need for intensified efforts at youth tobacco prevention, particularly with youth who are at risk for not completing high school.

Although smoking prevalence has remained constant, and even increased among young adults, there is evidence that Arizona smokers have, on average, decreased the number of cigarettes they are smoking. The percentage of current smokers reporting smoking every day has declined, as have the average number of cigarettes they report smoking per day. This translates into a decrease in the average number of packs smoked per month from 30 packs/month in 1996 and 1999 to 22 packs/month in 2002. This trend is consistent across age groups, with the 18-24 year olds reporting smoking the least (on average, 12 packs/month).

Although a high percentage of smokers want to quit (43% reported making a quit attempt in the past year), only 23% used any form of pharmaceutical assistance, and even fewer (7%) used other types of cessation services such as classes, clinics, self-help materials, or counseling. Research indicates that healthcare providers can have a powerful influence on smokers' attempts to quit. However, only 71% of current tobacco users report being advised to quit by their healthcare providers. Further efforts by ADHS TEPP to engage healthcare providers in innovative approaches to promote cutting back and quitting tobacco use could be fruitful.

The results of the survey also indicate a need for providing ongoing information about the harms of exposure to secondhand smoke, and for encouraging smoke-free policy and advocacy. Although household smoking restrictions increased in non-smoking households, there was no change in the percentage of households with a smoker reporting having home smoking restrictions. Also, of those who are currently employed and report working indoors most of the time, 15% report that someone had smoked in their work area in the week prior to the survey, and less than half report having smoke-free worksite policies.

### **Tobacco Use in Arizona**

The estimated overall prevalence of cigarette smoking among adult Arizonans in 2002 was 20%. That rate has been stable over time as shown by the results of the previous two Arizona Adult Tobacco Surveys and the last 12 Arizona Behavior Risk Factor Surveys.

Although overall prevalence remained steady, there is evidence that Arizona smokers are smoking less. The percentage of current smokers reporting smoking every day declined from 83% in 1996 and 1999 to 77% in 2002. In addition, current smokers in 2002 reported smoking few cigarettes per day on average (15/day) than they reported in 1996 and 1999 (20/day).

Taken together, the average number of packs smoked monthly by current smokers in 2002 is estimated to be 22, down from 30 packs/month reported in 1996 and 1999.

**Regional Tobacco Use Rates:** See Table 1 below. The prevalence of cigarette smoking among adults varied somewhat across the five Adult Tobacco Survey regions in Arizona from 19% in Region 1 (Maricopa County) to 24% in Region 4 (Gila, La Paz, Mohave, and Yavapai Counties).

**Table 1. Regional Tobacco Use Rates.**

<b>Region 1</b>	Maricopa County	19%
<b>Region 2</b>	Pima County	21%
<b>Region 3</b>	Coconino, Navajo, Apache	19%
<b>Region 4</b>	Gila, La Paz, Mojave, Yavapai	24%
<b>Region 5</b>	Cochise, Graham, Greenlee, Pinal, Santa Cruz, Yuma	21%

In Region 2 (Pima County) the smoking prevalence estimate increased sharply from 15% to 21% between 1999 and 2002. There is, however, some question about the accuracy of the 1999 estimate so that this increase is likely to be an overestimate of the change in the county<sup>1</sup>. The rate in Region 4 (Gila, La Paz, Mohave, and Yavapai Counties) decreased from 28% in 1999 to 24% in 2002. The other three regions saw changes of 1% or less.

**Gender:** There is no statistically significant difference in overall smoking prevalence between men and women.

**Age:** The largest increase in smoking prevalence in a single demographic group between 1999 and 2002 was among 18 to 24 year olds. Prevalence among this group increased from about 21% in 1999 to about 29% in 2002. No other age groups showed statistically significant changes, and all rates were substantially lower than the 18-24 year olds. Although the young adult age group has the highest prevalence rates, they have the lowest rates of self-reported tobacco consumption, averaging approximately 12 packs/month, roughly half the rate of the other age groups combined.

**Education:** Smoking prevalence decreases with increasing education, from a high of about 27% amongst those reporting less than a high school education, to a low of 12% amongst college graduates. This pattern has been consistent over all three years of the survey.

**Smokeless Tobacco Use:** Respondents who reported smoking fewer than 100 cigarettes in their lifetime were asked questions regarding smokeless tobacco use. Of these, 6% reported having tried smokeless tobacco products, and of those who have tried them, about 25% reported using

<sup>1</sup> Survey methodology changed somewhat between 1999 and 2002, resulting in some anomalous data between the two time periods.

them some days or every day. The overall estimate of smokeless tobacco use prevalence in the state is about 1%.

## **Beliefs About Hazards of Tobacco Use**

Overall, 72% of respondents recognize the health benefits of quitting smoking, and 92% recognize that secondhand tobacco smoke is “harmful” or “very harmful” to one’s health. However, current smokers are less likely to endorse this belief about secondhand smoke, with only 39% reporting that they believe it to be very harmful, compared to 77% of non-smokers.

## **Quitting**

Forty-three percent (43%) of current smokers reported trying to quit during the past year. Of those attempting to quit, 23% used a pharmaceutical quit aid and 7% used classes, counseling, or some other type of non-medicinal quit aid. Of those who attempted to quit, 65% cited “for my own health” as the most important reason for quitting.

Forty-six percent (46%) of identified current smokeless tobacco users have attempted to quit. Only 6% of current and former smokeless tobacco users reported using medication to assist with quitting, and none reported using other services such as classes or counseling.

## **Medical Provider Advice**

Sixty-three percent (63%) of all respondents who saw a medical provider in the year prior to the survey reported being asked about their tobacco use. Seventy-one percent (71%) of current tobacco users who reported that their medical provider had asked them about smoking reported that their medical professional recommended quitting. This is similar to the national median estimate of 72% of current smokers who had received physician advice to quit during the preceding year<sup>1</sup>.

## **Attitudes Towards Smoking Bans**

**Household Smoking Restrictions:** Among non-smoking households, the percentage restricting smoking inside the home increased from 89% in 1999 to 96% in 2002. The percentage of household smoking restrictions among smokers’ households remained steady with 72% in 1999 to 71% in 2002.

**Public Smoking Bans:** Increases were seen between 1999 and 2002 in support for smoking bans in public areas. Among people who support laws banning smoking, the largest increase was in support for bans of smoking in “public buildings.” These support levels increased from 72% to 87% between 1999 and 2002.

## **Attitudes about Tobacco Laws**

**Storeowner License:** Respondents (81%) tend to agree that storeowners should be required to have a license to sell tobacco products in Arizona.

**Tobacco Tax:** A majority of respondents (69%) support some increase in the tobacco tax. Among those supporting a tax increase, 49% of respondents are in support of a tax increase of one dollar or more per pack of cigarettes or tin of smokeless tobacco.

## **INTRODUCTION**

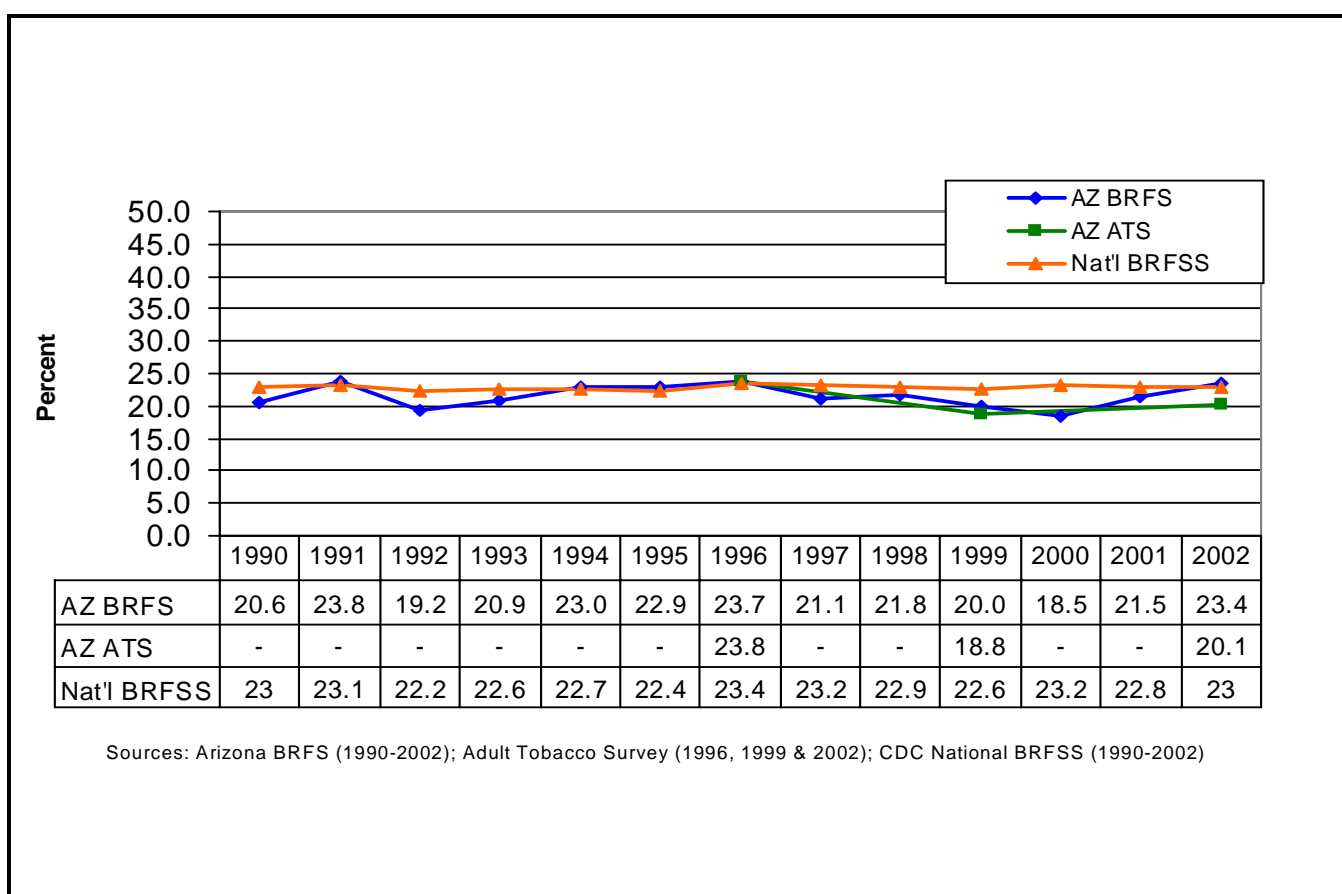
Adult tobacco use represents an important and on-going, morbidity, mortality and health care cost problem. The Arizona Department of Health Services Tobacco Education and Prevention Program (ADHS TEPP) has been working since 1996 to reduce tobacco use in Arizona. The Arizona Adult Tobacco Survey (ATS) provides one source of data for looking at tobacco use in Arizona, and at Arizona residents' beliefs about the hazards of smoking, as well as their attitudes towards tobacco policies. Because the ATS has been conducted in three different years (1996, 1999, and 2002) it can also be used to compare some tobacco behavior, belief and attitudes over time.

This Executive Report presents some of the key findings from the 2002 Arizona ATS.

## SMOKING PREVALENCE

The 2002 estimated smoking prevalence rate is 20% for adult Arizona residents and this rate has been a stable trend over time. This consistent trend (see Figure 1 below) is supported by the results for the last three Adult Tobacco Surveys, as well as the last twelve Arizona Behavioral Risk Factor Surveys (AZ BRFS) (another statewide phone-based survey that includes tobacco questions). The current national estimate of smoking prevalence for adults, based on the CDC's 2002 Behavioral Risk Factor Surveillance System (BRFSS), is about 23%.

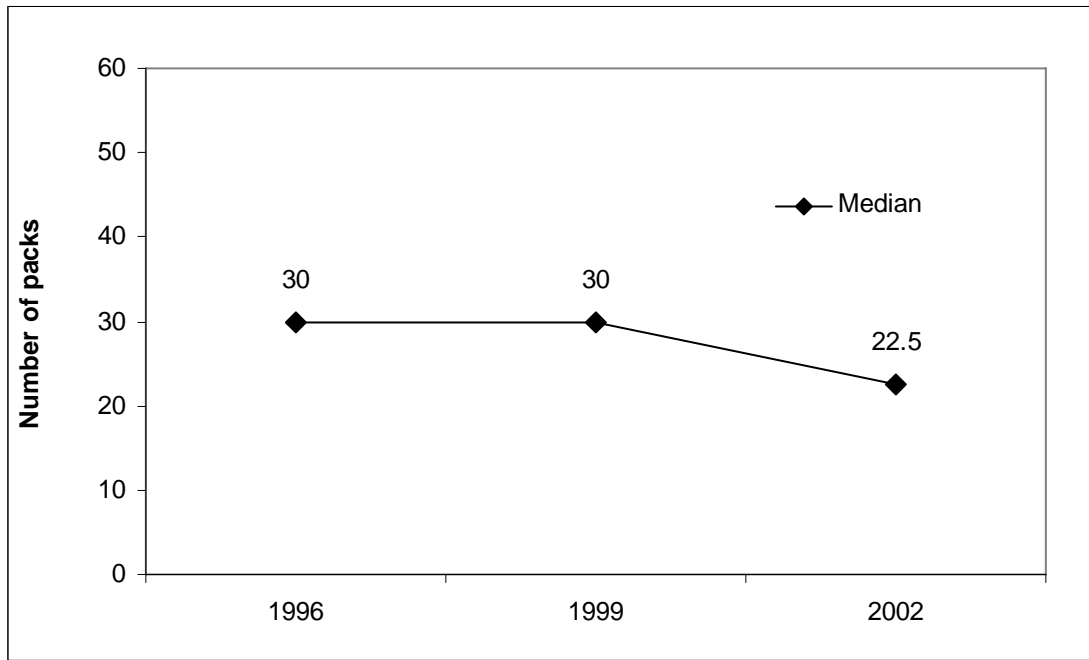
**Figure 1. Adult smoking prevalence in Arizona: 1990 – 2002.**



Although smoking prevalence has remained steady, there is evidence that, on average, Arizonans have decreased the number of cigarettes they are smoking. The percentage of current smokers reporting smoking every day declined from 83% in 1996 and 1999 to 77% in 2002. In addition, current smokers in 2002 reported smoking fewer cigarettes per day on average (15/day) than they reported in 1996 and 1999 (20/day).

Taken together, the average number of packs smoked monthly by current smokers in 2002 is estimated to be about 22, down from 30 packs per month reported in 1996 and 1999 (see Figure 2). This decrease is consistent across most age groups (see Figure 5 under “Smoking Prevalence by Age”).

**Figure 2. Estimate of cigarette packs smoked in a month, ATS 2002.**



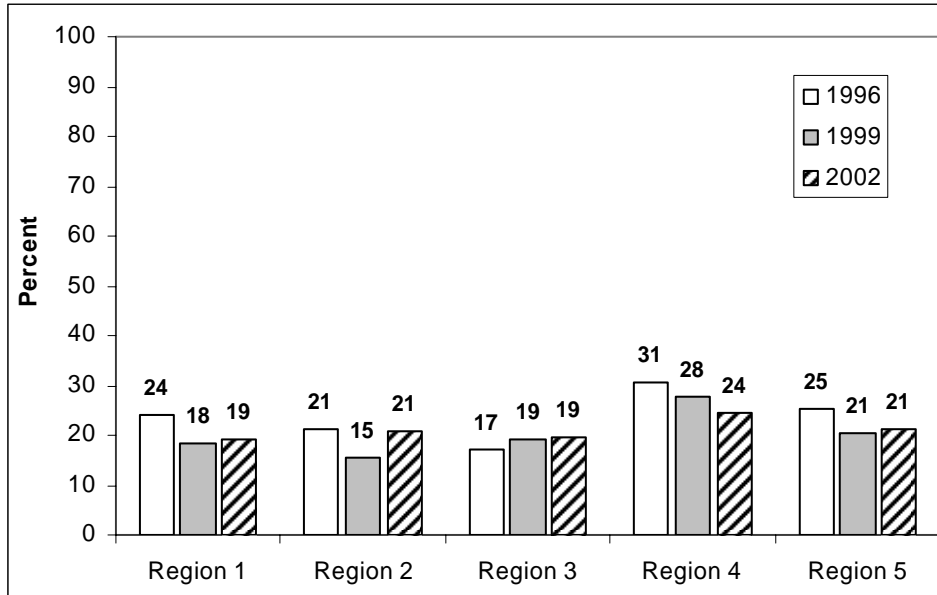
### **Smoking Prevalence by ADHS Region of Residence**

Only two regions showed noteworthy changes in smoking prevalence. Figure 3 illustrates smoking prevalence rates by region. Region 2 (Pima County) had a 6% increase in smoking prevalence between 1999 and 2002. This sharp increase is not consistent with other patterns seen in the data. Unless the next fielding of the survey shows a continuing increase in prevalence in the county, the most likely explanation is that the 1999 figure of 15%, representing a drop of 6% from 1996, was an underestimate.

The other item of note is the decrease in prevalence in Region 4 (Gila, La Paz, Mohave, and Yavapai Counties) from 28% in 1999 to 24% in 2002. This decrease continues from a drop of 5% between 1996 and 1999. It should be noted that these four counties do not form a geographic region, but they are all fairly sparsely populated.

The other three regions saw changes of 1% or less.

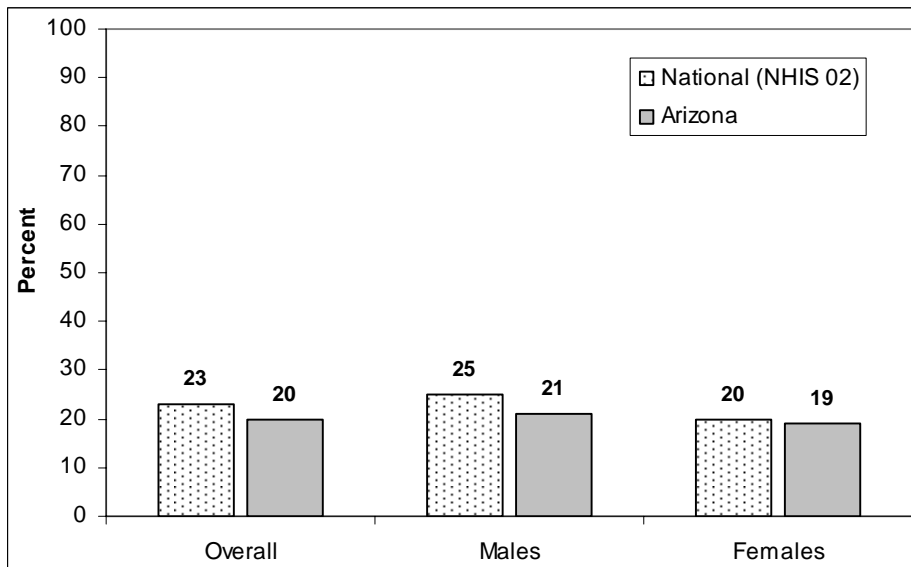
**Figure 3. Current smoking prevalence by region: 1996, 1999 & 2002.**



**Smoking Prevalence by Gender**

There is no statistically significant difference in overall smoking prevalence between men and women. The estimated rate for men in Arizona is 21%, and for women it is 19%. This gap is smaller than that reported nationally through the CDC’s 2002 National Health Interview Survey (see Figure 4 below), primarily because the overall reported smoking rate for men appears to be somewhat lower in Arizona<sup>2</sup>.

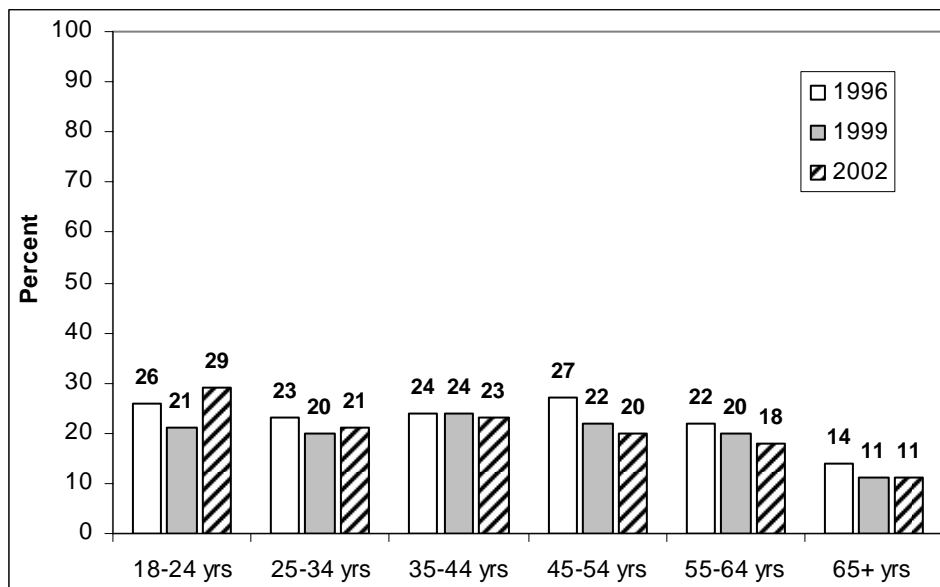
**Figure 4. Arizona smoking prevalence compared to national data.**



## Smoking Prevalence by Age

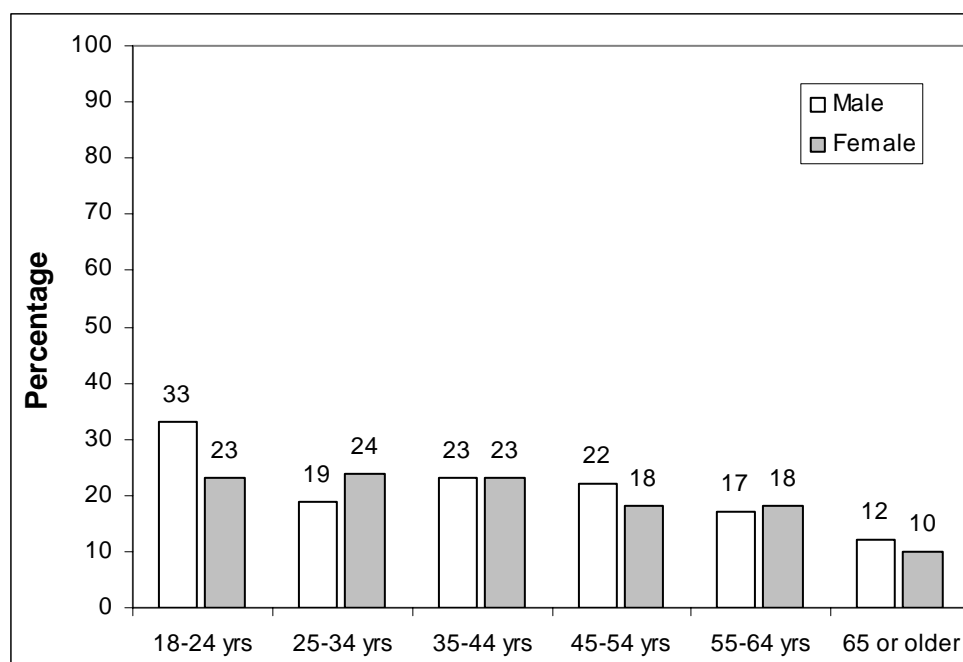
The largest increase in smoking prevalence in a single demographic group between 1999 and 2002 was among 18 to 24 year olds. As shown in Figure 5, prevalence among this group increased from 21% in 1999 to 29% in 2002. It is important to note, however, that the low 1999 rate of 21%, a decrease of 5% from 1996, is a bit anomalous and may represent an underestimate at that time point.

**Figure 5. Arizona smoking prevalence by age: 1996, 1999 & 2002.**



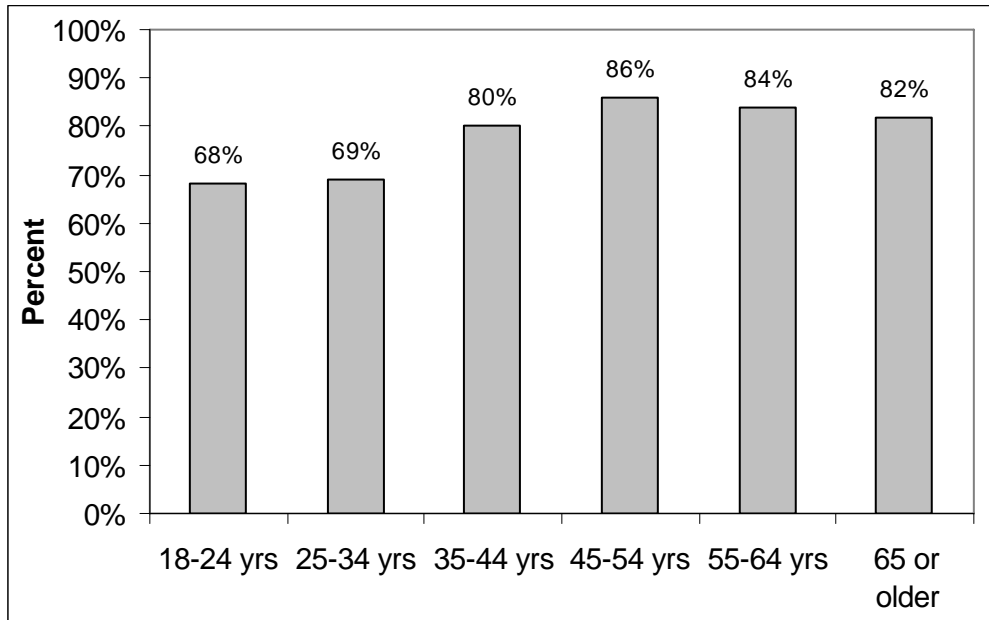
The current Arizona smoking rate of 29% for 18-24 year olds is similar to the 2002 national estimate of 28.5%<sup>3</sup>. Both national and Arizona rates show a large disparity between men and women in this age bracket, with young men reporting a substantially higher prevalence (see Figure 6).

**Figure 6. Prevalence of current smokers by age and gender.**

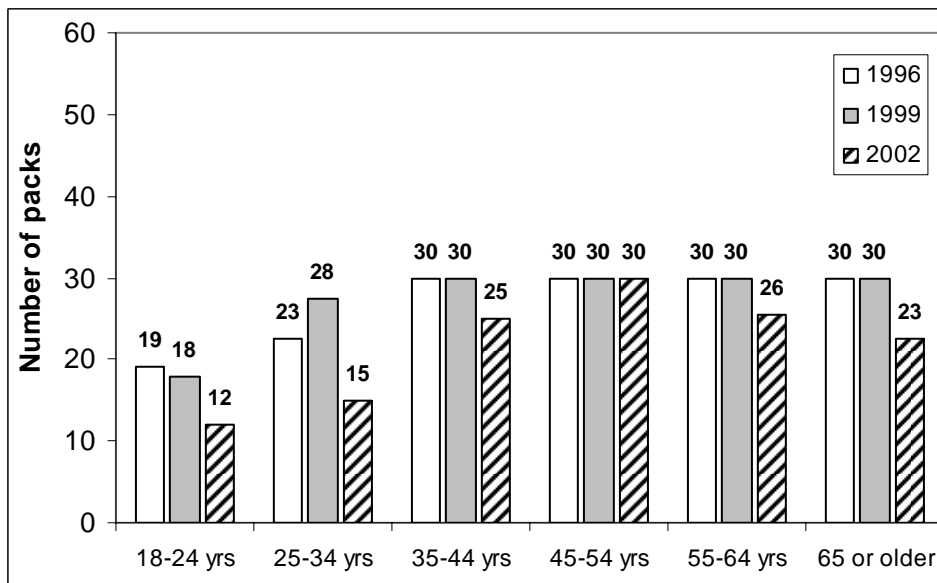


Although the 18-24 age group has the highest prevalence rates of all age groups, they have the lowest rates of self-reported tobacco consumption. Young adults report the lowest percentage of everyday smoking (see Figure 7), and average approximately 12 packs/month, roughly half the rate of the other age groups combined (see Figure 8).

**Figure 7. Percentage of current smokers reporting smoking 30 days of last month by age.**



**Figure 8. Estimate of cigarette packs smoked in a month by age: 1996, 1999 & 2002.**

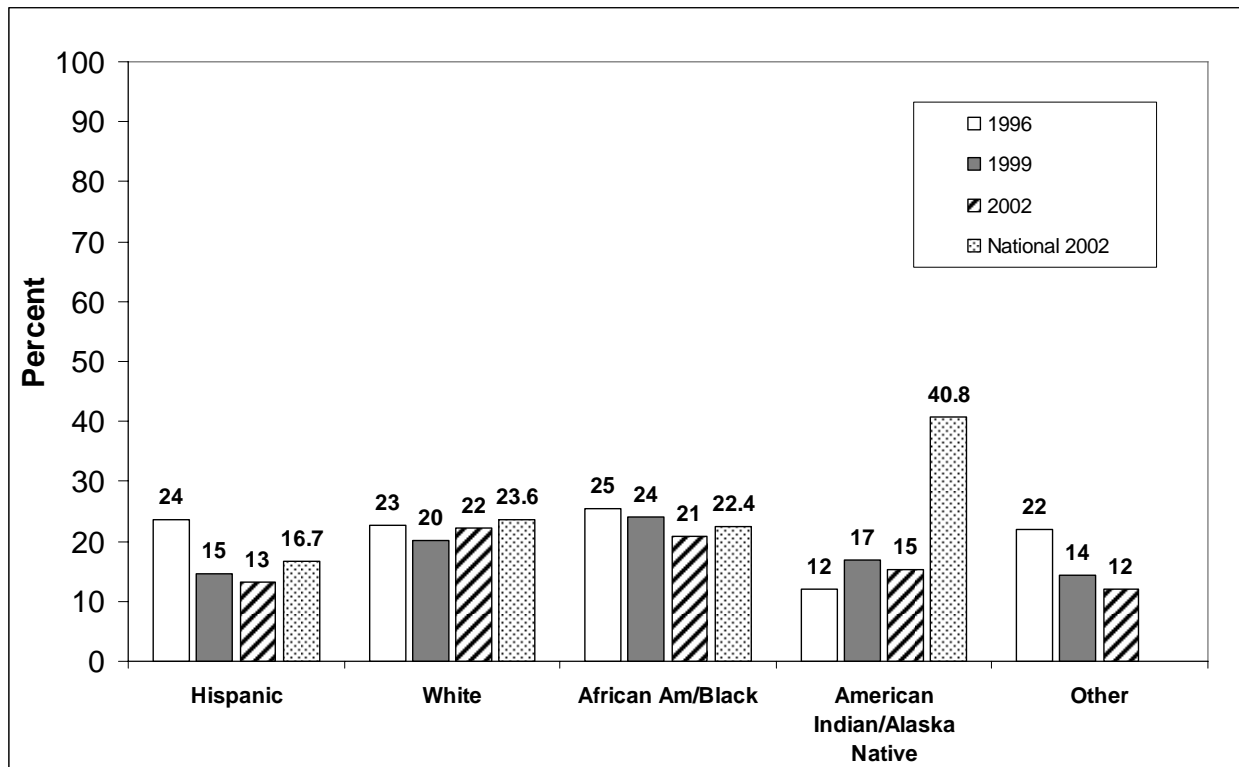


## **Smoking Prevalence by Race/Ethnicity**

Overall, the 2002 ATS data show a continuing trend of higher smoking rates among Whites and African Americans, and lower prevalence rates for Hispanics and American Indians. Prevalence rates by race and ethnicity were essentially stable between 1999 and 2002 with the exception of a notable decline in prevalence among respondents who identify as Black or African American (from 24.1% in 1999 to 20.8% in 2002). This finding should be interpreted cautiously, however, because of the small number of African Americans surveyed (n=183).

Also, a current school-based youth survey <sup>4</sup> shows high school youth identifying as American Indian reporting the highest prevalence of any adolescent ethnic group. The 32% estimate of current smoking by American Indian high school youth is more consistent with the 41% national estimate of smoking by American Indian adults. This discrepancy between youth and adult prevalence rates for American Indians in Arizona warrants further investigation.

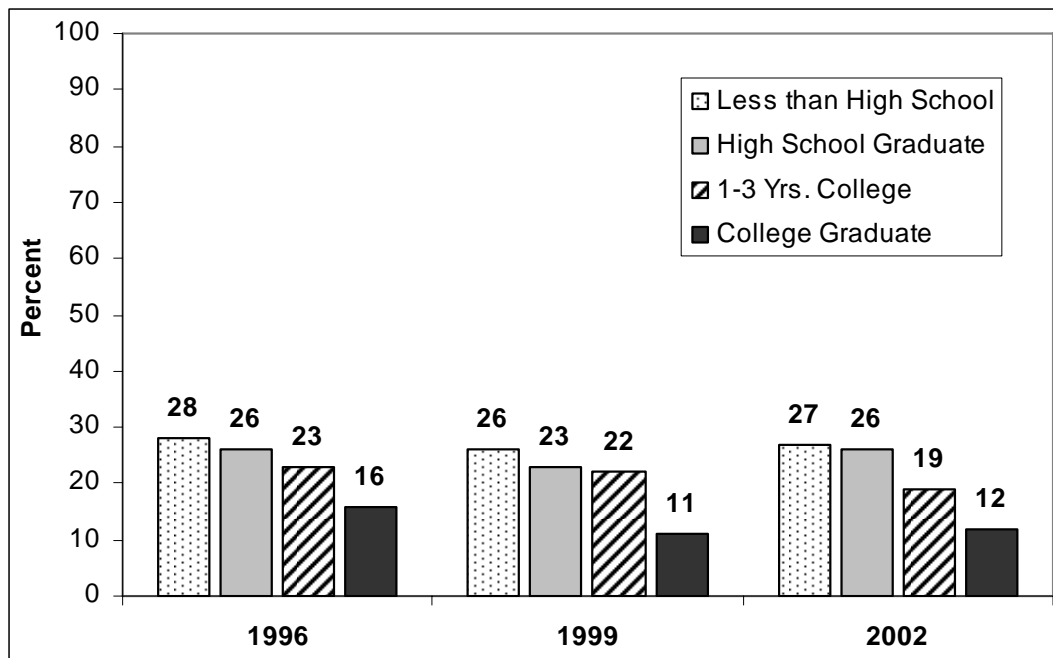
**Figure 9. Arizona estimated smoking prevalence by race & ethnicity, ATS 1996, 1999 & 2002, and National Health Interview Survey, 2002.**



## Smoking Prevalence by Education

Smoking prevalence decreases with increasing education, from a high of about 27% amongst those reporting less than a high school education, to a low of 12% amongst college graduates (Figure 10). This pattern has been consistent over all three years of the survey.

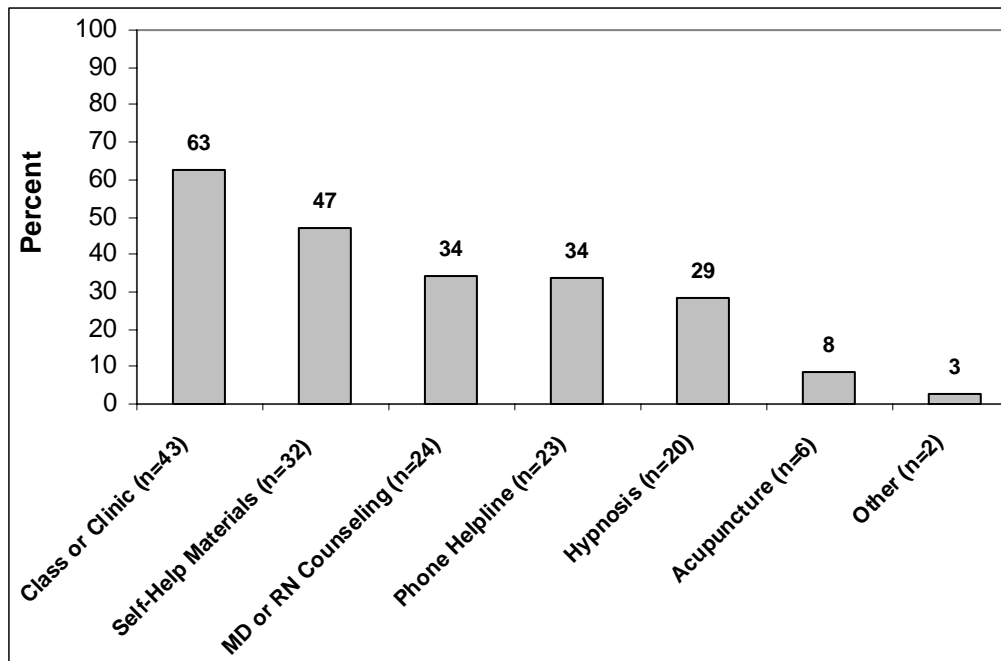
**Figure 10. Current smokers by education for Arizona adults: 1996, 1999 & 2002.**



## SMOKING CESSATION

Forty-three percent of current smokers reported trying to quit in the 12 months prior to the ATS. Although many smokers want to quit, of those who attempted to, few (23%) used any form of pharmaceutical assistance (e.g., nicotine patch, nicotine gum, Zyban). Even fewer (7%) took advantage of other cessation services (e.g., cessation classes, self-help materials, doctor or nurse counseling, and phone counseling). Of those few who reported using assistance, classes and self-help materials were the most frequently used (see Figure 11 below). We do not know why more of those who attempted to quit did not seek assistance in doing so. That is another potential issue for future research.

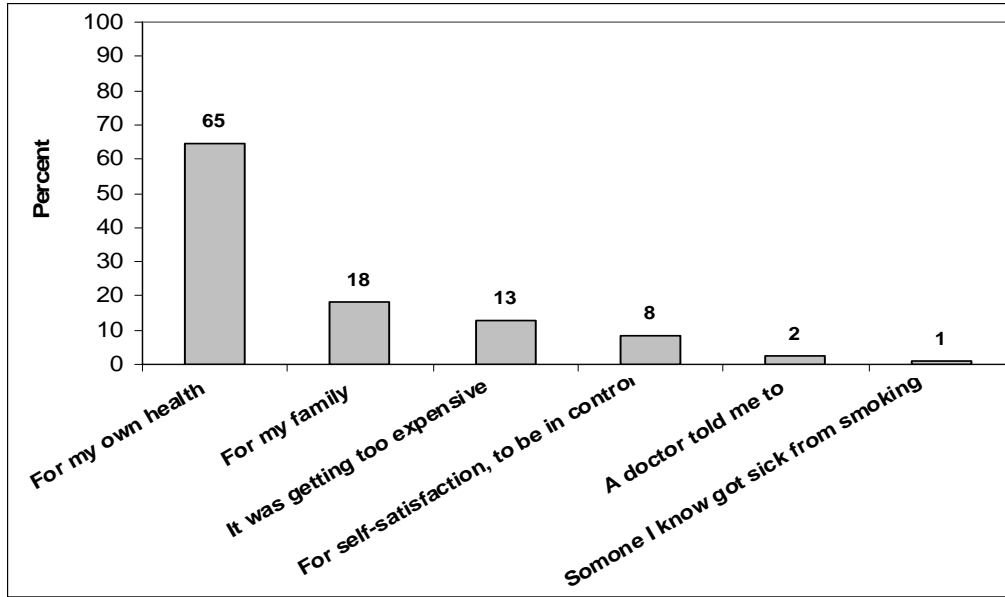
**Figure 11.** Type of assistance used by smokers reporting use of non-pharmaceutical cessation aides (n=69), ATS 2002.



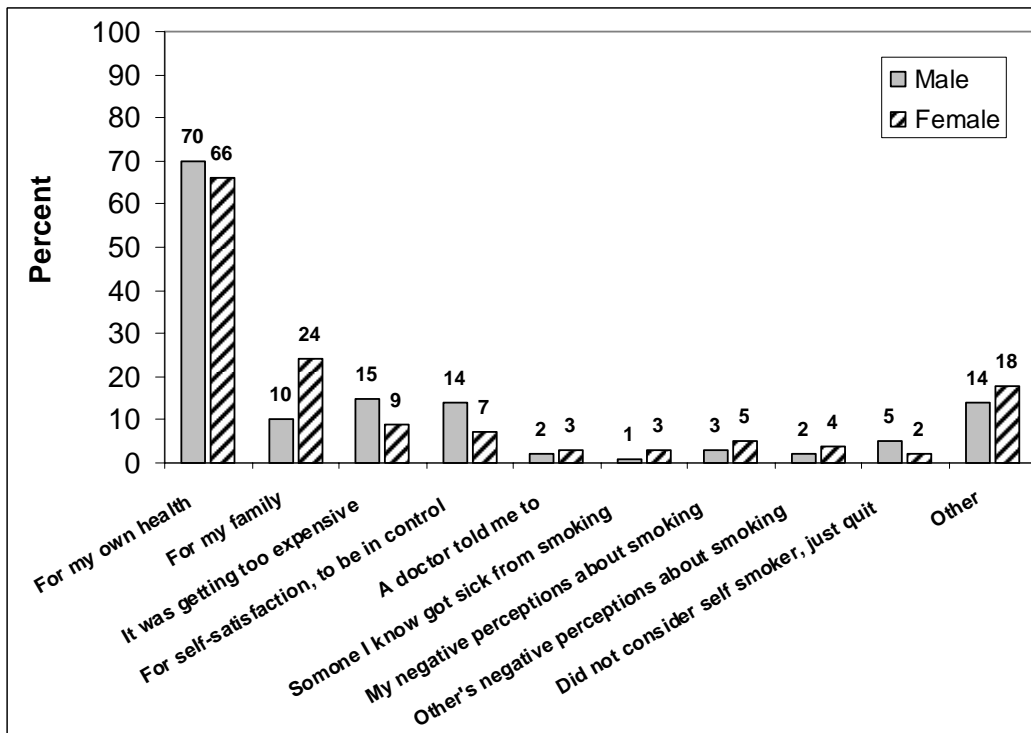
### Reasons for Quitting

Current smokers and former smokers were asked what the most important reason was for making their last quit attempt. The range of responses was wide, but the most frequently reported reason, as shown in Figure 12, was “for my own health.” When these reasons are examined by gender (Figure 13), women tend to report the reason “for my family” more frequently than did men.

**Figure 12. Most important reasons why smokers decided to quit, ATS 2002.**



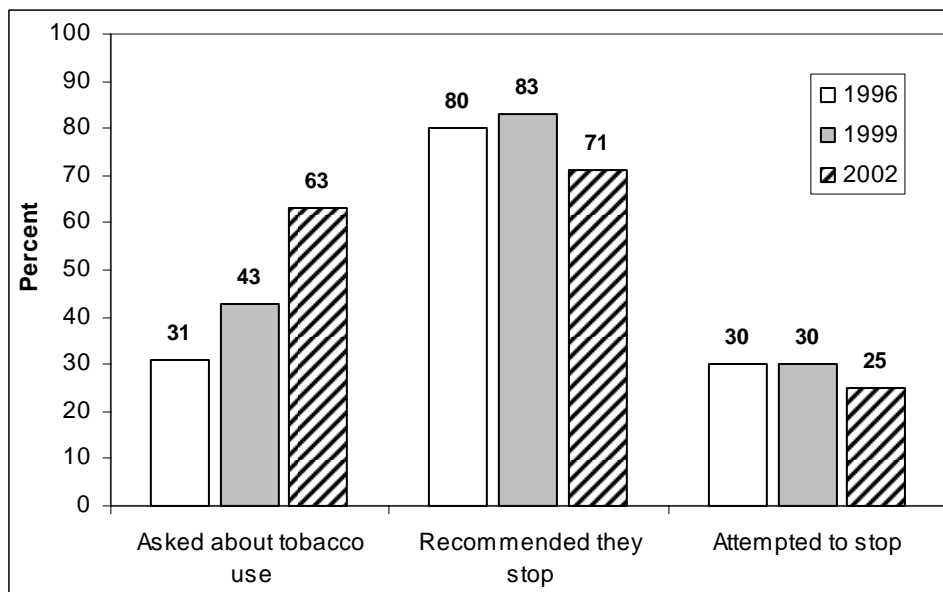
**Figure 13. Main reasons for stopping smoking by gender.**



## MEDICAL AND DENTAL PROVIDER COUNSELING

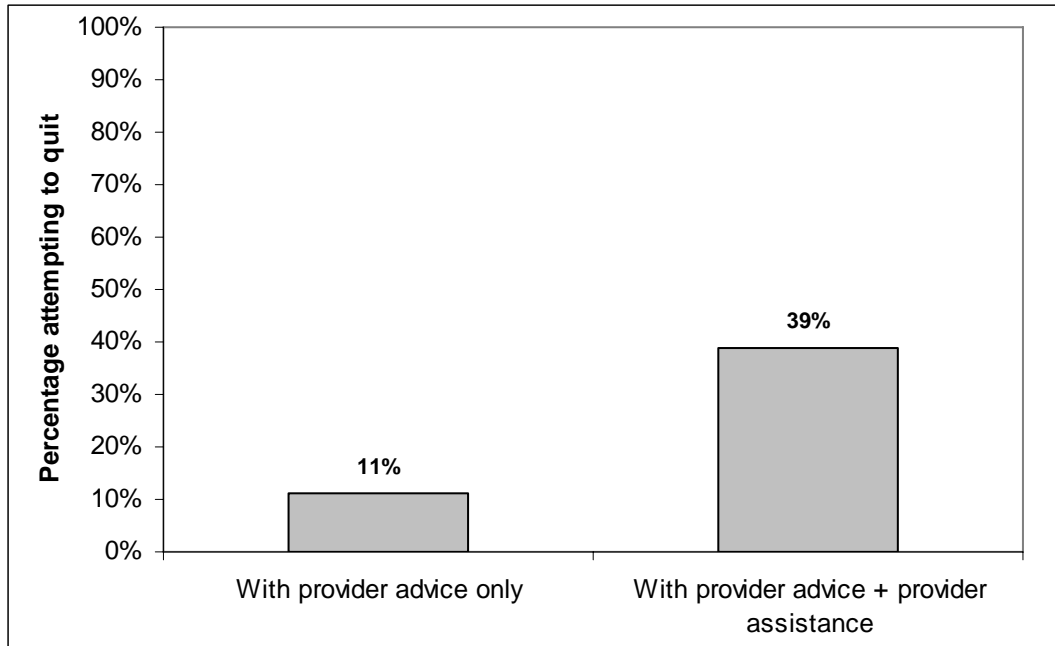
Amongst the respondents who saw a medical provider in the 12 months prior to the ATS (72%), there is a consistent increase from 1996 to 2002 in the number who reported that they were asked if they use tobacco (See Figure 14). Only 71% of current tobacco users, however, report being advised to not use tobacco by their medical providers. This percentage is down from 83% in 1999 and 80% in 1996, but is similar to the national median estimate of 72% of current smokers advised by their medical professional to quit<sup>5</sup>. Overall, 25% of tobacco users advised by their medical care provider to stop using tobacco reported that they attempted to do so.

**Figure 14. Reported tobacco counseling practices by medical care providers in previous 12 months: 1996, 1999 & 2002.**



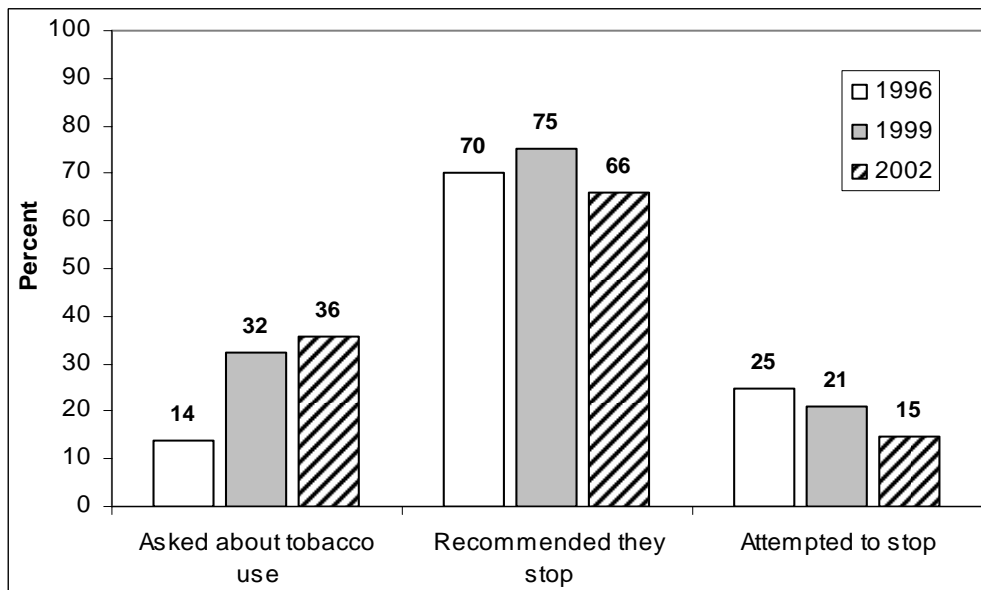
Of those tobacco users reporting being advised by their provider to stop, about 50% reported being offered cessation assistance by their provider (e.g. medication, information about classes, materials, quit date, etc.). When this assistance is considered, 39% of those reporting being advised and assisted to quit did so, compared to 11% of those advised but not assisted (see Figure 15).

**Figure 15. Percentage of current tobacco users reporting attempting to quit when advised by a medical provider.**



A similar pattern was found for current tobacco users' reports about dental providers. Figure 16 shows a consistent increase from 1996 to 2002 in those reporting being asked about tobacco use by their dental care providers and a decrease in those reporting being advised to stop (70%-1996, 75%-1999, 66%-2002).

**Figure 16. Reported tobacco counseling practices by dental care providers in previous 12 months: 1996, 1999 & 2002.**



The increase in reports of being asked about tobacco use may reflect the wider dissemination of the Tobacco Cessation Guideline <sup>6</sup>, both through efforts of ADHS TEPP, and agencies such as the National Committee for Quality Assurance <sup>7</sup>.

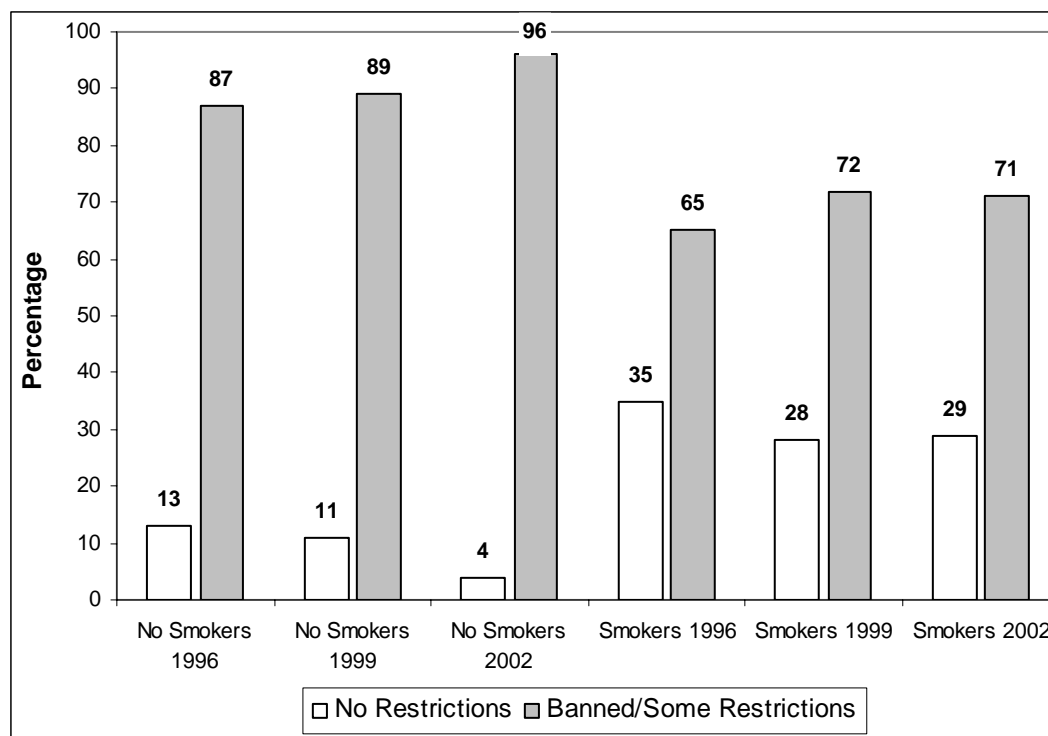
The reported decrease in being advised to stop is inconsistent with the recommendations of the Tobacco Cessation Guideline. The guideline recommends not only asking the patient about tobacco use, but encourages the provider to help the patient quit through brief and intensive cessation services. It may be that some of the reported decrease in recommendations to stop are due to changes in the wording of the question from 1999 – 2002 <sup>8</sup>.

## EXPOSURE TO SECONDHAND SMOKE

### Household Exposure

Among non-smoking households, the percentage restricting smoking inside the home increased from 89% in 1999 to 96% in 2002. For smokers' households, smoking restrictions stayed about the same, from 72% in 1999 to 71% in 2002<sup>9</sup>.

**Figure 17. Household smoking rules by presence of smoker in household: 1996, 1999 & 2002.**



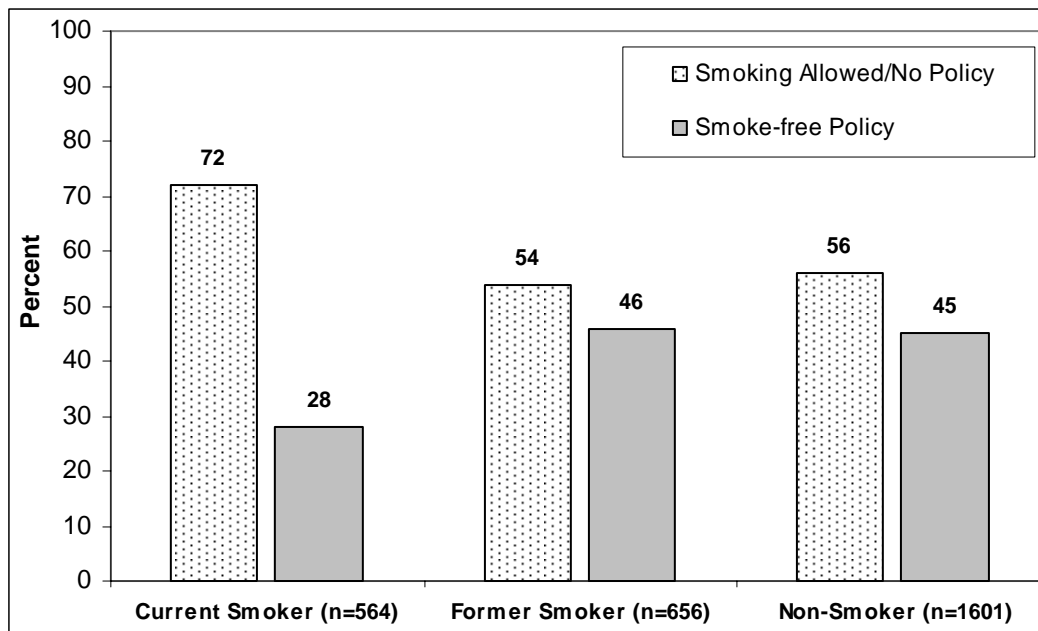
The increase in home smoking restrictions amongst non-smoking households (Figure 17) is consistent with the increasing support for clean indoor air in restaurants, public and private buildings and other indoor venues (Figure 20 on page 25). Since 1999, several key community ordinances for clean indoor air have been enacted in Arizona (i.e., Tempe, Guadalupe, Tucson, Pima County, etc.). It is understandable that such “municipal” support would translate to support for smoke free homes. The increasing public support for clean indoor does not seem to have an effect on smokers’ household restrictions as indicated by the lack of change in the rates from 1999 to 2002.

## Workplace Exposure

Respondents were asked a number of questions about workplace exposure to secondhand tobacco smoke. The majority of respondents (65.6%) are employed in large companies (50 or more employees) and spend the majority of their working hours indoors (78.4%). Of respondents who are “employed for wages” or “self-employed” and work indoors “most of the time,” about 15% said they had been exposed to second hand smoke in their work area in the 7 days prior to their interview. Also, these respondents more frequently reported working in settings that allow some level of smoking (58%) rather than in settings that have smoke-free policies (42%).

When reported workplace policies are examined by the smoking status of the respondent, a higher proportion of current smokers (72%) indicate that their worksites allow smoking compared to former smokers (54%) and non-smokers (56%) (see Figure 18). Conversely, a higher proportion of non-smokers (45%) and former smokers (46%), than current smokers (28%), report working in places that have smoke-free policies as compared to the proportion of current smokers (28%). It cannot be determined from these results if smokers are “choosing” worksites that allow smoking or if it is a more complicated relationship between the individual’s background and type of employment (e.g. work in construction, work in gaming). Data from other state and national surveys show that higher prevalence rates are associated with blue collar jobs, lower levels of income, and education.

**Figure 18. Smoking status by type of worksite policy, ATS 2002.**

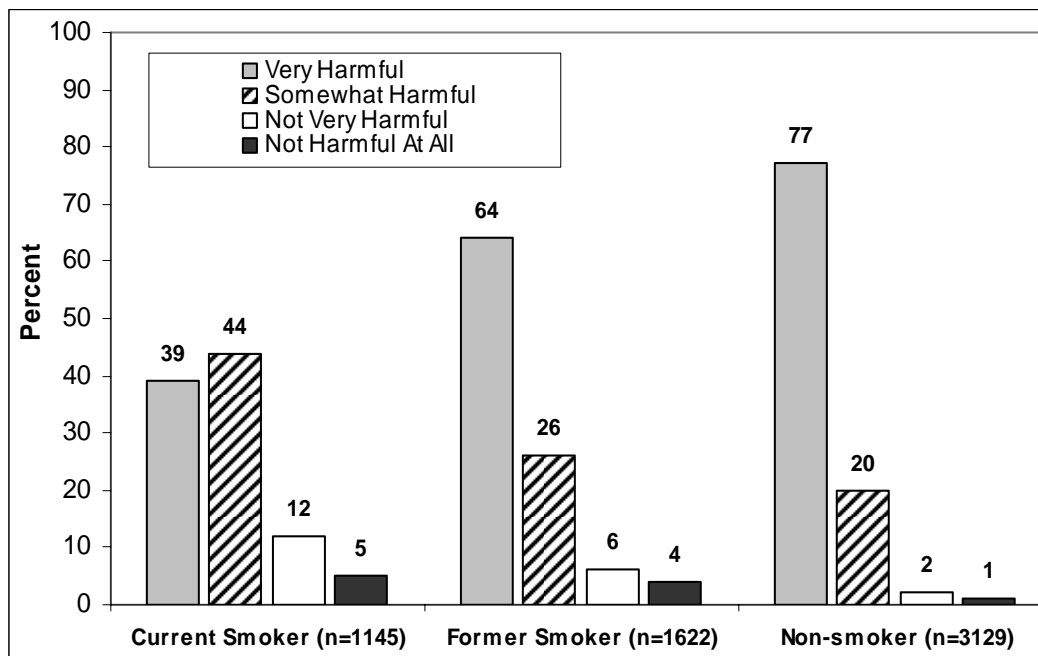


A statewide survey conducted for ADHS TEPP in 2001<sup>10</sup> that followed up on a representative sample of Arizona worksites on the status of their smoke-free policies indicated that the overall proportion of workplaces that were smoke-free increased from 1998 to 2001. However, of the worksites that were smoke-free in 1998, 16% were no longer smoke-free in 2001, indicating that smoke-free worksite policies can be dynamic and regressive, and suggesting the need for support of on-going worksite policy efforts.

## RISK PERCEPTIONS

Overall, 72% of respondents recognize the health benefits of quitting smoking, and 92% recognize that secondhand tobacco smoke can be “harmful” or “very harmful” to one’s health. However, current smokers are less likely to endorse this belief about secondhand smoke, with only 39% reporting that they believe it to be very harmful, compared to 77% of non-smokers (see Figure 19).

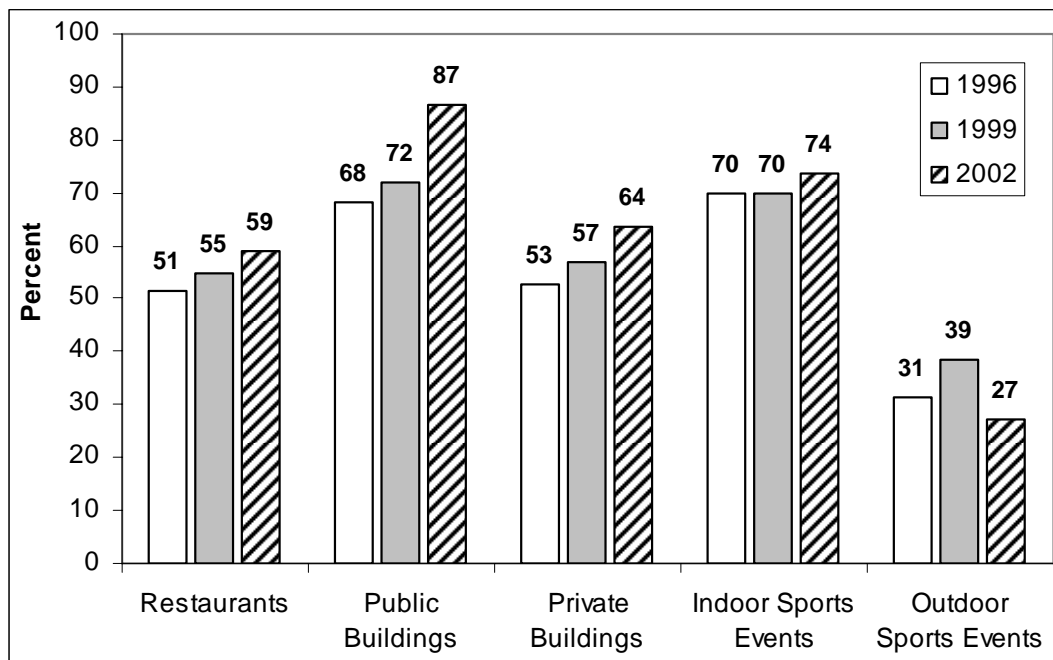
**Figure 19. Perceptions of harm in breathing secondhand smoke, ATS 2002.**



## ATTITUDES TOWARD TOBACCO CONTROL ORDINANCES

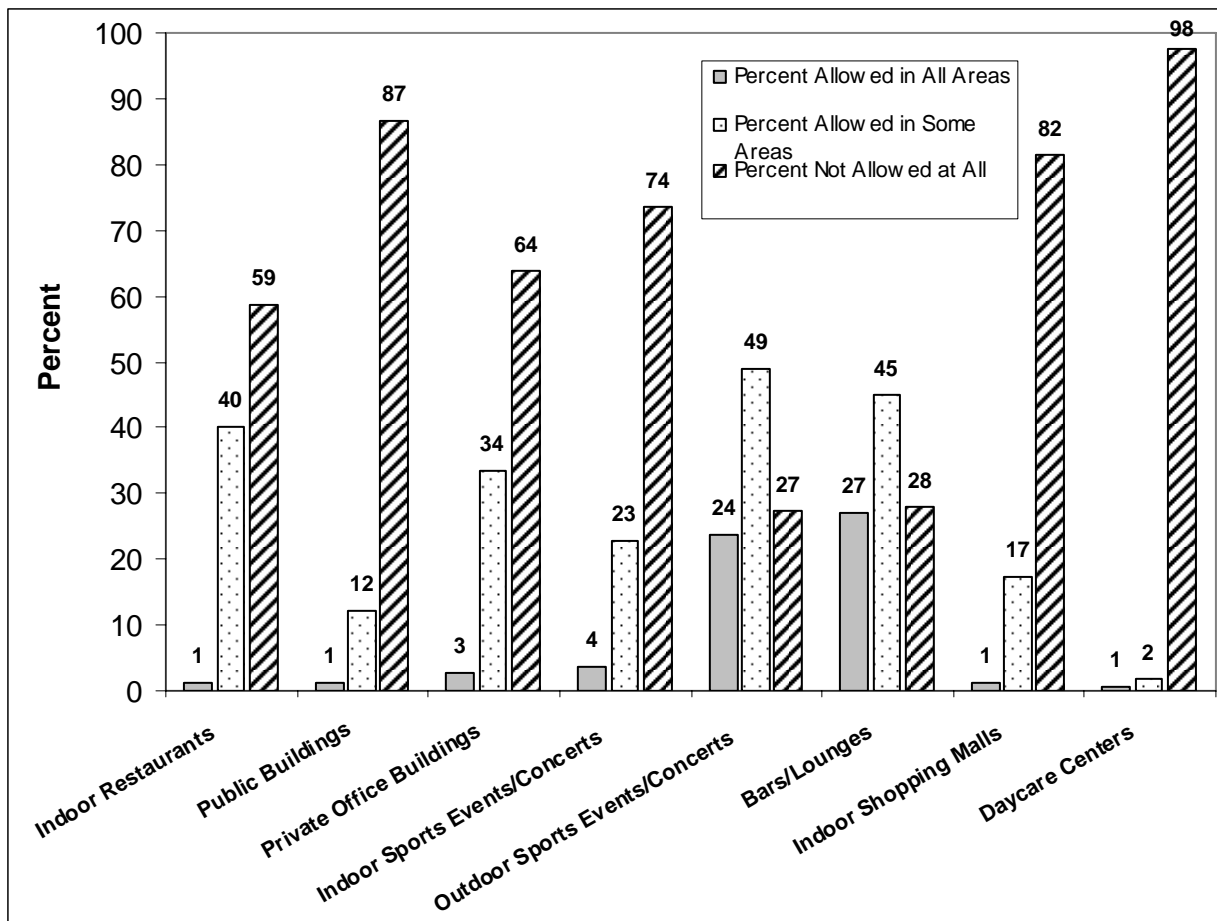
Increases in support for smoking bans in public areas occurred between 1999 and 2002. Among people who support smoking laws, the largest increase was in support for bans of smoking in “public buildings.” These support levels increased from 72% to 87% between 1999 and 2002 (see Figure 20).

**Figure 20. Percentage of respondents supporting complete smoking bans by type of location: 1996, 1999 & 2002.**



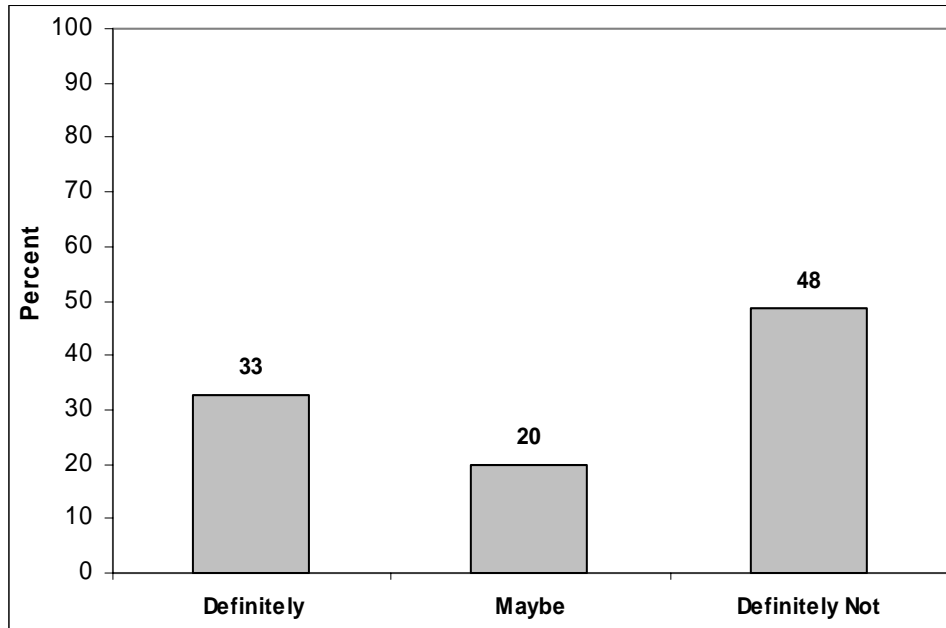
Nationally, the support for restrictions and/or bans on smoking in enclosed areas has been increasing since the late 1980's<sup>11</sup>. During the last five years, research evidence has clearly established the dangers of second hand smoke<sup>12</sup>. This information, along with the growing number of reports that show the benefits to businesses of going smoke-free<sup>13</sup>, has most likely contributed to the many municipal and state ordinances on second hand smoke and to broad public support for complete smoking bans in most indoor areas (Figure 21).

**Figure 21. Areas smoking should be allowed in, ATS 2002**



Support was not as great for total bans on smoking at concerts, bars, lounges and at outdoor sports events (see Figure 21), nor for limiting tobacco industry sponsorship of sporting events and concerts (see Figure 22). This relative lack of support may be due to a perception of reduced risk in open areas such as outdoor sporting venues and the current norm of bars and lounges as establishments for drinking and smoking. There is a clear need for clean air educational interventions that address secondary effects of public smoking (e.g., impacts on social norms), and the dangers of second hand smoke exposure to non-smoking employees.

**Figure 22. Allow sponsorship of sports events by tobacco companies, ATS 2002.**

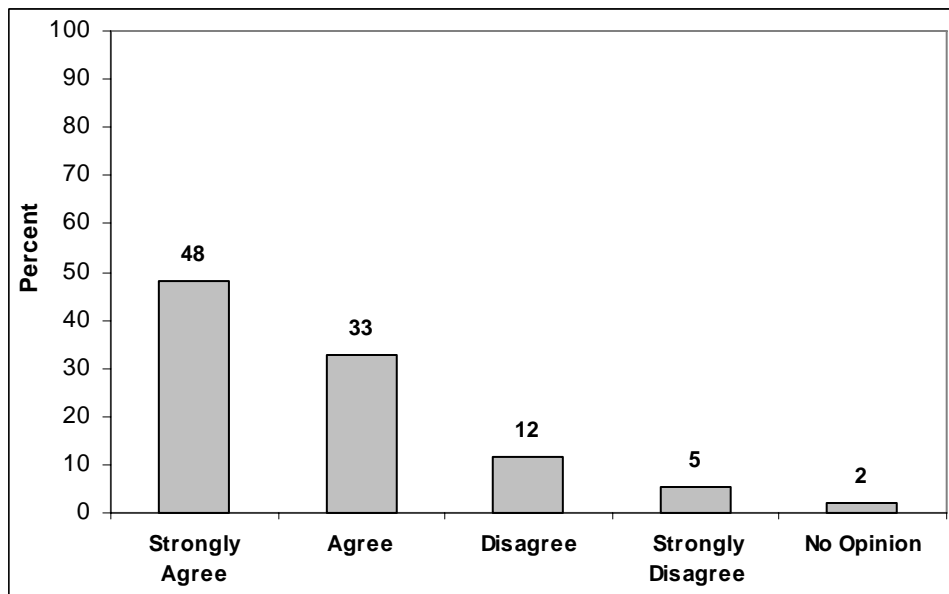


Respondents also strongly support keeping merchants from selling tobacco to minors (Table 2) and licensing sales of tobacco products (see Figure 22). Public support for “youth-related” tobacco control measures have been the norm in Arizona and in most states. This is most evident in the “calls to action” from organizations like the Campaign for Tobacco-Free Kids, one of the key advocates for tobacco control in the United States<sup>14</sup>.

**Table 2. The importance of keeping stores from selling tobacco to minors, ATS 2002.**

How important is it to keep stores from selling tobacco to minors?	Percent of Response	Number of Responses
Very important	86.8	5146
Somewhat important	8.6	508
Not very important	2.2	128
Not important at all	2.4	144
<b>Total</b>	<b>100</b>	<b>5926</b>

**Figure 23. Storeowners should be required to have a license to sell tobacco, ATS 2002.**

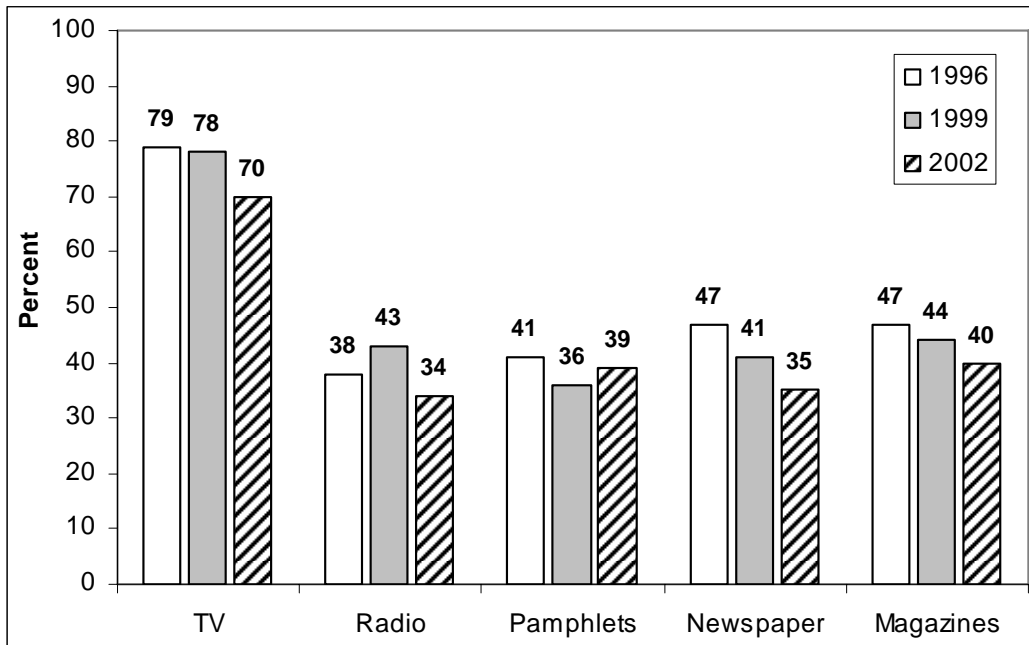


## ANTI-TOBACCO MEDIA AND TOBACCO PROMOTION ITEMS

There were decreases in reported exposure to anti-tobacco media messages in almost all categories (only “pamphlets” showed an increase in 2002; see Figure 24). For the two primary sources of anti-tobacco messages, 70% of respondents said they have seen an anti-tobacco message on television (down from 78% in 1999) and 40% said they have seen an anti-tobacco message in a magazine (down from 44% in 1999).

The decrease in exposure to anti-tobacco messages was most likely due to the reduction in media and public relation promotions by the Arizona Department of Health Services Tobacco Education and Prevention Program before the ATS was administered. The Tobacco Education and Prevention Program had major television and radio placements from January 1996 through much of 2001. The transition from one media contractor to another, combined with budget cuts, reduced the number and type of anti-tobacco media messages on the air. On the other hand, we have no evidence of the effects of such reductions in media exposure one way or the other.

**Figure 24. Percentage of adult respondents who have seen anti-tobacco media messages: 1996, 1999 & 2002.**



## **TOBACCO TAX OPINIONS**

A majority of respondents (69%) support some increase in the tobacco tax. Among those supporting a tax increase, 49% of respondents are in support of a tax increase of one dollar or more per pack of cigarettes or tin of smokeless tobacco.

The most significant validation of the respondent support for increasing the state tobacco tax occurred after the ATS was fielded. In November 2002, Arizona voters passed Proposition 303, which increased the state tobacco tax by 60 cents.

## **SMOKELESS TOBACCO**

Respondents who reported smoking fewer than 100 cigarettes in their lifetime were asked questions regarding smokeless tobacco use. Of these, 6% reported having tried smokeless tobacco products, and of those who have tried them, about 25% reported currently using them some days or every day. Put another way, barely more than 1% of respondents who claimed not to smoke reported regular use of smokeless tobacco.

It is important to note that these figures are not directly comparable with the estimates of smokeless tobacco use reported in previous years' ATS reports, because previous rates were calculated using all respondents, regardless of their smoking status.

However, assuming that 3.1% of current smokers, and 1.6% of former smokers, are also current smokeless tobacco users (as was the case in 1999), the population estimate of smokeless tobacco use for 2002 would be approximately 1.0%. This is similar to the 1999 estimate of 1.5%.

Only 6% of current and former smokeless tobacco users used medication to assist with quitting, and none reported using other services such as classes or counseling.

Although the number of smokeless tobacco users is small relative to the number of smokers, these tobacco users can also suffer serious health consequences. Further investigations into quitting patterns of smokeless tobacco users may be warranted, since they report a much lower use of medication and support services.

## CONCLUSIONS

Overall estimates of smoking prevalence place current smoking rates at essentially the same levels as reported in 1999 (18.8% in 1999 and 20% in 2002) but when examined by age category, the 18-24 year olds show a significant increase (21% in 1999 to 29% in 2002). This increase in smoking among young adults mirrors national trends of high rates in this age group and, as is the case nationally, within Arizona the rate is mostly driven by the high rates for males (33% in AZ). Also, the less educated (less than high school) show markedly higher current smoking rates than those with some college education or a college degree. These results suggest the need for intensified efforts at youth tobacco prevention, particularly with youth who are at risk for not completing high school.

Although smoking prevalence has remained constant, and even increased among young adults, evidence indicates that Arizona smokers are, on average, smoking less. The percentage of current smokers reporting smoking every day has declined, as have the average number of cigarettes they report smoking per day. These changes translate into a decrease in the average number of packs smoked per month from 30 packs/month in 1996 and 1999 to 22 packs/month in 2002. This trend is consistent across age groups.

Although a high percentage of smokers want to quit (43% reported making a quit attempt in the past year), only 23% used any form of pharmaceutical assistance, and fewer (7%) used other types of cessation services such as classes, clinics, self-help materials, or counseling. These results are not uncommon across the nation—that is, finding attractive, economically feasible and effective cessation services for addressing tobacco use addiction is a major challenge for all tobacco control programs. The reasons current and former smokers (e.g. personal health, and family) give for quitting may be helpful for future efforts at motivating smokers to quit.

Research indicates that healthcare providers can have a powerful influence on smokers' attempts to quit<sup>15 16</sup>. However, only 71% of current tobacco users report being advised to quit.

The most recent Surgeon General's Report on the Health Effects of Smoking, 2004, affirms that smoking affects almost every organ in the human body and that there is definitive evidence that smoking causes more types of cancers, diseases, and health conditions. For example, evidence is now sufficient to infer causation for glaucoma, oral cancer, and laryngeal cancer, as well as respiratory effects in childhood and adolescence. This evidence may help to motivate pediatricians, dental professionals and other healthcare providers to share this evidence with their patients of all ages. Further efforts by ADHS TEPP to engage healthcare providers in innovative approaches to promote cutting back and quitting tobacco use could be fruitful.

The results from the Arizona survey indicate that exposure to environmental tobacco smoke continues to be an area for policy and advocacy work. Although household smoking restrictions by non-smoking households increased, there was no change in the percentage of smokers' households reporting restrictions. Also, total smoke-free worksite policies are not the majority for those currently employed, and smokers tend to work in settings that allow smoking. In general, respondents tend to support smoking bans in public buildings, indoor sport events, and

private buildings, but report less support for bans in restaurants, bars and at outdoor sport events. Overall perceptions of the health risks of smoking and secondhand smoke are high, but smokers tend to report a lower perception of risk.

The 2002 Arizona Adult Tobacco Survey (ATS) represents the third iteration of a surveillance tool intended to capture a variety of state-level tobacco control information from Arizona adults. These findings are one part of the Arizona Department of Health Services Tobacco Education and Prevention Program (ADHS TEPP) surveillance and evaluation system. ADHS TEPP will continue to use the ATS results, and other data, to develop and improve its services.

## METHODS

The Northern Arizona University Social Research Laboratory (SRL) used computer-assisted telephone interviewing (CATI) to deliver the survey and collect data. The sample for 2002, purchased from Genesys Marketing Systems Group, was a disproportionate stratified sample (DSS) of Arizona households stratified to over-represent rural areas according to criteria set by the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS).

For sampling purposes, the geographic locations (county identifiers) of households in the dataset were used to divide the state into five "regions" as defined by ADHS. These five regions are: Maricopa County (Region 1), Pima County (Region 2), Coconino, Navajo, and Apache Counties (Region 3), Gila, La Paz, Mohave, and Yavapai Counties (Region 4), and Cochise, Graham, Greenlee, Pinal, Santa Cruz, and Yuma Counties (Region 5).

To qualify for the interview, contacted individuals had to have been Arizona residents, at least 18 years of age or older, English speaking, and residing in households with telephones. Active duty military personnel living in dormitories, institutionalized populations and residential college students were excluded from the eligible population. Based on these selection criteria, 6,020 adult Arizonans were included in the 2002 ATS. In prior years, ATS surveys were administered in both English and Spanish. For the 2002 fielding, interviews were conducted only in English. A Spanish-language survey is being conducted in 2004.

The ADHS Adult Tobacco questionnaire utilizes several standardized measures of tobacco use and attitudes towards tobacco developed by the CDC. In general, the survey assesses tobacco use and attitudes, including: Smoking Prevalence and Tobacco Use History, Purchase Patterns, Quitting Behavior, Interactions with a Medical or Dental Providers, Exposure to Environmental Tobacco Smoke, Attitudes toward Smoking and Tobacco Restrictions, Perception of Health Risks, Exposure to Media Sources, and Attitudes toward Tobacco Industry Practices.

In addition to these broad areas, the 2002 ATS included a series of questions for users of smokeless tobacco, an additional section to assess household exposure to cigarette smoke, and several items to assess support for a proposed revision of Arizona's tobacco tax laws. Fielding of the survey began April 15, 2002 and was completed August 5, 2002. The survey took an average of 16 minutes of the respondent's time to complete.

For this survey, a final completion rate was calculated. Completion rates are calculated to indicate the percentage of contacted respondents completing the survey. This formula specifically computes the percentage of contacted respondents who agreed to take the survey. Final study calculations indicate a 67% completion rate.

Descriptive data analysis was performed by the SRL. The analysis included a demographic profile of the sample. Computation of the prevalence of 2002 tobacco use by age, gender, education, race and ethnicity for the statewide population and comparisons of these estimates to

the 1996 and 1999 surveys were completed. Frequencies of the responses to additional items were compiled, and selected comparisons were made to prior years' data.

To measure smoking prevalence, the ATS utilizes the two standard screening measures developed by the CDC. These measures categorize respondents as current smokers, former smokers, or never-smokers. To qualify as a current smoker, respondents have to indicate that they have smoked at least 100 cigarettes in their lives and smoke “everyday” or “some days” at the time of the interview. Former smokers are defined as having smoked 100 lifetime cigarettes, but smoke “not at all” at the time of the interview. Never-smokers are defined by having smoked fewer than 100 cigarettes in their lifetime.

The survey produced sample estimates on statewide prevalence that is within  $\pm 1.3\%$ . The margin of error associated with regional estimates ranges from  $\pm 1.6\%$  to  $\pm 5.4\%$ . Estimates within age, race and gender groupings vary by group, but most are within  $\pm 4\%$ . The table below details the estimated margins of error associated with the 2002 ATS for statewide and regional data. Additional details on methodology may be found in Appendix A.

<b>Margin of Error for ATS 2002 Estimates; Statewide and Regional</b>			
<b>Geographic Area</b>	<b>Number of ATS 2002 Respondents</b>	<b>2000 Census Adult Population</b>	<b>Margin of Error (at 95% Confidence Interval)</b>
<b>Entire State</b>			
	6020	3,763,685	+/- 1.3%
<b>ADHS Region</b>			
<b>1-Maricopa County</b>	3603	2,244,146	+/- 1.6%
<b>2-Pima County</b>	984	635,850	+/- 3.1%
<b>3-Coconino, Apache and Navajo Counties</b>	329	188,530	+/- 5.4%
<b>4-Gila, La Paz, Mohave and Yavapai Counties</b>	464	305,287	+/- 4.6%
<b>5-Cochise, Graham, Greenlee, Pinal, Santa Cruz, Yuma Counties</b>	628	389,872	+/- 3.9%

## **Survey Limitations**

The goal of this survey was to interview a representative sample of adult residents from households within the state of Arizona. However, despite the use of rigorous scientific methodology, all telephone sample surveys face certain challenges and limitations. Only households that contain a working non-cellular telephone were capable of participating in the survey. Other types of survey methodologies (e.g., mail, intercept, etc.) were not used to reach residents who may not have a working telephone in the home. Random-digit dial (RDD) telephone sampling generates telephone numbers that are both listed and unlisted. Since telephone companies' boundaries for telephone exchange areas are not necessarily coterminous with geopolitical boundaries such as counties, telephone companies are not exact in assigning phone numbers within a defined geographical region. This survey was administered in English, as this is the single most spoken language in the state, and was not provided in other languages. In an effort to account for disproportionate stratified sampling (DSS) telephone sampling and other types of sampling error, ratio-estimation adjustments were made to the final dataset after fielding was completed. Populations of the counties vary, so ratio-estimation adjustments were also made to ensure that each county was proportionally represented in the regional dataset.

Due to the smaller numbers of non-White respondents, caution should be exercised when interpreting cross-tabulations by race and ethnicity. As mentioned above, sampling error for subgroups is often much higher than that for the total sample and can vary widely.

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- <sup>8</sup> In 1996 and 1999, after being screened for having visited a doctor, current smokers who reported that their doctor, nurse practitioner or physician assistant discussed smoking with them, were asked, “In the past 12 months, did a medical practitioner such as a doctor, a nurse practitioner, or a physician’s assistant advise you to stop smoking?” In 2002, after being screened for having visited a doctor, current smokers and chewers who had reported that they were asked by their doctor, nurse, or other physician assistant if they used tobacco, were asked, “During the past 12 months, did any doctor, nurse or other physician assistant advise you to not use tobacco (smoke or chew)?”
- <sup>9</sup> The 1996 and 1999 ATS asked the smoking household rules of all households. In contrast, the 2002 ATS only asked the smoking household rules of households with greater than one member in the household. For comparability across the three surveys, the 1996 and 1999 ATS analysis for this item included only households with greater than one member in the household.
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