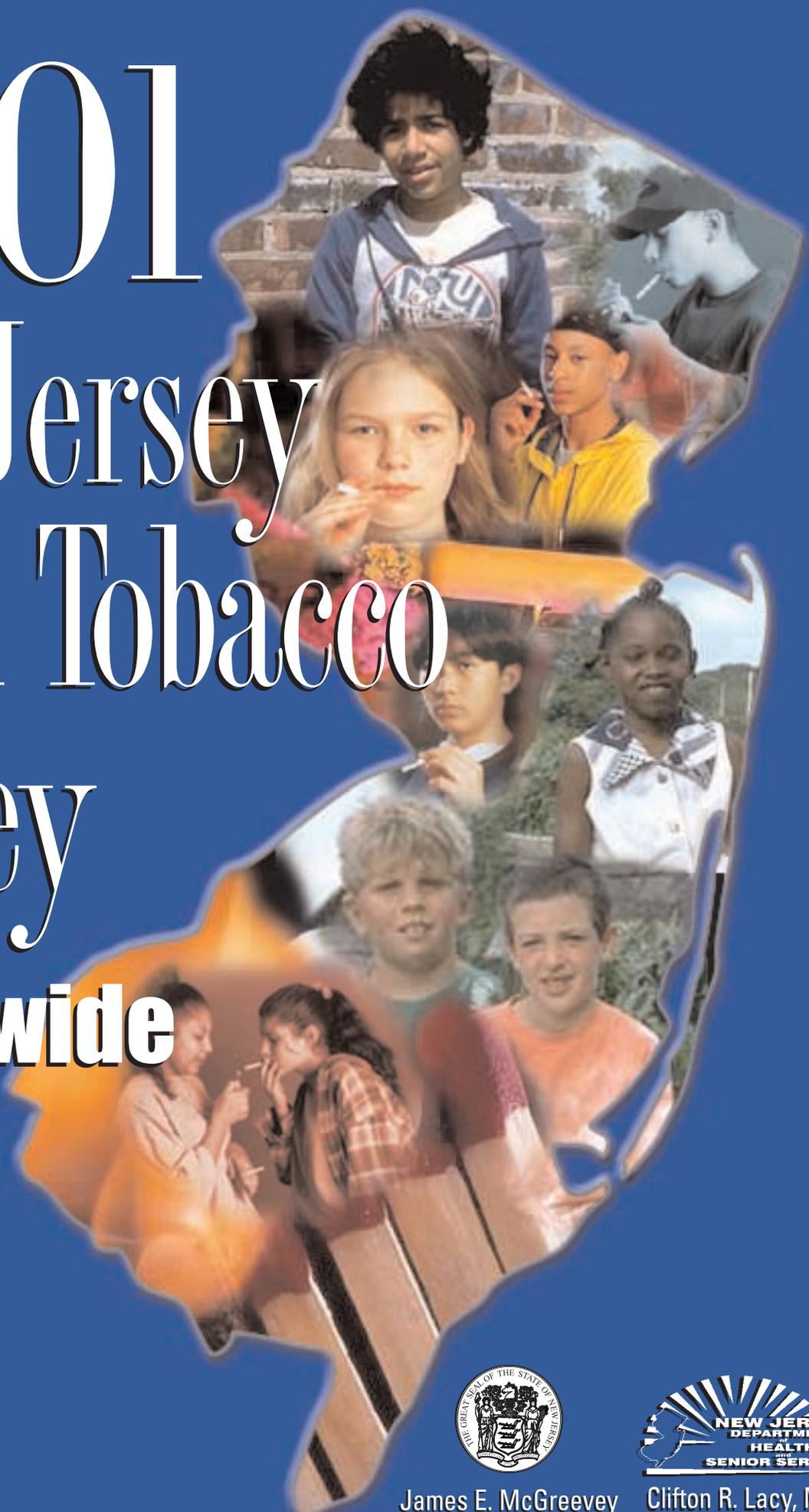


2001 New Jersey Youth Tobacco Survey

A Statewide Report

April 2002



CTCP
NEW JERSEY
Comprehensive
Tobacco Control
Program



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Introduction

The *1999 New Jersey Youth Tobacco Survey: A Statewide Report* provided New Jersey with its first comprehensive look at youth tobacco use in the state. Since that report, there have been major public health efforts both nationwide and throughout the state to deter youth from smoking, largely as a result of the 1998 Master Settlement Agreement. Nationally, we have seen the removal of tobacco billboards, the ban on cartoon characters and sports sponsorship to advertise tobacco, and the launch of a major tobacco youth prevention and education effort known as the **truth**SM campaign.

New Jersey has been equally progressive in expanding and implementing tobacco control initiatives to address youth tobacco use. The Comprehensive Tobacco Control Program (CTCP), managed by the New Jersey Department of Health and Senior Services, has been developing and implementing programs aimed at decreasing the initiation of tobacco use, increasing smoking cessation treatment for all smokers, including youth, and reducing exposure to environmental tobacco smoke. During fiscal year 2001, the CTCP spent \$5 million on youth tobacco prevention and an additional \$2.5 million on a youth targeted media campaign. As part of its goal to reduce initiation among youth, CTCP activities included the development of a grassroots, youth-led movement entitled REBEL (*Reaching Everyone By Exposing Lies*) launched in November 2000. Community-based chapters of REBEL now exist in each of New Jersey's 21 counties. School-based chapters of REBEL at the middle and high school levels are also being developed. To promote and support the REBEL movement, CTCP launched a youth targeted anti-tobacco advertising campaign with the tag line "Not For Sale" in February 2001. Lastly, during the fall of 2001, the CTCP funded the American Lung Association to implement the "Not-On-Tobacco" program in a number of New Jersey high schools to help teens quit smoking.

Progress toward the achievement of CTCP goals is evaluated by monitoring indicators related to short and long term outcomes of the program, specifically changes in tobacco related knowledge, attitudes, and behaviors. The New Jersey Youth Tobacco Survey (NJYTS) tracks these types of indicators among youth over time and is the primary surveillance system for youth tobacco use in New Jersey. In 2001, the NJYTS was administered to 5,413 middle school students (grades 7-8) in 60 schools, and 4,176 high school students (grades 9-12) in 55 schools between October and December of 2001.

This report highlights current data on the use of tobacco among New Jersey's youth, recognizes areas of progress since 1999, and identifies critical areas for improvement.

Executive Summary

THE 2001 NEW JERSEY YOUTH TOBACCO SURVEY FOUND THAT:

- 11.8% of middle school students and one out of three high school students (33.6%) used some form of tobacco on one or more of the 30 days preceding the survey.
- 6.1% of middle school students and one out of four high school students (24.5%) currently smoke cigarettes.
- Cigar use was considerable among high school students, 17.1% reported smoking cigars in the 30 days preceding the survey. Male high school students were twice as likely to report smoking cigars, relative to female high school students.
- Current bidi use was reported by 5.1% and 8.5% of middle and high school students, respectively; black students had the highest rate of reported bidi use among both middle and high school students.
- Frequent cigarette smoking increased with school grade. One out of five high school seniors smoked cigarettes at a frequency comparable to adult smoking.
- Two out of three middle and high school smokers reported *not* being asked to show proof of age when purchasing cigarettes, nor were they refused a purchase.
- More than half of established high school smokers indicated a desire to stop smoking cigarettes.
- Middle school and high school students appeared to perceive the harmful effects of smoking, but smokers were more likely than non-smokers to perceive benefits associated with smoking cigarettes.
- Youth exposure to environmental tobacco smoke (ETS) is considerable; 52% and 70% of middle and high school students, respectively, reported being exposed to ETS in either rooms or in cars during the seven days preceding the survey.
- One-third of all students had heard of REBEL, the statewide youth-led anti-tobacco movement. Additionally, over half had seen or heard New Jersey's "Tell Big Tobacco, Not for Sale" media campaign messages.

Results

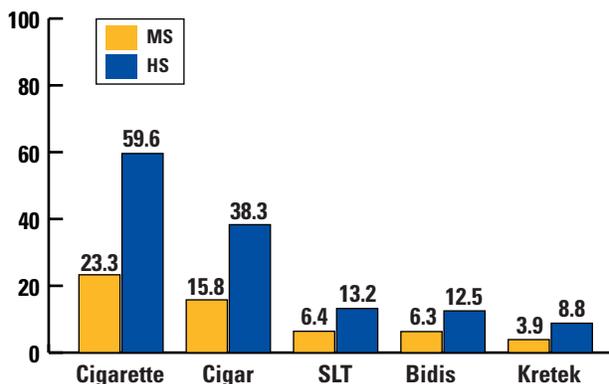
LIFETIME USE OF TOBACCO PRODUCTS

New Jersey youth were asked whether they had ever tried cigarettes, cigars, smokeless tobacco, bidis, or kreteks in their lifetime. Lifetime use of all tobacco products by school type, gender, race/ethnicity, and school grade is summarized in Table 1 (see page 21, Technical Notes). Cigarettes were the most prevalent form of tobacco used, followed by cigars and smokeless tobacco. However, the emergence of other forms of tobacco such as bidis and kreteks (also known as clove cigarettes) was notable in both middle and high school students (see Figure 1).

Male students were significantly more likely than female students to have ever used cigars or smokeless tobacco in both middle and high school. Male high school students were also significantly more likely to have tried bidis relative to female high school students.

Several racial/ethnic differences were detected for the various tobacco products. Among middle school students, white youth were significantly less likely to have tried cigarettes and bidis than black and Hispanic youth. However, racial differences for cigarettes and bidis were not present among high school students. In contrast, white high school students had significantly higher rates of ever using cigars and smokeless tobacco as compared to black high school students (see page 21, Technical Notes).

Figure 1: Percentage of all middle and high school students who ever used tobacco by tobacco product - New Jersey Youth Tobacco Survey, 2001



CURRENT USE OF TOBACCO PRODUCTS

New Jersey middle and high school students were asked if they had used cigarettes, cigars, smokeless tobacco, or bidis on one or more of the 30 days preceding the survey. Current use of all tobacco products by school type, gender, race/ethnicity and school grade is found in Table 2 (see page 22, Technical Notes). Cigarettes were the most prevalent form of tobacco used, followed by cigars, bidis and smokeless tobacco among both middle and high school students. Detailed discussion on differences in the use of these tobacco products among subpopulations follows.

Current Use of Any Tobacco

Overall, 11.8% of New Jersey middle school students and one out of three high school students (33.6%) used some form of tobacco (i.e., cigarettes, smokeless, cigars, or bidis) in the 30 days preceding the survey. While there were no gender differences among middle school students, male high school students (38.0%) were significantly more likely to report current use of any tobacco product than female high school students (29.1%).

As seen in Figure 2, differences in tobacco use are noted by race. Among middle school students, Hispanic students (18.1%) reported significantly higher rates of any tobacco use relative to white students (9.5%). However, among high school students, white students (36.7%) reported a significantly higher rate of any tobacco use than black students (24.4%).

Reported use of any tobacco in the 30 days preceding the survey declined significantly among middle school students from 18.9% to 11.8%, representing a 38% reduction from 1999 to 2001. Current use of any tobacco also declined significantly among high school students from 38.9% in 1999 to 33.6% in 2001, a 14% reduction (see Figure 3).

Current use of any tobacco significantly declined among middle and high school students since 1999.

Figure 2. Percentage of all middle and high school students who were current users of any tobacco by race/ethnicity - New Jersey Youth Tobacco Survey, 2001

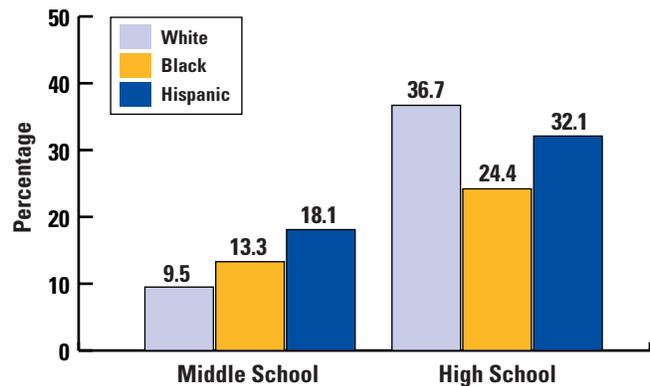
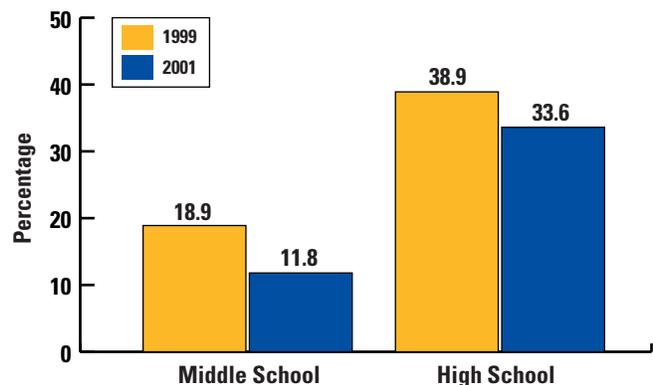


Figure 3. Percentage of all middle and high school students who were current users of any tobacco - New Jersey Youth Tobacco Survey, 1999-2001



Current Cigarette Use

Overall, 6.1% of middle school students and 24.5% of high school students reported smoking a cigarette on one or more days in the 30 days preceding the survey. Current cigarette use was similar among male and female students in both middle school and high school.

Similar to findings in 1999, racial/ethnic differences were noted in both middle and high school students (see Figure 4). Hispanic middle school students had significantly higher rates of current cigarette use (11.5%) when compared to white middle school students (4.5%). However, in high school, current cigarette use was significantly higher among white and Hispanic students than among black students.

Current cigarette use declined significantly among middle school students from 10.5% in 1999 to 6.1% in 2001; a 42% reduction. Current cigarette use also declined slightly among high school students from 27.6% in 1999 to 24.5% in 2001, an 11% decline (see Figure 5).

Current Cigar Use

Among New Jersey youth, cigars were the most prevalent form of tobacco product after cigarettes; 6% of middle school students and 17.1% of high school students reported smoking a cigar in the past 30 days. No significant gender differences existed among middle school students. However, among high school students, males (22.9%) were twice as likely as females (11.3%) to report current use of cigars.

Figure 4. Percentage of all middle and high school students who currently use cigarettes by race/ethnicity - New Jersey Youth Tobacco Survey, 2001

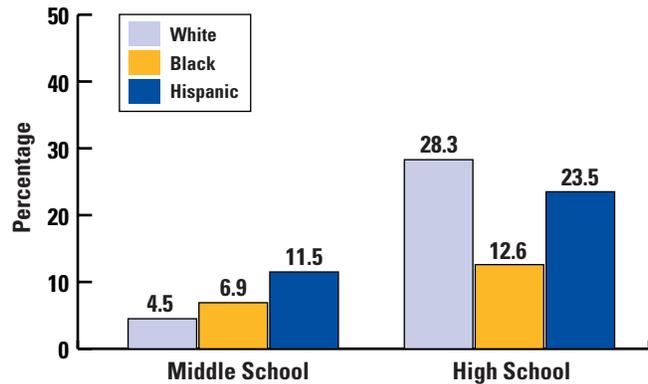
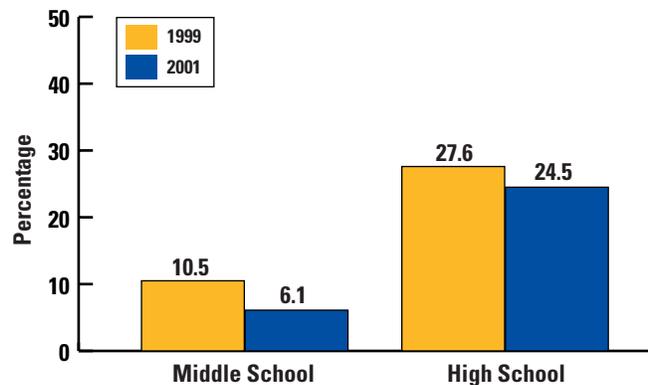
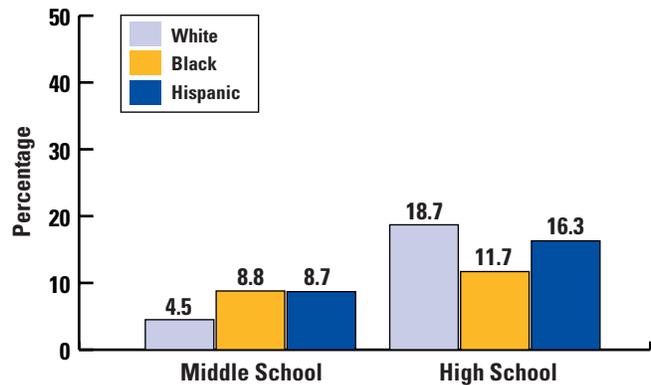


Figure 5. Percentage of all middle and high school students who currently use cigarettes - New Jersey Youth Tobacco Survey, 1999-2001



Racial/ethnic differences were noted among middle and high school students (see Figure 6). In middle school, white students (4.5%) reported significantly lower rates of current cigar smoking than black students (8.8%). This trend, however, was *reversed* among high school students; white students (18.7%) reported significantly higher rates of current cigar use than black students (11.7%).

Figure 6. Percentage of all middle and high school students who currently use cigars by race/ethnicity - New Jersey Youth Tobacco Survey, 2001

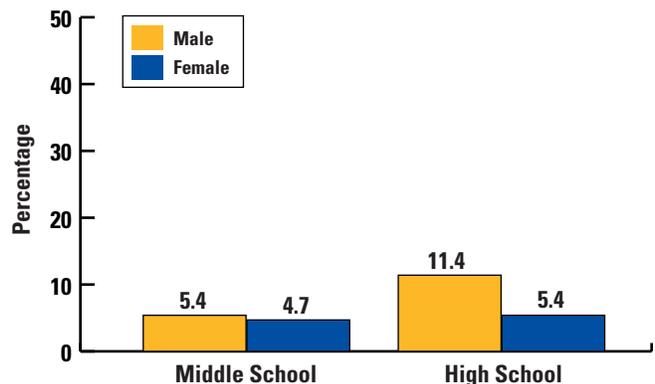


Current cigar smoking declined significantly in the past two years from middle school students from 9.3% to 6%, a 35% overall reduction. While not statistically significant, current cigar use data from high school students suggest a decreasing trend over the past two years from 18.4% in 1999 to 17.1% in 2001; this trend was also present within gender, race/ethnicity, and among all school grades except 12th.

Current Bidi Use

In New Jersey, and nationally, an emerging form of tobacco use among youth are bidis. Bidis are small, brown, hand-rolled cigarettes primarily made in India and other southeast Asian countries. Bidis exported to the United States are flavored in such varieties as strawberry and licorice, making them appealing to the youth market. In New Jersey, 5.1% of middle school students and 8.5% of high school students reported smoking bidis in the 30 days preceding the survey.

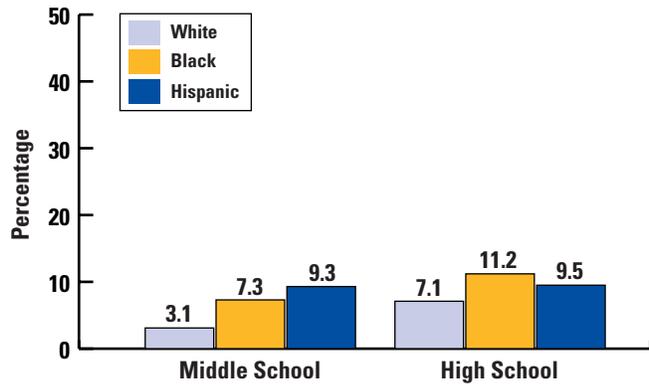
Figure 7. Percentage of all middle and high school students who currently use bidis by gender - New Jersey Youth Tobacco Survey, 2001



As shown in Figure 7, no gender differences existed in bidi use among middle school students. However, male high school students' current use of bidis (11.4%) were twice that of female high school students (5.4%). Racial/ethnic differences existed with black students having significantly higher rates of current bidi use than white students in both middle and

high school. Additionally, Hispanic middle school students reported significantly higher rates of bidi use than white middle school students (see Figure 8). In 1999, New Jersey was the first state to supplement their NJYTS with questions on the use of bidis. Since then, bidi use questions have become part of the CDC YTS core questionnaire. Differences in the wording of the 1999 NJYTS state specific bidi question and the version included in the 2001 CDC YTS core questionnaire, do not permit for the direct comparison of estimates over the two year period. However, it should be noted that New Jersey has some of the highest rates of bidi use among states collecting Youth Tobacco Survey data.¹

Figure 8. Percentage of all middle and high school students who currently use bidis by race/ethnicity - New Jersey Youth Tobacco Survey, 2001



Current Smokeless Tobacco Use

Overall, 3.6% of New Jersey middle school students and 6.9% of high school students reported using smokeless tobacco (i.e., chewing tobacco or dip) in the 30 days preceding the survey. In high school, male students (10.9%) reported significantly higher rates of smokeless tobacco use than females (2.8%). No racial/ethnic differences were detected among middle and high school students.

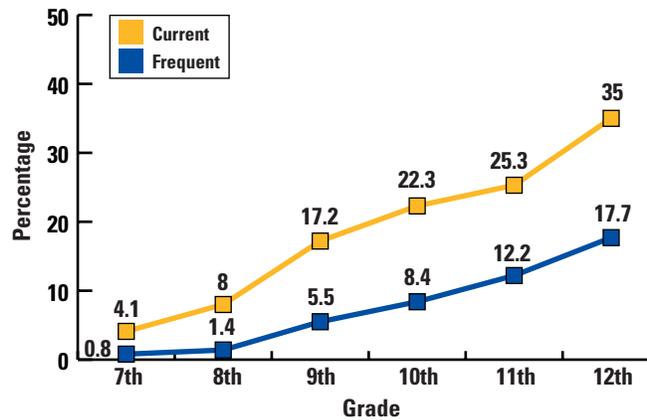
Current smokeless tobacco use declined significantly in the past two years among high school students from 10.7% to 6.9%, representing a 35% reduction. Data on current smokeless tobacco use among middle school students suggest a decreasing trend over the past two years from 4.3% in 1999 to 3.6% in 2001; this trend was also present by race/ethnicity and all school grades.

FREQUENT USE OF CIGARETTES

Simply examining current estimates of cigarette smoking among New Jersey’s youth does not adequately depict the magnitude of the problem. Contained within this measure of “current smoking” are experimenters (who may have just tried their first cigarette), occasional users (who use tobacco sporadically), and regular users of cigarettes. Examining rates of frequent smoking, defined as smoking cigarettes on 20 or more days of the 30 days preceding the survey, provides greater detail on youth smoking.

As seen in Figure 9, few 7th and 8th grade students (i.e., middle school students) were smoking cigarettes with any regularity. The proportion of students frequently smoking cigarettes increases notably by grade. Almost one out every five high school seniors smoked cigarettes at a frequency commonly seen among adult smokers.

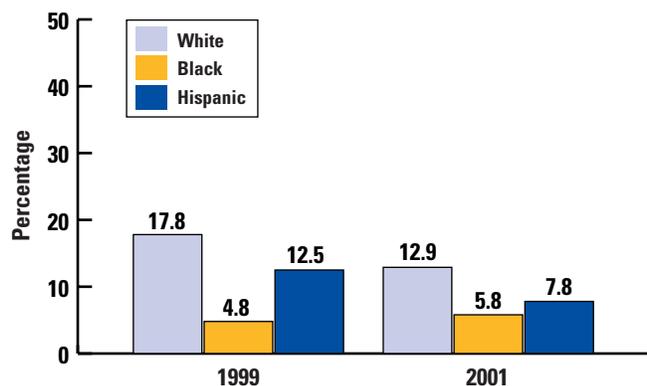
Figure 9. Percentage of all students that are current and frequent cigarette smokers by school grade - New Jersey Youth Tobacco Survey, 2001



Among high school students, male (9.8%) and female (11.4%) rates of frequent smoking were similar. However, racial/ethnic differences were noted; white students (12.9%) were significantly more likely than black students (5.8%) to report frequent cigarette smoking (see Figure 10).

Since 1999, frequent cigarette smoking declined significantly among high school students from 13.8% to 10.6%, representing a 23% reduction. A greater reduction of 28% was also noted among the most frequent users - white high school students - whose frequent cigarette use decreased from 17.8% in 1999 to 12.9% in 2001 (see Figure 10).

Figure 10. Percentage of high school students who were frequent cigarette users by race/ethnicity - New Jersey Youth Tobacco Survey, 1999-2001

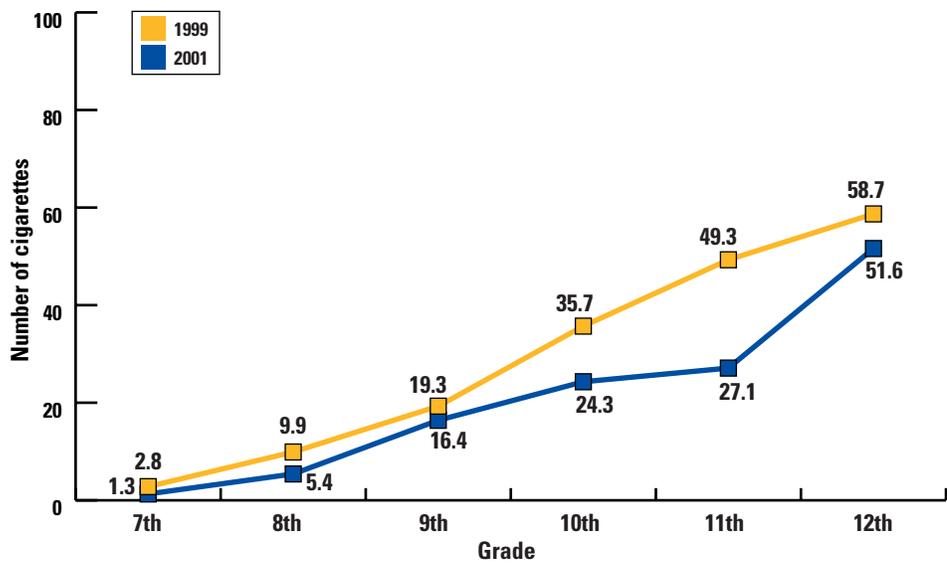


CIGARETTE CONSUMPTION

Prevalence estimates of youth tobacco use tell us “how often” but not “how much” youth are smoking. Adapting an approach used in Florida,² a *per capita* cigarette consumption indicator was calculated for all middle and high school students based on the self-reported number of days on which smoking occurred multiplied by the average number of cigarettes smoked on days they smoked.

As shown in Figure 11, per capita cigarette consumption increased dramatically by school grade. In 2001, for example, an 8th grade student smoked an average of 5.4 cigarettes over 30 days compared to a 12th grade student who smoked 10 times as many cigarettes, the equivalent of two and one-half packs of cigarettes (52 cigarettes) in the past 30 days. Compared to 1999, consumption in 2001 was slightly lower for each class year.

Figure 11. Average number of cigarettes smoked over a 30 day period by school grade - New Jersey Youth Tobacco Survey, 1999-2001



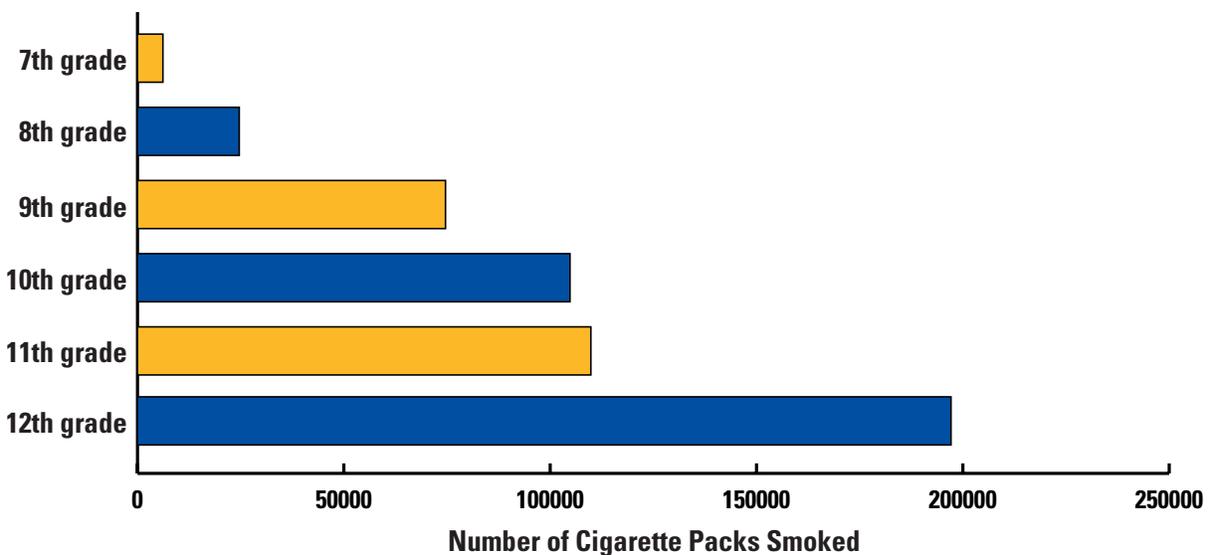
Among white high school students, there was a significant decline in the average number of cigarettes smoked, from 53 to 36 cigarettes per 30 days, a 32% decrease from 1999 to 2001. However, the average number of cigarettes smoked did not change significantly over the two-year period for middle school students or black and Hispanic high school students.

The total number of cigarettes consumed by middle and high school students in New Jersey can be estimated for each grade by multiplying the average

number of cigarettes consumed per smoker by the number of students who smoked. These grade estimates can then be combined into an estimated total number of cigarettes consumed per 30 days. The results in New Jersey suggest that over 500,000 packs of cigarettes were smoked by middle and high school students in the 30 days preceding the survey (see Figure 12). Assuming cigarette consumption remains constant over a year, the total number of cigarettes consumed in a year are estimated to be 120 million cigarettes (or 6 million packs of cigarettes) by 7th through 12th grade students.

Youth cigarette consumption has declined since 1999.

Figure 12. Estimated number of packs of cigarettes smoked in past 30 days by school grade - New Jersey Youth Tobacco Survey, 2001



Because of differences in population size and weighting between samples from 1999 and 2001, an exact comparison of total youth cigarette consumption is not feasible. However, estimates suggest youth smoked at least 100,000 fewer packs of cigarettes in the 30 days preceding the survey in 2001 compared to 1999.

ACCESS AND PURCHASING OF CIGARETTES

Points of Access

Among current cigarette smokers, the most common methods of obtaining cigarettes were to buy them in a store, borrow or “bum” a cigarette, or give someone money to buy cigarettes for them. As shown below in Figure 13, access differs for middle and high school students. Middle school students were more likely to “bum” a cigarette from someone (29%) while high school students were more likely to purchase them (34%). Among all current smokers who purchased cigarettes in the past 30 days, 54% reported purchasing their last pack of cigarettes at a convenience store and 20% reported purchasing the pack at a gas station.

Sales to Minors

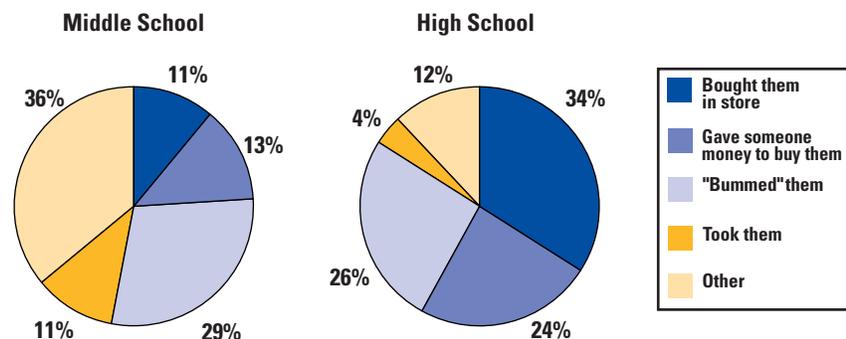
Two out of three current smokers, under the age of 18, who reported purchasing cigarettes, were *not* asked to show proof of age in the past 30 days. Furthermore, a majority of current smokers (58% in middle school, 65% in high school) reported that they were *not* refused a cigarette sale because of their age. There was no significant improvement in the percentage of youth who said they were able to purchase cigarettes from 1999 to 2001.

Brands

The brands usually smoked by New Jersey youth have not changed since 1999. Newport remained the most commonly smoked brand of cigarettes (42%), followed by Marlboro (33%). One out of ten youth smokers (11%) reported not having a usual brand. Two-thirds of current smokers (65%) usually smoked menthol cigarettes. This overall trend did not differ by gender or school type.

Usual brand differed substantially by race. Among current high school smokers, Newport was the most common brand among black (69%) and Hispanic (59%) students, while Marlboro was the most common brand among white students (39%).

Figure 13. How current cigarette smokers in middle school and high school students (<18yrs.) usually obtain cigarettes - New Jersey Youth Tobacco Survey, 2001

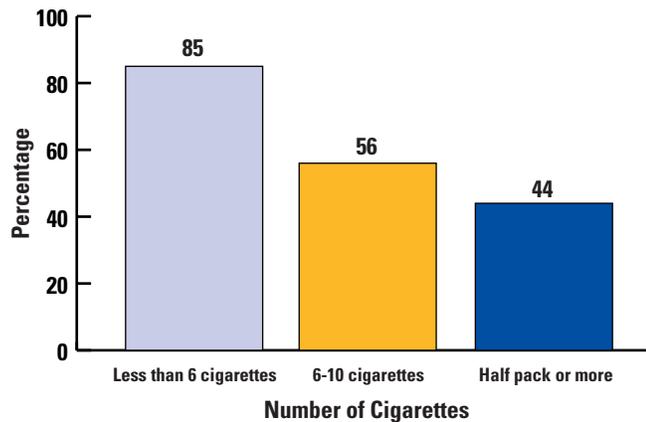


SMOKING CESSATION

A common misconception about youth smoking is that adolescents are not interested in quitting. However, among high school students who currently smoke and have smoked 5 or more packs of cigarettes in their lifetime, over half expressed wanting to stop smoking cigarettes (55%) and made a serious attempt to quit cigarettes in the past 12 months (55%).

Self-efficacy, the belief that one could be successful in quitting smoking, was not encouraging among current smokers who reported wanting to quit. As seen in Figure 14, self-efficacy in young smokers was strongly associated with how “heavy” they smoke. Among those smoking less than six cigarettes on the days they smoked, most (85%) believed they could quit. However, among those smoking half a pack or more on the days they smoked, less than half (44%) thought they could be successful at quitting.

Figure 14. Self-efficacy among current high school smokers wanting to quit by number of cigarettes smoked - New Jersey Youth Tobacco Survey, 2001



Indicators of nicotine dependence were present among current smokers. Over a third (38%) of current smokers reported not being able to go more than three hours before needing a cigarette. Nicotine dependence was even more prevalent among frequent smokers - almost half (48%) indicated not being able to go more than three hours without a cigarette.

Interest in quitting, quit attempts, and indicators of nicotine dependence have not changed since 1999. However, there were several positive changes with regards to physician tobacco counseling, a critical precursor to nicotine dependence treatment. In 2001, 60% of current high school smokers reported their physician asked whether or not they smoked, representing a 30% increase from 1999 when 46% of high school smokers reported being asked about smoking status.

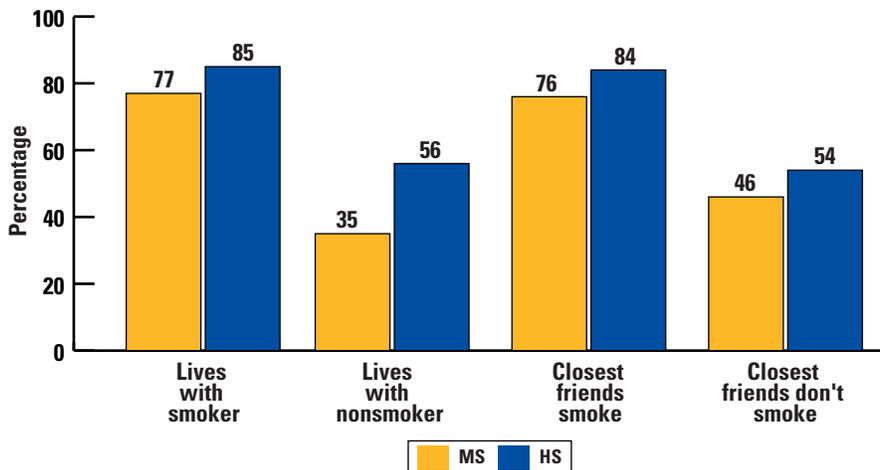
ENVIRONMENTAL TOBACCO SMOKE

Overall, 52% of middle school students and 70% of high school students reported being exposed to environmental tobacco smoke (ETS) in either rooms or in cars in the seven days preceding the survey.

Exposure to ETS was strongly associated with adolescent smoking behavior. The overwhelming majority of middle school and high school *current smokers* reported exposure to ETS in the past seven days (90% and 93%, respectively).

Not surprisingly, both middle and high school students who lived with a smoker and/or had friends who smoked reported increased exposure to ETS (see Figure 15). For example, the percentage of middle school students exposed to ETS more than doubles if they report living with a smoker (77%) compared to not living with a smoker (35%).

Figure 15. Percentage of middle and high school students who were exposed to environmental tobacco smoke by living with a smoker and having friends who smoke - New Jersey Youth Tobacco Survey, 2001



Youth exposure to ETS decreased significantly from 1999 to 2001 from, 61% to 52%, among middle school students. However, no significant decline in reported ETS exposure was noted among high school students.

ATTITUDES AND PERCEPTIONS

The NJYTS included a series of items on the perceived harmful effects of smoking (e.g., yellow teeth, less energy, shorter lives) and the perceived benefits (e.g., keeps weight down, look grown-up, relaxing). Attitudes and perceptions toward tobacco are important to examine since attitudinal shifts precede any change in behavior. A consistent relationship was demonstrated between current cigarette use and perceptions towards smoking. Relative to students who did not currently smoke, current cigarette users were more likely to perceive that tobacco had benefits and less likely to perceive its harmful effects.

Regarding the harmful effects of smoking, most non-smokers and smokers recognized the addictiveness and dangers of tobacco use (see Figure 16). Smokers and non-smokers notably differed on one item; non-smokers were twice as likely than current smokers to believe smoking put you at risk of losing friendships with non-smokers.

Current smokers were significantly more likely than non-smokers to perceive benefits related to smoking than non-smokers (see Figure 17). Most notably, the majority of current smokers (66%) believed that smoking made young people more relaxed and over a third believed that smoking was a good weight control strategy.

Figure 16. Perceived harmful effects of smoking among adolescents by smoking status - New Jersey Youth Tobacco Survey, 2001

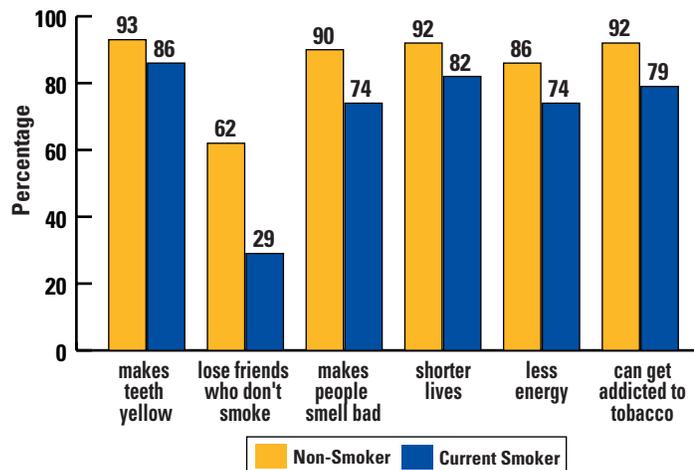
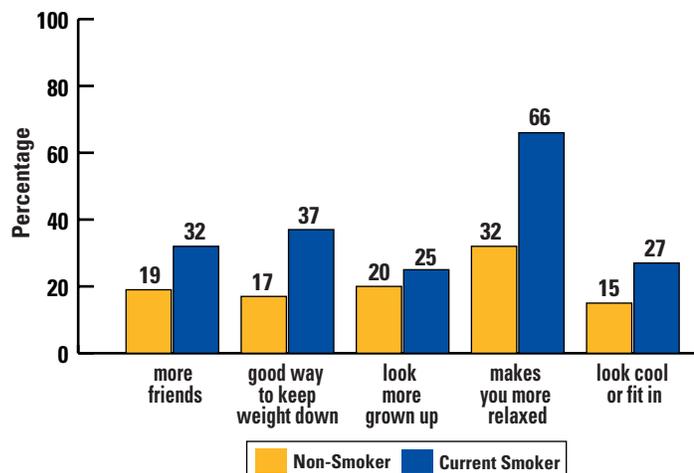


Figure 17. Perceived benefits of smoking among adolescents by smoking status - New Jersey Youth Tobacco Survey, 2001



MASS MEDIA

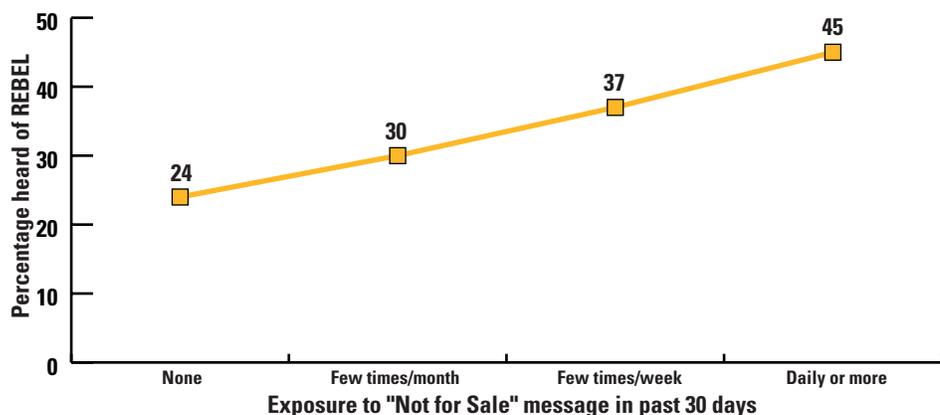
Given the increased media attention on youth smoking nationally and within the state, it is not surprising that exposure to messages about the danger of smoking was fairly widespread among New Jersey youth. The majority of middle and high school students reported seeing commercials on television (85%) and hearing radio commercials (61%) about the dangers of smoking in the past 30 days.

More than half of students reported recently seeing or hearing “Not for Sale” media campaign messages.

New items were added to the 2001 NJYTS to collect data on awareness of CTCP youth empowerment activities (i.e., REBEL) and media initiatives (“Not for Sale”). One third of students (34% in middle school and 32% in high school) had heard of the statewide youth-led anti-tobacco movement, REBEL. In the 30 days preceding the survey, more than half (56%) reported seeing or hearing “Not for Sale” media campaign messages.

Media messages with the tag line “Not for Sale” were designed to support the REBEL movement. Accordingly, exposure to “Not for Sale” messages was positively associated with awareness of REBEL (see figure 18). The more often high school students were exposed to “Not for Sale”, the more likely they reported having heard of REBEL.

Figure 18. Awareness of REBEL by exposure to “Not For Sale” in past 30 days among high school students - New Jersey Youth Tobacco Survey, 2001



Conclusions

Results from the 2001 NJYTS identify areas of progress as well as challenges for New Jersey's Comprehensive Tobacco Control Program (CTCP), which are discussed in detail below. An important indicator of program success in New Jersey was the decrease in youth tobacco use, particularly among middle school students.

Progress towards reducing tobacco use among youth

Significant decreases in current use of any tobacco were reported for both middle and high school students since 1999. Lower prevalence estimates were observed in 2001 for current use of cigarettes, cigars, smokeless tobacco, and bidis relative to 1999 for all gender, race/ethnicity and school type subgroups. Particularly noteworthy changes included middle school students' current use of cigarettes, with a 42% decline from 1999 to 2001, and frequent use of cigarettes among high school students, which declined 23% from 1999 to 2001.

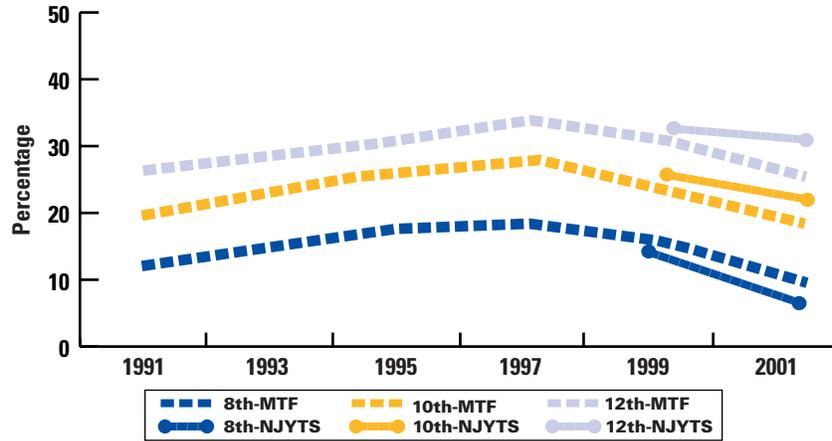
Changes in prevalence estimates from 1999 to 2001 should be interpreted with caution and not unequivocally attributed to CTCP initiatives. Differences in timing, consent procedures, survey questions and ordering, sampling approach, sample size, weighting, and participation rates can affect survey estimates.³ While the overall approach for the 1999 and 2001 NJYTS was based on standard CDC YTS protocol, there were minor differences between the two administrations such as differences in sample size and response rates, oversampling of minority schools in 2001, and history (e.g., post 9/11).

However, triangulation (i.e., using more than one method or source to study the same phenomenon) may strengthen the validity of these findings. Examining other sources of data on youth tobacco use, specifically the *Youth Risk Behavior Survey* (YRBS) and *Monitoring the Future* (MTF), provides additional evidence to support the conclusion that youth tobacco use in New Jersey declined since 1999. Since YRBS, MTF, and NJYTS differ from each other on some methodological issues, the utility of these data are limited to comparison of trends and should not be considered for comparison of specific prevalence estimates.

As shown in Figure 19, MTF documented a 30% decline in current cigarette use among 8th graders nationally, from 1999 to 2001.⁴ New Jersey's rate of decline among middle school students' current use of cigarettes was slightly better (42%),

and similar to national trends. Rates of decline among 10th graders were also similar in New Jersey and the US. However, 12th grade students' current use of cigarettes did not change in New Jersey since 1999, in contrast to national trends. Additionally, the NJ YRBS demonstrated a similar rate of decline for current cigarette

Figure 19. Prevalence of current cigarette use in the US and New Jersey - New Jersey Youth Tobacco Survey 1999-2001, Monitoring the Future, 1991-2000



smoking among high school students (13%) from 1999 to 2001. Overall, the findings in New Jersey are consistent with trends shown in MTF, where younger age groups are showing the biggest decline in tobacco use over the past few years.

Identifying priority areas for improvement

While the rate of current cigarette use in New Jersey is below the national estimate,⁵ a sizable number of New Jersey youth reported use of other tobacco products in the past 30 days, most notably cigars and bidis. The CTCP must focus on all tobacco products, not just cigarettes. The alarmingly high rate of bidi use in New Jersey, particularly among minority populations, is cause for concern.

Despite laws prohibiting sales to minors and a 2001 Tobacco Age of Sale compliance rate of 77.2%, over two-thirds of current youth smokers were not proofed or refused a sale because of their age. A community needs only one vendor to sell tobacco to youth in order for youth to gain access to tobacco products. Evidence-based public health approaches, such as Hawaii’s publishing of noncompliant vendors in local newspapers, are necessary to reduce minor access to tobacco products.⁶

Reducing youth tobacco use requires the prevention of tobacco use initiation among youth, as well as helping current youth smokers want to quit. Data from the NJYTS indicated that youth smokers want to quit and have tried but do not believe they can be successful at quitting. There have been no significant improvements in the area of cessation since 1999. Universally, youth smoking cessation treatment is underdeveloped.

Age-appropriate tobacco dependence treatment programs must be readily available and accessible. The state's current cessation programs: New Jersey Quitline™ (1-866-nj-stops), New Jersey Quitnet™ (nj.quitnet.com), New Jersey Quitcenters — are options available to youth smokers. Additionally, the recent CTCP implementation of "Not-On-Tobacco" in a number of New Jersey high schools, as well as a new initiative to train pediatricians to identify and treat tobacco dependence, should facilitate youth cessation in New Jersey. Given most youth cessation initiatives in New Jersey are relatively new, it may simply be too soon to see positive results.

Over half of middle school students and nearly three-quarters of high school students reported being exposed to ETS in the week preceding the survey. Although there was significant decline in ETS exposure among middle school students since 1999, ETS exposure among high school students remained nearly unchanged from 1999 to 2001. Increases in restrictive smoking policies, particularly smoking bans in and outside schools, have the potential to dramatically reduce exposure to ETS and its negative health effects. Clearly, community-based efforts should concentrate on encouraging the adoption of smoke-free policies by parents, school officials, and business owners, particularly in areas frequented by students. CTCP has already begun working toward this goal. Communities Against Tobacco coalitions and local health departments are working to increase the prevalence of voluntary and mandatory smoke-free policies in their community and the state's media campaign targets parents who smoke to seek help for cessation. However, it will take years for such programs to influence the social acceptability of smoking and exposure to ETS.

Lastly, a tremendous amount of resources have been placed into the statewide youth-led anti-tobacco movement, REBEL. However, only one out of three middle and high school students have heard of REBEL. Community-based and media campaign activities need to aggressively spread the word about the REBEL movement and shift social norms relating to the use of tobacco.



In a short time, New Jersey has made positive advances toward reducing tobacco consumption. The decline in tobacco use among youth, particularly middle school students, is likely to bring more dramatic changes in smoking prevalence over the next decade. However, consistent and sustained funding for tobacco prevention and tobacco dependence treatment is critical to improving these encouraging but early results.

Technical Notes

INSTRUMENT

Students were surveyed using the 2001 NJYTS instrument. The instrument was designed to meet the specific needs of the CTCP. Forty-six items came from the CDC Core YTS and twenty-nine state specific items were added. The NJYTS addresses eight content areas: tobacco prevalence; access to tobacco; smoking cessation; smoking intention; perceived consequences of tobacco use; mass media; awareness of tobacco industry strategies; and environmental tobacco smoke.

SAMPLE

The NJYTS is a representative survey of all middle and high school students in New Jersey. The survey was administered to 5413 middle school students (grades 7-8) in 60 schools, and 4176 high school students (grades 9-12) in 55 high schools located throughout New Jersey.

A two-stage cluster sample design was utilized to assess statewide trends. To increase statistical power for analyses of black and Hispanic students, schools with substantial numbers of minority students were sampled at higher rates than all other schools. The first stage sampling frame was constructed from all public, private, charter, and vocational middle and high schools in New Jersey and was stratified by percent minority enrollment. Schools were selected with a probability proportional to size (PPS), within each stratum, without replacement for a total of 70 high schools and 70 middle schools. The second stage of sampling involved the random selection of approximately 6 classes within sampled schools.

An overall participation rate of 73% and 61% was achieved in the middle and high schools, respectively. Overall participation rates are calculated by multiplying the school participation rate by the student participation rate. The data were weighted to adjust for non-response and the varying probabilities of selection, including those resulting from the over-sampling of black and Hispanic students, providing results representative of New Jersey's 7-12 grade student population.

ANALYSIS

SUDAAN statistical software, which corrects for the complex sample design, was used to generate 95% confidence intervals. Differences between estimates are considered statistically significant at the $p = 0.05$ level if the 95% confidence intervals do not overlap.⁷

Hypothesis testing based on a t-statistic (see formula) was used to determine whether there was a statistically significant change in tobacco use prevalence in New Jersey between 1999 and 2001. If the absolute value of the computed t-statistic is greater than 1.96, then it may be concluded that the difference between 1999 and 2001 is statistically significant at the $p=0.05$ level.

t-statistic

$$t = \frac{(P_{1999} - P_{2001})}{\sqrt{(SE_{1999})^2 + (SE_{2001})^2}}$$

Table 1. Percentage of New Jersey middle school and high school students who ever used any tobacco product*, cigarettes, cigars, smokeless tobacco, pipes, bidis, or kreteks, by gender, race/ethnicity and school grade — New Jersey Youth Tobacco Survey, 2001

	Any	Cigarette	Cigar	SLT	Bidis	Kretek
	% (95%CI)	% (95%CI)				
Middle School						
<i>Gender</i>						
Male	34.8 ± 4.2	23.6 ± 4.2	19.3 ± 2.9	8.3 ± 2.3	7.6 ± 2.2	4.7 ± 1.7
Female	29.3 ± 3.7	22.9 ± 3.7	12.3 ± 2.1	4.2 ± 1.1	4.8 ± 1.3	3.1 ± 0.8
<i>Race/Ethnicity</i>						
White	27.3 ± 3.7	18.1 ± 3.6	14.9 ± 2.5	4.7 ± 0.9	3.9 ± 0.9	2.9 ± 1.0
Black	41.0 ± 3.5	31.1 ± 5.4	18.3 ± 2.6	11.1 ± 3.8	11.8 ± 4.5	5.5 ± 2.2
Hispanic	42.0 ± 7.1	35.6 ± 6.5	19 ± 4.5	8.0 ± 3.5	9.5 ± 3.5	5.4 ± 1.6
<i>Grade</i>						
7	26.5 ± 4.7	17.8 ± 4.5	13.6 ± 2.2	5.2 ± 1.1	5.6 ± 1.7	3.0 ± 0.8
8	37.6 ± 3.3	28.8 ± 3.2	17.8 ± 3.0	7.6 ± 1.8	6.9 ± 1.6	4.8 ± 1.6
Total (middle school)	32.1 ± 3.7	23.3 ± 3.8	15.8 ± 2.2	6.4 ± 1.4	6.3 ± 1.6	3.9 ± 1.1
High School						
<i>Gender</i>						
Male	66.4 ± 4.2	58.9 ± 5.2	46.5 ± 4.4	20.7 ± 4.0	16.9 ± 2.1	10.8 ± 2.1
Female	62.7 ± 3.5	60.5 ± 3.8	30.6 ± 3.3	6.0 ± 1.6	8.0 ± 2.1	6.7 ± 2.0
<i>Race/Ethnicity</i>						
White	65.6 ± 4.1	60.4 ± 5.2	42.1 ± 3.9	15.1 ± 2.9	11.7 ± 1.9	9.5 ± 1.7
Black	62.2 ± 8.1	59.7 ± 9.3	25.4 ± 4.4	8.3 ± 2.9	11.9 ± 2.6	6.4 ± 1.8
Hispanic	66.9 ± 4.1	62.8 ± 5.7	34.9 ± 7.0	10.3 ± 2.4	14.8 ± 2.5	8.0 ± 1.9
<i>Grade</i>						
9	54.7 ± 6.4	49.5 ± 8.0	27.9 ± 5.0	10.0 ± 2.7	10.6 ± 2.8	5.4 ± 1.6
10	62.9 ± 4.9	57.8 ± 4.3	34.9 ± 5.1	11.9 ± 4.5	12.0 ± 3.4	8.7 ± 3.5
11	66.5 ± 2.7	61.3 ± 3.7	41.7 ± 2.0	14.9 ± 4.6	11.8 ± 3.2	7.6 ± 1.3
12	76.3 ± 6.3	72.6 ± 8.2	50.1 ± 3.6	16.2 ± 3.6	15.7 ± 2.6	14.3 ± 4.1
Total (high school)	64.5 ± 3.2	59.6 ± 4.2	38.3 ± 2.8	13.2 ± 2.5	12.5 ± 1.3	8.8 ± 1.4

* Ever use of cigarettes or cigars or smokeless tobacco or bidis or kretek.

Table 2. Percentage of New Jersey middle school and high school students who were current users of any tobacco product*, cigarettes, cigars, smokeless tobacco, pipes, or bidis by gender, race/ethnicity and school grade — New Jersey Youth Tobacco Survey, 2001

	Any	Cigarette	Cigar	Bidis	SLT
	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)	% (95%CI)
Middle School					
<i>Gender</i>					
Male	11.8 ±2.7	4.9 ±1.5	6.5 ±1.8	5.4 ±2.0	4.3 ±1.4
Female	11.6 ±3.1	7.0 ±2.8	5.3 ±2.0	4.7 ±1.3	2.9 ±0.8
<i>Race/Ethnicity</i>					
White	9.5 ±2.0	4.5 ±2.1	4.5 ±1.3	3.1 ±0.6	2.9 ±1.1
Black	13.3 ±3.4	6.9 ±1.9	8.8 ±2.8	7.3 ±3.1	5.9 ±2.2
Hispanic	18.1 ±5.8	11.5 ±4.1	8.7 ±4.4	9.3 ±3.9	4.5 ±1.9
<i>Grade</i>					
7	8.9 ±2.9	4.1 ±2.6	4.3 ±2.1	4.1 ±1.4	3.0 ±1.3
8	14.6 ±2.5	8.0 ±2.0	7.4 ±1.8	6.2 ±1.7	4.2 ±1.3
Total (middle school)	11.8 ±2.5	6.1 ±2.1	6.0 ±1.7	5.1 ±1.4	3.6 ±1.0
High School					
<i>Gender</i>					
Male	38.0 ±4.5	24.0 ±3.5	22.9 ±3.5	11.4 ±2.3	10.9 ±2.6
Female	29.1 ±3.4	25.0 ±3.1	11.3 ±1.9	5.4 ±1.6	2.8 ±1.1
<i>Race/Ethnicity</i>					
White	36.7 ±4.2	28.3 ±3.9	18.7 ±1.6	7.1 ±1.3	6.7 ±1.6
Black	24.4 ±4.6	12.6 ±3.0	11.7 ±2.5	11.2 ±2.0	6.6 ±1.9
Hispanic	32.1 ±5.5	23.5 ±5.6	16.3 ±6.4	9.5 ±2.8	6.2 ±2.8
<i>Grade</i>					
9	26.7 ±4.2	17.2 ±4.5	13.8 ±3.6	9.1 ±2.3	6.8 ±1.9
10	28.4 ±4.8	22.3 ±4.2	14.1 ±4.1	6.9 ±2.0	6.6 ±2.8
11	34.3 ±3.7	25.3 ±3.4	16.6 ±2.2	8.0 ±2.6	7.5 ±2.8
12	46.9 ±6.1	35.0 ±5.4	24.4 ±3.5	9.5 ±3.1	6.7 ±3.3
Total (high school)	33.6 ±3.1	24.5 ±2.8	17.1 ±2.2	8.5 ±1.3	6.9 ±1.4

* Use of cigarettes, cigars, smokeless tobacco or bidis during >1 of the 30 days preceding the survey.

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Glossary

Bidis: Small, brown, hand-rolled cigarettes primarily made in India and other Southeast Asian countries. Often flavored.

CAT: Communities Against Tobacco is a network of local coalitions in each New Jersey County. These coalitions are joined together with a common mission to change or establish community norms, attitudes, and behaviors around tobacco use.

Consumption: A calculated indicator based on the reported number of days on which smoking occurred multiplied by the mean number of cigarettes smoked daily.

CTCP: The Comprehensive Tobacco Control Program is a program of the New Jersey Department of Health and Senior Services. Its mission is to decrease deaths, sickness, and disability among New Jersey residents who use tobacco or are exposed to environmental tobacco smoke.

Current Use: Defined as the use of any tobacco product on one or more of the 30 days preceding the survey.

ETS: Environmental tobacco smoke is a mixture of the smoke given off by the burning end of a tobacco product (e.g. cigarette, cigar, etc.) and the smoke exhaled from the lungs of smokers.

Ever Use: Defined as the use of a tobacco product over the course of one's lifetime.

Established Smoker: Defined as having smoked 100 or more cigarettes in a lifetime.

Frequent Use: Defined as the use of a tobacco product on 20 or more days of the past 30 days.

High School Students: Comprised of students who were in 9th, 10th, 11th, or 12th grade at the time of the survey.

Middle School Students: Comprised of students who were in 7th or 8th grade at the time of the survey.

N-O-T: Not-On-Tobacco is a quitting program designed specifically for teens developed by the American Lung Association.

REBEL: Reaching Everyone By Exposing Lies is an initiative developed by and for teens in New Jersey to combat tobacco industry tactics.

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