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2011 Independent Evaluation Report of the New York Tobacco Control Program

Prepared for

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Executive Summary

New York State is a recognized leader in tobacco control with a program built on evidence-based interventions, supported by strong tobacco control policies, and complemented by forward-looking next-generation initiatives. In 2005, the New York State Department of Health established an ambitious goal of reducing the number of smokers by 1 million by 2010. Although the state failed to reach this goal by 2010, there were more than 700,000 fewer youth and adult smokers and adult smoking prevalence was 15.5%, well below the national average of 19.4%. In addition, the declines in smoking prevalence among adults and youth in New York have outpaced declines nationally.

As a result of the declines in smoking, smoking-attributable personal health care expenditures in New York in 2010 were $4.1 billion less than they would have been had smoking rates remained at 2001 levels ($8.2 billion in 2010 rather than $12.3 billion). If smoking rates continue to decline and meet a 2013 goal of 12%, the annual smoking-attributable health care costs will decline by an additional $2.1 billion.

From fiscal year (FY) 2008–2009 to FY 2011–2012, the New York Tobacco Control Program's (NY TCP's) budget was reduced more than 50%, from $84 million to $41.4 million. This is a significantly larger budget reduction than for the New York State Department of Health as a whole over the same time period. Although smoking prevalence continued to decline after Program funding was reduced, many of the other key outcome indicators we monitor have not improved, suggesting that the significant decline in smoking from 2009 to 2010 may not be sustainable without sufficient funding. The sizeable budget reductions limit the Program's ability to reach a significant proportion of New Yorkers with the wide range of evidence-based interventions that have been developed over many years. This limited budget also constrains the Program's ability to address stubbornly high smoking rates among historically disadvantaged populations. In addition to having a high rate of smoking prevalence and no change in smoking prevalence over the past decade, smokers with annual incomes less than $30,000 pay 39% of New York State and New York City cigarette excise taxes, amounting to $601 million. Smokers

with a high school degree or less pay 52% of all cigarette excise taxes or $804 million.

After a strong track record of success in reducing smoking among adults and youth, the highest state cigarette excise tax in the country, and a statewide smoke-free air law that eliminates smoking in virtually all workplaces, bars, and restaurants, some may feel that the fight to reduce smoking in New York State is over. And although most adults understand the health risks of smoking and most smokers want to quit, the prevalence of smoking remains stubbornly high among the poor, the less educated, and those with poor self-reported mental health. Reducing tobacco use among these groups may require tailored interventions and/or more intensive evidence-based interventions (e.g., media campaigns). Recent evidence from previous Independent Evaluation Reports has highlighted the success of hard-hitting messages in prompting smokers to quit. These evidence-based campaigns do not merely educate smokers about the health risks of smoking—they rely on emotional and graphic messages to prompt action. Thus, such campaigns should not be viewed as a luxury but a core, effective public health strategy. The current report illustrates the benefits of providing sufficient funds to consistently reach 60% of smokers with NY TCP media. Compared with having no media campaign, 60% ad awareness would result in

- 381,000 additional smokers making a quit attempt,
- 26% lower cigarette consumption, and
- 68% more calls (more than 275,000 per year) to the New York State Smokers' Quitline.

In light of the persistently high rates of tobacco use among historically disadvantaged populations, New York State should rededicate itself to a healthy and sufficient tobacco control infrastructure and ambitious goals to reduce tobacco use. Dedicating just 11% ($254 million) of the $2.4 billion in annual tobacco tax revenue and Master Settlement Agreement payments to tobacco control would permit New York State to match the Centers for Disease Control and Prevention's (CDC's) recommended funding level for tobacco control (up from the current 2% of tobacco taxes and Master Settlement Agreement payments). It would also provide sufficient opportunities for NY TCP to target interventions to the economically disadvantaged that pay a disproportionate share of all tobacco taxes.

Key Evaluation Findings

- From 2003 to 2010, the prevalence of adult smoking declined faster in New York (−29%) than in the United States (−9%).
- From 2000 to 2010, the prevalence of smoking declined by 70% among middle school students and 54% among high school students. These declines outpaced national declines.
- Cigarette consumption declined by 29% among New York adult smokers from 2003 to 2010 and was lower than the national average in 2010.
- Cigarette consumption was 56% lower in 2010 than it would have been had cigarette taxes and NY TCP funding remained at 2000 levels and had the Clean Indoor Air Act not been amended in 2003.
- Increasing awareness of NY TCP media from 24% (actual) to 60% (recommended) in 2010 would result in 266,670 additional smokers making quit attempts.
- Increasing NY TCP media to recommended levels would result in a 32% increase in the New York State Smokers' Quitline call volume (to 282,207 calls).
- New York State loses an estimated $610 million in lost tax revenue as a result of tax evasion. Eliminating tax evasion would lead to a 14% increase in average cigarette prices and 50,000 fewer smokers.
- Higher cigarette prices that result from increased taxes are borne disproportionately by low-income smokers. In 2010, smokers with incomes less than $30,000 spent 20% of their income on cigarette purchases.

RTI's key programmatic recommendations are as follows:

Overall Recommendations

- Increase NY TCP funding to a minimum of one-third of CDC's recommended funding level for New York ($254 million) to $85 million per year for FY 2012–2013 and to $127 million (50% of CDC's recommendation) for FY 2013–2014 and following years.
- Develop and fund interventions to address disparities in smoking rates, particularly for adults with low income, limited education, and mental illness.

Health Communication Recommendations

- Invest sufficient funds in health communication to increase annual average confirmed awareness of NY TCP television advertisements from 24% in 2010 to at least 60%. This equates to approximately $40.4 million annually in television advertising.
- Avoid unplanned gaps in health communication activities that result from delays in contract executions and amendments.
  - Ensure that a minimum amount of funds ($3 million to $5 million) are available to NY TCP for media placement for the first quarter of every fiscal year to avoid disruptions to the Program's media plan that result from annual delays in expenditure plan approvals and contract renewals.
- Develop new campaigns to support state and local community efforts to effect policy change.

Health Systems Change Recommendations

- Encourage the New York State Office of Mental Health to adopt tobacco-free regulations for its facilities. This would reinforce the Office's focus on improving the health and well-being of its consumers. Such a policy change would be consistent with the recent Office of Alcoholism and Substance Abuse Services' tobacco-free regulation.
- Encourage the New York State Medicaid Program to take a more active role in promoting tobacco cessation Medicaid benefits to Medicaid recipients and providers.
- Restore New York State Department of Health funding for the health care provider media campaign to add salience and reach to Cessation Centers' efforts and increase awareness.

Statewide and Community Action Recommendations

- Ensure that contractors use the initiative-specific toolkits developed by the Center for Public Health and Tobacco Policy at New England Law | Boston as the basis of the messages they convey and model policy components they distribute in support of all policy objectives.
- Work with contractors to identify and build collaborations with organizations and individuals

representing groups disproportionately affected by retail tobacco marketing and tobacco use in their catchment areas.

- Engage youth members of Reality Check and other youth-focused organizations in community education, government policy maker education, and decision maker advocacy activities focused on point-of-sale and tobacco-free outdoors policy change.

Introduction

The New York Tobacco Control Program's (NY TCP's) mission is to reduce tobacco-related morbidity and mortality and the social and economic burden caused by tobacco use, with a long-term vision of creating a tobacco-free New York. To fulfill this vision, the Program employs three key evidence-based strategies to change social norms and reduce tobacco use: health communication, cessation interventions, and statewide and community action. This approach is consistent with the Centers for Disease Control and Prevention's (CDC's) (2007) *Best Practices for Comprehensive Tobacco Control Programs* and the World Health Organization's MPOWER measures and is supported by available evidence reflected in *Reducing Tobacco Use: A Report of the Surgeon General* (USDHHS, 2000), the *Task Force on Community Preventive Services: Tobacco Use Prevention and Control* (Zaza, Briss, and Harris, 2005), and *The Role of the Media in Promoting and Reducing Tobacco Use* (NCI, 2008).

The 2010 Independent Evaluation Report (IER) noted that NY TCP made significant progress across a range of key Program outcome indicators from 2003 to 2009. For example, we found that smoking rates among youth and adults are lower and have declined faster in New York than in the United States as a whole over this period. In addition, in recent years, daily cigarette consumption among current New York smokers has decreased, and interest in quitting and the percentage of adult smokers making quit attempts each year has increased. We noted that the declines in adult smoking over this time period were not equal across various sociodemographic groups. Updated results, presented below, are consistent with findings from the 2010 IER.

Unfortunately, successive budget reductions have slowed the Program's momentum in changing key outcome indicators and resulted in the failure of the New York State Department of Health (NYSDOH) to achieve its goal of 1 million fewer smokers by 2010. The budget has been reduced from $84 million in fiscal year (FY) 2008–2009 to $41.4 million in FY 2011–2012. That represents a 51% reduction in a short period of time—much larger than the budget reduction for NYSDOH as a whole over this period. Such large budget reductions for NY TCP are of

concern given the significant evidence base for tobacco control overall and in New York State.

In this report, we describe the Program's approach to tobacco control and response to the recent budget cuts. We address the following critical evaluation questions for the Program:

- How has NY TCP influenced trends in tobacco use over time?
- How effective have public health communications been in affecting key outcome indicators?
- What has been the impact of cigarette excise tax increases and tax evasion on smoking prevalence?
- How have other key outcome indicators changed over time?
  - How do these indicators compare between New York and the United States?

Addressing these central evaluation questions will illustrate the impact the Program has had on key outcome indicators and highlight gaps that need to be addressed moving forward.

The New York Tobacco Control Program—Context and Programmatic Approach

In this section, we begin by describing the tobacco control context in which the Program operates. We then describe the Program's response to recent budget reductions and its current approach to tobacco control.

Program Context

To put NY TCP's efforts and progress in context, we summarize information about the health and economic burden of tobacco; tobacco industry advertising and promotions; state revenue from tobacco taxes and Master Settlement Agreement (MSA) payments; and indicators of the tobacco control environment, such as funding for tobacco control and level of cigarette excise taxes in New York compared with the U.S. average.

Economic Burden of Smoking

Smoking is associated with a significant health and economic burden. In 2010, personal health care expenditures attributable to smoking in New York totaled $8.2 billion. However, given

recent declines in smoking, smoking-attributable health care costs in New York have decreased significantly since 2001. To illustrate the effect of declining smoking rates on smoking-related health care costs, we examined three scenarios: (1) what would the costs have been if the adult smoking rate had remained at the 2001 level (23.2%), (2) what will costs be in the future if the adult smoking rate remains at the 2010 level (15.5%), and (3) what will costs be in the future if the adult smoking rate declines to 12% by 2013. Detailed information on our methods for these calculations is provided in Appendix A.

Figure 1 shows the estimated smoking-attributable health care costs for New York corresponding to each of the three scenarios explored. Because of reductions in adult smoking over the past decade, smoking-attributable health care costs were $4.1 billion less in 2010 than they would have been had smoking remained unchanged over this time period. From 2001 to 2010, this represents a cumulative reduction of $32.5 billion in smoking-related health care costs. If smoking rates continue to decline to 12% by 2013, New York can reduce smoking-related health care costs by an additional $2.1 billion per year. As discussed later in this report, tobacco control programming and policies have been shown to be effective in reducing smoking rates. The substantial savings in smoking-related health care costs associated with reductions in smoking rates highlight the value of tobacco control for New York State.

Revenues and Expenditures Related to Tobacco Control and Promotion

Each year, New York State receives significant revenue from tobacco taxes and MSA payments. These two sources total approximately $2.38 billion for FY 2010–2011, with $1.62 billion from tobacco taxes and $0.76 billion from MSA payments (Table 1). Allocating just 11% of the annual revenues from tobacco taxes and MSA payments to tobacco control programming would meet CDC's recommended funding level for NY TCP of $254 million. The current NY TCP budget of $41.4 million is only 16% of the CDC recommendation and represents less than 2% of annual tobacco tax and MSA payments.

Figure 1. Smoking-Attributable Health Care Costs in New York, 2001–2013

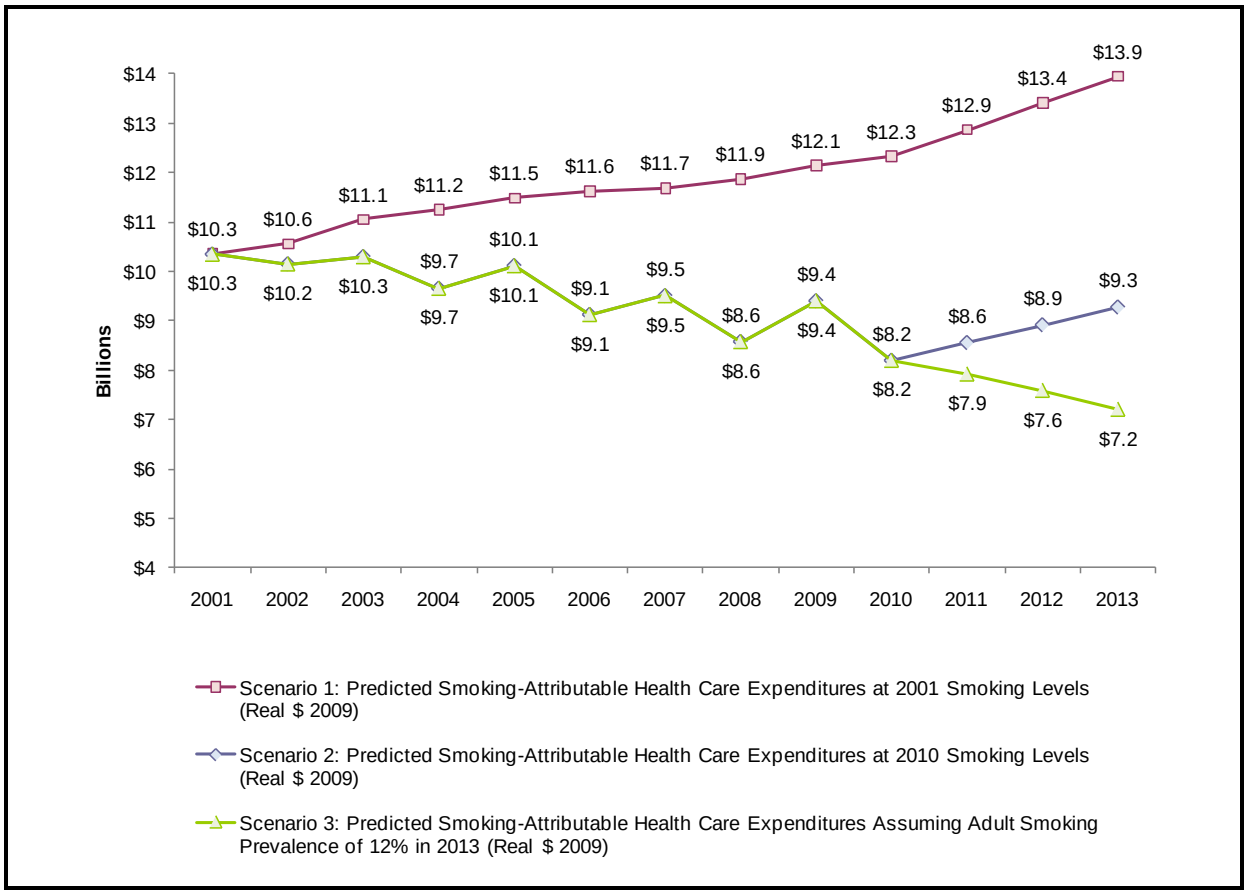


Table 1. Annual New York State Tobacco Tax Revenue, Master Settlement Agreement (MSA) Payments, and Spending on Tobacco Control and Tobacco Promotions

Revenue/Expenditure Category	Annual Revenue/Expenditure
Revenue from all tobacco taxes (FY 2010–2011)	$1,617,246,000
Revenue from MSA payments (FY 2010–2011)	$764,570,099
Estimated cigarette advertising and promotions in New York State (calendar year 2010) by five major cigarette manufacturers	$279,638,844
Tobacco control program budget (FY 2011–2012)	$41,415,000

In addition to falling well below CDC's recommended funding levels, NY TCP is outspent by tobacco company advertising and promotional efforts. Based on the latest available data from the Federal Trade Commission, tobacco companies spent $12.49 billion nationally on advertising and promotions. If these

expenditures are spent in proportion to cigarette sales, then this translates to $280 million spent on advertising and promotions overall in New York State in 2010. Of this, an estimated $232 million is for price reductions and the value of bonus cigarettes (e.g., buy two packs, get one free).

Tobacco Control Policy Environment

New York has been a national leader with respect to tobacco control policies: New York's cigarette excise tax is now the highest in the country; all New Yorkers are covered by a comprehensive smoke-free air law, compared with 48% of the population nationally; and average per capita funding for tobacco control over the past 3 fiscal years is higher in New York ($3.93) than in the average state ($2.27) (Table 2). However, both the New York and national averages fall well below the CDC recommended funding levels.

Tobacco company advertising and promotional activities are a countervailing force that also influences tobacco use in New York. In addition to spending $280 million on promoting tobacco in New York, cigarette companies offer cigarette price promotions somewhat more frequently in New York compared with the country as a whole; however, this difference was much more modest in 2010 than in 2008 when 10.5% of cigarette sales were sold under a promotion in New York compared with 2.3% in the United States as a whole.

Table 2. Pro- and Antitobacco Environmental Influences in New York and the United States

Indicator	New York	U.S. Average
State cigarette excise tax (August 3, 2010)	$4.35	$1.45
Percentage of the state population covered by comprehensive[a] smoke-free air laws (April 1, 2011)	100%	47.9%
Average annual per capita funding for tobacco control (2008–2010)	$3.93	$2.27
CDC recommended annual per capita funding for tobacco control	$13.15	$12.34
Percentage of grocery store cigarette sales sold under a price promotion (January 1–August 7, 2010)	3.0%	2.4%

[a] "Comprehensive" refers to laws that create smoke-free workplaces, restaurants, and bars.

Program Response to Budget Reductions

In FY 2008–2009, NY TCP's budget was $84 million. However, over the past three fiscal years, the budget has been reduced by half. For FY 2011–2012, the budget is $41.4 million. Governor Cuomo's Executive Budget Proposal recommended funding NY TCP at $58.4 million for FY 2011–2012, consistent with the funding from the previous fiscal year. Table 3 presents NY TCP's recommended allocations for the $58.4 million budget as presented to the NY TCP Advisory Board in February 2011. Unfortunately, the enacted New York State budget reduced the NY TCP budget by $17 million or 29% from FY 2010–2011 levels. Table 3 also presents the Program's actual budget and the percentage reduction for each allocation compared to its original proposal. The specific line item reductions are as follows:

- Statewide and community action: −21%
- Enforcement: −5%
- Cessation programs: −27%
- Health communication: −57%
- Research and Evaluation: −28%
- Administration: −0%

With respect to Statewide and Community Action, the Program decided to end support for Colleges for Change, Healthy Schools New York, and the Asthma Coalitions in the current fiscal year. Combined, this represents a reduction of $2,095,155. In addition, the budgets for the core community contractor programs of Community Partnerships and Reality Check were each decreased by 10% for an additional reduction of $1,223,067. The total budget reduction for Statewide and Community Action is $3,318,222 or 21%. Total funding for enforcement activities declined by $275,039 (5%). For cessation programs, the budget was reduced by $4,050,911 or 27%. To realize this reduction, NRT distribution was reduced by 74% ($2,790,117), Cessation Center funding was reduced by 10% ($634,949), and Quitline funding was reduced by 14% ($625,845).

By far, the largest programmatic component budget reduction was for media placement at $8,105,828 or 57%. This represents nearly half of the overall annual budget reduction.

Table 3. NY TCP Budget Reductions for FY 2011–2012

Program Component	2011–2012 Proposal	2011–2012 Actual	Percentage Reduction
Statewide and Community Action			
Community Partnerships	$9,518,000	$8,566,200	−10%
Reality Check	$2,712,671	$2,441,404	−10%
Colleges for Change	$875,000	$145,845	−83%[a]
Healthy Schools New York	$1,329,000	$221,500	−83%[a]
Asthma coalitions	$517,000	$258,500	−50%
Center for Public Health and Tobacco Policy	$465,750	$465,750	0%
Cicatelli Training	$505,553	$505,553	0%
Enforcement			
Clean Indoor Air Act and Adolescent Tobacco Use Prevention Act Enforcement	$5,128,389	$4,853,350	−5%
Cessation			
Cessation Centers	$6,349,489	$5,714,540	−10%
State University of New York Professional Development Program	$75,000	$75,000	0%
Quitline	$4,583,969	$3,958,124	−14%
Nicotine Replacement Therapy	$3,790,117	$1,000,000	−74%
Health Communication Campaigns			
Media Placement	$13,903,062	$6,000,000	−57%
Miscellaneous Media Development & Placement	$225,000	$22,234	−90%
Research and Evaluation			
Independent Evaluation	$4,500,000	$3,250,000	−28%
Administration			
Tobacco Control and Cancer Services	$3,937,000	$3,937,000	0%
Total	$58,415,000	$41,415,000	−29%

[a] NY TCP support for these initiatives ended on June 30, 2011.

Although this is a sensible approach given the options, mass media campaigns are a very effective and essential element of a comprehensive tobacco control program. As we present below, NY TCP's health communication campaigns have affected key outcome indicators, and the recent budget reductions have negatively influenced progress. Support for the

Independent Evaluation was reduced by $1,250,000 or 28%. The line item for administration was not part of NY TCP's discretionary budget and was not changed by the legislature.

The Program had several rationales to its approach to the budget adjustments:

- Maintain the Program components that had the strongest evidence base and the greatest potential population impact.
- Preserve essential Program capacity and infrastructure because it represents a long-term investment that is not easily restored once eliminated (e.g., Community Partnerships, Reality Check, Cessation Centers, Policy Center, Training).
- Reduce funding for other initiatives, with relatively larger reductions for activities that can be reduced more easily without losing Program capacity (e.g., media placement, NRT distribution, Quitline).
- Eliminate support for programs that are not core tobacco control interventions (e.g., Asthma Coalitions, NRT support beyond Quitline).

Clearly, given the successive budget actions, these reductions were necessary, even though they limit NY TCP's capacity to reduce tobacco use and change social norms. However, the approach to addressing a $17 million budget reduction is well-reasoned, balanced, and fair.

Program Approach

NY TCP is built on the social norm change model, which posits that reductions in tobacco use are achieved by creating a social environment and legal climate in which tobacco becomes less desirable, less acceptable, and less accessible (NCI, 1991; USDHHS, 2000). At the national level, this approach has likely been responsible for the increasing negative social norms and attitudes toward tobacco use that have occurred since the 1970s (Guttman, 2011) in parallel with decreased tobacco use prevalence during this period (CDC, 2009). New York's strong tobacco control environment will likely maintain current antitobacco norms and tobacco use prevalence rates. However, the Program recognizes that continued reductions in tobacco use require strengthening traditional tobacco control interventions and implementing new interventions that increase

cessation and decrease youth initiation (Bonnie, Stratton, and Wallace, 2007).

New York has maintained its national role as a strong and innovative leader in tobacco control. While continuing to promote evidence-based approaches to tobacco cessation in the health care system, the Program has expanded its efforts to reach vulnerable populations where smokers are heavily concentrated. By advancing tobacco-free outdoor policies, the reach and demonstrated benefits of the statewide Clean Indoor Air Act will be magnified. Recognizing that children are highly vulnerable to pro-tobacco messages, the Program has focused on promoting policies to change the retail environment, where advertising and product displays continue to promote tobacco use as a socially acceptable and desirable behavior (Burns et al., 1991).

Program Administration and Support

NY TCP's programmatic efforts are supported by administration, training and technical assistance, and surveillance and evaluation. NY TCP administration focuses on driving overall programmatic strategy, building and maintaining an effective tobacco control infrastructure, providing technical assistance and guidance, and managing the effective and efficient investment of state tobacco control funding. To ensure that policy goals are met, the Program has implemented an integrated approach and implemented strong accountability procedures. State and community-level activities, as well as Program initiatives, are supported by development and dissemination of key messages. The messages are communicated by community contractors and via earned and paid media. Program staff are held accountable for well-defined objectives and supported through focused training and targeted technical assistance.

NY TCP funds two contractors to provide technical assistance and training to enhance the skills of funded community contractors. The training sessions emphasize skill-building for advancing public health policy and effective communication. RTI is contracted to provide surveillance and evaluation activities to monitor program progress and impact by working in collaboration with the Tobacco Surveillance, Evaluation and Research Team within NYSDOH.

Health Communication

Health communication has historically represented one of the most significant components of NY TCP. Investments in paid advertising on television, radio, print, Internet, and other venues are designed to motivate tobacco users to stop using tobacco, promote smoke-free homes, deglamorize tobacco use, and educate community members and decision makers about tobacco control. Paid advertising has also been a key driver of calls to the New York State Smokers' Quitline since the inception of the Program.

The Program's overall approach to paid advertising has relied primarily on the development and use of long-range media plans with ever-increasing and consistent use of evidence-based advertisements for cessation, including ads that contain strong negative emotional and graphic content. Since 2005, NY TCP devoted roughly 70% of its resources for paid media to these types of ads, which show the physical effects of smoking, such as clogged arteries, brain tumors, and blackened lungs. In addition, the Program has also begun to use harder-hitting secondhand smoke-focused ads that highlight, in a graphic or emotional way, the effects of secondhand smoke exposure on infants and children. Recently published research suggests that smokers perceive these ads to be more effective (Davis et al., 2011).

While NY TCP's focus on emotional and graphic messages is intended to remind smokers of "why to quit," the Program has also complemented these messages with ads intended to increase smokers' self-efficacy to quit. These ads typically provide smokers with information and resources on "how to quit," including the New York State Smokers' Quitline and Quitsite that are devoted to assisting smokers in the process of quitting.

In 2011, the Program's media implementation continued these strategies with secondhand smoke- and cessation-focused campaigns during the spring. The Program's secondhand smoke-focused advertising consisted of the ads "Kids" and "Preemie," which aired throughout the spring of 2011. These ads depict the effects that secondhand smoke can have on children and babies. The Program also aired the cessation-focused "Reverse the Damage" campaign during spring 2011

that consisted of two primary television ads: "Reverse Heart Attack" and "Reverse Lung Cancer." These ads are two of the most visually graphic ads the campaign has aired, but, unlike most prior graphic ads, they highlight the immediate and long-term benefits of quitting on cardiovascular and lung health. Both of these campaigns were also supported with corresponding Internet and radio ads that were placed and aired during the same time.

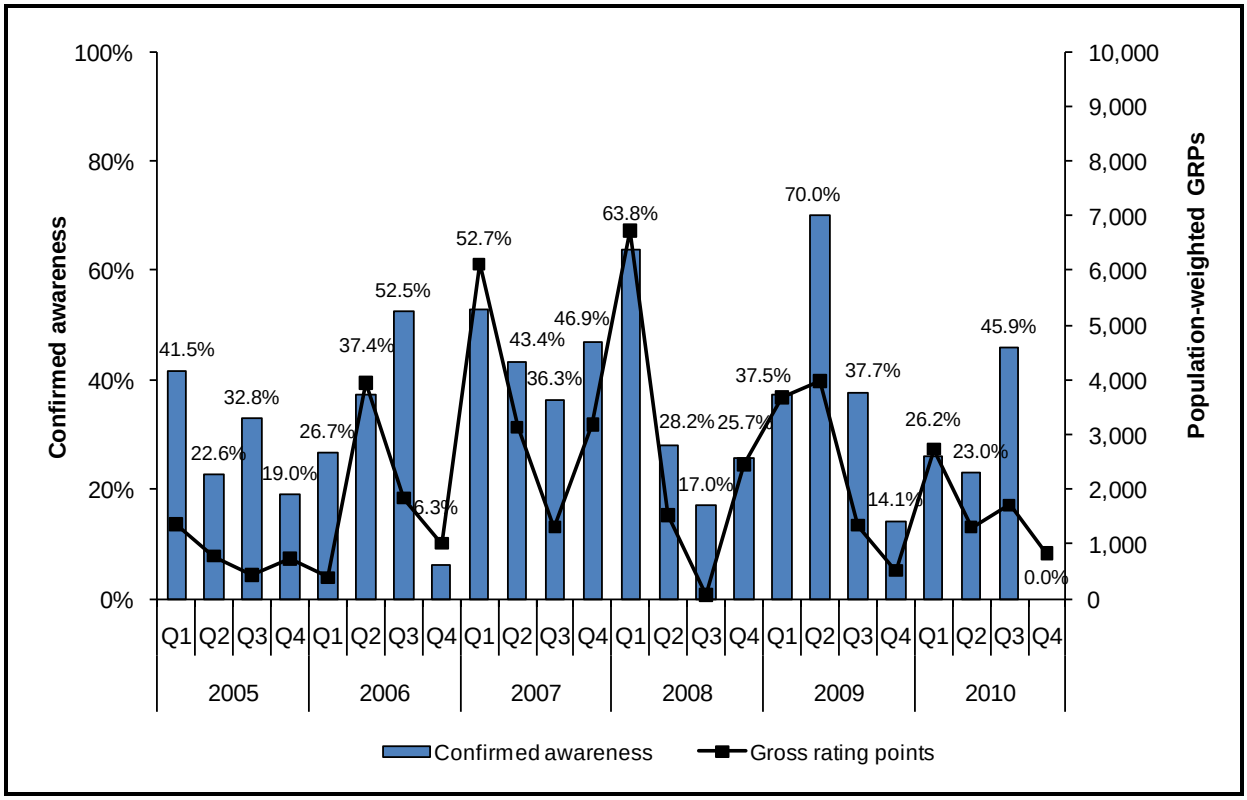
The Program's Community Partnership contractors developed a point-of-sale education campaign that ran during early spring 2010 and again in early 2011. This campaign, "It Starts in Our Stores," consisted of radio, print, and outdoor advertising aimed at raising awareness of the extent and impact of in-store tobacco display advertising and marketing. This campaign was launched to increase public support for limiting the marketing of tobacco products to children via in-store displays at licensed tobacco retailers in New York. The campaign was predicated on research suggesting that in-store tobacco display placement and marketing is two times more likely to influence youth than adults.

Paid advertising efforts during 2010 were also supplemented with a campaign funded by the American Recovery and Reinvestment Act (ARRA) during the summer when advertising activity has been historically limited. The ARRA-funded campaign included two cessation-focused television ads, "Separation" and "Artery," that aired in August and September 2010. These ads were launched with a press event at the New York State Smokers' Quitline in Buffalo. The launch of the ARRA-funded ads was also intended to create earned media opportunities for the Program as Community Partnerships, Reality Check Programs, and Cessation Centers all engaged in earned media activities around the launch of these ads.

The impact of defunding for media interventions can be seen most readily in its influence on smokers' direct exposure to paid advertisements. Figure 2 shows quarterly trends in confirmed awareness of paid advertisements among smokers, plotted against quarterly data on total ad gross rating points (GRPs) from 2005 to 2010. The Program achieved the highest rate of awareness observed to date at 70% in Q2 2009, but this rate has declined precipitously since then in the wake of large budget cuts to media placement. These data and current and

previous research show a clear link between fluctuations in paid advertising investment and trends in both individual-level exposure to messages and trends in key outcome indicators. Increases in media expenditures and placements directly translate into increases in individual awareness of advertisements, whereas disruptions and gaps in advertising lead to significant declines in exposure to advertisements.

Figure 2. Confirmed Awareness of Paid Advertisements among Smokers and Market-Level Advertising Gross Rating Points (GRPs), Adult Tobacco Survey 2005–2010



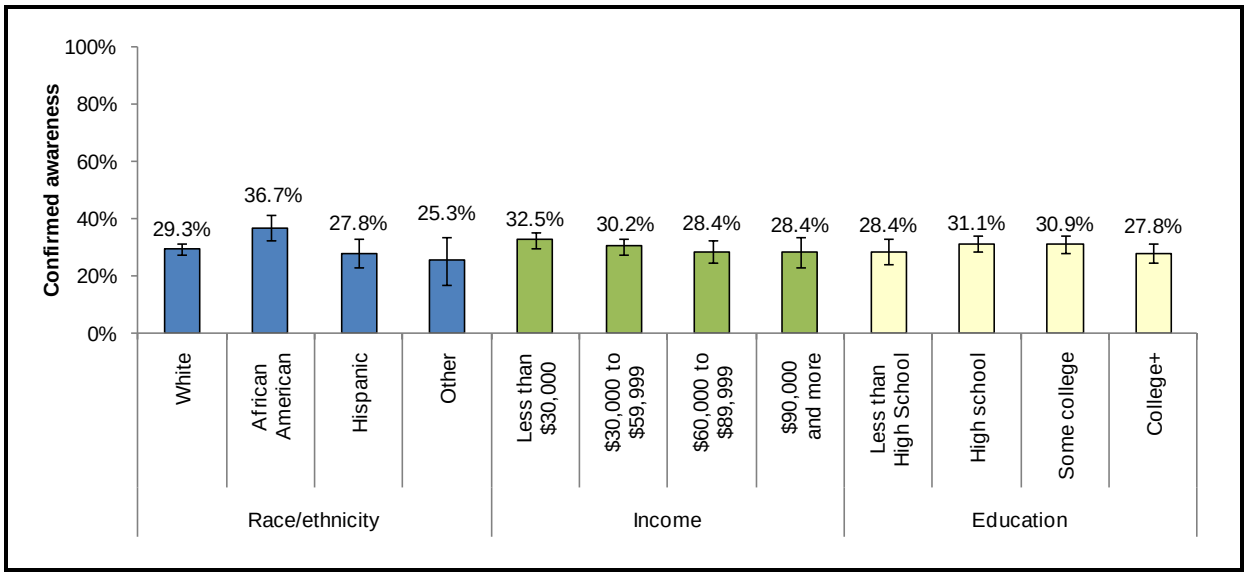
These data underscore the importance of consistent funding and implementation for the long-term success of the Program's paid advertising efforts. However, significant resources are required to sustain the levels of exposure necessary for this success. Prior independent evaluations of NY TCP have consistently recommended maintaining awareness at 60% of the population to sustain change in key outcome indicators.

Further analysis of the data shown in Figure 2 and data on the average cost for advertising GRPs delivered to New York's 10 media markets suggests that an investment of approximately

$10.1 million per quarter or $40.4 million per year in paid advertising placement would be needed to sustain 60% awareness among the adult population aged 18 or older in New York year-round. The actual awareness of tobacco control advertisements was only 33% between 2003 and 2010, including a relatively low 24% awareness during 2010. Thus, maintaining sufficient media funding and consistent implementation of paid advertising remains a significant challenge for the Program.

Next, we examine NY TCP's ability to reach smokers in various sociodemographic groups with public health communications. Data from the Adult Tobacco Survey (Figure 3) show that long-term awareness of antismoking television advertisements is 30% (roughly half of the recommended level of 60%). However, awareness is fairly consistent across income and education categories and even higher among African American smokers than white smokers. This is a result of relatively higher rates of television viewing among African American adults (26 hours per week) compared with whites (19 hours per week) (http://www.bls.gov/news.release/atus.nr0.htm).

Figure 3. Percentage of Adult Smokers with Confirmed Awareness of Antismoking Television Advertisements, Adult Tobacco Survey 2003–2010

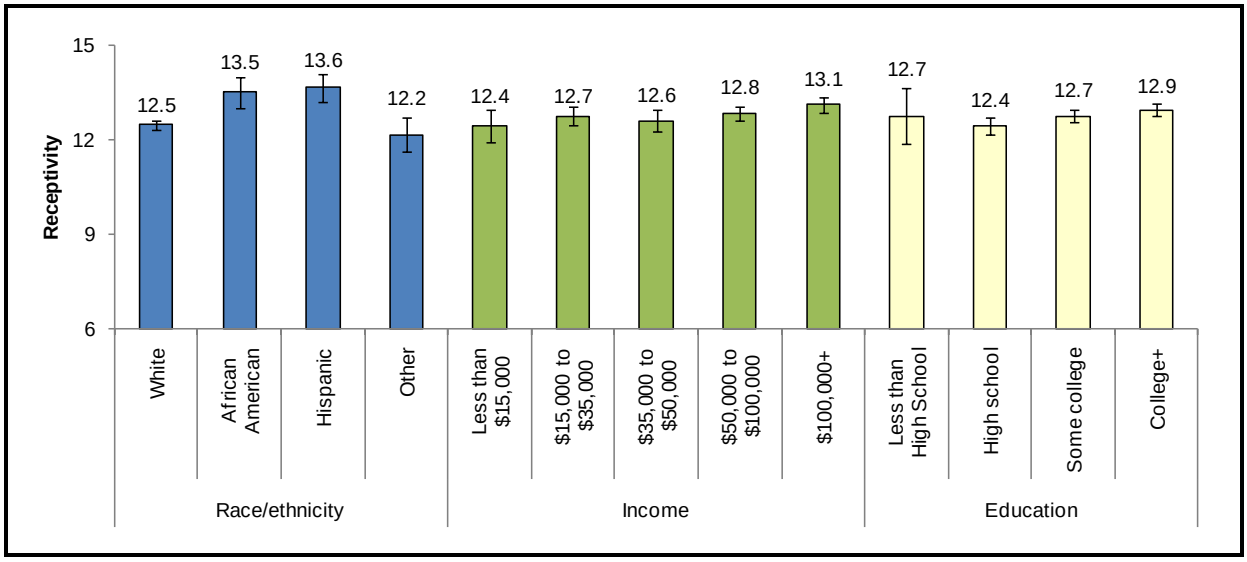


To gauge how receptive smokers are to various antismoking television commercials, smokers are asked to view and rate advertisements as part of the Media Tracking Survey Online (MTSO)—a survey conducted to correspond to media campaigns

(generally twice annually). After reviewing each advertisement, respondents are asked a battery of questions to measure aspects of persuasiveness, believability, and processing of the information. Two items asked how much the ad made them stop and think and how much the ad grabbed their attention, using a Likert response scale of 1 (*strongly disagree*) to 4 (*strongly agree*). Smokers in the MTSO were also asked to indicate the degree to which they found the ads believable on a scale of 1 (*not at all*) to 5 (*very*). Finally, smokers were asked to indicate, on a scale of 1 to 5, how much the advertisement made them want to quit smoking. Responses to all questions are summarized into an overall receptivity score, with higher scores indicating a more positive response to the commercials.

These data show an equally positive response across education levels and a somewhat higher response among smokers with higher income relative to those with lower income (Figure 4). African American and Hispanic smokers had a more positive response than white smokers. Overall, these data show that NY TCP's media plans are effective at reaching a diverse set of smokers equally well and that smokers in various sociodemographic groups respond positively to the chosen advertisements. In subsequent sections of the report, we examine more specifically the impact of media on NY TCP key outcome indicators.

Figure 4. Average Receptivity to Cessation-Focused Advertisements among Smokers in New York, Media Tracking Survey Online 2007–2009



Note: Higher receptivity scores indicate that smokers were more likely to perceive the ads as believable, to stop and think about quitting, and to report that the ads grabbed their attention. Ad receptivity scores can range from 4 to 18.

Cessation Interventions

To promote cessation, NY TCP takes a multistrategy, evidence-based approach that includes health systems change, telephone-based smoking cessation counseling, and health communication. Health systems change approaches include updating health care provider reminder systems to ensure that patients are asked about tobacco use and provided assistance, promoting the Medicaid benefits for smoking cessation, and encouraging private health plans to expand tobacco cessation coverage. The New York State Smokers' Quitline provides tobacco cessation counseling and access to NRT and serves as an information clearinghouse for cessation. Below, we describe NY TCP cessation interventions in more detail, addressing Cessation Centers, the New York State Smokers' Quitline, and reduced patient costs for treatment.

Cessation Centers

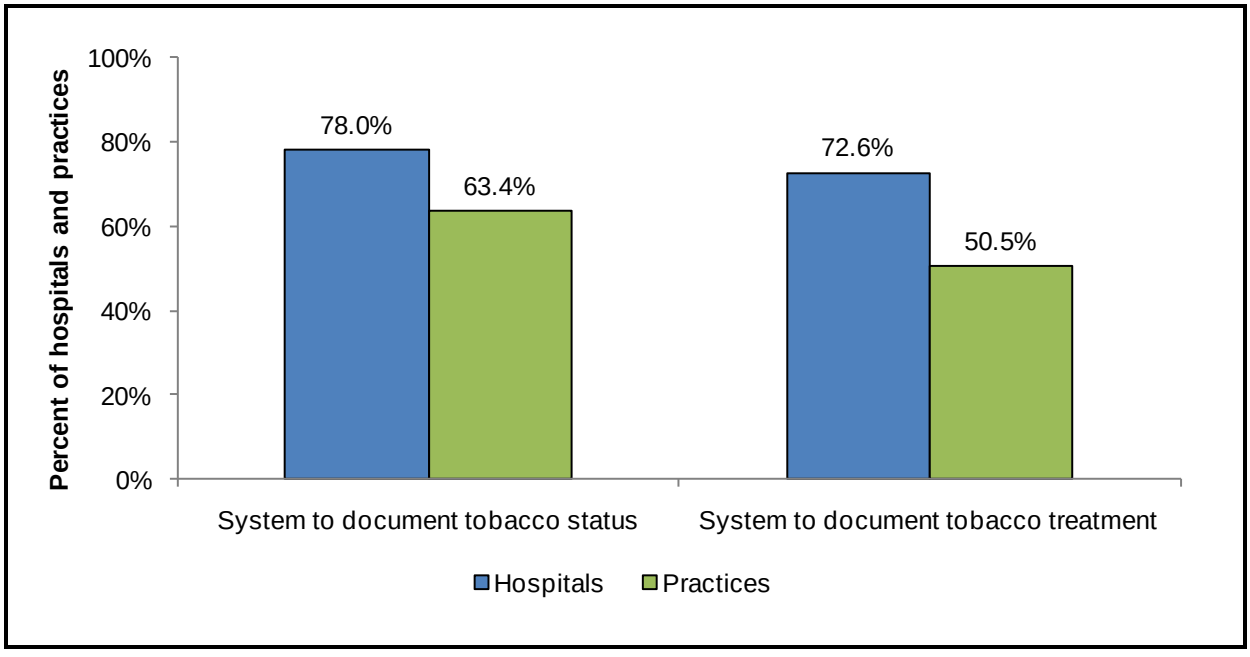
The Program funds 19 Cessation Centers to increase the number of health care provider organizations that have systems to screen all patients for tobacco use, provide brief advice to quit at all visits, and provide assistance to help patients quit successfully. Evidence demonstrates that brief advice to quit smoking by a health care provider significantly increases the odds that a smoker will quit. Cessation Centers use the 2008 Public Health Service clinical practice guideline *Treating Tobacco Use and Dependence* to guide their work. Cessation Centers partner with health care organizations across New York State to help with changes to improve tobacco cessation intervention, offer provider training, provide guidance on system improvement, and provide technical assistance. To extend the reach of their message, the Cessation Centers launched a media campaign ("Don't Be Silent About Smoking") aimed at health care providers and are planning a campaign to promote awareness and use of the Medicaid cessation benefit among Medicaid enrollees.

Cessation Centers primarily target medical practices, where the majority of smokers report getting regular care, thus providing opportunities for intervention on a routine basis. Cessation

Centers are approaching a reach of 20% of primary care practices statewide. Consistent with RTI recommendations, NY TCP has instructed Cessation Centers to work with practices that serve higher proportions of tobacco users. These health care practices include clinics that serve low socioeconomic status populations, such as federally qualified health centers and those that serve individuals with behavioral health disorders.

Cessation Centers work with many health care provider organizations, regularly partnering with new organizations. Of the organizations with which they currently have some relationship, 78.0% of hospitals and 63.4% of practices have systems in place to document tobacco use status. Slightly fewer have systems in place to document tobacco treatment (Figure 5). There is still significant room for improvement for documenting both tobacco status and treatment, further emphasizing the importance of making these changes in locations that can have the greatest impact and reach into the population of tobacco users in New York State.

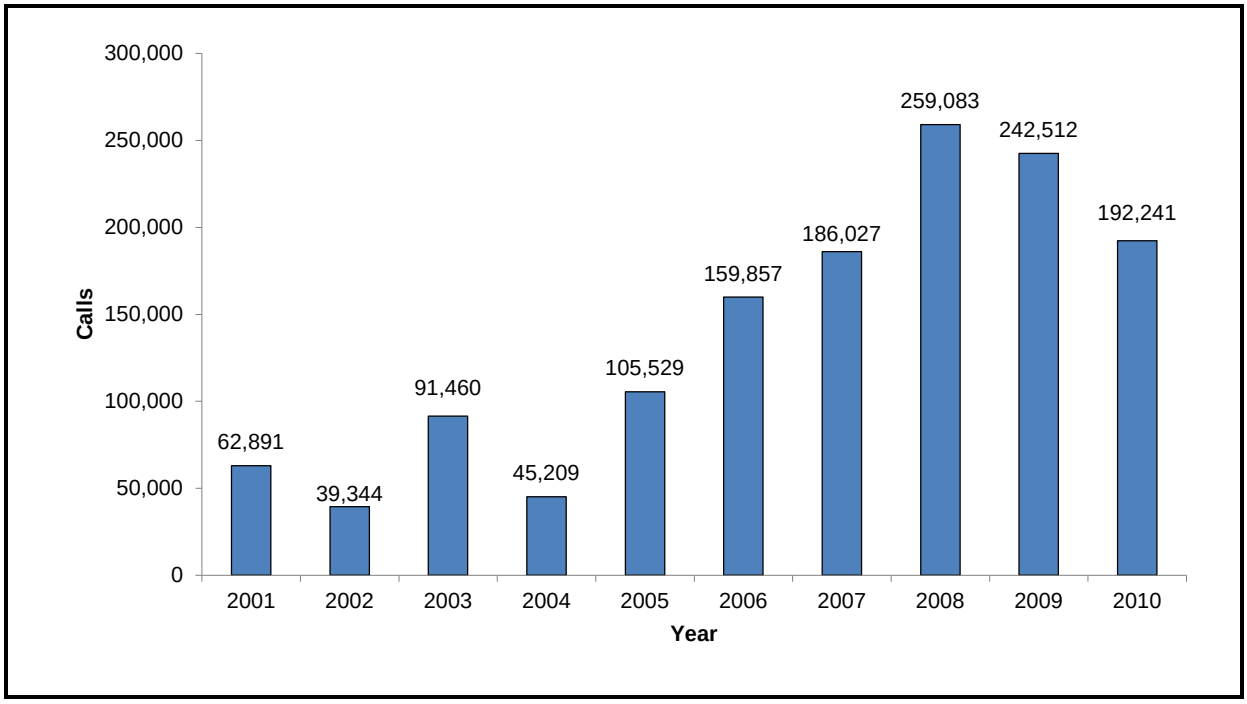
Figure 5. Percentage of Hospitals and Practices That Work with Cessation Centers That Have a System to Document Tobacco Status and a System to Document Tobacco Treatment, Community Activity Tracking System, August 2009–June 2011



New York State Smokers' Quitline

The New York State Smokers' Quitline was established in 2000 to provide individualized telephone counseling to adult smokers who want to quit. In addition, the Quitline offers free 2-week NRT starter kits by phone or Internet to eligible clients, prerecorded telephone messages covering a range of stop-smoking topics, and a Quitsite Web site with interactive features. For health care providers, the Quitline offers a Refer-to-Quit program for tobacco using patients and free cessation continuing medical education programs for providers. Quitlines and Web-based quitsites serve a number of purposes in a tobacco control program, including (1) providing an effective, evidence-based service for helping smokers quit smoking; (2) serving as a clearinghouse of information on smoking cessation for smokers, health care providers, and the general public; (3) providing a call to action in mass media messages designed to promote cessation; and (4) enhancing the ability of health care providers to refer their patients to a helpful resource. Figure 6 shows Quitline call volume from 2001 to 2010. In recent years, call volume has dropped as the budget for media placement has dropped. The role of media in promoting the Quitline is discussed in more detail below.

Figure 6. Quitline Call Volume, 2001–2010



Reduced Patient Costs for Treatment

NY TCP has implemented two initiatives to increase support for cessation coverage through policy and systems change: one focuses on working with the Medicaid program to expand coverage for smoking cessation counseling and pharmacotherapy, and the other involves reaching out to New York–based health plans to encourage them to provide greater support for smoking cessation. Medicaid reimburses for two 90-day courses of smoking cessation medication (i.e., nicotine inhalers and nasal sprays; medication, such as Zyban [bupropion] and Chantix [varenicline]; and over-the-counter nicotine patches and gum). Medicaid also now reimburses for up to six counseling sessions annually for all Medicaid beneficiaries, expanded from previously covering counseling for adolescents and pregnant and postpartum smokers. NY TCP and the Cessation Centers continue to encourage health plans to expand coverage and promotion of cessation services to their members.

Statewide and Community Action

State and community interventions have long been an integral part of a comprehensive tobacco control program (CDC, 2007). NY TCP has funded organizations across the state to work in four modalities: Community Partnerships for Tobacco Control, Reality Check contractors, Healthy Schools New York contractors, and Colleges for Change contractors. As a result of budget cuts, NY TCP eliminated funding for the 19 Healthy Schools New York and seven Colleges for Change contractors. The remaining contractors saw decreases to their contracts by 13% beginning July 1, so the overall fiscal year reduction is 10%.

Community contractors use paid and earned media to raise awareness and educate the community and key community members about the tobacco problem and tobacco control policies; educate government policy makers about the tobacco problem to build support for tobacco control policies; and advocate with organizational decision makers, such as health care organizations, school boards, and community organizations, for policy changes and resolutions. NY TCP has added a fourth strategy to community contractor work plans beginning in 2011 that focuses on community mobilization.

Community mobilization activities will engage influential community members and organizations to publicly support and call for actions that help achieve contractors' work plan outcomes. Contractors will engage youth, youth-focused organizations, and other influential community organizations and community members in activities that support and advance contractor and NY TCP efforts.

A key indicator of NY TCP's community-based programming is the adoption and effective implementation of local and statewide policies that permanently change society's acceptance of tobacco use (Gerlach et al., 2005). NY TCP's community contractors work to effect policy change in multiple settings, including health care provider organizations; schools; licensed tobacco retailers; multi-unit housing; and public spaces, such as parks, beaches, and building entranceways. CDC (2007) recommends that tobacco control programs emphasize tobacco regulation and policy over individually focused clinical or education interventions because policy changes potentially have the greatest reach. For this strategy to have a meaningful effect on population-based measures of smoking initiation and cessation, two conditions must be met. First, the targeted policies must cover a significant proportion of the state's population (Frieden, 2010). Second, the policies must either provide meaningful support for smoking cessation (e.g., encourage health care providers to more systematically support smoking cessation with their patients) and prevention, or they must provide constraints on the tobacco industry (e.g., reduce cigarette price promotions).

NY TCP was one of the first state tobacco control programs to aggressively address ubiquitous tobacco industry marketing with next-generation policies. This transition began with a new strategic plan in 2003 that set the groundwork for the 2005 Advertising, Sponsorship, and Promotions initiative. This initiative was aimed at curbing tobacco industry influences at the point of sale and more broadly in communities (e.g., tobacco industry–sponsored community events). In 2009, the Advertising, Sponsorship, and Promotions initiative became the point of sale initiative. The point of sale initiative focuses program efforts more narrowly on decreasing tobacco industry marketing at the point of sale through local policy change and receives additional support through an American Recovery and Reinvestment Act-funded Communities Putting Prevention to

Work grant from CDC. Because this initiative breaks new ground in community tobacco control and serves as a model for other state programs, New York consistently monitors its implementation and, where necessary, modifies program activities and provides contractors with additional training. The Program should be commended for facilitating effective communication and a high level of coordination between the Program, the Center for Public Health and Tobacco Policy, Center for Tobacco-Free New York, RTI, and the community contractors.

The community contractors' new policy approach to tobacco industry marketing at the point of sale puts NY TCP at the cutting edge of regulatory changes to control the marketing of tobacco products and will reach a much larger proportion of the New York population than previous activities focused on voluntary retailer policies. The Program understands the challenges posed by such aggressive policy goals and has made a commitment to contribute to the science and practice of tobacco control by conducting ongoing research to increase the evidence base for this strategy.

To address these challenges and provide leadership to the greater tobacco control community, NY TCP conducted the following activities during FY 2010–2011:

- Participated in multiple national meetings regarding tobacco issues, including the CDC's Office on Smoking and Health expert panel meetings on tobacco industry monitoring in 2010 and rapid response surveillance in 2011. In addition, the Program (with RTI) presented an invited Webinar for tobacco control staff at the California Tobacco Control Program.
- Continued work with the Center for Public Health and Tobacco Policy at New England Law | Boston (Policy Center). The Policy Center provides research, training, and technical assistance to support the Program's policy, systems, and environmental change initiatives. The Center has developed and disseminated a series of fact sheets summarizing tobacco control policies in New York State, along with a series of toolkits (including model policies) to support contractor efforts focused on outdoor tobacco use bans, tobacco-free multi-unit dwellings, tobacco product display bans at the point of sale, and local licensing requirements for tobacco retailers. To further support the Program, the Center has led and participated in state and national presentations

to educate other tobacco control research and program staff about New York's point of sale initiative.

- Systematically engaged national, state, and local partners to present a coordinated effort to educate the public about tobacco marketing at the point of sale.
- Continued to work with RTI to build the evidence base for point-of-sale policy objectives. In this capacity, RTI has analyzed the relationships between tobacco industry advertising, the density of tobacco retailers, and indicators of current and predicted tobacco use among youth. These analyses were presented at the 2010 meeting of the American Public Health Association, and several manuscripts are in preparation for submission to peer-review publications.

NY TCP is nationally recognized for its expertise in tobacco control. The following sections describe the activities and outcomes of NY TCP statewide and community action contractors.

Community Partnerships for Tobacco Control

In FY 2010–2011, the Program fully implemented its refocused point of sale initiative. As noted in the above section, during FY 2009–2010, model policies for the point of sale initiative were developed. These policies were designed to meet the following objectives:

- restrict the number, location, and type of tobacco retailers; and
- keep tobacco products out of view in non-adult–only retail settings.

During the past year, the Policy Center expanded its set of model policies and toolkits to include those focused on tobacco-free outdoors and tobacco-free multi-unit dwellings. The model policies have been augmented with toolkits that include the evidence in support of policy change, along with the basis for authority to implement policy change. A contract with the Center for a Tobacco-Free New York has been used to leverage the media advocacy resources and policy change expertise at the American Cancer Society. Community Partnership and Reality Check activities on the point of sale initiative have focused primarily on educating the public and policy makers about how tobacco industry marketing in the retail environment affects children. They have accomplished this through a paid

media campaign ("It Starts in Our Stores") and through multiple public forums, including presentations at community events, schools, and local municipality meetings. Although no point-of-sale policies have been adopted yet, community contractors have collaborated with the American Cancer Society, American Lung Association, and other organizations to present a focused point-of-sale-based message on specific days dedicated to tobacco use cessation—the Great American Smokeout, Kick Butts Day, and World No Tobacco Day. By "piggybacking" on the long-standing national and international activities on these days and collaborating with the American Cancer Society, the community contractors and the Program gained unprecedented coverage of their events—and the point-of-sale message. In addition to activities focused on the retail environment, Community Partnerships contacted government officials and decision makers at businesses/workplaces, community organizations, municipalities, and health care organizations to promote policies that restrict smoking in outdoor areas, including building entranceways, parks, and playgrounds.

Additionally, since FY 2007–2008, Community Partnerships' contracts have included implementing strategies promoting smoke-free policies in multi-unit housing. In FY 2010–2011, Community Partnerships continued to educate apartment complex managers, landlords, and other stakeholders about the impact of secondhand smoke exposure and the benefits of smoke-free housing, and they advocated for smoke-free policies in multi-unit housing.

Reality Check Contractors

In FY 2010–2011, the 16 Reality Check contractors engaged youth leaders to challenge and change community norms regarding tobacco use. All Reality Check contractors worked on the point of sale initiative, collaborating with Community Partnerships. The point of sale initiative's key messages focus on the impact of tobacco industry marketing on youth. Reality Check youth activities show community members and leaders the tobacco advertising they see on a daily basis. This brings greater attention to the issue and makes it locally relevant.

Also during this time, Reality Check contractors were the only modality to work on the following objective:

- Eliminate smoking and tobacco imagery from movies rated G, PG, and PG-13.

Some Reality Check contractors also worked independently or with Community Partnerships on the following objective:

- Increase the number of community-wide policies that prohibit tobacco use in outdoor areas (e.g., public parks, beaches, outdoor areas of businesses).

For FY 2011–2012, Reality Check contractors will focus their efforts entirely on point-of-sale activities and smoke-free media.

Healthy Schools New York Contractors

In FY 2010–2011, 19 Healthy Schools New York contractors worked with schools and school districts to implement and enforce tobacco-free school policies that meet standards developed by NY TCP. These standards include prohibiting tobacco use among students, staff, and visitors in school buildings and on school grounds, in all school vehicles, and at school functions away from school property, as well as other nationally recognized tobacco-related policy components. For FY 2011–2012, NY TCP's funding for this initiative was eliminated due to budget reductions.

Colleges for Change

In FY 2010–2011, the seven Colleges for Change contractors focused on engaging young adult leaders to work on and off college campuses to promote tobacco-free campus policies. This initiative was intended to combat the significant amount of tobacco industry marketing aimed at young adults (Sepe, Ling, and Glantz, 2002; Gilpin, White, and Pierce, 2005), reduce industry sponsorships, eliminate tobacco use on campus grounds, and promote smoke-free multi-unit housing policies. The Colleges for Change initiative was eliminated in FY 2011-2012 due to budget reductions.

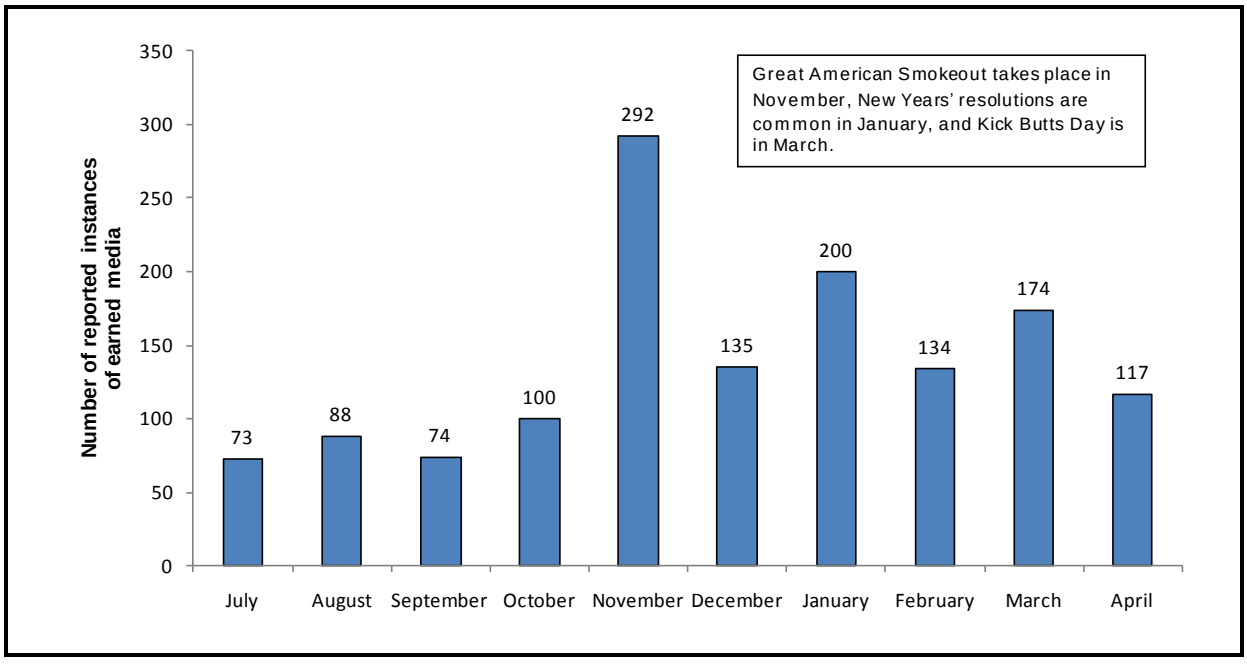
Earned Media

Media advocacy in tobacco control involves the strategic use of the media to shape public views, frame the issue or debate, and ultimately influence tobacco control policy (NCI, 2008). Media advocacy has been shown to significantly increase

reporting of tobacco control and other public health issues in the news. News coverage of tobacco issues has the potential to influence attitudes, beliefs, and other tobacco-related outcomes, although the evidence for this is limited (NCI, 2008).

NY TCP community contractors work to increase the impact of their efforts by making them public, including getting newspaper, radio, and television news coverage. Partners send out press releases about tobacco control achievements, write letters to the editor about the issues they address, alert media sources of upcoming community events, and correspond with media contacts about the importance of keeping tobacco control issues in the news. The Public Affairs Group within NYSDOH has also supported the Program by regularly issuing tobacco control–related press releases. These releases are often associated with recurring events, such as the Great American Smokeout, the release of new scientific data, and new project initiatives. Community Partnerships and Reality Check contractors reported large numbers of earned media during FY 2010–2011, including letters to the editor, newspaper stories, and radio or television interviews or stories, often anchored to tobacco-related events (Figure 7).

Figure 7. Number of Reported Instances of Earned Media by Community Partnerships and Reality Check Contractors during FY 2010–2011, Community Activity Tracking System



Community Partnerships reported 933 instances of earned media during the first three quarters of the fiscal year, primarily consisting of newspaper stories and letters to the editor. The initiative most frequently covered by the Community Partnership's earned media was the point of sale initiative (49%) followed by coverage of the tobacco-free outdoors initiative (35%) and tobacco control sustainability (33%).

Reality Check programs reported 337 instances of earned media during the first three quarters of the fiscal year. Of these, the point of sale initiative received the most earned media (60%), followed by tobacco control sustainability (35%).

Key Evaluation Questions

This section addresses NY TCP progress in achieving its statutorily mandated outcomes of reducing tobacco use and strengthening antitobacco attitudes from 2003 to 2010. Where available, data are presented for the remaining United States to allow comparisons with New York. In addition to key tobacco use indicators, we examine key outcome indicators for exposure to secondhand smoke and tobacco control policies and related beliefs and attitudes. We also address specific evaluation questions that speak to core strategies used by NY TCP to reduce tobacco use:

- How has the Program influenced trends in tobacco use from 2003 to 2010?
- How effective have public health communications been in affecting key outcome indicators?
- What is the impact of NY TCP funding, excise taxes, and smoke-free air laws on cigarette consumption?
- What has been the impact of cigarette excise tax increases and tax evasion?
- What has been the overall impact of NY TCP funding on tobacco use?
- How have other key outcome indicators changed over time?
  - How do these indicators compare between New York and the United States?

Cigarette Use and Smoking Cessation Indicators

The key outcome indicators for this section include the

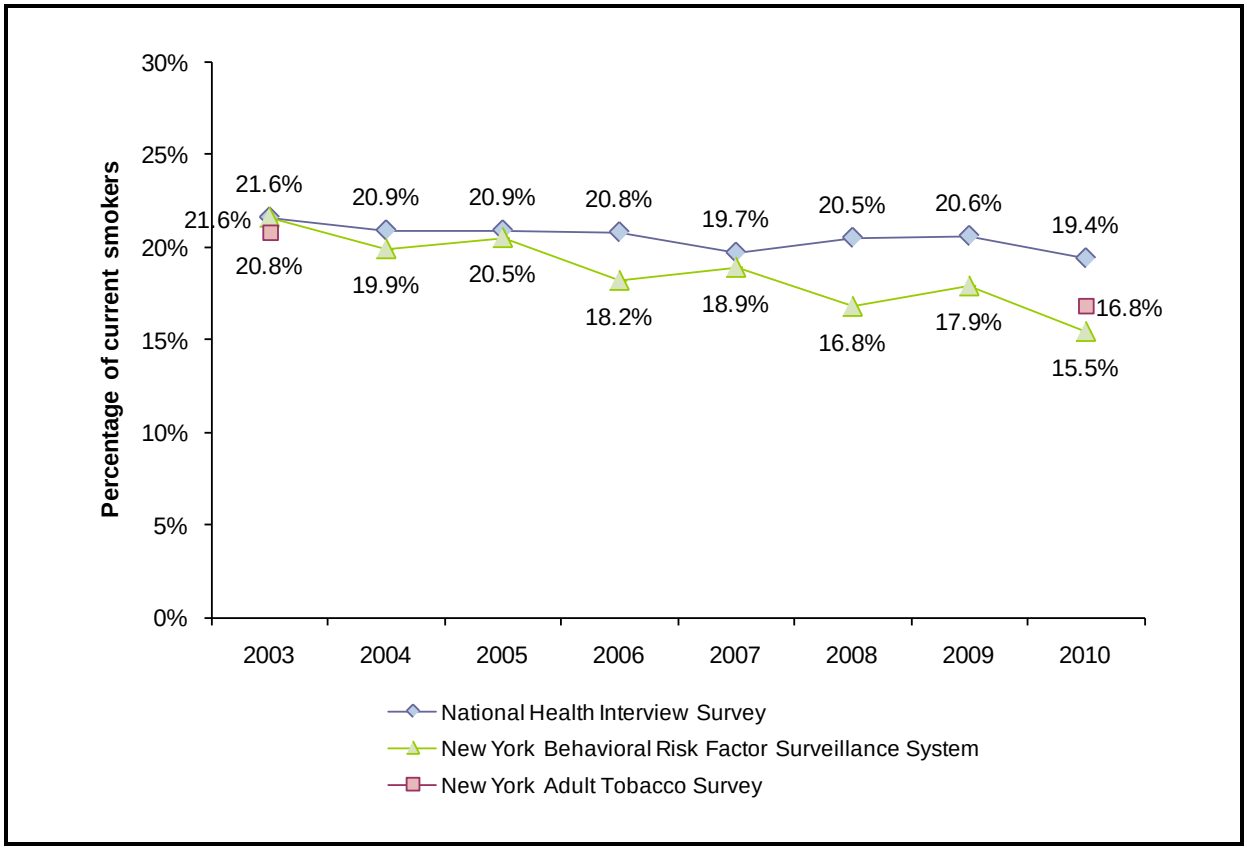
- percentage of adults who currently smoke in New York and the United States,
- number of cigarettes smoked per day by current adult smokers in New York and the rest of the United States,
- percentage of adults who currently use smokeless tobacco and smoke cigars,
- percentage of adult smokers who intend to make a quit attempt in the next 30 days,
- percentage of adult smokers who made a quit attempt in the past 12 months, and
- youth smoking prevalence as measured by the New York and National Youth Tobacco Surveys.

Adult Tobacco Use Measures

From 2003 to 2010, New York Behavioral Risk Factor Surveillance System (BRFSS) and National Health Interview Survey (NHIS) data show a statistically significant downward trend in the percentage of adults who smoke (Figure 8). Notably, the percentage decline over this period was substantially greater in New York (29%) than in the United States (9%). The decline in smoking prevalence is somewhat smaller in the New York Adult Tobacco Survey (ATS) (20.8% to 16.8% or a 19% decline) than in the BRFSS; however, the decline in the ATS provides additional evidence that the prevalence of smoking declined faster in New York than in the United States. The difference between the ATS and BRFSS estimates in 2010 may be because the ATS includes respondents with only cell phones, whereas the BRFSS estimates do not. Respondents with only cell phones are more likely than respondents with landline telephones to be current smokers (Delnevo, Gundersen, & Hagman, 2009).

We also examined the change in smoking prevalence in the New York BRFSS from 2003–2004 to 2009–2010 by race/ethnicity, education, income, and self-reported mental health to assess whether the decline in smoking was comparable across these groups over this time period (Table 4). We pooled two years of data for the two periods to

Figure 8. Percentage of Adults Who Currently Smoke in New York (Behavioral Risk Factor Surveillance System [BRFSS], Adult Tobacco Survey [ATS]) and Nationally (National Health Interview Survey), 2003–2010



ensure that there were adequate samples sizes and more stable estimates for these smaller population groups.

Overall, smoking rates declined 20% from 2003–2004 to 2009–2010. Declines in smoking prevalence were statistically significant among whites (−20%) and African Americans (−26%), but not among Hispanics. In 2009–2010, smoking rates were similar across races and ethnicities. Rates also declined significantly among those with a high school degree or GED (−18%) and at least a college degree (–25%). In 2009–2010, smoking rates remained considerably higher among those with less than a college degree (20% to 26%) compared to those with a college degree or more (just 9%).

Table 4. Percentage of Adults Who Currently Smoke in New York by Demographic Groups, Behavioral Risk Factor Surveillance System 2003–2004 and 2009–2010

Group	2003–2004	2009–2010	Relative % Change
Overall	**20.8%**	**16.7%**	**–20%**
Race/Ethnicity			
White	**21.5%**	**17.2%**	**–20%**
African American	**23.3%**	**17.2%**	**–26%**
Hispanic	18.3%	16.3%	–11%
Education			
< High school	27.5%	25.5%	–7%
High school or GED	**27.0%**	**22.1%**	**–18%**
Some college	21.9%	20.1%	–8%
College graduate or higher degree	**12.5%**	**9.4%**	**–25%**
Income			
Less than $25,000	26.9%	24.3%	–10%
$25,000–$49,999	**23.2%**	**19.7%**	**–15%**
$50,000–$74,999	**20.1%**	**16.3%**	**–19%**
$75,000 and more	**14.3%**	**11.6%**	**–19%**
Mental Health in Past Month			
Good	**19.2%**	**15.2%**	**–21%**
Not good	35.6%	30.9%	–13%

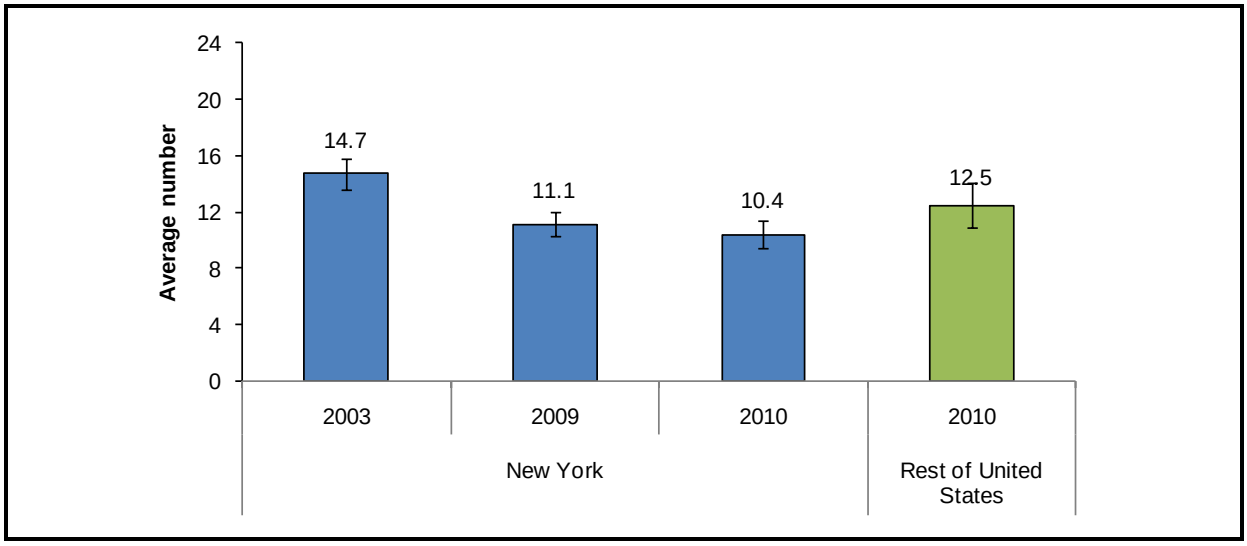
Note: Statistically significant changes between 2003–2004 and 2009–2010 are presented in bold text.

A similar pattern is true by income level. From 2003–2004 to 2009–2010, there were statistically significant decreases in smoking rates for all income groups except those making less than $25,000. Smoking prevalence was at 24.3% for this group in 2009–2010—twice the comparable rate for those making $75,000 or more (11.6%). Finally, we examined trends for adults who report that their mental health was “good” versus “not good.” Mental health is measured by the question, “Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?” Good mental health is defined as reporting fewer than 15 days of “not good” mental health (90% of New Yorkers). Smoking

prevalence declined by 21% among those with good mental health (19.2% to 15.2%) and remained unchanged among those whose mental health was not good. Smoking prevalence for those who reported that their mental health was not good was twice that of those with good mental health (30.9% vs. 15.2%).

Over this same period, self-reported daily cigarette consumption declined by 29% (from 14.7 to 10.4 cigarettes). In 2010, average cigarette consumption was lower in New York (10.4) than in the rest of the United States (12.5) (Figure 9). In New York, the level of daily cigarette consumption was similar between 2009 and 2010.

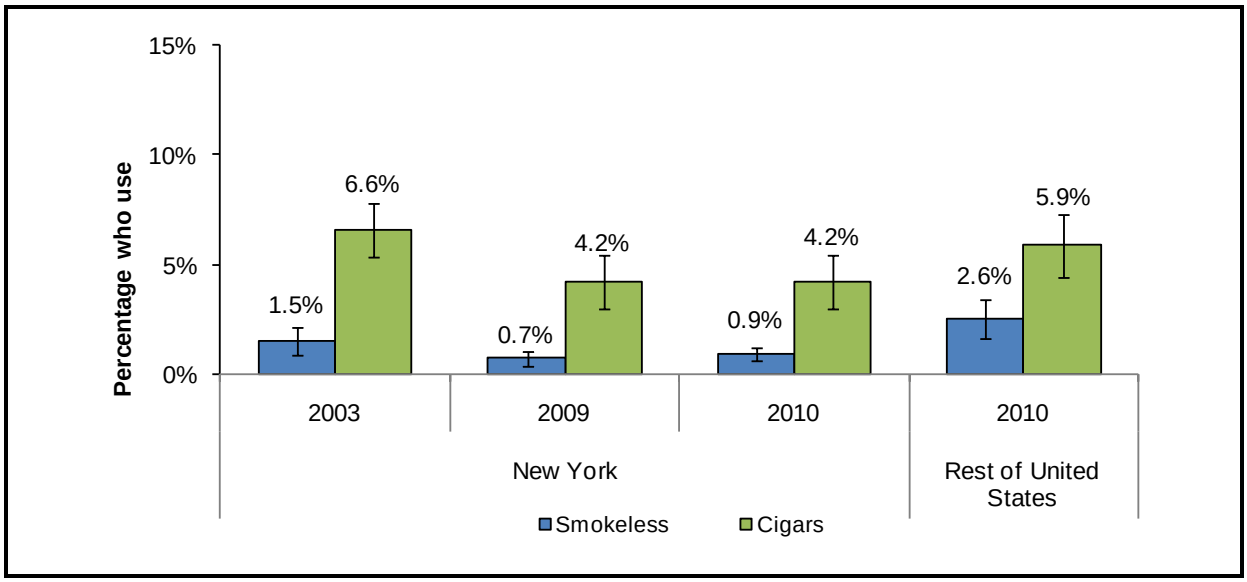
Figure 9. Average Daily Cigarette Consumption by Current Smokers, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010



Note: Statistically significant decrease between 2003 and 2010 among New York adult smokers. There is a statistically significant difference between New York and the rest of the United States in 2010.

Between 2003 and 2010, cigar use decreased significantly. Although the prevalence of smokeless tobacco use was unchanged over time, the prevalence of smokeless use was lower in New York (0.9%) than in the remaining United States (2.6%) in 2010 (Figure 10). The prevalence of smokeless tobacco and cigar use remained unchanged between 2009 and 2010 in New York.

Figure 10. Percentage of Adults Who Currently Use Smokeless Tobacco and Smoke Cigars, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010



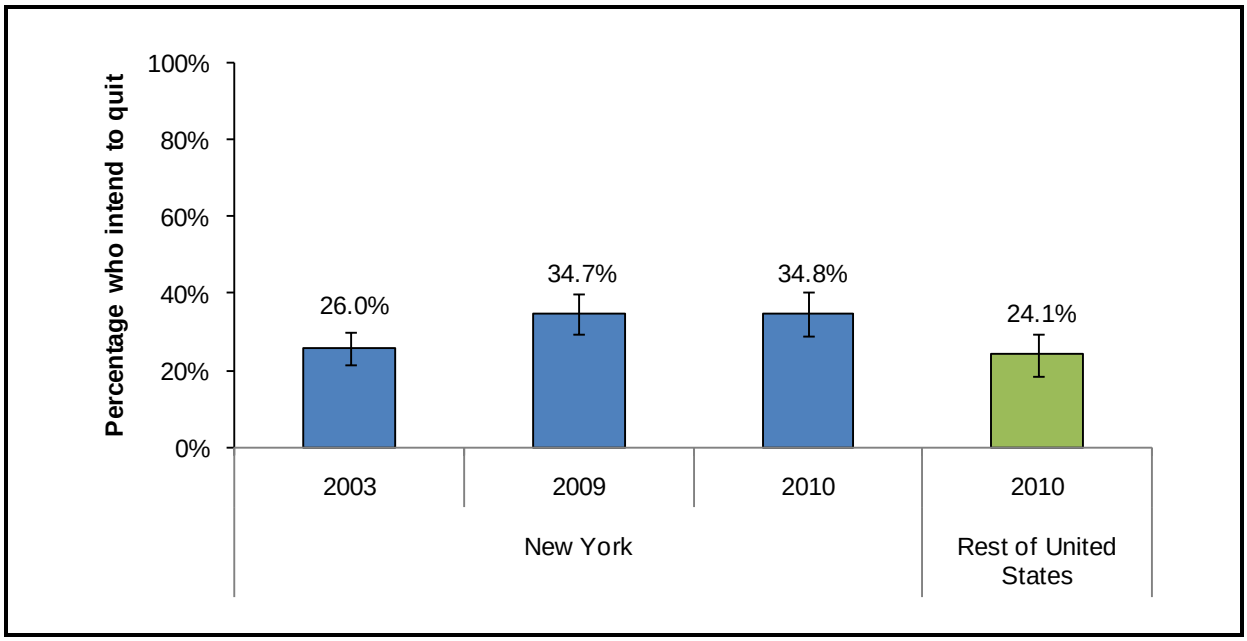
Note: Statistically significant decrease in cigar use between 2003 and 2010. Difference between New York and the remaining United States is statistically significant for smokeless tobacco use.

Consistent with the declines in smoking prevalence and cigarette consumption, there was a significant increase from 2003 to 2010 in the percentage of current smokers who intend to make a quit attempt in the next 30 days (Figure 11) and who made a quit attempt in the past year (Figure 12). The percentages of current smokers who intend to quit in the next 30 days and who made a quit attempt in the past year are significantly higher in New York than in the remaining United States.

Youth Tobacco Use Measures

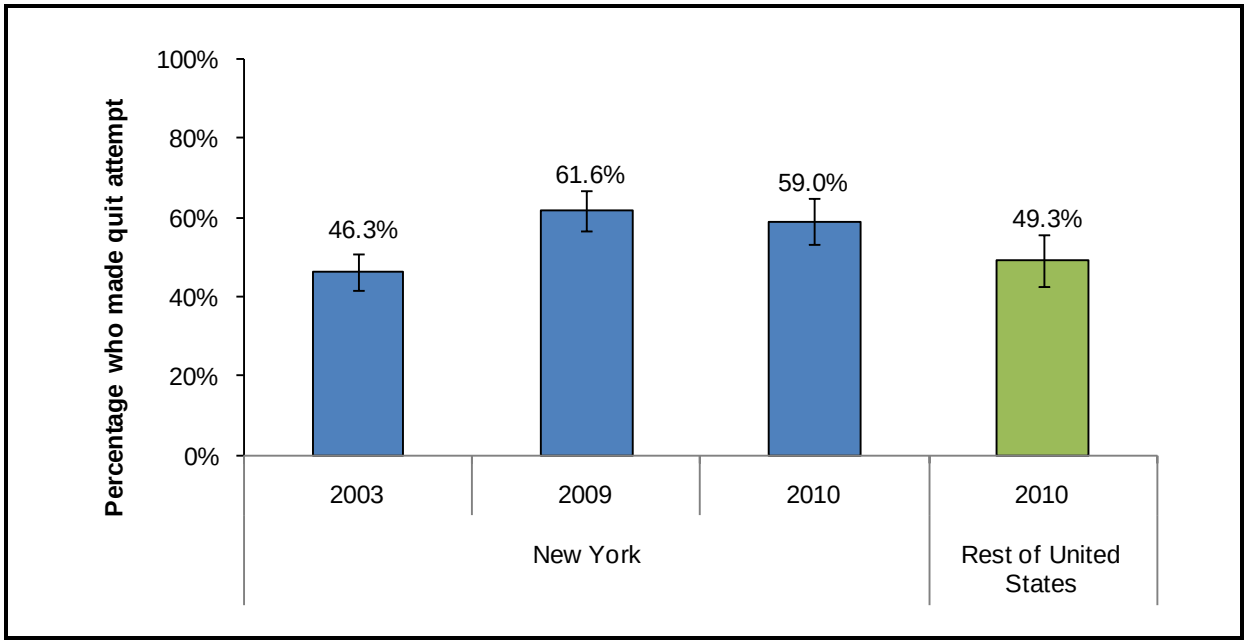
From 2000 to 2010, the percentage of middle and high school students who smoked in the past 30 days declined substantially—by 70% and 54% for middle and high school students, respectively (Figure 13). In 2010, the prevalence of current smoking was 3.2% among middle school students and 12.6% among high school students. These declines outpaced the national declines from 2000 to 2009. Over this period, the national prevalence of smoking declined by 53% and 39% among middle and high school students, respectively. In addition, we recently showed that these long-term declining trends have contributed to declines in smoking among adults in New York (RTI, 2011).

Figure 11. Percentage of Adult Smokers Who Intend to Make a Quit Attempt in the Next 30 Days, Adult Tobacco Survey 2003–2009 and National Adult Tobacco Survey 2009



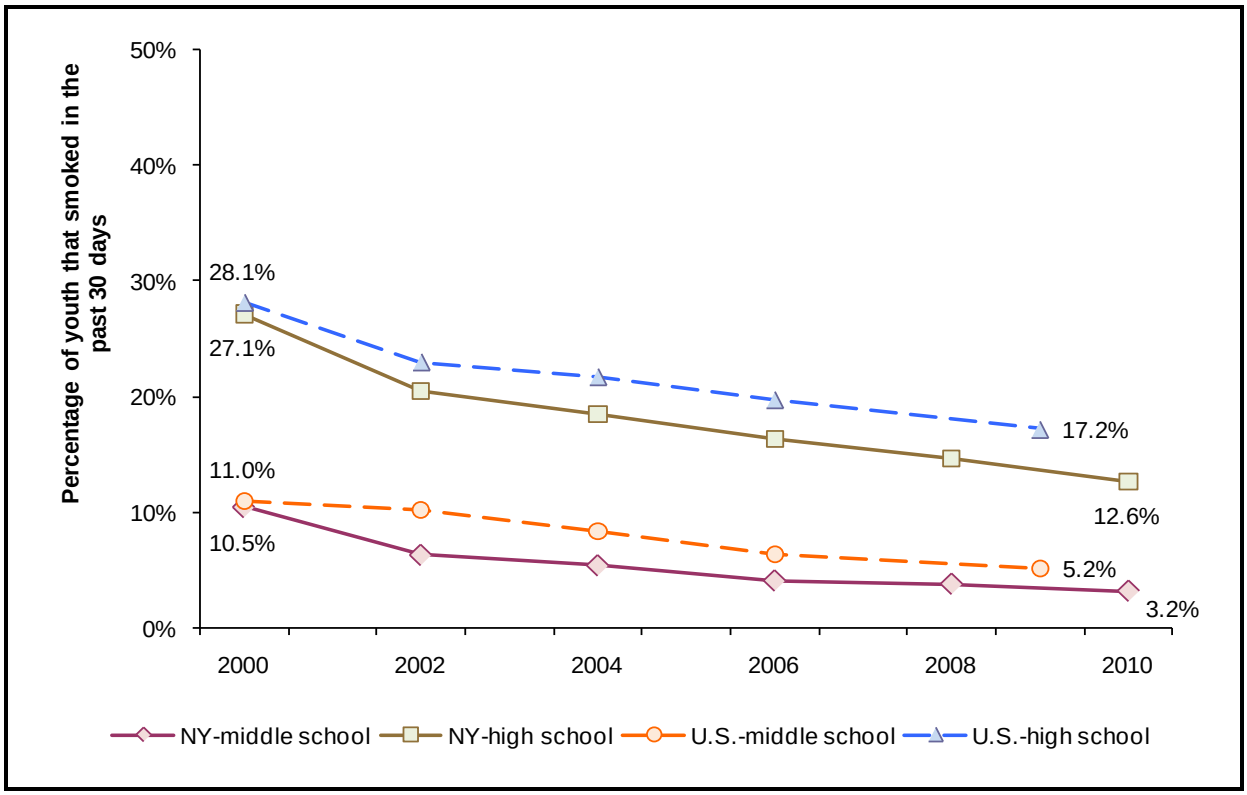
Note: Statistically significant increase from 2003 to 2010 among New York adult smokers. Difference between New York and the remaining United States is statistically significant.

Figure 12. Percentage of Adult Smokers Who Made a Quit Attempt in the Past 12 Months, Adult Tobacco Survey 2003–2009 and National Adult Tobacco Survey 2009



Note: Statistically significant increase from 2003 to 2009 among New York adult smokers. Difference between New York and the remaining United States is statistically significant.

Figure 13. Percentage of Middle and High School Students Who Currently Smoke in New York, Youth Tobacco Survey 2000–2008



Note: Statistically significant decrease from 2000 to 2010 among middle and high school students in New York and the remaining United States from 2000 to 2009.

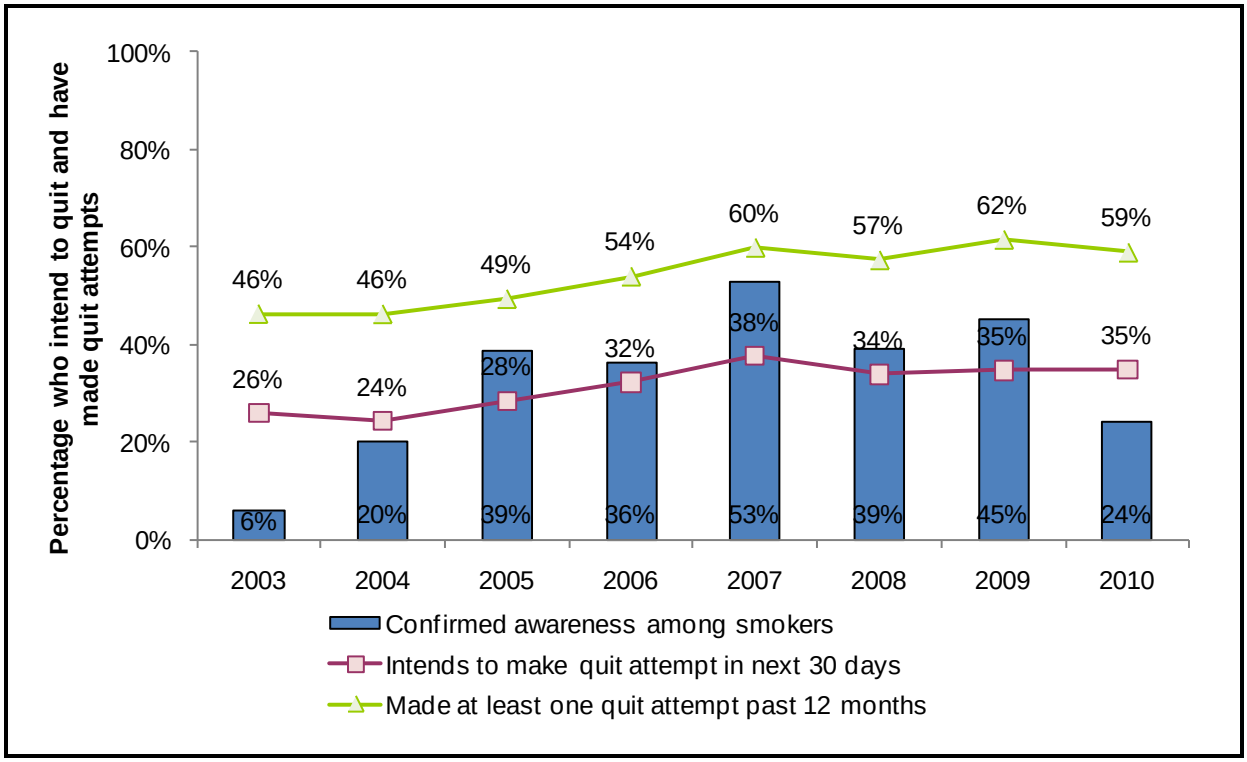
Effectiveness of Public Health Communication

In this section, we focus on answering three key research questions related to the influence of NY TCP's paid advertising efforts on cigarette consumption and quit attempts: (1) How effective have health communication activities been to date?; (2) What would be the impact of eliminating funding for media; and (3) What would be the impact of maintaining recommended levels of media awareness? We answer these questions using data on cessation outcome indicators and confirmed ad awareness from the ATS, coupled with market-level data on GRPs to estimate the relationships between smokers' exposure to paid advertisements and those key outcomes. We then use these analyses to estimate the likely broader impact of recent media budget cuts on reducing the number of smokers in New York that are attempting to quit. Implications of these analyses and our recommendations for minimum levels of investment to maintain requisite levels of

advertising exposure for continued change in outcome indicators are discussed.

Recent evaluation studies suggest that NY TCP's long-term implementation and approach to health communication have resulted in dramatic increases in smokers' exposure to paid advertisements over time and have contributed to measurable impacts on key tobacco outcomes among New York smokers. Concurrent with significant increases in awareness of paid advertisements, both intentions to quit and cessation attempts have increased significantly among smokers since 2003 (Figure 14). Furthermore, these successes were achieved with largely off-the-shelf advertisements that are evidence-based and readily available from CDC's Media Campaign Resource Center and other sources. This allowed the Program to avoid costly formative and creative content development over time and devote more resources to media placement and advertising purchases. The net result was that NY TCP was able to maximize smokers' awareness of the campaign and impact on key outcomes with its available resources for media.

Figure 14. Percentage of Adult Smokers Who Intend to Quit and Have Made Quit Attempts in the Past 12 Months and Confirmed Advertisement Awareness among Smokers, Adult Tobacco Survey 2003–2010

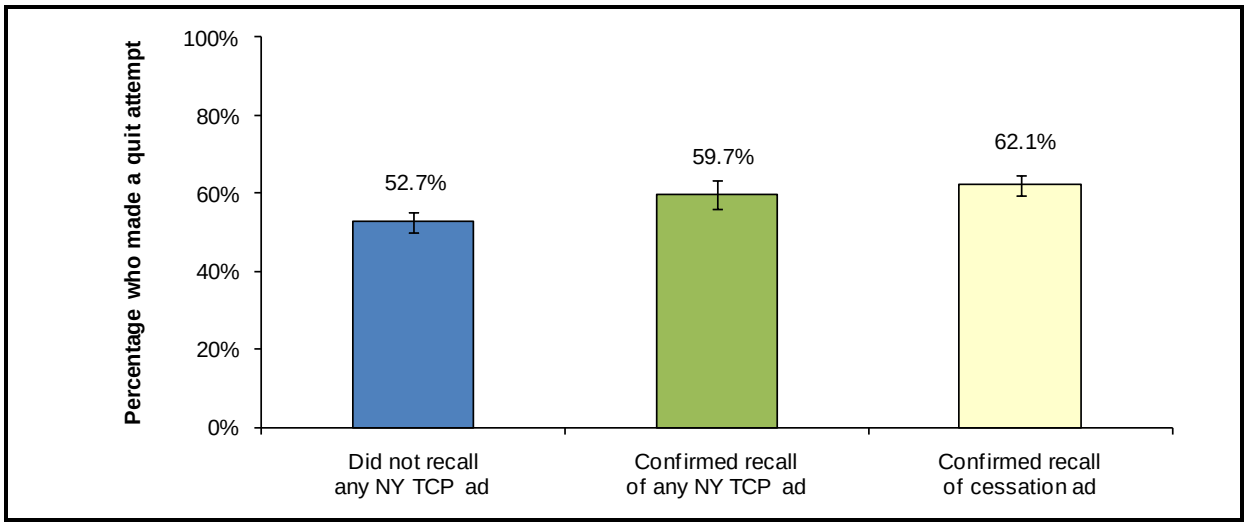


Although many of the key outcome indicators changed significantly and favorably since 2003, many of these changes began to plateau in 2008. This plateau in outcome indicators has corresponded with significant declines in advertising activity that began in 2008 and were most pronounced in 2010. The patterns illustrated in prior NY TCP evaluation data as well as other studies on the impact of defunding media interventions in other states (e.g., Niederdeppe et al., 2008; Davis, Crankshaw, et al., 2011) suggest that these cuts deter the progress made to date in changing key cessation-related outcomes.

Data from the combined 2003–2010 ATS suggest that NY TCP's media efforts have had a significant impact on smokers' cessation behaviors over time. Figure 15 shows that 59.7% of smokers who had confirmed recall of any NY TCP ads had made a quit attempt in the past year compared with 52.7% of smokers who did not recall any NY TCP ads, a statistically significant difference. This comparison is more pronounced when limited to adults aware of ads focused on promoting cessation. These relationships remain consistent and strong even when adjustments are made for smoker characteristics, including age, gender, education, income, and residence in New York City. Separate analyses that control for each of these factors show that smokers who have confirmed recall of NY TCP ads during the 2003 to 2010 time period were 31% more likely to have made a quit attempt in the past 12 months.

The impact on quit attempts illustrated above was achieved with an overall confirmed awareness rate of approximately 33% among smokers in the ATS from 2003 to 2010. This is slightly more than half of the 60% rate of confirmed awareness that has been consistently recommended in prior independent evaluations. Analysis of advertising GRPs for television ads delivered to New York's 10 media markets indicate that approximately 6,313 GRPs per quarter, or 25,252 GRPs per year, are necessary to maintain awareness levels at 60% year round.

Figure 15. Percentage of Adult Smokers Who Made a Quit Attempt in the Past 12 Months by Awareness of NY TCP Television Advertisements, Adult Tobacco Survey 2003–2010

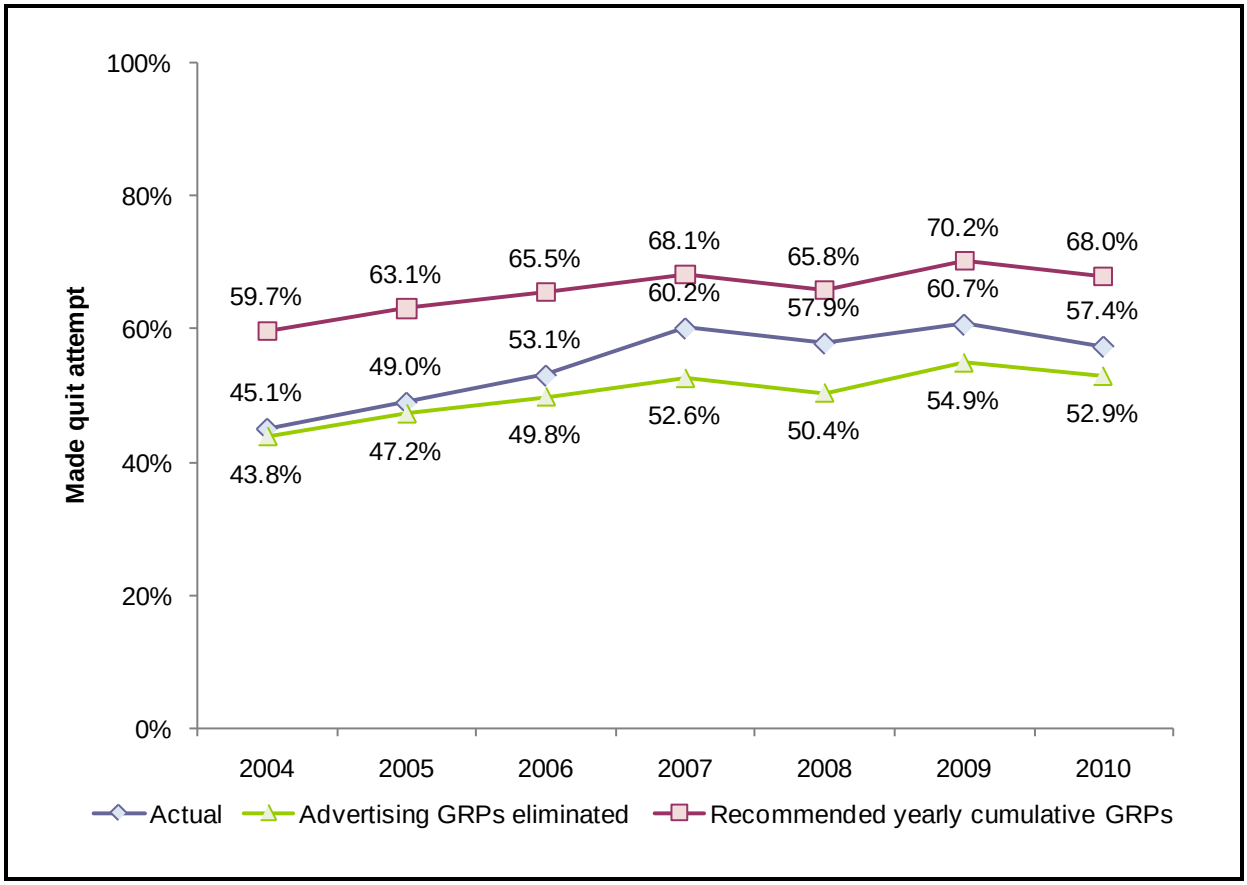


Note: Statistically significant difference between smokers who recalled at least one NY TCP ad and smokers who recalled any ad and any cessation ad.

Figure 16 shows trends in the quit attempt rate among smokers compared to predicted trends in quit attempts if advertising GRPs were (a) eliminated, or (b) maintained at levels sufficient for 60% confirmed awareness year round. These trends are based on multivariate analyses of the relationship between advertising GRPs and quit attempts over time, adjusting for smoker age, gender, race/ethnicity, income, education, residence in New York City, and secular trends in quit attempt rates.

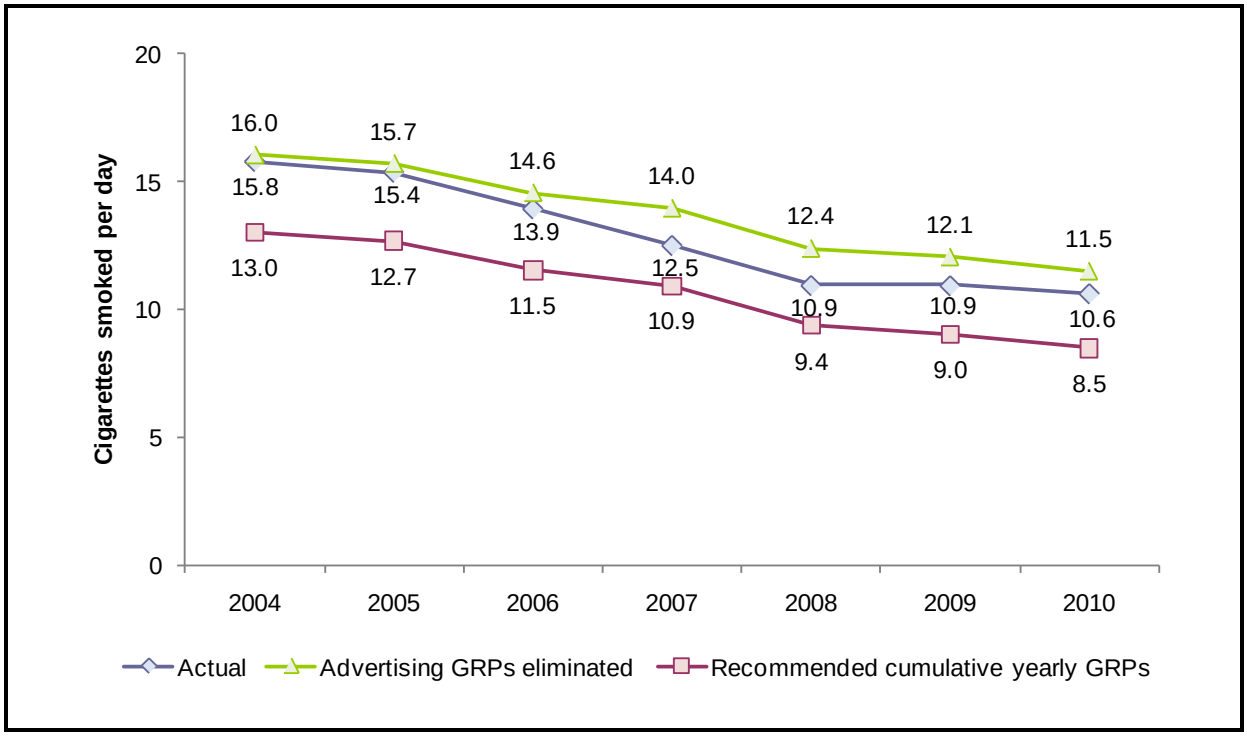
This analysis suggests that in 2010, the quit attempt rate among smokers would have been 52.9% in the absence of any media compared to 68.0% had the Program placed sufficient advertising GRPs to maintain awareness at recommended levels. Based on census population estimates of New York, the elimination of paid advertising would have resulted in approximately 114,288 fewer smokers making quit attempts in 2010 compared to existing levels. Conversely, increasing paid advertising to recommended levels sufficient for 60% awareness of ads would have resulted in a net increase of approximately 266,670 more smokers attempting to quit compared to existing quit attempts in 2010. In total, we estimate that 380,958 more smokers would attempt to quit when advertising is maintained at recommended levels compared to when advertising is eliminated completely.

Figure 16. Trends in Actual Quit Attempts and Predicted Quit Attempts if Advertising Gross Rating Points (GRPs) are Eliminated or Maintained at Recommended Levels, Adult Tobacco Survey 2004–2010



Similar effects of eliminating media compared to maintaining media at recommended levels are shown for cigarette consumption (Figure 17). We estimate that if advertising GRPs were maintained to sustain 60% awareness of ads, the average cigarettes smoked per day would be approximately 8.5 in 2010, compared to the actual consumption of 10.6 cigarettes per day. We further estimate that total elimination of media would have resulted in increased consumption to approximately 11.5 cigarettes per day, a net increase in consumption of 3 cigarettes per day compared to maintaining recommended levels of advertising GRPs.

Figure 17. Trends in Cigarettes Smoked Per Day and Predicted Cigarettes Smoked Per Day if Advertising Gross Rating Points (GRPs) are Eliminated or Maintained at Recommended Levels, Adult Tobacco Survey 2004–2010

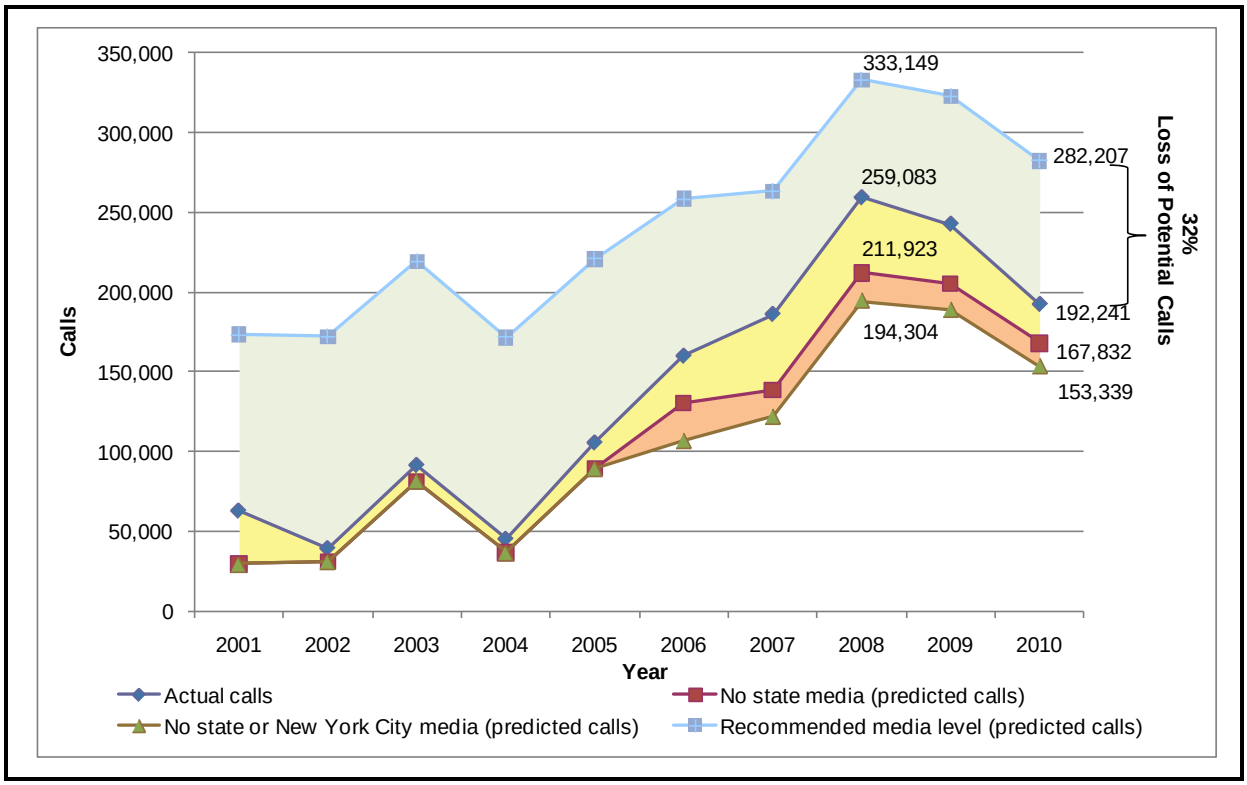


Our third analysis of the impact of media examines the influence of the media on Quitline call volume. For this analysis, we matched quarterly media market-level data on GRPs for NY TCP and New York City's Department of Health and Mental Hygiene (NYCDHMH) health communication campaigns to media market-level data on Quitline call volume. This analysis shows a very strong positive relationship between the size of the media buy (i.e., number of GRPs) and Quitline call volume.

Based on this analysis, we present actual call volume and what we predict call volume would have been at the recommended level of GRPs per quarter (6,313) (Figure 18). This figure shows that call volume would have been 32% higher in 2010 at the recommended level media buy.

This figure also illustrates how much lower call volume would have been in the absence of NY TCP and NYCDHMH media. This contrast is most pronounced in 2008 when media levels were relatively high. Our analysis indicates that had there been no NY TCP media, call volume would have been 18% lower. Had

Figure 18. Total Calls to the New York State Smokers' Quitline with and without Health Communication Campaigns, 2001–2010



NYCDHMH also not run any media, overall volume would have been 25% lower. It is important to note that this analysis may actually underestimate the impact of media because online advertising for the New York Smokers' Quitsite may also result in calls to the Quitline. This phenomenon is contributing to the overall upward trend in Quitline call volume. Combined, the analyses in this report illustrate the powerful role that media campaigns play in promoting smoking cessation and reducing tobacco use.

Impact of New York Tobacco Control Program and Policies

Between 2000 and 2010, NY TCP invested $605 million in programs to reduce tobacco use, including Community Partnerships, media campaigns, Cessation Centers, and support of the New York State Smokers' Quitline. During this same period, the tax on a pack of cigarettes increased from 56¢ to $4.35, and the 2003 amendment to the New York Clean Indoor

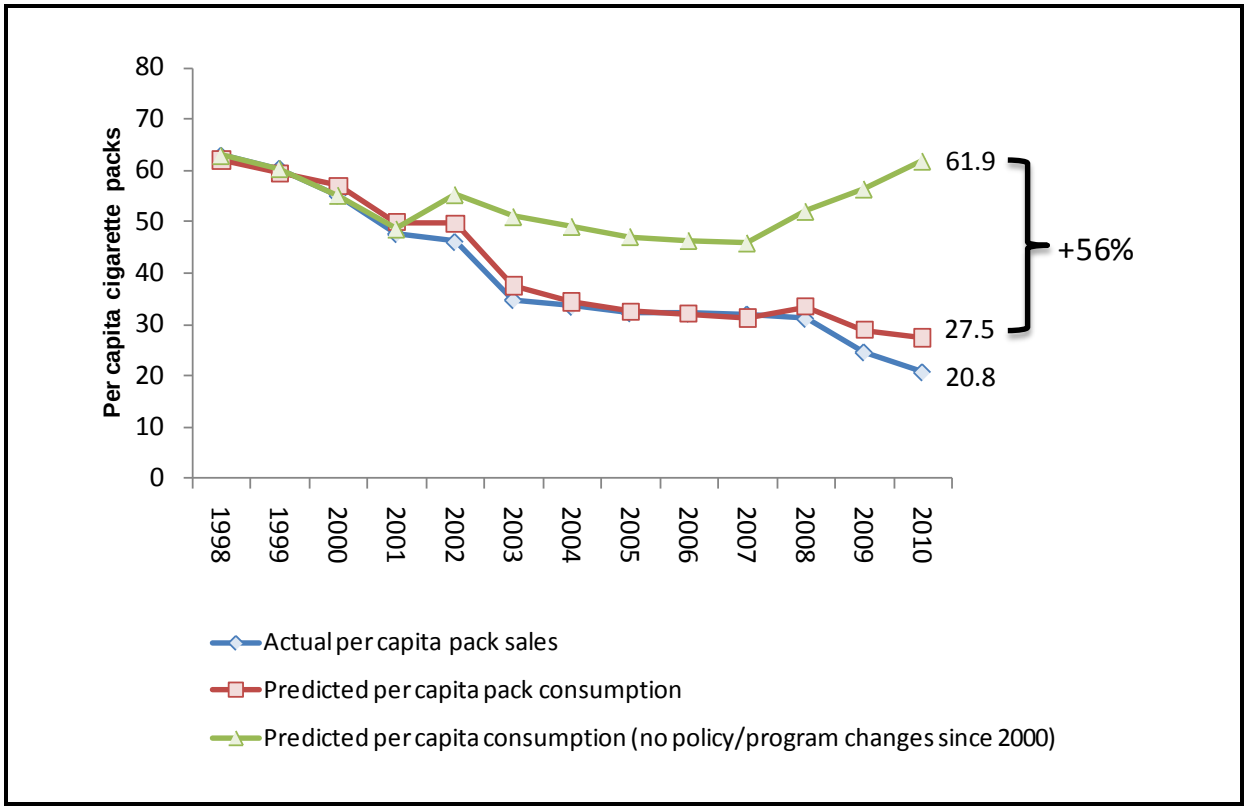
Air Act eliminated smoking in virtually all workplaces, including bars and restaurants.

Cigarette sales, typically expressed as packs per person, are a key outcome indicator for evaluating comprehensive tobacco control programs (Starr et al., 2005). State tobacco control programs are known to be effective in reducing per capita cigarette sales, and numerous studies have shown that raising the cigarette excise tax can substantially reduce tobacco use (USDHHS, 2000; Farrelly, Pechacek, & Chaloupka, 2003; IOM, 2007). Cigarette excise tax increases, however, are not completely effective, because smokers can avoid paying them by traveling to nearby states with lower taxes, purchasing cigarettes on the Internet, or buying cigarettes from Indian reservations where state taxes are not collected. Cigarette tax evasion in New York is a serious issue, costing the state between $467 million and $612 million per year in lost tax revenue (RTI, 2010) (more recent analyses described below). Therefore, to effectively use tax-paid sales as a key outcome indicator, we must adjust for tax evasion. In this section, when we refer to cigarette consumption, we mean tax-paid sales adjusted for tax evasion.

To illustrate the impact of tobacco control funding, cigarette excise taxes, and smoke-free air laws, we analyzed national tax-paid cigarette sales from 1980 through 2009. We then applied these results to New York State to get an estimate of the combined effects of NY TCP funding, cigarette excise taxes, and the Clean Indoor Air Act on cigarette consumption in New York. Specifically, we examined what would have happened to cigarette consumption in New York in 2010 had NY TCP funding and cigarette excise taxes remained constant at 2000 levels and the Clean Indoor Air Act had not been amended in 2003 (Figure 19).

By 2010, cigarette consumption would have been 56% higher than the levels estimated by our model had these policies remained at their 2000 levels. This difference in per capita consumption translates to approximately 804 million fewer packs consumed in 2010 or 3.2 trillion fewer packs consumed from 2000 to 2010 than if these policies remained at 2000 levels. In 2010, the difference between tax-paid sales and estimated consumption was 131 million packs—this represents

Figure 19. Actual Per Capita Cigarette Sales, Predicted Cigarette Consumption, and Predicted Consumption Holding Tobacco Control Funding, Taxes, and Smoke-free Air Law Coverage Constant from 2000 through 2010, in New York, 1998–2010



an estimate of the volume of tax evasion (more on the topic of tax evasion below). Given the prevailing tax rates in 2010, this translates to a New York State revenue loss of $465 million.

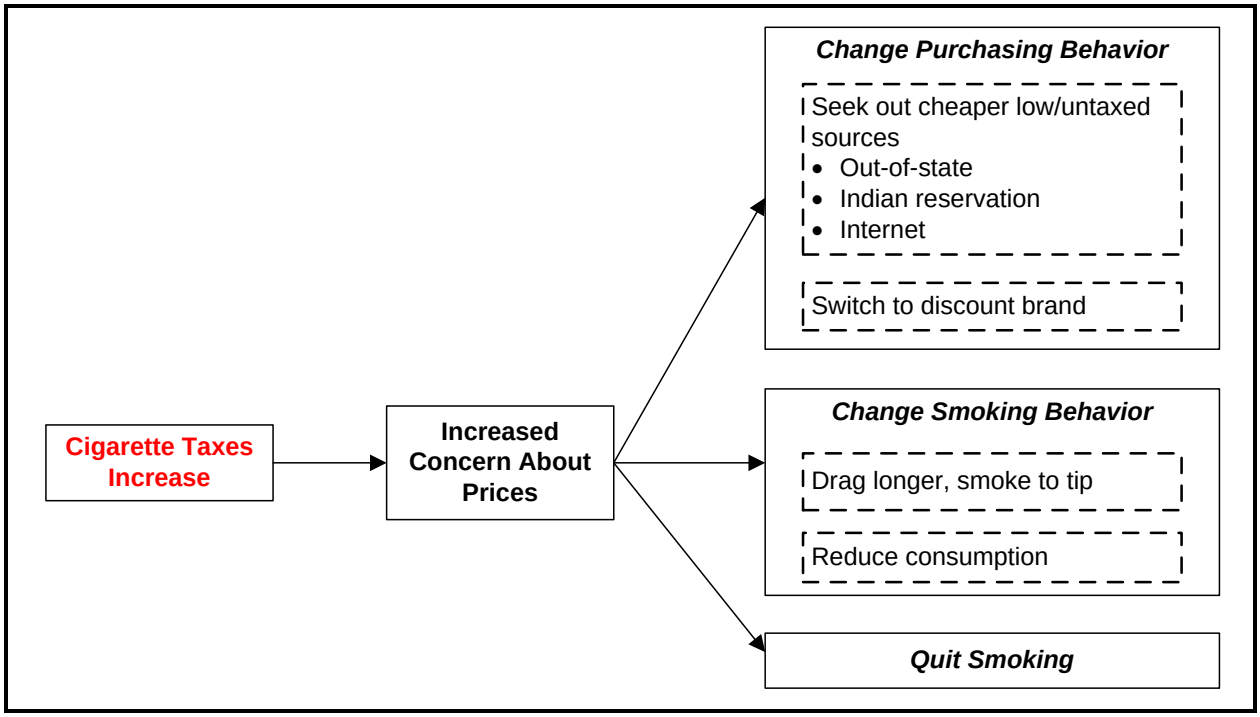
Impact of Cigarette Excise Taxes

Raising the price of cigarettes is one of the most effective interventions to prevent and reduce cigarette use (Warner, 2006). Increasing the cigarette tax results in an increase in retail cigarette prices as wholesalers and retailers pass the additional cost of the tax on to smokers (Keeler et al., 1996). This price increase, in turn, provides an incentive for smokers to quit or cut back. Among adults, a 10% increase in the price per pack of cigarettes is associated with a 3% to 5% decline in overall consumption, with approximately half of this decline resulting from smokers quitting altogether (Chaloupka and Warner, 2000). However, recent work suggests that the reduction in cigarette consumption that follows a tax increase

may be smaller than the consensus estimate, as cigarette prices and taxes are now much higher, on average, than has been the historical norm (Farrelly and Engelen, 2008; Farrelly et al., 2008).

Smokers who continue to smoke following a tax or price increase may change their purchasing and smoking behaviors to accommodate the increased cost (Figure 20). Smokers may switch from premium to discount brands; buy fewer cigarettes overall but smoke those cigarettes more intensively; or seek out low- or untaxed sources of cigarettes, such as Indian reservations and Internet vendors. Purchasing from Indian reservations, in particular, is common in New York (Loomis et al., 2010). Cigarette tax avoidance not only reduces smokers' intentions to quit smoking (Hyland et al., 2005) but also results in a substantial loss of tax revenue to the state (RTI, 2010).

Figure 20. Impact of Cigarette Tax Increase on Purchasing and Smoking Behaviors



On June 3, 2008, the tax on a pack of cigarettes in New York increased by $1.25 to $2.75, at the time the highest state excise tax in the country. In addition, the federal tax increased from $0.39 to $1.01 in April 2009. The state tax increased again on July 1, 2010, to $4.35. In this section, we examine several evaluation questions related to these increases:

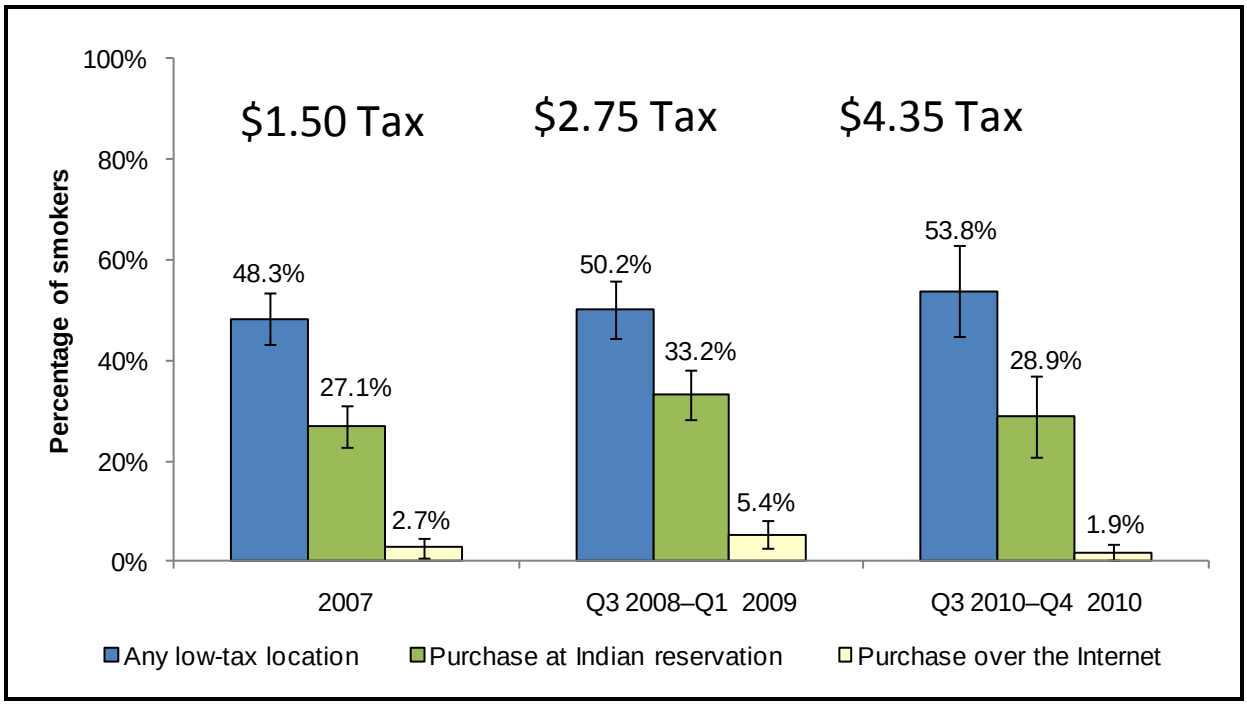
- How have the tax increases influenced tax evasion?
- What is the effect of the tax increases on average cigarette prices paid?
- How do cigarette prices differ for those who avoid the taxes and those who do not?
- How does self-reported cigarette consumption compare to tax-paid sales?
- What are the revenue losses associated with tax evasion?
- Which smokers pay the most significant share of total cigarette taxes in New York?

To examine many of these questions, we analyzed data from the New York ATS from 2007 ($1.50 state excise tax), quarter 3, 2008 to quarter 1, 2009 ($2.75 state excise tax), and quarters 3 and 4, 2010 ($4.35 state excise tax).

Frequency of Tax Evasion

Figures 21 through 23 present data on smokers' efforts to avoid the cigarette excise tax and the prices they paid per pack for their last pack or carton purchased. Across all three periods, the overall prevalence of tax evasion and purchasing on Indian reservations was stable (Figure 21). Purchasing on the Internet declined from Q3 2008–Q1 2009 to Q3–Q4 2010. This may be a result of the federal Prevent All Cigarette Trafficking (PACT) Act, which became effective June 29, 2010, that requires Internet cigarette vendors to apply all applicable federal, state, and local taxes; increases penalties for violations; and prohibits the U.S. Postal Service from shipping cigarettes.

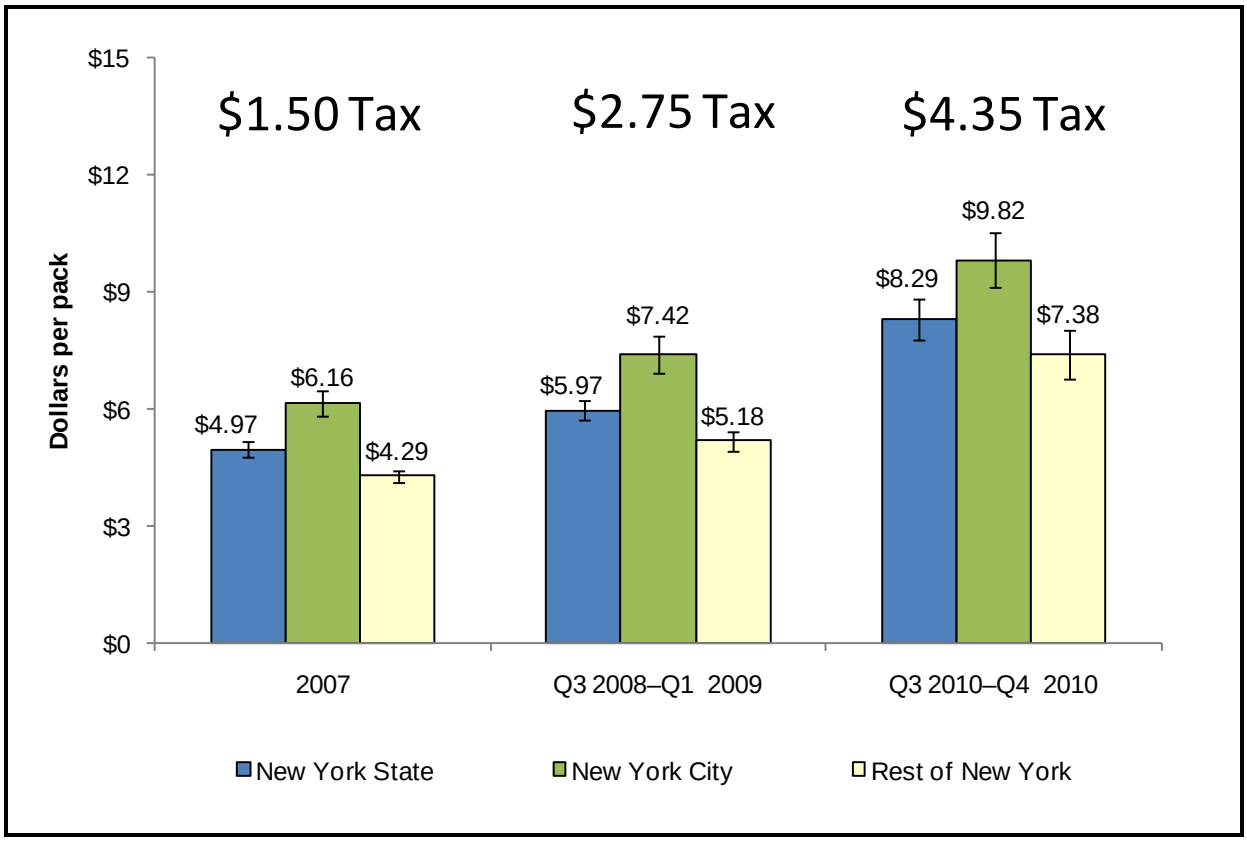
Figure 21. Percentage of Adult Smokers Who Purchased from Low or Untaxed Sources in the Past 12 Months, Adult Tobacco Survey



Note: The percentage of smokers who bought low or untaxed cigarettes over the Internet declined from the period Q3 2008–Q1 2009 to Q3–Q4 2010.

Although tax evasion did not change substantially over time, self-reported cigarette prices have increased substantially. From 2007 to the latter half of 2010, cigarette prices increased from $4.97 statewide to $8.29—a 67% increase (Figure 22). Because New York City applies an additional $1.50 per pack excise tax, the self-reported prices are higher in New York City. Prices in New York City increased from $6.16 to $9.82 or a 59% increase. Outside New York City, cigarette prices increased from $4.29 to $7.38, a 72% increase. All cigarette prices are adjusted for inflation.

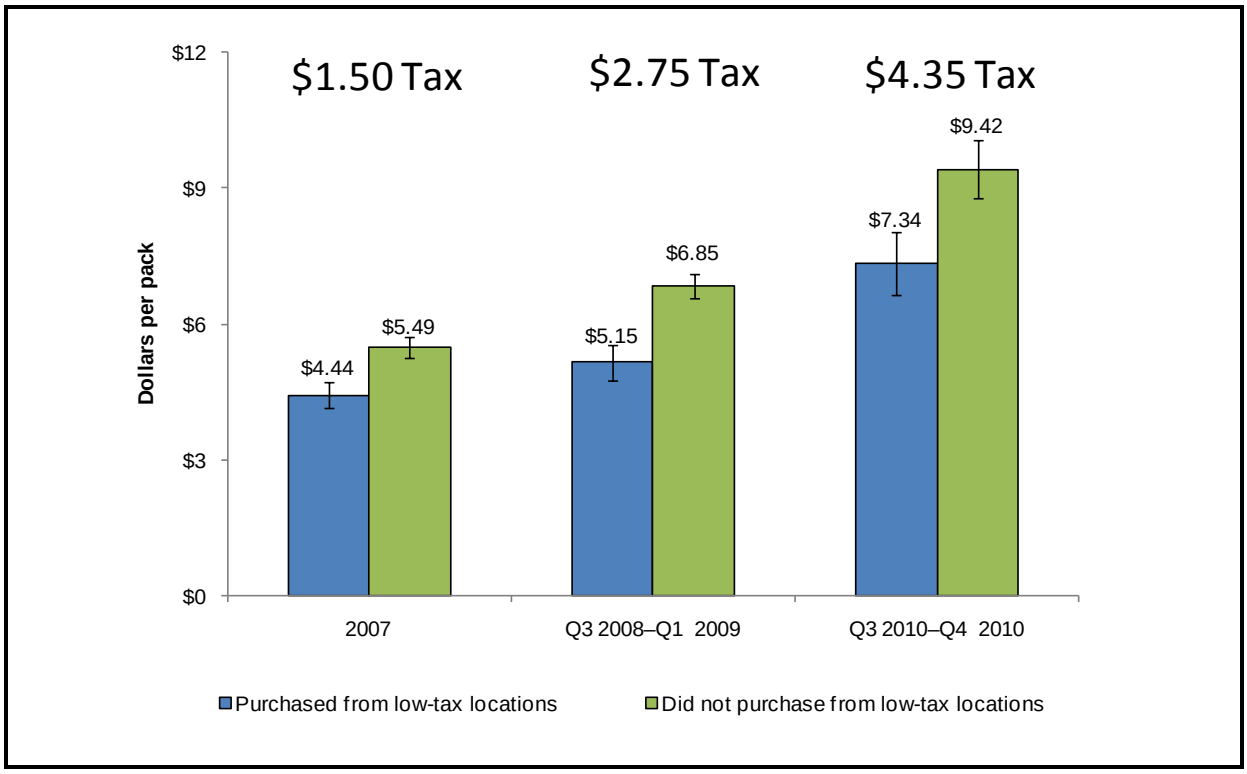
Figure 22. Price Paid Per Pack of Cigarettes for Most Recent Purchase by Location, Adult Tobacco Survey



Note: Cigarette prices are higher in each subsequent period for all three geographic areas. Cigarette prices are adjusted for inflation.

Given the substantial tax evasion, we compared self-reported cigarette prices for smokers who purchased from low or untaxed locations in the past 12 months compared to those who did not (Figure 23). In Q3–Q4 2010, the price difference was $2.08. We see that, although the difference in prices paid between these two groups has grown, it has grown less than the increase in tax. This suggests that if cigarette tax evasion were eliminated, average cigarette prices paid would increase by $2.08 or 28% for those who currently evade the tax (53.8% of smokers) or a 14% overall increase in price. A 14% price increase would lead to a 4.3% decline in overall cigarette consumption and a 2.2% decline in the prevalence of smoking or nearly 50,000 fewer smokers.

Figure 23. Price per Pack of Cigarettes for Most Recent Purchase by Tax Avoidance Behaviors, Adult Tobacco Survey



Note: The difference in self-reported cigarette prices paid by smokers who did and did not purchase cigarettes from low-tax locations is statistically significant. Cigarette prices increased in each subsequent period for smokers who purchased cigarettes from low-tax locations compared to those who did not. Cigarette prices are adjusted for inflation.

Quantity of Tax Evasion and Related Revenue Losses

To quantify the volume of tax evasion, we needed to examine other data. In the analysis above, we used a model to predict the difference between consumption and tax-paid sales in New York State. From this analysis, we estimated that New Yorkers purchased 131 million packs outside the state cigarette excise tax structure.

Another more direct way to estimate the volume of tax evasion is to compare the number of packs smokers report smoking per year to official data on cigarettes purchased in New York State (i.e., tax-paid sales). Typically, smokers underreport the amount of cigarettes they smoke. Warner (1978) estimated that smokers underreport consumption by 33%. Using similar methods to Warner (1978), we estimated the extent of underreporting in the United States by comparing self-reported consumption nationally (based on the National Adult Tobacco

Survey) to all cigarettes sold in the United States. Making this comparison nationally avoids concerns about cross-border and long-distance smuggling as all of the cigarettes stay within the United States. However, this method does not capture the sale of cigarettes manufactured on Indian reservations. This comparison indicates that self-reported consumption nationally is 25% less than total cigarette sales.

To estimate the extent of tax evasion in New York, we compared sales in New York State to self-reported consumption, adjusting for underreporting of 25%. In 2010, estimated cigarette consumption was 580 million packs. This translates to 249 packs smoked per year for each smoker in New York or about 14 cigarettes per day. Sales in New York State in 2010 were 408 million packs or 30% less than estimated consumption (172 million fewer packs). This difference translates to a loss of revenue in 2010 of $610 million. This puts the range of revenue losses between $465 (based on 131 million packs from our estimate above) and $610 million—very similar to our previous estimate of $467 to $612 from 2008 based on self-reports of tax evasion (RTI, 2010).

Who Pays Cigarette Excise Taxes in New York

Remler (2004) and Colman and Remler (2008) find that cigarette excise taxes are regressive (i.e., they impose a greater burden on the poor than the rich). In other words, poor smokers pay a greater percentage of their total income in cigarette excise taxes compared to those with greater incomes. In this section, we examine how much smokers in different income and education groups pay in cigarette excise taxes in New York.

In 2010, New York State collected $1.41 billion in cigarette taxes and New York City collected an additional $150 million. Given that smoking is more prevalent among the poor and those with little education, we examined the proportion of all cigarette taxes paid by these groups. Specifically, we calculated the percentage of all cigarette taxes paid by smokers with incomes of $30,000 or less and smokers with a high school education or less. We also calculated how much smokers in these two groups spend on cigarettes as a percentage of their annual incomes.

Figure 24 presents the percentage of smokers' annual income that goes to paying New York State and City cigarette excise taxes and to cigarette purchases (inclusive of excise taxes) for those with incomes greater or less than $30,000. We find that smokers with incomes less than $30,000 spend 11.8% of their income on cigarette taxes compared with only 1.8% for smokers earning $30,000 or more. This figure also shows that smokers earning less than $30,000 spend nearly one-fifth (19.5%) of their income on cigarette purchases compared with only 2.9% for those earning above that amount.

Figure 24. Share of Smokers' Annual Income Going to Cigarette Taxes and Purchases (inclusive of excise taxes), Adult Tobacco Survey 2010

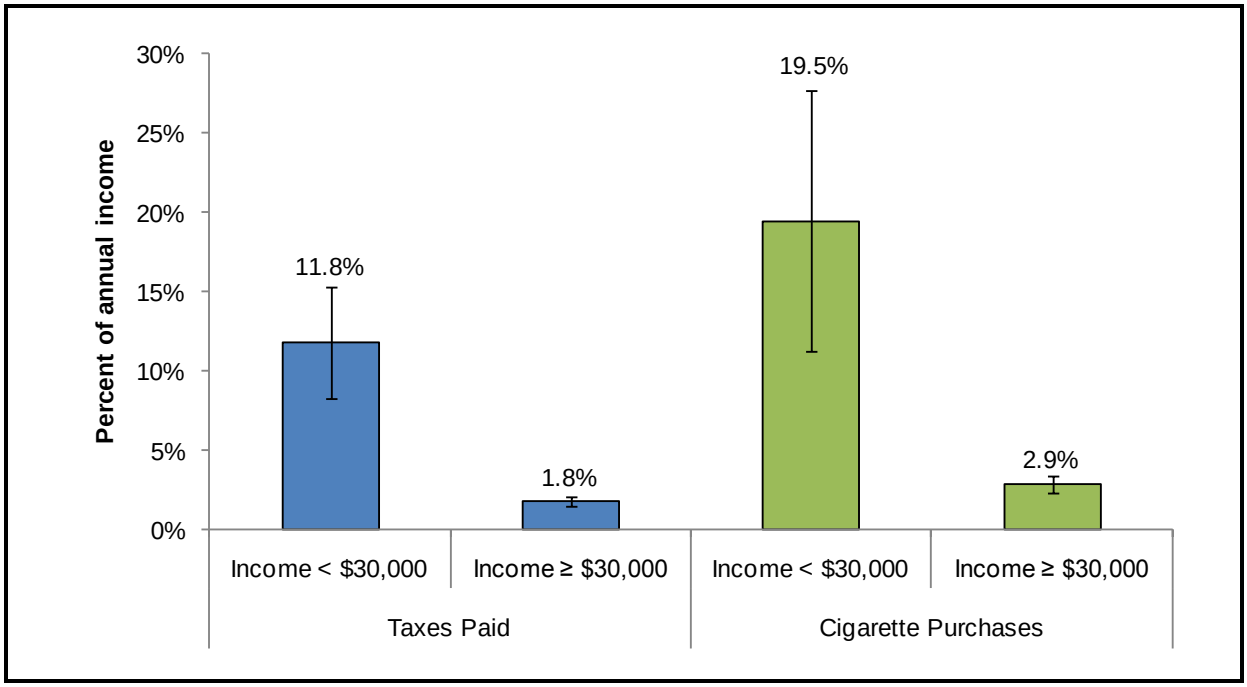
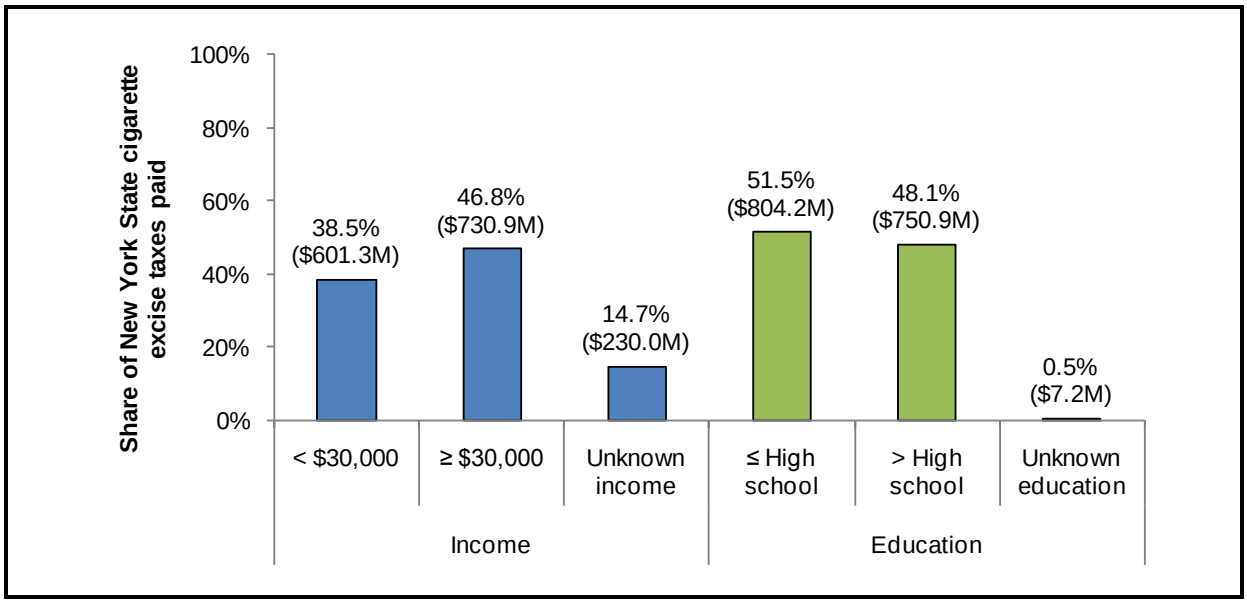


Figure 25 examines what proportion of all cigarette excise taxes are paid by smokers in different income and education groups. In 2010, smokers with incomes less than $30,000 paid 39% of all cigarette excise taxes in New York State—$601 million. The corresponding figures for smokers with a high school degree or less are 52% or $804 million. As noted above, smoking prevalence is highest among New Yorkers with low income and less than a high school degree and smoking prevalence has not changed for these two groups over time.

Figure 25. Percentage of New York State and City Cigarette Excise Taxes Paid by Smokers by Income and Education, Adult Tobacco Survey 2010



These data indicate that, although cigarette excise taxes are effective in reducing smoking, tax evasion limits the effectiveness of cigarette taxes, and their burden is borne disproportionately by the poor and those with less education. One way to address the extreme regressivity of cigarette taxes in New York is to adequately fund NY TCP so that it can deliver evidence-based programs that benefit these groups and eliminate existing tobacco use disparities.

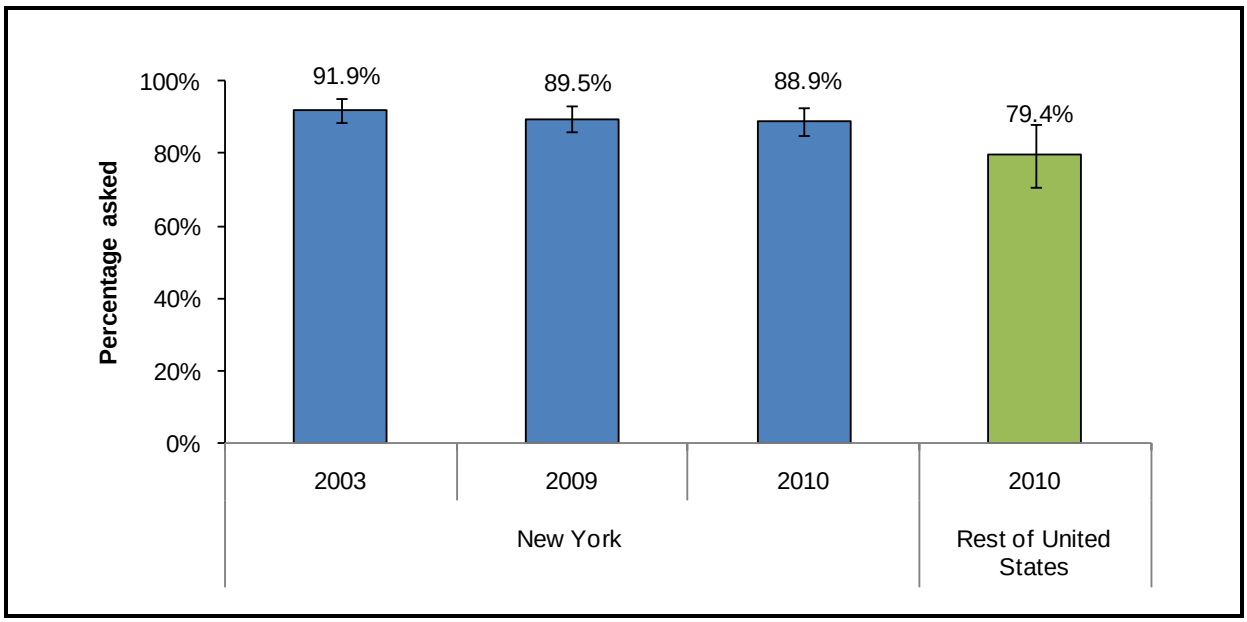
Trends in Other Key Outcome Indicators

As noted above, changing the social and legal environment to discourage tobacco use and support smoking cessation is a key strategy for NY TCP. We measured progress in changing the environment and social norms about tobacco for two key areas: health care provider support for cessation and support for tobacco control, including support for restrictions on smoking in outdoor public places, attitudes and beliefs about limiting exposure to smoking in the movies, and cigarette advertising at the point of sale.

Health Care Provider Support for Smoking Cessation

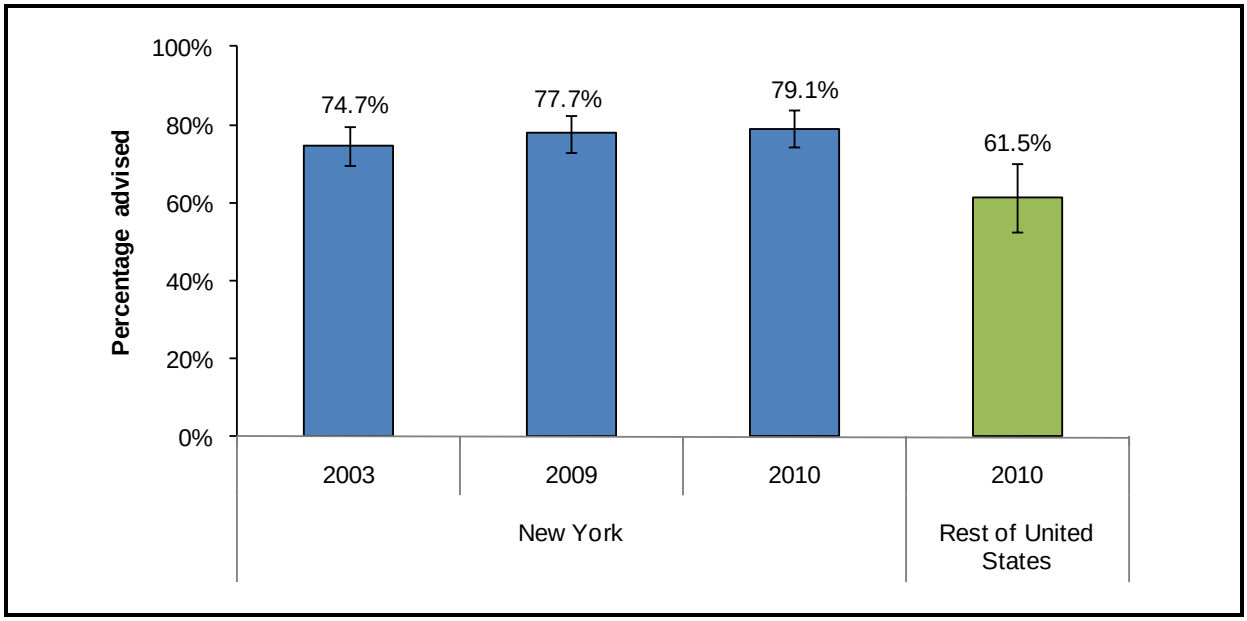
Approximately 9 in 10 New York smokers report that their health care provider asked them if they used tobacco (Figure 26). This percentage has been steady from 2003 to 2010. The percentage of smokers in New York reporting that their provider advised them to quit has also remained steady over time (Figure 27). However, significantly more adult smokers were asked if they smoke and advised to quit smoking in New York than in the remaining United States. In contrast, between 2003 and 2010, an increasing percentage of smokers in New York reported that their health care provider assisted them with smoking cessation (Figure 28).

Figure 26. Percentage of Adult Smokers Who Were Asked by Their Health Care Provider if They Smoked in the Past 12 Months, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010



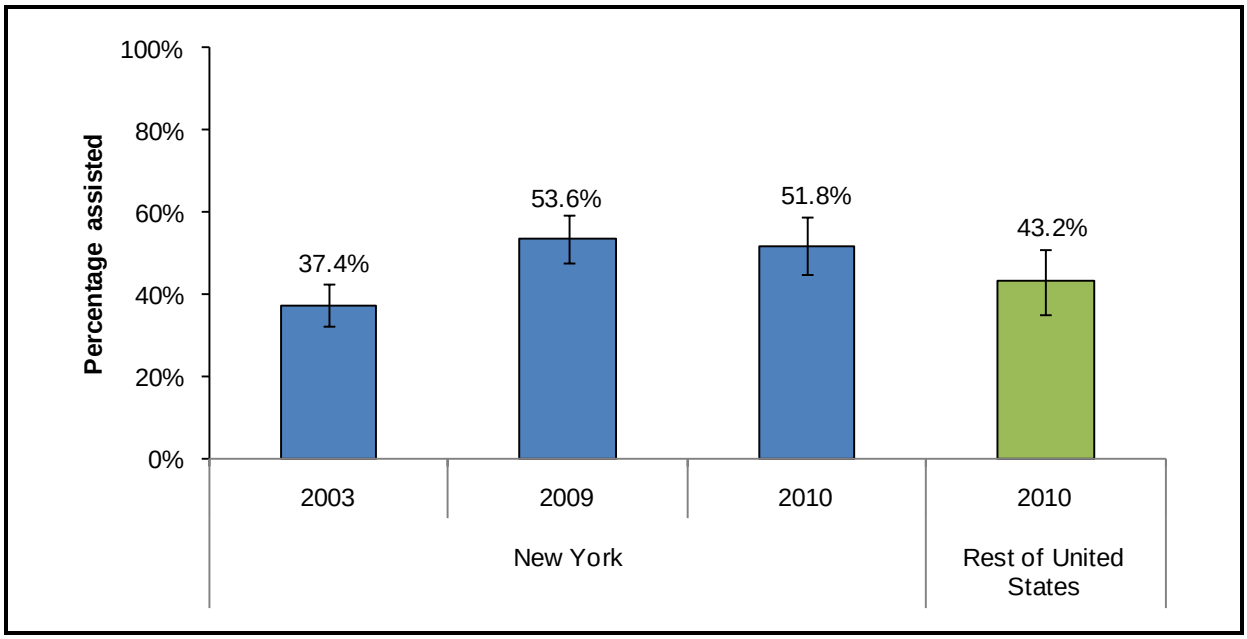
Note: Difference between New York and the remaining United States is statistically significant in 2010.

Figure 27. Percentage of Adult Smokers Who Were Advised by Their Health Care Provider to Quit Smoking in the Past 12 Months, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010



Note: Difference between New York and the remaining United States is statistically significant among adult smokers.

Figure 28. Percentage of Adult Smokers Who Report That Their Health Care Provider Assisted Them with Smoking Cessation in the Past 12 Months, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010

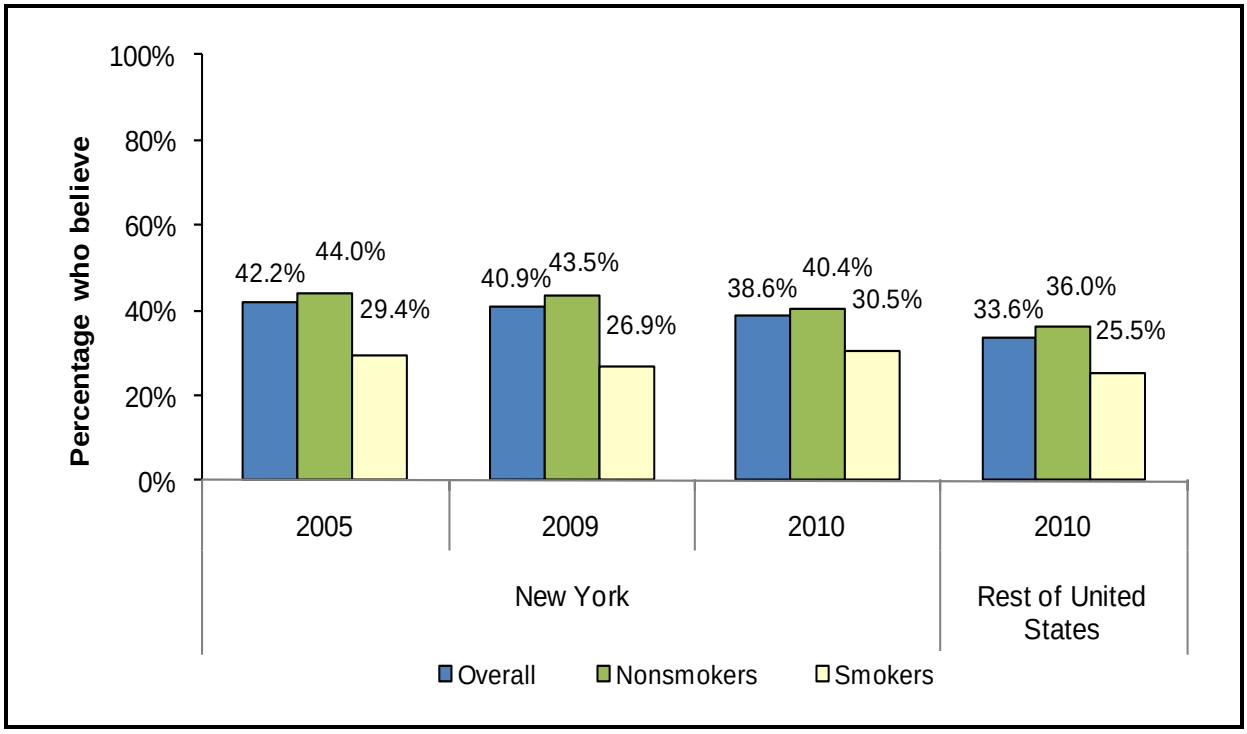


Note: Statistically significant increase between 2003 and 2010 among New York adult smokers.

Support for Tobacco Control

Because changing the tobacco control environment and denormalizing tobacco are central objectives of NY TCP, we present data that illustrate New Yorkers' support for tobacco control in general and for specific policies. For example, in 2010, addressing health problems associated with tobacco use is a higher priority in New York than in the United States among adults overall and among nonsmokers (Figure 29). However, support has been declining for these two groups over time in New York.

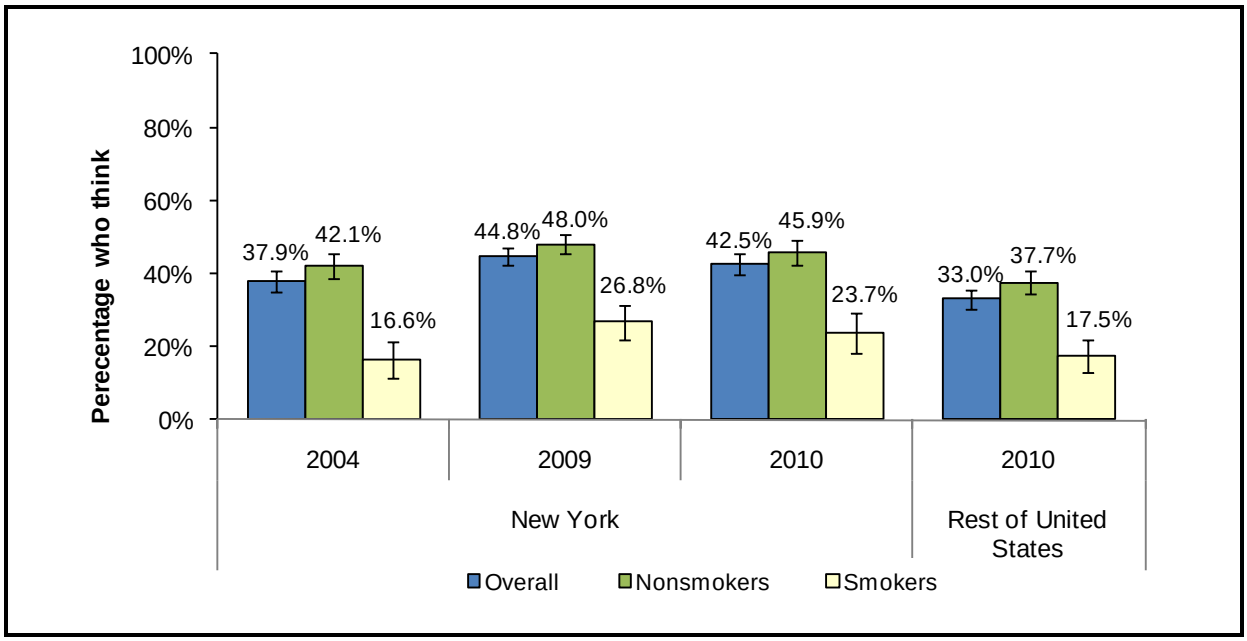
Figure 29. Percentage of Adults Who Believe That Tobacco Use Is among the Most Important Health Problems in Their Community, Adult Tobacco Survey 2005–2010 and National Adult Tobacco Survey 2010



Note: Statistically significant decrease among nonsmokers and adults overall between 2005 and 2010. Statistically significant difference between New York and the remaining United States among nonsmokers and adults overall in 2010.

The passage of the Family Smoking Prevention and Tobacco Control Act allows the possibility of regulating the place, timing, and manner (but not the content) of cigarette advertising. Figure 30 illustrates that in 2010 a greater percentage of adults overall and smokers believe that tobacco advertising should not be allowed in stores compared to 2004. Moreover, Figure 30

Figure 30. Percentage of Adults Who Think Tobacco Advertising in Stores Should Not Be Allowed, Adult Tobacco Survey 2004–2010 and National Adult Tobacco Survey 2010

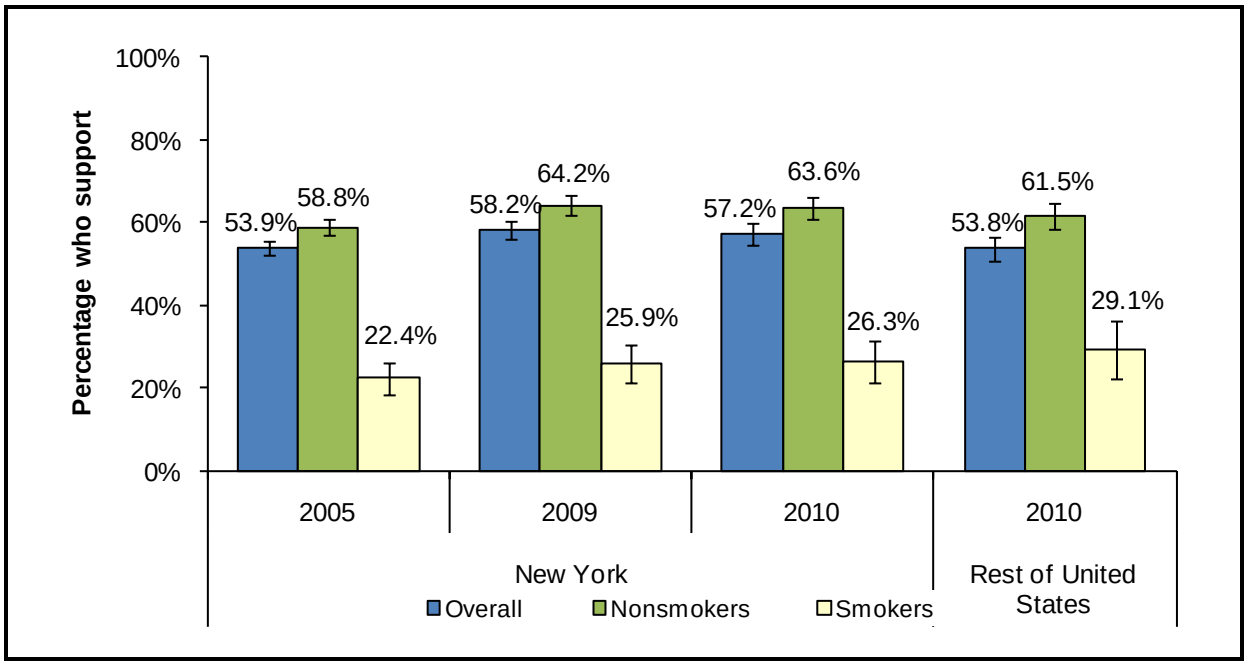


Note: Statistically significant increase between 2004 and 2010 among smokers and adults overall. Differences between New York and the remaining United States are statistically significant for all adults and nonsmokers.

suggests that there is more support for banning cigarette advertising in stores in New York than in the rest of the United States among all adults and nonsmokers.

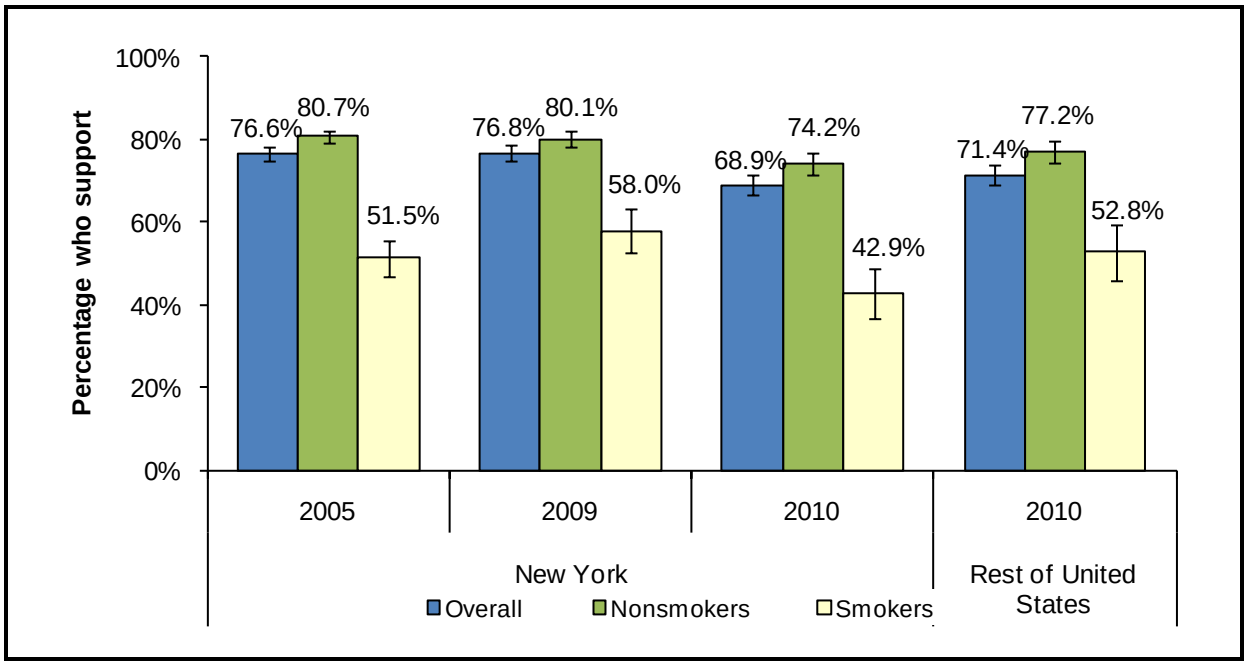
Three additional measures gauge support for other community contractor policy initiatives: banning smoking in outdoor places; banning smoking in building entranceways; and eliminating smoking in movies rated G, PG, and PG-13. The majority of New Yorkers support a ban on smoking in outdoor public places (e.g., beaches and parks), and support has grown over time among adults overall and nonsmokers (Figure 31). There is greater support for a ban on smoking in building entranceways than for outdoor public places, but support has decreased over time among all adults, nonsmokers, and smokers. The drop in support is particularly pronounced among smokers. In 2010, fewer smokers support such a ban in New York than in the remaining United States (Figure 32).

Figure 31. Percentage of Adults Who Support a Ban on Smoking in Outdoor Public Places, Adult Tobacco Survey 2005–2010



Note: Statistically significant increase between 2005 and 2010 among nonsmokers and adults overall.

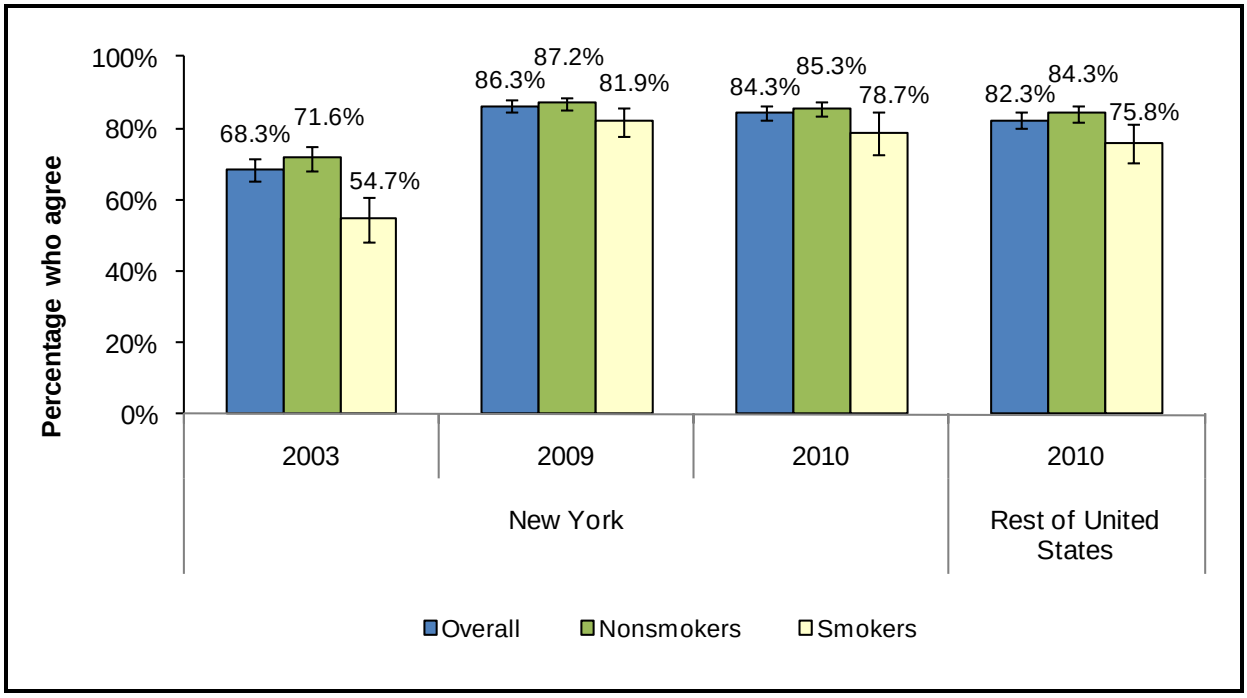
Figure 32. Percentage of Adults Who Support a Ban on Smoking in Building Entranceways, Adult Tobacco Survey 2005–2010



Note: Statistically significant decrease between 2005 and 2010 among all adults, smokers, and nonsmokers. Statistically significant difference between smokers in New York and the remaining United States in 2010.

From 2003 to 2010, an increasing percentage of New Yorkers believe that movies rated G, PG, and PG-13 should not show actors smoking. The most marked increase was among smokers—increasing from 55% in 2003 to 79% in 2010, a level similar to that of nonsmokers (Figure 33). Attitudes toward smoking in the movies are similar in New York and the remainder of United States.

Figure 33. Percentage of Adults Who Agree That Movies Rated G, PG, and PG-13 Should Not Show Actors Smoking, Adult Tobacco Survey 2003–2010 and National Adult Tobacco Survey 2010



Note: Statistically significant increase from 2003 to 2010 among smokers, nonsmokers, and adults overall.

Discussion

Progress in Changing Key Outcome Indicators

New York has made significant progress in reducing cigarette smoking. From 2000 to 2010, smoking prevalence declined by 70% among middle school students and 54% among high school students—rates of decline that outpaced the nation as a whole. As of 2010, only 3.2% and 12.6% of middle and high school students smoked in the past month, respectively. Among adults, the prevalence of smoking declined 28% from 2003 to 2010, almost three times the decline in the United States (10%) over this same period. Other key indicators in New York

compare favorably with the rest of the United States. Average daily cigarette consumption and smokeless tobacco use are both lower in New York than in the rest of the United States. In 2010, intentions to quit in the future and the prevalence of making a quit attempt were both higher in New York than in the rest of the United States. These better-than-average declines over this period are understandable given that New York State has the highest state excise tax in the country, a comprehensive smoke-free air law since 2003, and better than average funding for tobacco control.

The decline in smoking prevalence from 2003 to 2008 that we observed was accompanied by similar trends in other key outcome indicators, such as reduced cigarette consumption, increased calls to the New York State Smokers' Quitline, and increased quit intentions and quit attempts, among other measures. From 2008 to 2009—following the first significant NY TCP budget cut—smoking prevalence and these other key indicators remained constant. Then from 2009 to 2010, there was a surprisingly large decline in smoking prevalence from 17.9% to 15.5% (13% relative decline), while all other key outcome indicators continued to remain stable from 2008 to 2010. This may be an indication that this large drop in smoking prevalence may not be sustainable without more robust NY TCP funding. Our other measure of smoking prevalence in New York comes from the ATS and that indicates that prevalence was 16.8%—the same as the 2008 prevalence measures in the BRFSS. This difference in smoking prevalence in 2010 between the two surveys may be explained by the fact that the ATS surveys New Yorkers via landline and mobile telephones. Adults with only mobile phones are more likely to smoke than those with landlines (Blumberg and Luke, 2011). In the 2010 National Health Interview Survey, the prevalence of smoking among adults with landlines and mobile phones was 16.1% compared to 25.7% among those with only mobile phones (Blumberg and Luke, 2011). Future estimates of smoking prevalence from the BRFSS will include adults with only mobile phones, and these rates will likely be higher than previous estimates.

In addition to concerns about the sustainability of this recent decline in smoking prevalence, we found that smoking prevalence has not declined from 2003–2004 to 2009–2010 among those with less than a high school degree, those earning less than $30,000, and those reporting that their mental health

is not good. Smoking prevalence in all three groups is significantly higher than the statewide average. The prevalence of smoking among those with less than a high school degree and those earning less than $30,000 was 53% and 46% higher than the statewide average, respectively. This difference was even more pronounced among those with poor mental health at 85% higher than the statewide average. It will be challenging for NY TCP to maintain, much less extend, the progress in key outcome indicators now that funding has been cut by 50% and is on par with the national average ($2.21 per capita in FY 2011–2012 compared to the national average of $2.05 in 2010).

Economic Costs and Benefits of Tobacco Control

Currently, New Yorkers spend $8.2 billion annually in smoking-attributable personal health care expenditures. Although this is a substantial sum, there has been a striking reduction in these costs as a result of declines in smoking over the past decade. Had the prevalence of smoking remained at its 2001 level, rather than declining 33%, these costs would be 50% higher in 2010 or $12.3 billion annually. The accumulated savings from 2001 to 2010 as a result of this decline in smoking is $32.5 billion. Furthermore, if smoking prevalence continues to decline to 12% by 2013, smoking-attributable personal health care costs would be reduced by an additional $2.1 billion per year.

The substantial reductions in personal health care costs associated with reducing smoking prevalence alone provide a strong rationale for investing in tobacco control. There are, however, several other rationales for adequately funding tobacco control efforts in New York.

First, a substantial evidence base demonstrates the effectiveness of tobacco control. To illustrate the effectiveness of New York's tobacco control efforts, we conducted an analysis to quantify the combined effects of NY TCP funding, cigarette excise taxes, and smoke-free air laws. This analysis shows that with minimal NY TCP funding and cigarette excise taxes and no smoke-free air laws, cigarette consumption would have been more than 50% higher in 2010 than it actually was. In addition, we illustrated that NY TCP's health communication campaigns promote smoking cessation, reduce cigarette consumption, and promote calls to the New York State Smokers' Quitline.

Compared to no media campaign, an adequately funded media campaign would lead to 381,000 additional smokers making a quit attempt, 114,000 additional smokers calling the Quitline, and a 25% decrease in cigarette consumption among smokers who continue to smoke. In addition, we demonstrated that the media campaign reaches smokers in different income and education groups equally well and is perceived to be equally effective across these various groups. With respect to race and ethnicity, the campaign reaches African Americans at higher rates than other races and ethnicities, and African Americans and Hispanics perceive the campaign to be more effective than whites and other races and ethnicities.

Second, although cigarette excise taxes are effective in reducing smoking, their burden falls squarely on the shoulders of lower-income smokers who pay as much as 20% of their annual income on cigarettes and pay 39% of the annual $1.41 billion in annual cigarette tax revenue. These taxes also are borne disproportionately by smokers with limited education. Over the past decade, these two groups have had no change in smoking prevalence and have among the highest smoking rates. To address this inequity, more needs to be invested in tobacco control activities that benefit these groups. By investing just 11% of the annual Master Settlement Agreement payments and tobacco tax revenues ($2.4 billion annually), New York State could meet CDC's recommended funding levels for NY TCP at $254 million. Currently, the equivalent of 2% of these funds goes to tobacco control.

Third, a major countervailing force to tobacco control efforts is the marketing and promotional efforts by the tobacco industry. The five major tobacco companies spend more than $350 million annually on price promotions and other marketing efforts to sell cigarettes in New York State—more than 8 times the current investment in NY TCP.

Programmatic Recommendations

As we have illustrated in this report, NY TCP has the evidence-based strategies that have been shown to promote cessation and reduce cigarette consumption if properly funded. These strategies need to be adequately funded to ensure that the gains observed for the population as a whole can be enjoyed by the economically disadvantaged, those with limited education,

and those with mental illness. In addition, widespread tax evasion needs to be curbed to increase the effectiveness of the recent increases in cigarette excise taxes to influence smoking behavior. We estimate that eliminating tax evasion would increase the average price per pack paid by smokers by $2.08, lead to 50,000 fewer smokers, and generate as much as $600 million in additional revenue. Finally, we offer specific recommendations for moving forward.

Overall Recommendations

- Increase NY TCP funding to a minimum of one-third of CDC's recommended funding level for New York ($254 million) to $85 million per year for FY 2012–2013 and to $127 million (50% of CDC's recommendation) for FY 2013–2014 and following years.
- Develop and fund interventions to address disparities in smoking rates, particularly for those with low income, limited education, and mental illness.

Health Communication Recommendations

- Invest sufficient funds in health communication to increase annual average confirmed awareness of NY TCP television advertisements from 24% in 2010 to at least 60%. This equates to approximately $40.4 million annually in television advertising.
- Avoid unplanned gaps in health communication activities that result from delays in contract executions and amendments.
  - Ensure that a minimum amount of funds ($3 million to $5 million) are available to NY TCP for media placement for the first quarter of every fiscal year to avoid disruptions to the Program's media plan that result from annual delays in expenditure plan approvals and contract renewals.
- Develop new campaigns to support state and local community efforts to effect policy change.

Health Systems Change Recommendations

- Encourage the New York State Office of Mental Health to adopt tobacco-free regulations for its facilities. This would reinforce the Office's focus on improving the health and well-being of its consumers. Such a policy change would be consistent with the recent Office of

Alcoholism and Substance Abuse Services' tobacco-free regulation.

- Encourage the New York State Medicaid Program to take a more active role in promoting tobacco cessation Medicaid benefits to Medicaid recipients and providers.
- Restore NYSDOH funding for the health care provider media campaign to add salience and reach to Cessation Centers' efforts and increase awareness.

Statewide and Community Action

- Continue to monitor and support required contractor collaborations with allied organizations and individuals in their catchment areas to ensure that contractors actively engage their partners in planning, leading, and implementing tobacco control activities.
- Engage youth members of Reality Check and other youth-focused organizations in community education, government policy maker education, and decision maker advocacy activities focused on point-of-sale and tobacco-free outdoors policy change.
- Work with contractors to identify and build collaborations with organizations and individuals representing groups disproportionately affected by retail tobacco marketing and tobacco use in their catchment areas. Ensure that contractors actively engage these organizations in community education, government policy maker education, and decision maker advocacy activities.
- Ensure that contractors use the initiative-specific toolkits developed by the Center for Public Health and Tobacco Policy at New England Law | Boston as the basis of the messages they convey and model policy components they distribute in support of all policy objectives. This will ensure that the same message reaches all target audiences for a specified initiative and that policies passed include key components of the model policy for that initiative.
- Develop guidelines for contractors to develop and maintain a list of grassroots advocates who can be mobilized quickly by action alerts to support selected tobacco control events and policies.

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Appendix A: Methods for Estimating Smoking-Attributable Personal Health Care Costs

To estimate smoking-related personal health care costs for New York, we obtained data on total personal health care expenditures in New York for the years 1991 through 2004 from the Centers for Medicare & Medicaid Services. Estimates for 2005 through 2013 were extrapolated based on the linear trend in CMS total personal health care expenditures data for New York from 1991 through 2004. The resulting estimates of total personal health care expenditures in New York were adjusted for inflation using the Consumer Price Index for medical care. We obtained an estimate of the smoking-attributable fraction of total personal health care expenditures in New York for 1998 based on previously published estimates (Miller et al., 1998). We then adjusted the 1998 smoking-attributable fraction based on year-over-year percentage changes in adult smoking prevalence for each scenario. To obtain annual estimates of the smoking-attributable personal health care expenditures, we multiplied our annual estimates of total personal health care expenditures for New York by our annual estimates of the smoking-attributable fraction of total personal health care expenditures for each scenario.