

2014 Independent Evaluation Report of the New York Tobacco Control Program

Prepared for

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Executive Summary

Funding for the New York Tobacco Control Program (NY TCP) has been stable for several years, as have most of the key programmatic outcome indicators. Current funding is approximately one-fifth of the Centers for Disease Control and Prevention (CDC) recommendations. The Program has several staff, including the current director, with a long history of tobacco control program planning and implementation. The Program's long tenure and strong tobacco control policy environment puts it in a good position to leverage its current funding. In recent years, the Program has increasingly focused on collaborating with other programs and agencies to implement systems changes that can support tobacco cessation, decrease exposure to secondhand smoke, and otherwise support its goals.

The current report is less comprehensive than previous reports due to a lapse in the independent evaluation contract during 2013. However, we were able to assess trends in tobacco use, New York State Smokers' Quitline utilization, and cessation benefit utilization among Medicaid recipients using existing surveillance systems and administrative databases. We found that the prevalence of adult smoking in New York in 2013 was 16.6%—unchanged from 2012 and lower than the national rate of 17.8%. The prevalence of smoking remains substantially higher than average for those with less than a high school degree (27.5%), incomes less than \$25,000 (24.1%), and a history of depressive disorder (29.0%). The prevalence of adult smokers making a quit attempt has been stable for several years. Turning to youth, the prevalence of cigarette smoking among high school students was 10.7% in 2013 compared with 15.7% nationally—a difference that has been stable for many years. In contrast, the prevalence of current cigar use is similar between New York (12.2%) and nationally (12.6%) and has increased 44% in New York since 2003 (from 8.5%).

With current funding levels, it will be difficult to reduce the disproportionately high smoking rates among low education/income adults and those with a history of mental illness. However, recent expansions of smoking cessation benefits for Medicaid enrollees may help reduce smoking among low-income adults. Other strategies and additional funding will likely be necessary to reduce these disparities and address emerging

trends, such as increased cigar use among youth. NY TCP tobacco-focused public education efforts in the past have been associated with increases in quit attempts among adult smokers overall and among smokers with lower incomes and education levels. There may be opportunities to optimize the NY TCP public education media plan to increase reach to low education/income smokers within the current budget. The current NY TCP budget of \$39.3 million is only 19% of the CDC recommendation and represents less than 2% of annual cigarette tax and Master Settlement Agreement (MSA) payments (\$2.33 billion for fiscal year [FY] 2014). Another potential source of revenue could come from reducing cigarette tax evasion, which leads to annual revenue losses of \$2.2 billion. Allocating a small fraction of these revenue sources to tobacco control efforts could help reduce the disparities noted above.

Key Evaluation Findings

- From 2009 to 2013, the prevalence of adult smoking in New York declined by 21% compared with 14% nationally.
- Although the prevalence of smoking among adults overall dropped to 17% in 2013, it is considerably higher for those with incomes less than \$25,000 (24.1%), less than a high school degree (27.5%), and a history of having a depressive disorder (29.0%).
- In 2013, the prevalence of smoking among high school students was 32% lower in New York (10.7%) than nationally (15.7%). However, the prevalence of current cigar use in New York has increased from 9% in 2003 to 12% in 2013 and was comparable to the national rate of 13% in 2013.
- Overall cigarette consumption has declined by 44% from 2000 to 2012.
- Sixty percent of cigarette packs consumed are subject to tax avoidance/evasion, resulting in \$2.2 billion in lost revenue. Tax avoidance has increased by 61% from 2000 to 2012.
- Overall, quitline call volume increased 94% from 2003 to 2012. In 2013, quitline call volume would have been 54% higher than the actual level had awareness of NY TCP media reached 60% that year.

- The total number of smokers using Medicaid cessation benefits increased by 127% from 2009 to 2013, largely driven by an increase in cessation counseling alone or in combination with prescription or over-the-counter cessation aids.

RTI's key programmatic recommendations are as follows:

- Increase NY TCP funding to a minimum of one-half of CDC's recommended funding level for New York (\$203 million) to \$101.5 million per year over the course of 2 to 3 years to allow for a gradual increase in Program capacity. This represents less than 6% of New York's annual revenue from tobacco taxes and MSA payments.
- Continue to develop and implement interventions to address disparities in smoking rates, particularly for those with poor mental health.
- Investigate potential strategies to curb increased use of cigars among high school students.
- Increase awareness of antismoking messages among smokers to at least 60%.
- Invest additional funds in media campaigns to support community contractors' policy change efforts.
- Continue directing Health Systems for a Tobacco-Free New York contractors to focus their efforts on organizations that serve high proportions of tobacco users, such as community health centers and mental health programs.
- Continue to emphasize the importance of community contractor efforts to actively engage youth and allied organizations and individuals in their efforts, particularly those invested in reducing tobacco-related disparities.

Introduction

The New York Tobacco Control Program (NY TCP) has a long history of implementing evidence-based tobacco control programming consistent with the Centers for Disease Control and Prevention's (CDC's) *Best Practices for Comprehensive Tobacco Control Programs* (CDC, 2014). The Program's approach consists of three key components: health communication; cessation interventions; and statewide and community action aimed at policy, systems, and environmental changes.

In the 2013 Independent Evaluation Report (IER), we noted that, from 2009 to 2012, the prevalence of adult smoking declined by 23.2% in New York compared with 12.6% nationally. However, in 2012, the prevalence of smoking was much higher for those with poor mental health (26.1%), less than a high school degree (23.9%), and incomes less than \$25,000 (23.4%) compared with the overall prevalence (16.2%). Cigarette consumption declined by 29.9% among New York adult smokers from 2003 to 2012 and was 15.6% lower than the rest of the United States in 2012. However, self-reported cigarette consumption in New York has remained stable since 2008. The percentage of adult smokers in New York who made a quit attempt in the last year increased 37.4% from 2003 to 2012, with little change since 2007. Over the past decade, the prevalence of smoking has declined significantly among middle and high school students in New York. In this report, we will be looking at 2013 data to see how things have changed.

In this report, we describe the contextual influences that can affect NY TCP's progress, outline NY TCP's approach to tobacco control, review trends in key outcome indicators, and address the following critical evaluation questions for NY TCP:

- How have key outcome indicators changed over time?
- How do these indicators compare between New York and the United States?
- How have tax-paid sales and cigarette consumption changed over time?
- How have cigarette tax evasion, revenue, and revenue losses associated with tax evasion changed over time?

- How has call volume to the New York State Smokers' Quitline changed over time, and how is it influenced by NY TCP health communication efforts?
- What is the level of utilization for the Medicaid tobacco cessation benefit, and how has this changed over time (2009–2013)?

Addressing these central evaluation questions will illustrate progress made in key outcome indicators and highlight gaps that need to be addressed moving forward. As a result of a gap in the independent evaluation contract, the available data for 2013 to assess Program progress is quite limited compared with other years.

The New York Tobacco Control Program – Context and Programmatic Approach

We begin this section of the report with a description of the tobacco control context in which NY TCP operates. We then describe the Program's current approach to tobacco control.

Tobacco Control Policy Environment

New York is a national leader with respect to tobacco control policies. New York has the highest state-level cigarette excise tax in the country. At \$4.35, the New York cigarette excise tax is nearly \$3 more than the national average tax. All New Yorkers are covered by a comprehensive smoke-free air law (workplaces, restaurants, and bars), compared with 48% of the population nationally. In fiscal year (FY) 2013, per capita funding for tobacco control was higher in New York (\$2.22) than in the average of all other states (\$1.63) (Table 1). The state's per capita funding at its peak in 2007 was \$5.21, compared with \$2.40 in all other states.

Table 1. Pro- and Antitobacco Environmental Influences in New York and the United States

Indicator	New York	U.S. Average
State cigarette excise tax (January 1, 2014)	\$4.35	\$1.53
Percentage of the state population covered by comprehensive ^a smoke-free air laws (December 31, 2013)	100%	47.7%
Annual per capita funding for tobacco control (FY 2013)	\$2.22	\$1.63 (excluding New York)

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

Program Budget

New York State received cigarette tax revenue and Master Settlement Agreement (MSA) payments totaling approximately \$2.33 billion for FY 2014 (Table 2). Allocating just 9% of the annual revenues from state cigarette taxes and MSA payments to tobacco control programming would meet CDC's recommended funding level for NY TCP of \$203 million. The current NY TCP budget of \$39.3 million is only 19% of CDC's recommendation and represents less than 2% of annual cigarette tax and MSA payments.

Table 2. Annual New York State Tobacco Tax Revenue, Master Settlement Agreement Payments, and Spending on Tobacco Control and Tobacco Promotions

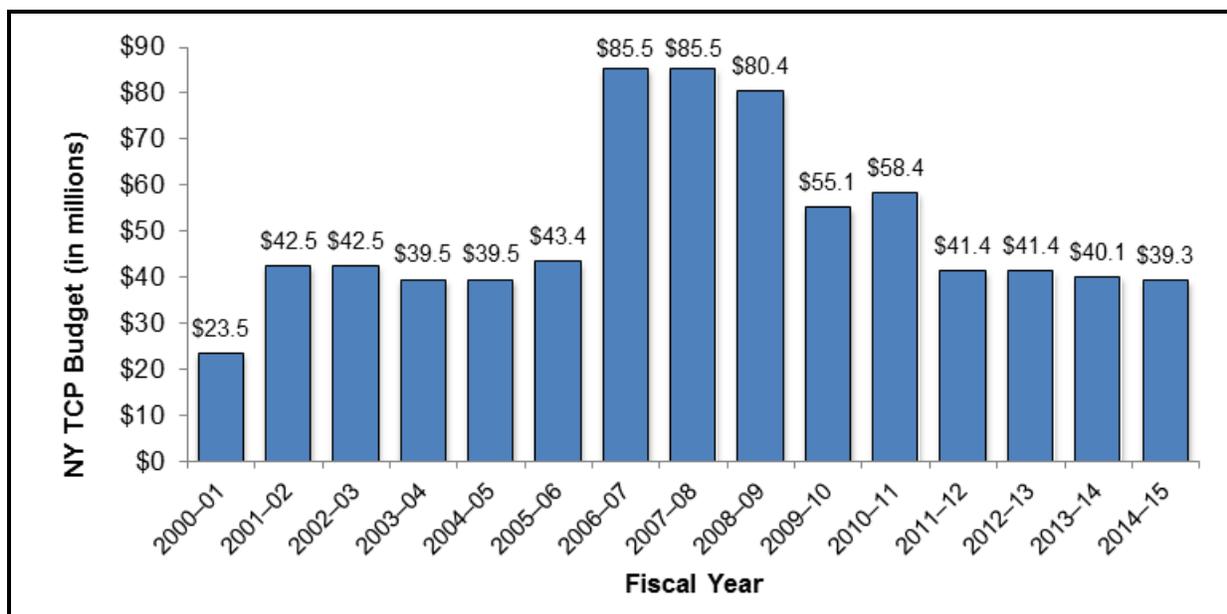
Revenue/Expenditure Category	Annual Revenue/Expenditure
Revenue from state cigarette excise tax (FY 2014)	\$1,477,400,000
Revenue from MSA payments (FY 2014)	\$856,600,000
Estimated cigarette advertising and promotions in New York State (CY 2012) by five major cigarette manufacturers	\$218,510,099
NY TCP budget (FY 2014–2015)	\$39,330,448

Note: CY = calendar year; FY = fiscal year; MSA = Master Settlement Agreement; NY TCP = New York Tobacco Control Program.

In addition to falling well below CDC's recommended funding levels, NY TCP is outspent by tobacco company advertising and promotional efforts. Tobacco companies spent \$8.4 billion nationally on advertising and promotions in 2011 (Federal Trade Commission, 2013). If these expenditures are spent in proportion to cigarette sales, then this translates to \$219 million spent on advertising and promotions overall in New York State. Of this, an estimated \$183 million is for price reductions and retail-value-added bonus cigarettes (e.g., buy two packs, get one free).

The approved budget for FY 2014–2015 is \$39.3 million, similar to the previous FY budget of \$40.1 million. The longer-term pattern of NY TCP funding is shown in Figure 1 and provides context for interpreting the longer-term trends in key outcome indicators presented below. Funding since FY 2011–2012 has been similar to the funding levels prior to FY 2006–2007, when funding increased to \$85.5 million.

Figure 1. NY TCP Funding, FY 2000–2001 to FY 2014–2015



Note: FY = fiscal year; NY TCP = New York Tobacco Control Program

Table 3 shows the budget for FY 2013–2014 and FY 2014–2015 by program component. The overall budget decreased slightly across these two years. Fewer resources were allocated for state and community interventions and cessation interventions, while slightly more were allocated for media placement. Effective June 30, 2014, Community Partnerships and Reality Check contracts ended and new Advancing Tobacco-Free Communities contractors took their place. Similarly, Cessation Center contracts ended in June 2014, and Health Systems for a Tobacco-Free New York contractors became the new type of contractor focused on health systems change initiatives. With these changes in the structure of procurements, the FY 2014–2015 expenditure plan shows funds for Community Partnerships, Reality Check, and Cessation Centers through June 2014. Allocated funding for Advancing Tobacco-Free Communities and Health Systems for a Tobacco-Free New York contractors are listed starting with July 2014.

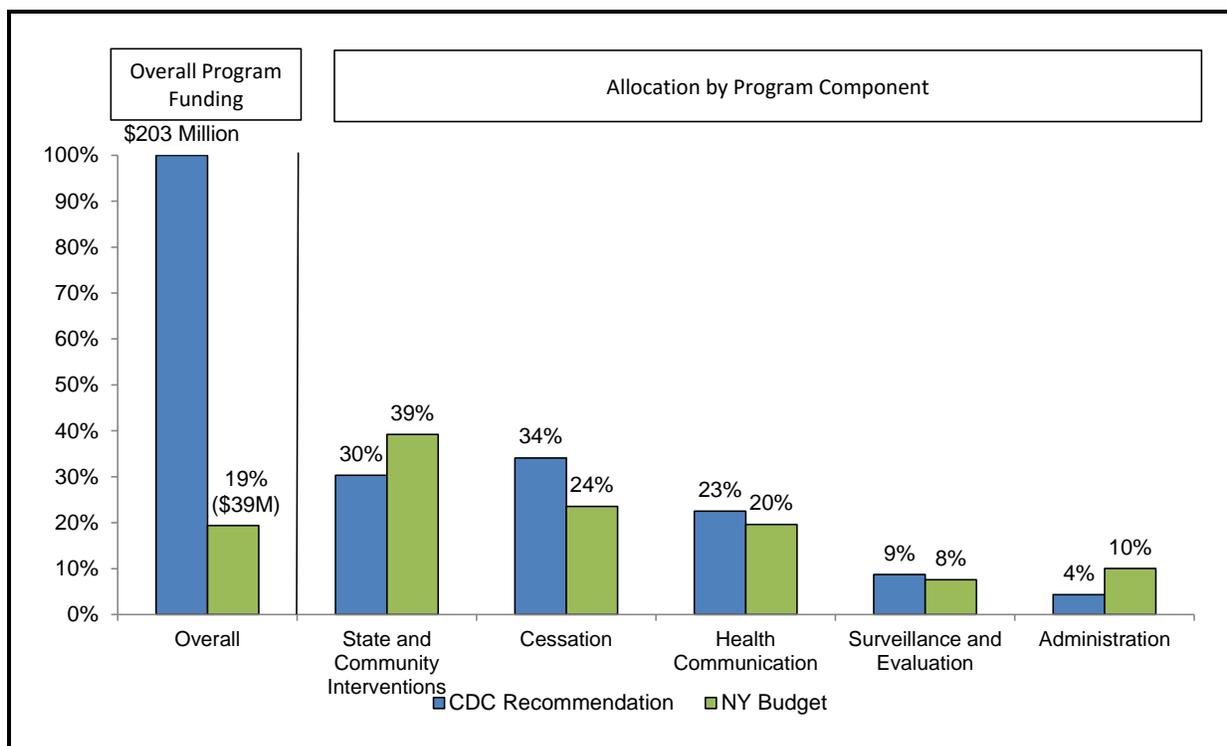
Table 3. NY TCP Budget for FY 2013–2014 and FY 2014–2015

Program Component	FY 2013–2014 Expenditure Plan	FY 2014–2015 Expenditure Plan
State and Community Interventions	\$11,407,604	\$10,688,509
Community Partnerships	\$8,145,810	\$2,036,453
Reality Check	\$2,360,024	\$590,006
Advancing Tobacco-Free Communities		\$7,050,000
Center for Public Health and Tobacco Policy	\$480,500	\$513,766
Training	\$421,270	\$498,284
Enforcement		
Clean Indoor Air Act and Adolescent Tobacco Use Prevention Act Enforcement	\$4,724,950	\$4,724,950
Cessation Interventions	\$10,552,229	\$9,268,011
Cessation Centers	\$5,502,890	\$1,375,719
Health Systems for a Tobacco-Free New York		\$2,456,078
Quitline	\$4,249,339	\$4,636,214
Nicotine replacement therapy	\$800,000	\$800,000
Health Communication Interventions		
Media placement	\$6,389,613	\$7,723,052
Surveillance and Evaluation		
Independent evaluation	\$3,118,502	\$2,988,926
Administration		
Tobacco control and cancer services	\$3,937,000	\$3,937,000
Total	\$40,129,898	\$39,330,448

Note: FY = fiscal year; NY TCP = New York Tobacco Control Program

Figure 2 illustrates the distribution of the FY 2013–2014 NY TCP budget compared with CDC Best Practices recommendations overall and by program component (CDC, 2014). Overall, NY TCP funding is much lower than the CDC recommended level. Allocations by program component are relatively similar to CDC recommendations. NY TCP allocates 20% of funds for health communication, compared with CDC's recommended 23%. As noted in the 2010, 2011, and 2012 IERs, funding for media placement was reduced disproportionately to preserve capacity for community programs. As a result, statewide programs

Figure 2. NY TCP 2014–2015 Budget Versus CDC Recommendations



Note: CDC = Centers for Disease Control and Prevention; NY TCP = New York Tobacco Control Program

constitute 39% of the budget, compared with the CDC recommended 30%. For cessation funding, NY TCP allocates 24%, compared with the recommended 34%. The allocation for surveillance and evaluation (8%) is close to the recommended percentage (9%). The allocation for administration is higher (10%) than CDC recommendations (4%), but this apparent discrepancy is supported by CDC Best Practice budget recommendations; CDC encourages programs to fund their administration, management, and infrastructure activities at the recommended dollar amount, even if the program’s actual funding is below the CDC-recommended level (CDC, 2014).

Programmatic Approach

NY TCP bases its approach on the social norm change model, aiming to reduce tobacco use by creating a social environment and legal climate in which tobacco use becomes less desirable, less acceptable, and less accessible (CDC, 2014; Frieden, 2010; NCI, 1991; USDHHS, 2000). California was one of the first state tobacco control programs to use a social norms approach and achieved a substantial decline in smoking among adults

and youth (CDHS, 1998). Currently, NY TCP is focused on the goals of reducing the prevalence of smoking to 15% among adults and reducing the rate of any tobacco use (i.e., cigarettes, cigars, and smokeless tobacco) to 15% among high school students by 2017. New York's strong tobacco control environment will likely maintain current antitobacco norms and tobacco use prevalence rates. However, NY TCP 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 et al., 2007).

NY TCP's statewide and community initiatives focus on promoting evidence-based policies at the local level to decrease exposure to secondhand smoke and reduce the social acceptability of tobacco. Strategic planning and training efforts reinforce the emphasis on implementing policies that can reach a significant proportion of the population. Local policy goals include increasing the number of tobacco-free multi-unit dwellings in the state and increasing the number of tobacco-free outdoor public spaces, such as beaches, parks, and building entryways. Additionally, NY TCP has focused on changing the tobacco retail environment to reduce youth exposure to tobacco product marketing. Local contractors educate the public and local policy makers about the effects of tobacco point of sale (POS) marketing on youth initiation and the need for local policies to reduce that exposure. In the following sections, we describe NY TCP's major programmatic activities in more detail.

Administration and Support

Consistent with CDC Best Practices, NY TCP supports its programmatic activities with a multilevel management approach that emphasizes strategic implementation of the program's initiatives. NY TCP provides training and technical assistance and coordinates surveillance and evaluation activities. NY TCP administration drives the 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, NY TCP 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 focused on key programmatic initiatives. The messages are communicated by community contractors and via earned and paid media.

During 2013, vacant NY TCP leadership positions were filled. The current Director began his new position in May 2013, and the Assistant Director began her new role in January 2013. The new Tobacco Surveillance, Evaluation, and Research Team Director started in October 2013. Although the program leadership solidified during 2013, the independent evaluation was on hold for the year. The evaluation of NY TCP was expected to continue seamlessly from the closure of one 5-year evaluation contract to the commencement of the next 5-year evaluation contract in January 2013. However, extensive delays in the announcement of the contract award and processing of the contract resulted in a lack of independent evaluation activities during 2013. Surveys of statewide tobacco-related outcomes that were implemented quarterly from 2003 through 2012 lapsed during this time. This gap in continuity of the independent evaluation disrupts the provision of informed, actionable feedback to the Department and limits the evaluation's ability to analyze trends over time. The new evaluation contract began on October 1, 2013 and the full suite of data sources will be available for 2014.

Health Communication

NY TCP uses health communication strategies 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 issues. There is growing evidence that antismoking campaigns are effective in reducing cigarette smoking among youth (USDHHS, 2012) and adults (Farrelly et al., 2012a; NCI, 2008; Wakefield et al., 2010, 2011). NY TCP has focused paid media efforts on promoting smoking cessation, with an emphasis on television advertisements that graphically depict the health consequences of smoking and/or elicit strong negative emotions, as these types of ads have been found to be effective in promoting smoking cessation (Farrelly et al., 2012a). Nearly all messages

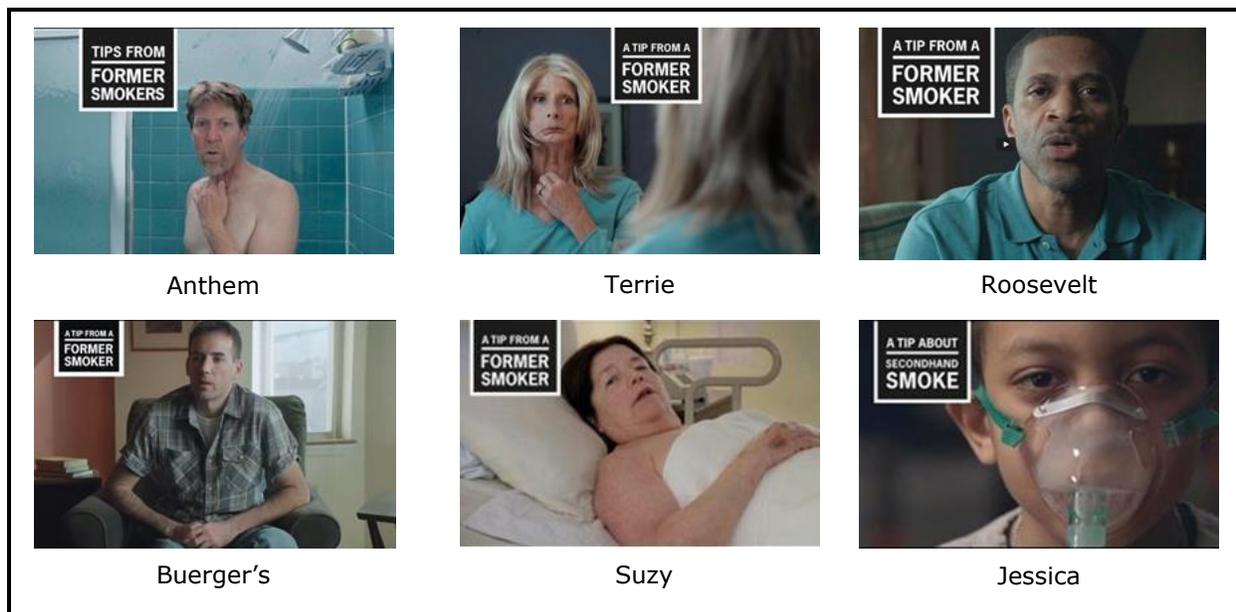
in 2013 included the New York State Smokers' Quitline telephone number and Web site address.

During 2013, NY TCP continued previously used strategies with cessation- and secondhand smoke-focused campaigns. NY TCP's cessation-focused advertising consisted of two ads from the Suffering Every Minute campaign, which are designed to motivate tobacco users to quit: "Suffering—Mom Cancer" and "Suffering—Lung." These ads aired in spring 2013 and portray the devastating long-term suffering from smoking-related diseases. They emphasize that dying from smoking is rarely quick and never painless. NY TCP also aired "Derek," a cessation-focused ad, from March to October 2013.

In addition, six ads from CDC's *Tips From Former Smokers (Tips)* tobacco education campaign aired in 2013 (Figure 3). While the title of the campaign suggests advice on quitting, the ads focus on powerful graphic imagery and emotional messages to prompt smokers to quit. "Anthem" shows several individuals describing everyday activities with a tracheostoma, along with "tips" for them (e.g., suction out your tube before you eat, CPR is mouth-to-stoma, be careful shaving). "Terrie" features the story of a woman who speaks through a tracheostoma. She describes some "tips" for getting ready in the morning, including putting in false teeth, putting on a wig, and attaching a "hands-free device," which is really an artificial voicebox. "Roosevelt" tells the story of a 51-year-old former smoker from Virginia who suffered a heart attack at 45. He offers the "tip" to "do your heart a favor, and quit now." "Buerger's" features Brandon and Marie who describe amputations from Buerger's disease, which is caused by smoking. "Suzy" tells the story about losing her independence after smoking caused her to have a stroke. "Jessica" features the story of a mom who describes the effects of secondhand smoke on her son Aden's asthma. Aden has spent multiple nights in the hospital and now is on numerous medications.

In 2014, NY TCP plans to continue to air ads that focus on cessation and secondhand smoke. "Reverse Heart Attack" and "Reverse Lung Cancer" promote the immediate and long-term benefits of smoking cessation through a series of graphic

Figure 3. CDC *Tips* Ad Images



images and end with a motivational plea to stop smoking immediately. “The Wait,” a cessation-focused ad, will also air in 2014. This ad is set in a doctor’s exam room with a patient waiting for the doctor to return with a diagnosis. The ad ends with the narrator asking, “If you’re not planning to quit smoking, what are you planning?” In addition, NY TCP will continue to air ads from the Suffering Every Minute campaign (“Emphysema”) and CDC’s *Tips* campaign (“Roosevelt”).

Health Systems Interventions

Consistent with evidence-based recommendations, NY TCP uses a multistrategy approach that combines health communication messages with health systems change and telephone-based smoking cessation counseling. Health systems change approaches include updating health care organizations’ systems to ensure that patients are asked about tobacco use and provided assistance with quitting, promoting the Medicaid benefits for smoking cessation, and encouraging private health plans to expand tobacco cessation coverage. The New York State Smokers’ Quitline offers tobacco cessation counseling, provides access to nicotine replacement therapy, and serves as an information clearinghouse for cessation. Below, we describe NY TCP health systems interventions in more detail, addressing

health systems change interventions, the New York State Smokers' Quitline, and reduced patient costs for treatment.

Cessation Centers

NY TCP's health systems change intervention has primarily involved funding 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. As brief advice to quit smoking by a health care provider significantly increases the odds that a smoker will quit, New York Cessation Centers partner with health care organizations across New York State. These 19 Cessation Centers 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 have used a media campaign ("Don't Be Silent About Smoking") aimed at health care providers.

When they began their efforts more than 10 years ago, Cessation Centers targeted hospitals and then branched out to medical practices, where the majority of smokers report getting regular care. Consistent with RTI recommendations, NY TCP instructed Cessation Centers to shift their focus to organizations that serve higher proportions of tobacco users. Specifically, NY TCP redirected the focus of Cessation Center initiatives from medical practices to community health centers and programs that serve individuals with severe mental illness. Because populations with low socioeconomic status and populations with mental illness use tobacco at higher rates than the general population, working with community health centers and mental health facilities provides a significant opportunity for Cessation Centers to target their efforts. Cessation Centers provide these organizations with guidance, training, and assistance on systems-level changes that support the assessment and treatment of tobacco dependence.

RTI conducted a retrospective case study that explored factors in effective health systems change interventions to inform future efforts. This study found that strong systems are those that address organizational policy, documentation tools and workflows, quality assurance and provider feedback, training,

and culture. The study identified key barriers and facilitating factors that can be incorporated into future planning efforts. For example, having tobacco treatment documentation fields in an organization's electronic medical record may not be as effective if users have trouble finding the appropriate screens. However, working with quality assurance staff on special initiatives can help integrate tobacco dependence treatment into expectations and everyday practice.

During 2013, NY TCP released a new procurement, announcing the change from funding 19 Cessation Centers to 10 Health Systems for a Tobacco-Free New York contractors, plus a statewide Center of Excellence contractor to support the regional contractors and promote insurance coverage of tobacco dependence treatment and interventions. The new health systems contractors were awarded in July 2014.

New York State Smokers' Quitline

The New York State Smokers' Quitline provides individualized telephone counseling to adult smokers who want to quit. In addition, the Quitline offers free 2-week nicotine replacement therapy 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 free continuing medical education programs and a program to facilitate automatic referrals for tobacco-using patients. 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. During 2013, the Quitline reported receiving 214,853 calls and having 691,085 visits to their online quitsite.

Reduced Patient Costs for Treatment

NY TCP has worked with the Medicaid program to expand coverage for smoking cessation counseling and pharmacotherapy and has reached out to New York-based

health plans to encourage them to provide greater support for smoking cessation. Fee-for-service Medicaid covers all first-line, FDA-approved medications except nicotine lozenges, and most Medicaid Managed Care (MMC) plans cover at least the nicotine patch and gum, bupropion (Zyban[®]), and varenicline (Chantix[®]); some cover even more. Two 3-month courses are covered per year, including combination therapy (e.g., patch and gum). Medicaid also 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

New York has strong, evidence-based policies in place at the state level, including a comprehensive statewide clean indoor air law and a cigarette excise tax that is the highest statewide tax in the nation. NY TCP's community action efforts focus on policies at the local level with the potential to reduce smoking initiation and promote cessation. The policy goals and the activities to support them are recommended by CDC (2014) and considered essential to the continued reduction of tobacco use (Institute of Medicine, 2007). The community program prioritizes policy change that affects a significant proportion of the state's population, such as municipalities (i.e., villages, towns, cities, and counties) and large businesses (e.g., large housing complexes, real estate management companies).

During 2013, NY TCP released a new procurement for community contractors, to go into effect in mid-2014. The new procurement funds contractors that combine the efforts of the Community Partnerships and Reality Check contractors, focusing on the same policy initiatives. The catchment areas of these Advancing Tobacco-Free Communities contractors cover all counties in the state, and the combination of partnership and youth efforts is intended to enhance an integrated approach.

Community activities in 2013 were conducted by 33 Community Partnerships and 17 Reality Check Youth Partners. Community Partnerships were strongly encouraged to work closely with the

Reality Check Partners in their catchment area and to involve youth actively and publicly in their activities.

These community contractors conducted four types of strategies: community education (including paid media), community mobilization, government policy-maker education, and advocacy with organizational decision makers. Community education strategies include events, earned media, and other types of information dissemination. Community mobilization activities include educating and working with other community organizations and influential individuals to incorporate key tobacco control messages and objectives into their own education and advocacy activities. Government policy-maker education activities include one-on-one meetings with policy makers and testimony at public hearings. Organizational decision-maker education activities may include one-on-one meetings with key stakeholders, such as major employers or real estate managers. As part of decision-maker education, contractors may also provide technical assistance in support of policy development and implementation. Each year, Community Partnership contractors allocate 10% of their budgets to paid media, which funds a coordinated media campaign in communities across the state.

During 2013, Community Partnerships focused their efforts on three initiatives: Point-of-Sale (POS), Tobacco-Free Outdoors (TFO), and Smoke-free Multi-Unit Housing (MUH). Reality Check contractors focused their efforts on the POS initiative and the Smoke-Free Media initiative.

POS initiative: The POS initiative aims to reduce the impact of retail tobacco product marketing on youth, decrease the desirability of tobacco products, and lower the social acceptability of tobacco use. The density of tobacco retailers in high school neighborhoods has been associated with experimental smoking (Leatherdale & Strath, 2007; McCarthy et al., 2009), and exposure to tobacco product marketing at the POS has been consistently associated with increased youth smoking initiation and susceptibility to smoking (Henriksen et al., 2010; Paynter & Edwards, 2009; Slater et al., 2007). Citing the Paynter and Edwards study, the 2012 Surgeon General's Report concluded that "the addictiveness of tobacco, the severity of the health hazards posed by smoking, the evidence that tobacco marketing and promotion encourages children to

start smoking, and the consistency of the evidence that it influences children's smoking justify banning advertising and displays of tobacco products at the point of sale" (USDHHS, 2012, p. 544).

Community contractors' POS policy goals are intended to reduce the level of tobacco product marketing in stores. The policies that contractors promote prohibit the display of tobacco products in establishments open to youth, limit the number of retailers that can sell tobacco products in a community, prohibit the sale of tobacco products in stores that are near schools, and/or prohibit the sale of tobacco products in pharmacies. In New York City, three bills were proposed during 2013 regarding tobacco products at the POS. While the tobacco product display restriction bill was dropped, New York City passed legislation to raise the minimum legal age to purchase tobacco products from 18 to 21 years of age. Additionally, legislation was passed in New York City that prohibits retailers from redeeming coupons or other price discounts for tobacco products, sets a minimum price for cigarettes and little cigars, sets minimum pack sizes for cigarillos and inexpensive cigars, and increases penalties for selling tobacco products without a license or without applying appropriate taxes.

POS policy efforts face significant opposition from retailers and the tobacco industry. In spite of this, community contractors have achieved some successes and continue to push for further changes in POS policies and social norms regarding tobacco in the retail environment. The POS initiative continues to serve as a model for other state tobacco control programs. This initiative continues to be characterized by effective communication and a high level of coordination between NY TCP, the Center for Public Health and Tobacco Policy, Center for Tobacco-Free New York, RTI, and the community contractors. NY TCP and evaluation staff have been invited to present information and findings about the initiative to science and practice stakeholders.

TFO initiative: The goal of the TFO initiative is to reduce the social acceptability of tobacco use by decreasing the number of public places where it is allowed. The policy goals for this initiative are restrictions on smoking in outdoor public places, such as beaches and parks and in building entryways. Well-enforced local policies that prohibit tobacco use in these outdoor public places communicate to children and adolescents

that tobacco use is not acceptable (Institute of Medicine, 2007). During the 2012–2013 reporting period, community contractors reported the adoption of 163 new TFO policies. These include 100 policies prohibiting smoking on grounds or near entrances of community colleges, museums, and other businesses. During this time, community contractors also reported 63 TFO policies adopted by municipalities, most of which prohibit smoking at parks, playgrounds, and beaches across the state.

MUH initiative: The goal of the MUH initiative is to work toward eliminating exposure to secondhand smoke by increasing the number of smoke-free homes. The policy goal for this initiative is to increase the number of housing units where smoking is prohibited. Contractors in more densely populated areas of the state advocate with building owners and managers for smoke-free policies in large housing complexes and are directed to prioritize those with a minimum of 50 units. Smoke-free homes not only protect nonsmokers and children from secondhand smoke, they also have the potential to increase quit attempts among smokers (Pizacani et al., 2004). During 2012–2013, community contractors reported the adoption of 46 new policies prohibiting smoking in multi-unit dwellings; these policies protect over 6,000 units. Three of these smoke-free housing policies were adopted by public housing authorities. To date, contractors have reported assisting with adoption of 8 smoke-free public housing policies, and they have also identified 12 smoke-free policies that public housing authorities have implemented on their own.

Key Evaluation Questions

This section addresses NY TCP progress from 2003 to 2013 in achieving its statutorily mandated outcomes of reducing tobacco use and reinforcing antitobacco attitudes. Where available, data are presented for the remaining United States to allow comparisons with New York. Because the independent evaluation was not active in calendar year 2013, our key evaluation questions are somewhat more specific than in the past and focus on monitoring trends in key outcomes:

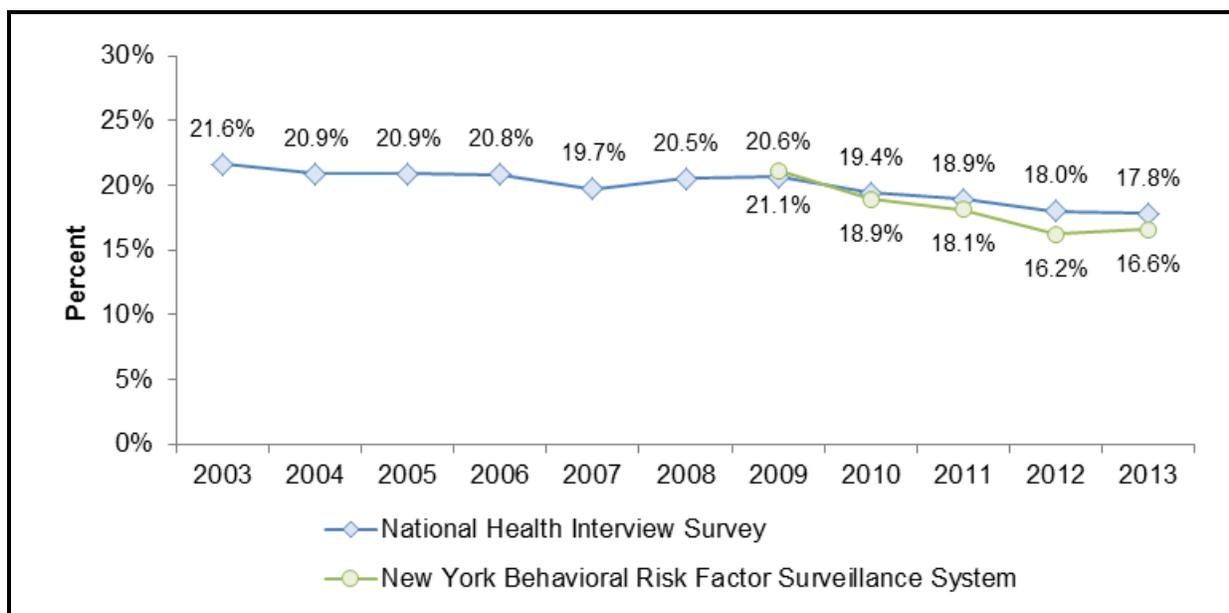
- How has NY TCP influenced trends in tobacco use from 2003 to 2013? Specifically, we examine trends in the following indicators:
 - percentage of adults who currently smoke in New York and the United States,
 - percentage of adult smokers who made a quit attempt in the past 12 months in New York and the United States,
 - percentage of high school students who currently smoke in New York and the United States, and
 - percentage of high school students who currently use smokeless tobacco and smoke cigars in New York and the United States.
- How have tax-paid sales and cigarette consumption changed over time?
- How have cigarette tax evasion, revenue, and revenue losses associated with tax evasion changed over time?
- How has call volume to the New York State Smokers' Quitline changed over time, and how is it influenced by NY TCP health communication efforts?
- What is the level of utilization for the Medicaid tobacco cessation benefit, and how has this changed over time (2009–2013)?

Adult Tobacco Use Measures

In this section, we present trends in the prevalence of adult smoking in New York from 2009 to 2013 using the Behavioral Risk Factor Surveillance System (BRFSS). Due to changes in the data collection and weighting methodologies, prior year estimates of smoking prevalence are not directly comparable. These methodological changes appear to have had only a small influence on the percentage of current New York smokers who have made a quit attempt in the past year. As a result, we present the trend in this measure from the 2003 to 2013 BRFSS. For both of these measures, we report comparable national estimates from the National Health Interview Survey (NHIS). From 2009 to 2013, the prevalence of smoking declined by 21.3% in New York and by 13.6% nationally (Figure 4). In 2013, the prevalence of smoking was lower in New York than in the United States.

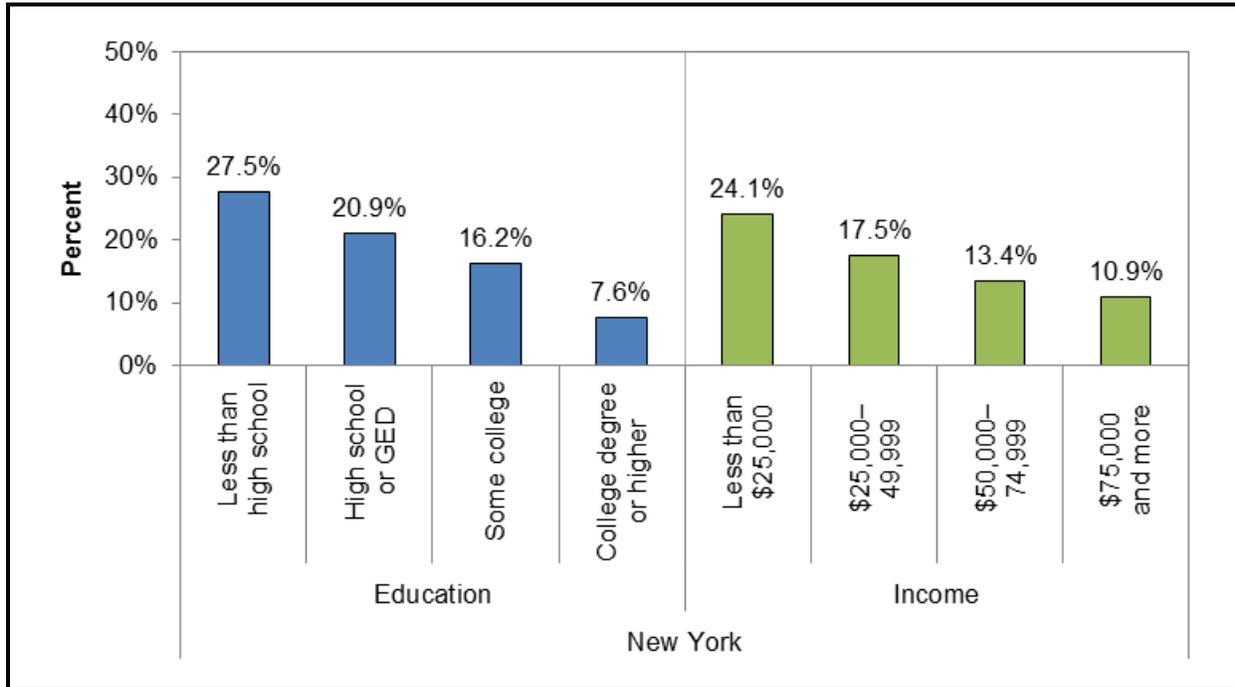
Figures 5 and 6 illustrate significant differences in the prevalence of smoking by education, income, and mental health status. Higher levels of education and income are associated with lower smoking prevalence. The prevalence of smoking is highest for those with less than a high school degree (27.5%), followed by those with a high school degree or equivalent (20.9%), some college (16.2%), and a college degree or higher (7.6%). Similarly, the prevalence of smoking is highest for those with incomes less than \$25,000 (24.1%) and higher than

Figure 4. Percentage of Adults Who Currently Smoke in New York (Behavioral Risk Factor Surveillance System) and Nationally (National Health Interview Survey), 2003–2013



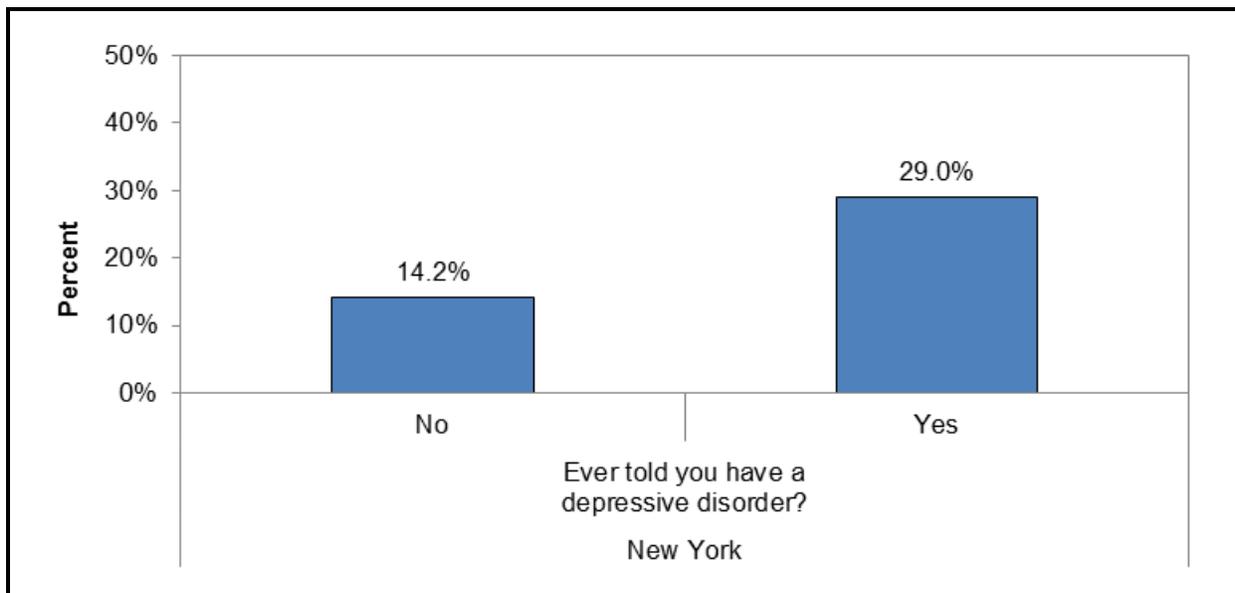
Note: There is a statistically significant difference in smoking prevalence between New York and the United States in 2013.

Figure 5. Percentage of Adults Who Currently Smoke in New York by Education and Income (Behavioral Risk Factor Surveillance System), 2013



Note: There are statistically significant differences in smoking prevalence between adults in each of the education groups. There are statistically significant differences in smoking prevalence between adults with incomes less than \$25,000 and those with higher incomes and between those with incomes between \$25,000 and \$49,999 and those with incomes of \$50,000 or higher.

Figure 6. Percentage of Adults Who Currently Smoke in New York by Mental Health Status (Behavioral Risk Factor Surveillance System), 2013



Note: There is a statistically significant difference in smoking prevalence between those who have and have not ever been told they have a depressive disorder.

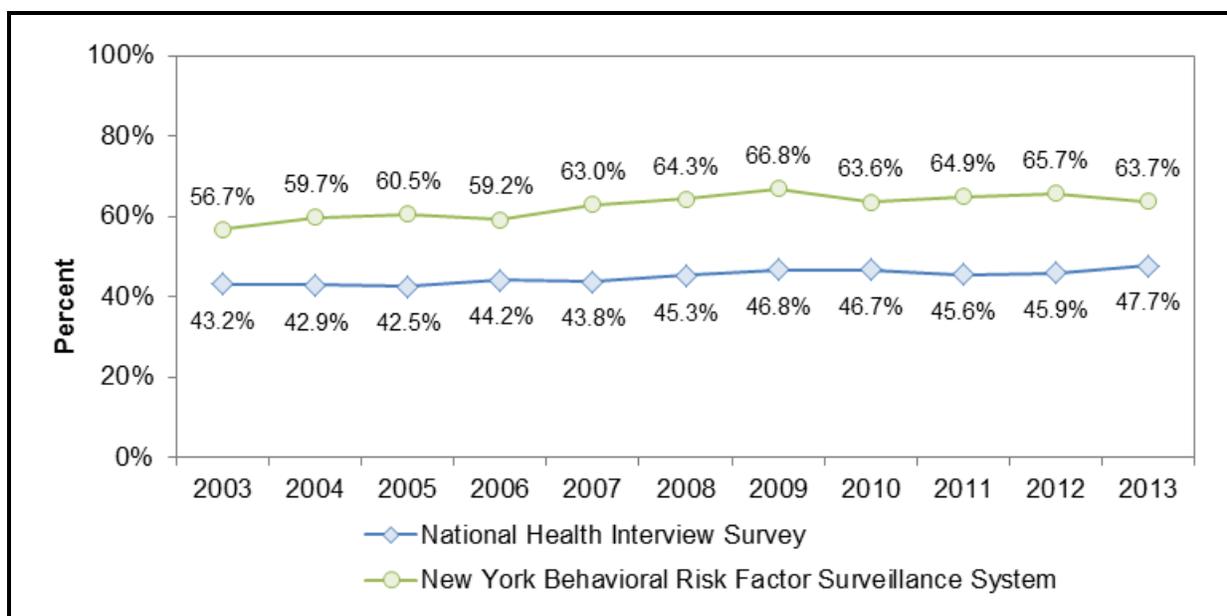
for those with incomes between \$25,000 and \$50,000 (17.5%), which is in turn higher for the next two highest income groups. The prevalence of smoking is statistically similar for the second highest income group (13.4%) and the highest income group (10.9%). The prevalence of smoking among adults who have ever been told they had a depressive disorder (29.0%) was more than twice that of those who had not (14.2%) (see Figure 6).

From 2003 to 2013, the prevalence of smokers who made at least one quit attempt in the past year increased by 12.2% in New York and by 10.4% nationally (Figure 7). As of 2013, 63.7% of smokers made at least one quit attempt in the past year, 33.4% higher than the national rate of 47.7%.

Youth Tobacco Use Measures

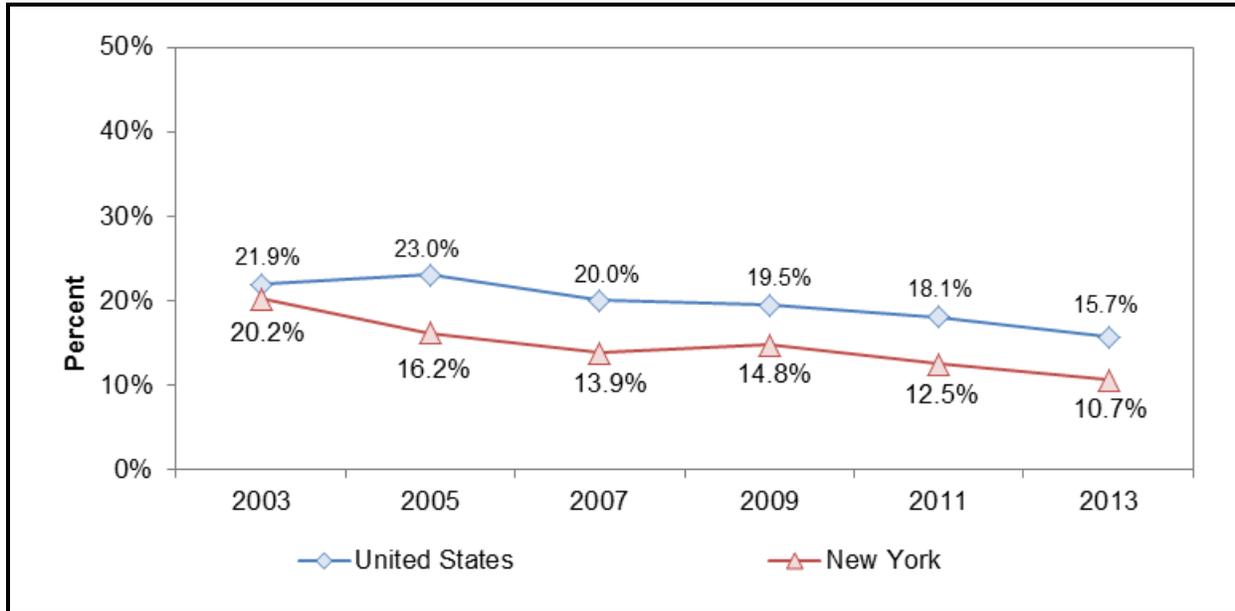
The data on youth tobacco-related indicators in this report come from the biannual New York and national Youth Risk Behavior Surveillance System (YRBSS)—self-administered school-based surveys of high school students. YRBSS data indicate that since 2003, current smoking rates declined by 47.3% in New York and by 28.5% nationally (Figure 8).

Figure 7. Percentage of Smokers Who Made a Quit Attempt in the Past 12 Months in New York (Behavioral Risk Factor Surveillance System) and Nationally (National Health Interview Survey), 2003–2013



Note: There is a statistically significant upward trend among smokers in New York and in the United States. There is a statistically significant difference in the prevalence of making a quit attempt between New York and the United States in 2013.

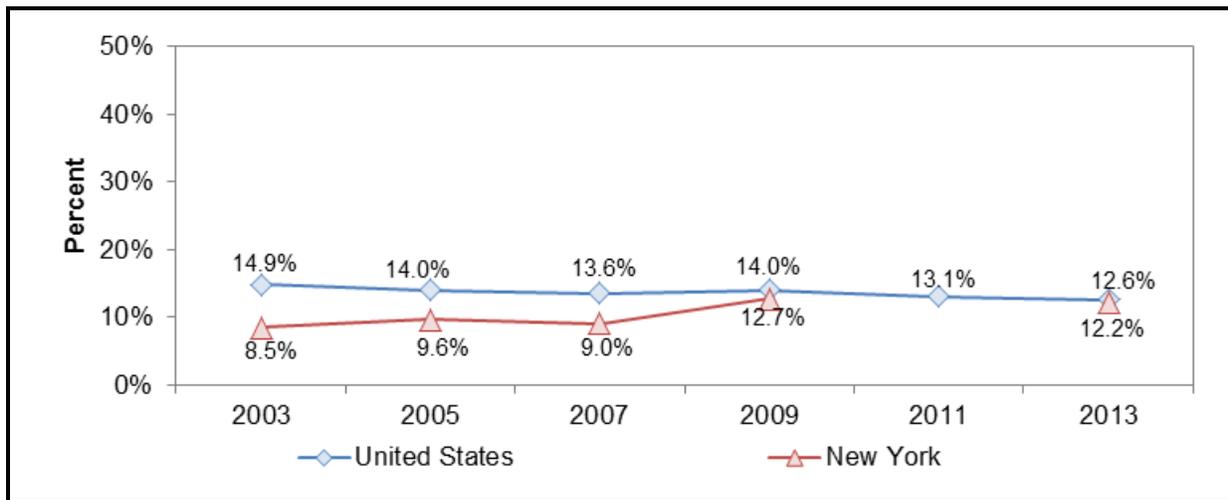
Figure 8. Percentage of High School Students Who Currently Smoke in New York (New York Youth Risk Behavior Surveillance Survey) and Nationally (National Youth Risk Behavior Surveillance Survey), 2003–2013



Note: There is a statistically significant downward trend among high school students in New York and in the United States. The prevalence of smoking is lower in New York than in the United States in 2013.

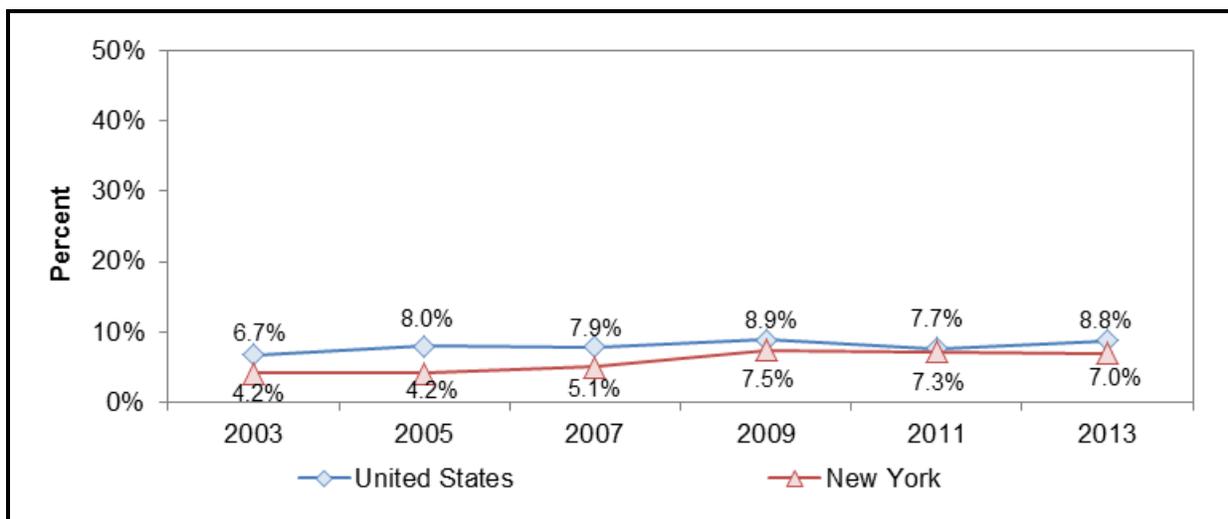
From 2003 to 2013, cigar use among high school students increased by 43.7% in New York and decreased by 14.9% nationally (Figure 9). The prevalence of cigar use among high school students is similar in New York and nationally in 2009 and 2013. Use of smokeless tobacco increased by 67.3% in New York, while remaining steady nationally (Figure 10). As of 2013, there are no significant differences in smokeless tobacco use between New York (7.0%) and the United States (8.8%).

Figure 9. Percentage of High School Students Who Currently Smoke Cigars in New York (New York Youth Risk Behavior Surveillance Survey) and Nationally (National Youth Risk Behavior Surveillance Survey), 2003–2013



Note: There is a statistically significant upward trend among high school students in New York and a statistically significant downward trend in the United States.

Figure 10. Percentage of High School Students Who Currently Use Smokeless Tobacco in New York (New York Youth Risk Behavior Surveillance Survey) and Nationally (National Youth Risk Behavior Surveillance Survey), 2003–2013



Note: There is a statistically significant upward trend in New York.

Cigarette Sales, Consumption, and Tax Evasion

Increasing cigarette excise taxes is an effective way to prevent and reduce cigarette use (Chaloupka et al., 2012). However, smokers can reduce the impact of higher cigarette taxes through various means, including switching to discount cigarettes, smoking fewer cigarettes more intensely, and/or

seeking low-tax or untaxed sources of cigarettes, like neighboring states, online retailers, or Indian reservations. Previous reports have shown that tax avoidance/evasion in New York State is quite prevalent and leads to significant revenue losses (Center for Public Health and Tobacco Policy, 2011; Davis et al., 2006). Cigarette tax avoidance typically refers to legal efforts to avoid paying applicable state taxes, such as buying low-tax cigarettes in other states while vacationing. Tax evasion refers to organized efforts to evade taxes by consumers and sellers of cigarettes, such as purchasing large quantities of cigarettes in low-tax jurisdictions for sale in New York State or purchasing cigarettes from street vendors. Because the methods we use below cannot distinguish between tax evasion and avoidance, we refer to both of these phenomena as tax avoidance/evasion.

In this section, we examine trends in tax-paid sales and self-reported consumption, adjusted for underreporting. Tax-paid sales are a proxy for cigarette consumption, but they only reflect purchases of cigarettes that include the applicable New York State taxes. Given the historical patterns of tax avoidance and evasion, tax-paid sales in New York underestimate true consumption by smokers. By comparing them with self-reported consumption, we can quantify the volume of sales subject to tax avoidance/evasion. Self-reported consumption tends to understate true consumption by about one-third. We estimate the proportion of tax-paid sales in the United States captured by self-reported consumption (Farrelly et al., 2012b; Warner, 1978). We then use this proportion to adjust self-reported consumption in New York, assuming that underreporting is similar between New York and the United States.

Data and Methods

We obtained tax-paid sales from the New York State Department of Taxation and Finance. To construct an estimate of total cigarette consumption in New York, we estimated the number of smokers in the state and their cigarette consumption. We obtained U.S. Census population estimates to estimate the population of 12- to 17-year-olds and adults aged 18 or older. We estimated youth smoking prevalence and self-reported consumption from the New York Youth Tobacco Survey (NY YTS). Adult smoking prevalence in New York was

based on the BRFSS estimates. Because the BRFSS does not ask smokers about their daily cigarette consumption, we calculated this for smokers in New York from the Tobacco Use Supplement to the Current Population Survey (TUS-CPS) in 2000 and the NY ATS in 2012.

We estimated the population of youth and adult smokers by multiplying the prevalence of smoking in each group by the respective U.S. Census population estimates for youth aged 12 to 17 and adults aged 18 or older.

Youth consumption was estimated by multiplying the number of days in the past month a youth reported smoking cigarettes by the number of cigarettes they reported smoking on days they smoked. Youth reported the number of cigarettes smoked per day using categorical responses (< 1 per day, 1, 2–5, 6–10, 11–20, 20 or more). These responses were recoded, taking the midpoint of the categories (e.g., 0.5, 3.5, 8,...) and topcoded at 25. Adult consumption was estimated by multiplying the number of days in the past month an adult reported smoking cigarettes by the number of cigarettes they reported smoking on days they smoked. We converted cigarettes smoked into packs (i.e., 20 cigarettes per pack) and annualized youth and adult consumption estimates. We then calculated aggregate self-reported consumption by multiplying the average number of packs smoked per year by the respective population estimate of smokers.

To adjust for underreporting, we calculated self-reported consumption nationwide using the TUS-CPS from 2000 and 2011 (no estimate was available for 2012). We found that self-reported consumption captured 57% of tax-paid sales nationally in 2000 and 60% in 2011. We then adjusted self-reported consumption for adults and youth in New York by the inverse of this percentage.

The percentage of sales subject to tax avoidance/evasion was defined as the difference between adjusted self-reported annual consumption and tax-paid sales as a percentage of tax-paid sales. Potential tax revenue lost was estimated by multiplying the difference between adjusted self-reported consumption and tax-paid sales by the per pack state excise tax. In 2000, the state excise tax increased in March from \$0.56 per pack to \$1.11 per pack. Potential revenue lost in 2000 was adjusted to account for this change.

Results

From 2000 to 2012, tax-paid sales decreased by 64%, while adjusted self-reported consumption decreased by 44% or 654 million fewer packs per year (Table 4). In 2000, 37% of all packs smoked were subject to tax avoidance (550 million packs). By 2012, this percentage increased to 60% (497 million packs). In monetary terms, from 2000 to 2012, potential revenue lost increased 186%, from \$786 million to \$2.2 billion.

Table 4. Changes in Cigarette Sales, Consumption, and Tax Avoidance/Evasion from 2000 to 2012

Estimate	2000	2012	Change
Tax-paid sales (in millions of packs)	939.0	338.2	-64.0%
Adjusted self-reported consumption (in millions of packs)	1,489.1	834.8	-43.9%
Percentage of packs smoked subject to tax evasion/avoidance	36.9%	59.5%	61.2%
Potential revenue lost (2014 m\$)	\$786.0	\$2,244.5	185.6%
State excise tax per pack	\$1.03	\$4.35	322.3%

Discussion

Our analysis complements earlier evaluations that indicate that cigarette smoking has declined significantly over the past decade. Although tax-paid sales overstate declines in smoking, we found that total cigarette consumption in New York State declined by 44% from 2000 to 2012, consistent with declines in youth and adult smoking. However, over this same period, tax avoidance/evasion increased significantly. The increase in tax avoidance/evasion has led to an increase in lost revenue for the state and has also reduced the effect of the increases in cigarette excise taxes. Had smokers not been able to avoid paying higher taxes, smoking prevalence and consumption likely would have decreased more than the observed 44% and revenue would have increased. One potential intervention to curb tax avoidance/evasion is to implement more sophisticated digital excise tax stamps, similar to those implemented in California, Massachusetts, and Michigan. The digital stamps are encrypted with information about the distributor, the date of

the stamp, and the value of the stamp. This information can be used to detect counterfeit stamps and facilitate inspections of retail outlets as stamps can be quickly read with a scanner. This change led to an increase in tax-paid sales by approximately 9% in California following implementation and an increase in annual revenue of over \$150 million in excise and sales taxes (IOM, 2015).

New York State Smokers' Quitline Call Volume and the Influence of Health Communications

Incoming call volume represents the number of people attempting to reach the New York State Smokers' Quitline for help with quitting smoking and/or gathering information for themselves or others. Typically, 1% of smokers call a quitline each year (NAQC, 2009). Quitline call volume is very sensitive to health communication campaigns delivered through television, radio, Internet, and print advertising (Bui et al., 2010; Carol & Rock, 2003; Erbas et al., 2006; Farrelly et al., 2007, 2011, 2013; Mosbaek et al., 2007; Schillo et al., 2011). To have a meaningful impact on smoking behavior, we have recommended that NY TCP reach at least 60% of smokers with antismoking television advertisements. The actual reach among smokers, measured by confirmed awareness of at least one television advertisement, has ranged from 6% in 2003 to 53% in 2007. The most recently available data show that, in 2012, confirmed awareness was 36%. We have shown that increases in exposure to antismoking advertisements in New York have led to an increase in quit attempts (Farrelly et al., 2012a).

The purpose of the analysis presented below is to examine quitline call volume through 2013 and how it has responded to antismoking advertising as measured by gross rating points (GRPs), a standardized measure of media delivery. Specifically, we examine what call volume would have been each year had there been sufficient GRPs to reach 60% confirmed awareness among smokers.

Data and Methods

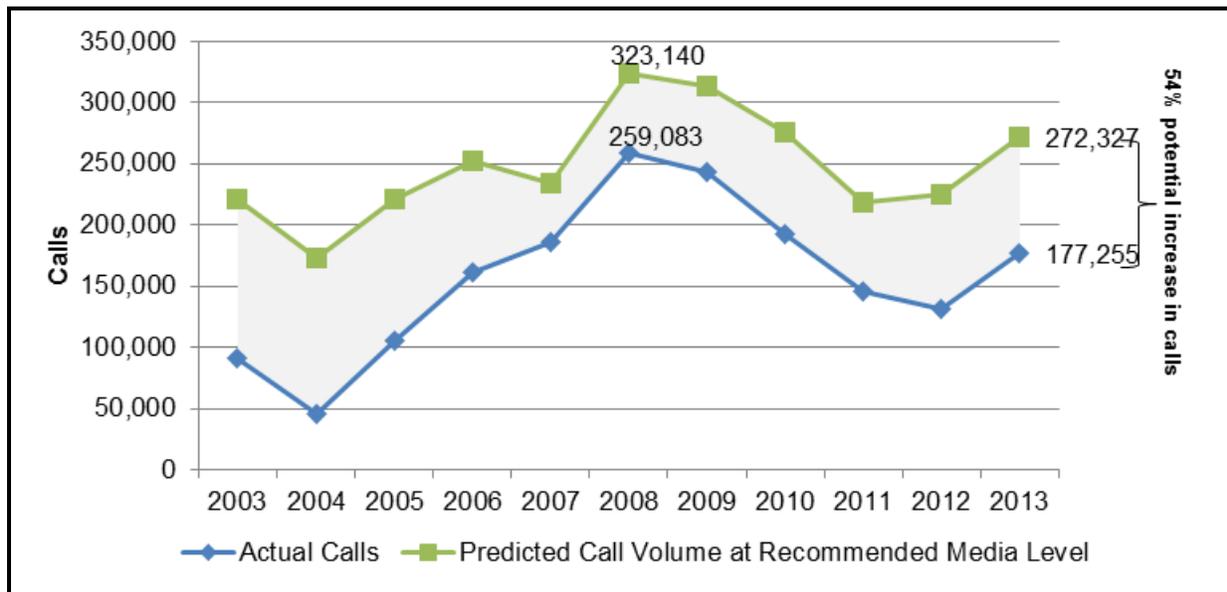
To implement this analysis, we first estimated the relationship between smokers' awareness of NY TCP antismoking advertisements based on information reported in the NY ATS. This analysis indicates that it requires 5,400 GRPs per quarter

to reach 60% confirmed awareness among smokers. We then used quarterly media market-level data from 2003 to 2013 on GRPs and quitline call volume to quantify how increases in GRPs influence quitline call volume. To estimate what call volume would be with 60% confirmed awareness, we estimated a linear regression of quitline call volume per smoker in each of the 10 media markets in New York as a function of market-level GRPs, a linear time trend, and indicators for calendar quarters and media markets. Using the results from this regression, we then predicted what call volume would have been with sufficient GRPs in each market to achieve 60% confirmed awareness statewide (i.e., 5,400 per quarter). As a point of reference, in 2007 when annual GRPs were at their peak, there was an average of 3,400 per quarter.

Results

Figure 11 presents the historical trend in quitline call volume and what quitline call volume would have been with sufficient GRPs to maintain 60% confirmed awareness of NY TCP public education television advertisements among smokers. From 2003 to 2008, call volume increased 183% and then decreased steadily as NY TCP resources for health communications declined. Overall, quitline call volume increased 94% from 2003 to 2012. In 2013, quitline call volume would have been 54% higher than the actual level had confirmed awareness reached 60% that year.

Figure 11. New York State Smokers' Quitline Actual Call Volume and Predicted Call Volume at Recommended Media Levels



Discussion

This analysis illustrates the potential impact of increasing the reach of NY TCP’s public education efforts. Although a 54% increase in quitline utilization would make a meaningful impact on those who call the quitline, the benefits extend beyond the quitline. An increase in media exposure would also increase the proportion of smokers statewide who make a quit attempt. Previous research has shown that the larger the NY TCP media buy, the higher the statewide annual quit prevalence (Farrelly et al., 2012a).

Medicaid Beneficiaries' Use of Cessation Benefits

An objective of the NY TCP, aligned with the New York State Prevention Agenda, is to promote use of Medicaid smoking cessation benefits for eligible enrollees. Medicaid began reimbursing for prescription smoking cessation medications in October 1999 and for over-the-counter (OTC) cessation aids in February 2000 (NYSDOH, 2011a). Several recent changes have expanded coverage for cessation benefits, including support for smoking cessation counseling. Beginning on January 1, 2009, Medicaid began covering individual smoking cessation counseling for pregnant smokers provided by a physician,

registered physician assistant, or registered nurse practitioner (NYSDOH, 2008). This benefit was expanded 1 year later to include postpartum women during the 6 months following childbirth and adolescents aged 10 to 21 (NYSDOH, 2009). This expansion added licensed midwives as eligible providers. Medicaid will reimburse for up to six individual counseling sessions for women during pregnancy and during the postpartum period and six sessions for adolescents during a 12-month period. On April 1, 2011, coverage for smoking cessation counseling was extended to include all Medicaid beneficiaries so that all beneficiaries can receive up to six counseling sessions during any 12-month period (NYSDOH, 2011b). In addition, counseling sessions could be provided in group sessions beginning June 1, 2011, for office-based practitioners and July 1, 2011, for clinics.

As a result of requirements in the federal Affordable Care Act, coverage for smoking cessation counseling increased to include a maximum of two quit attempts per 12 months and up to four face-to-face counseling sessions per quit attempt. This change increases the maximum number of counseling sessions from six to eight per 12 months. This change was effective starting January 1, 2014, for Medicaid fee-for-service and on March 1, 2014, for MMC. Also in 2014, dental practitioners are eligible to provide two smoking cessation counseling sessions to a beneficiary within a 12-month period. This change was effective as of April 1, 2014, for Medicaid fee-for-service and July 1, 2014, for MMC.

Data and Methods

Below we present data on utilization (i.e., number of claims) of cessation benefits for MMC from 2009 to 2013 to see how utilization has changed in response to the changes in coverage noted above. We examine trends in the number of Medicaid enrollees overall and the estimated number of smokers. The latter is based on Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys. The CAHPS survey is administered every other year. We estimate the number of tobacco users by multiplying the percentage of tobacco users from the biannual CAHPS survey by the statewide MMC enrollment each year. The prevalence of tobacco use combines CAHPS data from New York City and the rest of the state to account for regional variation. This survey asks adult Medicaid

enrollees if they smoke cigarettes or use tobacco “every day, some days, or not at all.” The “using tobacco” wording was added to CAHPS in 2011. For simplicity, we labeled tobacco users as smokers in the table. Based on the data presented below, this expanded definition had no apparent influence on the prevalence of tobacco use.

Results

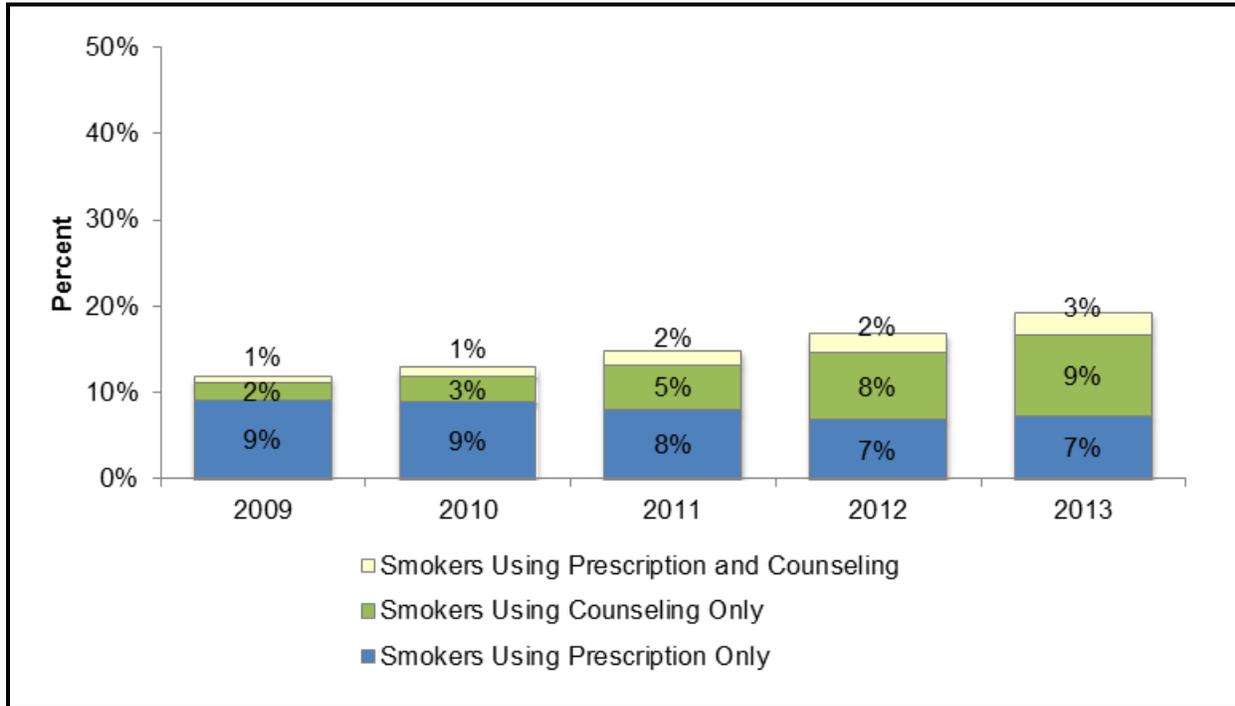
Table 5 shows that while the prevalence of tobacco use has remained relatively stable, the total number of smokers increased by 29% coinciding with a 37% increase in adult MMC enrollment from 2009 to 2013. The percentage of smokers using cessation benefits increased by 58% (12% to 19%) (Figure 12). As shown in Figure 12, this increase is driven largely by an increase in cessation counseling alone or in combination with prescription or OTC cessation aids. Over this same period, the proportion of tobacco users using prescription or OTC cessation aids only has declined.

Table 5. Adult Medicaid Managed Care Enrollment and Utilization of Cessation Benefits, 2009–2013 (in 1,000s)

Enrollment and Cessation Benefit Utilization	2009	2010	2011	2012	2013	% Change 2009–2013
Statewide enrollment	2,269	2,419	2,585	2,921	3,043	37%
Smokers (%)	23%	23%	23%	23%	21%	–9%
Total number of smokers	513	559	596	669	651	27%
Smokers utilizing benefit	61	73	89	113	126	107%
Smokers using prescription only	47	50	48	46	48	2%
Smokers using counseling only	10	17	31	52	61	510%
Smokers using prescription and counseling	4	6	10	15	17	325%

Notes: (1) Adults aged 18 to 64 who were enrolled in a mainstream Medicaid Managed Care plan at any point during the calendar year, (2) excludes those dually eligible for Medicare and Medicaid and those enrolled in Special Needs Plans, and (3) estimated number of smokers is based on the New York Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey. This survey asks Medicaid enrollees if they smoke cigarettes or use tobacco “every day, some days, or not at all.” The “using tobacco” wording was added to CAHPS in 2011. For simplicity, we labeled tobacco users as smokers in the table.

Figure 12. Percentage of Current Adult Tobacco Users Enrolled in Medicaid Managed Care Who Used Cessation Benefits, 2009–2013



Discussion

These data show that while the use of cessation benefits has increased considerably from 2009 to 2013, the percentage of smokers who take advantage of the benefits remains relatively low. At this point, it is not clear what contributes to the low utilization rate. It likely is a combination of factors, such as a lack of awareness of the available benefits, a lack of interest in quitting, and/or health care providers not choosing to counsel patients or offer prescription or OTC cessation aids.

Discussion

Progress in Changing Tobacco Use

The prevalence of adult smoking in New York was 16.6% in 2013—unchanged from 2012 and lower than the national rate of 17.8%. The prevalence of smoking remains substantially higher than average for those with low socioeconomic status. The prevalence of smoking declines steadily as education and income levels increase, with the

highest prevalence among those with less than a high school degree (27.5%) and the lowest among those with a college degree or more (7.6%). Similarly, the prevalence of smoking is highest among adults with incomes less than \$25,000 (24.1%) and lowest among those earning \$75,000 or more (10.9%). Also, the prevalence of smoking was 29.0% for those who have ever had a depressive disorder. The prevalence of adult smokers making a quit attempt has been stable for several years.

Turning to youth, in 2013, the prevalence of cigarette smoking among high school students was 10.7% in New York compared with 15.7% nationally—a difference that has been stable for many years. In contrast, the prevalence of current cigar use is similar between New York (12.2%) and nationally (12.6%) and has increased 44% in New York since 2003 (from 8.5%).

Programmatic Recommendations

In light of the limited scope of the independent evaluation in 2013 and the stable key outcome indicators, our recommendations are very similar to those in the 2013 IER.

- Increase NY TCP funding to a minimum of one-half of CDC's recommended funding level for New York (\$203 million) to \$101.5 million per year over the course of 2 to 3 years to allow for a gradual increase in Program capacity. This represents less than 6% of New York's annual revenue from tobacco taxes and MSA payments.
- Continue to develop and implement interventions to address disparities in smoking rates, particularly for those with poor mental health.
- Investigate potential strategies to curb increased use of cigars among high school students.
- Increase awareness of antismoking messages among smokers to at least 60%.
- Invest additional funds in media campaigns to support community contractors' policy change efforts.
- Implement encrypted digital excise taxes for cigarettes and other tobacco products to reduce tax avoidance/evasion.
- Continue directing Health Systems for a Tobacco-Free New York contractors to focus their efforts on organizations that serve high proportions of tobacco

users, such as community health centers and mental health programs.

- Collaborate with New York State Medicaid to conduct additional educational efforts to promote awareness and use of the Medicaid benefit for smoking cessation.
- Continue to emphasize the importance of community contractor efforts to actively engage youth and allied organizations and individuals in their efforts, particularly those invested in reducing tobacco-related disparities.
- Continue to monitor trends in tobacco product use among youth and adults to understand patterns of use, inform intervention approaches, and track fluctuations across product types. This includes the program's plans to expand its surveillance systems to include electronic vapor products in 2014.

References

- Bonnie, R. J., Stratton, K., & Wallace, R. B. (Eds.). (2007). *Ending the tobacco problem: A blueprint for the nation*. Washington, DC: National Academies Press.
- Bui, Q. M., Huggins, R. M., Hwang, W.-H., White, V. M., & Erbas, B. (2010). A varying coefficient model to measure the effectiveness of mass media anti-smoking campaigns in generating calls to a Quitline. *Journal of Epidemiology*, *20*(6), 473–479.
- California Department of Health Services (CDHS). (1998). *A model for change: The California experience in tobacco control*. Sacramento, CA: California Department of Health Services.
- Carroll, T., & Rock, B. (2003). Generating Quitline calls during Australia's National Tobacco Campaign: Effects of television advertisement execution and programme placement. *Tobacco Control*, *12*(Suppl 2), ii40–44.
- Centers for Disease Control and Prevention (CDC). (2014). *Best Practices for Comprehensive Tobacco Control Programs—2014*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- Chaloupka, F. J., Yurekli, A., & Fong, G. T. (2012). Tobacco taxes as a tobacco control strategy. *Tobacco Control*, *21*(2), 172–180. doi: 10.1136/tobaccocontrol-2011-050417
- Erbas, B., Bui, Q., Huggins, R., Harper, T., & White, V. (2006). Investigating the relationship between placement of anti-smoking advertisements and number of telephone calls to Quitline: A semi-parametric modelling approach. *Journal of Epidemiology and Community Health*, *60*, 180–182.
- Farrelly, M., Mann, N., Watson, K., & Pechacek, T. (2013). The influence of television advertisements on promoting calls to telephone quit lines. *Health Education Research*, *28*, 15–22.

- Farrelly, M. C., Hussin, A., & Bauer, U. E. (2007). Effectiveness and cost effectiveness of television, radio and print advertisements in promoting the New York smokers' quitline. *Tobacco Control, 16 Suppl 1*, i21-23. doi: 10.1136/tc.2007.019984
- Farrelly, M. C., Duke, J. C., Davis, Nonnemaker, J. M., Kamyab, K., Willett, J. G., & Juster, H. R. (2012a). Promotion of smoking cessation with emotional and/or graphic antismoking advertising. *American Journal of Preventive Medicine, 43*(5), 475-482.
- Farrelly, M. C., Nonnemaker, J. M., & Watson, K. A. (2012b). The consequences of high cigarette excise taxes for low-income smokers. *PLoS One, 7*(9), e43838. doi: 10.1371/journal.pone.0043838
- Farrelly, M. C., Davis, K. C., Nonnemaker, J. M., Kamyab, K., & Jackson, C. (2011). Promoting calls to a quitline: Quantifying the influence of message theme, strong negative emotions and graphic images in television advertisements. *Tobacco Control, 20*, 279-284.
- Federal Trade Commission (FTC). (2013). *Cigarette report for 2011*. Washington, DC: Federal Trade Commission.
- Frieden, T. R. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health, 100*(4), 590-595.
- Henriksen, L. S., Schleicher, N. C., Feighery, E. C., & Fortmann, S. P. (2010). A longitudinal study of exposure to retail cigarette advertising and smoking initiation. *Pediatrics, 126*(2), 232-238.
- Institute of Medicine (IOM). (2007). Changing the regulatory landscape. Chapter 4 in *Ending the tobacco epidemic: A blueprint for the nation*, R. J. Bonnie, K. Stratton, & R. B. Wallace, eds. (pp. 271-340). Washington, DC: The National Academies Press.
- Leatherdale, S. T., & Strath, J. M. (2007). Tobacco retailer density surrounding schools and cigarette access behaviors among underage smoking students. *Annals of Behavioral Medicine, 33*(1), 105-111.
- McCarthy, W. J., Mistry, R., Lu, Y., Patel, M., Zheng, H., & Dietsch, B. (2009). Density of tobacco retailers near schools: Effects on tobacco use among students. *American Journal of Public Health, 99*(11), 206-213.

Mosbaek, C. H., Austin, D. F., Stark, M. J., et al. (2007). The association between advertising and calls to a tobacco quitline. *Tobacco Control*, 16, i24–29.

National Cancer Institute (NCI). (1991). *Strategies to control tobacco use in the United States: A blueprint for public health action in the 1990s*. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

National Cancer Institute (NCI). (2008, June). *The role of the media in promoting and reducing tobacco use*. Tobacco Control Monograph No. 19, NIH Pub. No. 07-6242. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

National Research Council and Institute of Medicine (IOM). (2015). *Understanding the U.S. Illicit Tobacco Market: Characteristics, Policy Context, and Lessons from International Experiences*. Committee on the Illicit Tobacco Market: Collection and Analysis of the International Experience, P. Reuter and M. Majamundar, Eds. Institute of Medicine. Washington, DC: The National Academies Press.

New York State Department of Health (NYSDOH). (2008, October). *New York State Medicaid Update*, Vol. 24, No. 11. Retrieved September 29, 2014, from http://www.health.ny.gov/health_care/medicaid/program/update/2008/2008-10.htm#med.

New York State Department of Health (NYSDOH). (2009, December). *New York State Medicaid Update*, Vol. 25, No. 17. Retrieved September 29, 2014, from http://www.health.ny.gov/health_care/medicaid/program/update/2009/2009-12.htm#smo.

New York State Department of Health (NYSDOH). (2011a, July). *More Medicaid Enrollees in New York Access Cessation Benefits between 2000 and 2010: Smoking Declines*. Tobacco Control Program StatShot Vol. 4, No. 7. Retrieved September 29, 2014, from https://www.health.ny.gov/prevention/tobacco_control/reports/statshots/volume4/n7_medicaid_cessation_benefits_update.pdf.

New York State Department of Health (NYSDOH). (2011b, April). *New York State Medicaid Update*, Vol. 27, No. 5. Retrieved September 29, 2014, from http://www.health.ny.gov/health_care/medicaid/program/update/2011/2011-04.htm#exp

- North American Quitline Consortium (NAQC). (2009). *Measuring reach of quitline programs*. Phoenix, AZ: NAQC Issue Paper.
- Paynter, J., & Edwards, R. (2009). The impact of tobacco promotion at the point of sale: A systematic review. *Nicotine & Tobacco Research, 11*(1), 25–35.
- Pizacani, B. A., Martin, D. P., Stark, M. J., Koepsell, T. D., Thompson, B., & Diehr, P. (2004). A prospective study of household smoking bans and subsequent cessation related behaviour: The role of stage of change. *Tobacco Control, 13*(1), 23–28.
- Schillo, B. A., Mowery, A., Greenseed, L. O., Luxenberg, M. G., Zieffler, A., Christenson, M., & Boyle, R. G. (2011). The relation between media promotions and service volume for a statewide tobacco quitline and a web-based cessation program. *BMC Public Health, 11*(1), 939.
- Slater, S. J., Chaloupka, F. J., Wakefield, M., Johnston, L. D., & O'Malley, P. M. (2007). The impact of retail cigarette marketing practices on youth smoking uptake. *Archives of Pediatrics & Adolescent Medicine, 161*(5), 440–445.
- U.S. Department of Health and Human Services (USDHHS). (2000). *Reducing tobacco use: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- U.S. Department of Health and Human Services (USDHHS). (2012). *Preventing tobacco use among youth and young adults: A report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.
- Wakefield, M. A., Loken, B., & Hornik, R. C. (2010). Use of mass media campaigns to change health behaviour. *Lancet, 376*, 1261e71.
- Wakefield, M., Spittal, M., Durkin, S., Yong, H., & Borland, R. (2011). Effects of mass media campaign exposure intensity and durability on quit attempts in a population-based cohort study. *Health Education Research, 26*(6), 988–997.

Warner, K. E. (1978). Possible increases in the underreporting of cigarette consumption. *Journal of the American Statistical Association*, 73(362), 314–318.