

# The First Decade of the Massachusetts Tobacco Control Program

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## SYNOPSIS

This article provides a comprehensive overview of the first decade of the Massachusetts Tobacco Control Program (MTCP). Born after Massachusetts passed a 1992 ballot initiative raising cigarette excise taxes to fund the program, MTCP greatly reduced statewide cigarette consumption before being reduced to a skeletal state by funding cuts. The article describes the program's components and goals, details outcomes, presents a summary of policy accomplishments, and reviews the present status of MTCP in the current climate of national and state fiscal crises. The first decade of the MTCP offers many lessons learned for the future of tobacco control.



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In one short decade (1993–2003), the Massachusetts Tobacco Control Program (MTCP) has experienced an extraordinary cycle of birth, growth, and precipitous decline. The MTCP was launched when Massachusetts became the second state (after California) to pass an initiative petition raising state cigarette excise taxes to fund a comprehensive statewide tobacco control program. Within several years, the MTCP had rapidly evolved into a broad public health initiative associated with a dropping per capita adult cigarette consumption at a rate three times greater than that seen in the rest of the United States.<sup>1</sup> By 1999, the Centers for Disease Control and Prevention (CDC) drew heavily upon evidence-based analyses of the MTCP and the model California Tobacco Control Program<sup>2,3</sup> in developing its “best practices” recommendations for other states around the country.<sup>4</sup> Yet, by 2003, the MTCP had suffered severe fiscal cutbacks that slowed activity to almost a complete halt.

In this article, we describe the MTCP over its first decade. While other recent articles highlight the critical work in tobacco control that has occurred across the country during this time,<sup>5–8</sup> including the accomplishments of comprehensive programs in California,<sup>9,10</sup> Florida,<sup>11,12</sup> Oregon,<sup>12,13</sup> Arizona,<sup>12,14,5</sup> and other states, we focus our attention on Massachusetts. In documenting the programmatic, regulatory, legislative, and budgetary dimensions that have shaped the dynamics of the MTCP, we provide lessons learned for the future practice of tobacco control.

## BIRTH OF THE MASSACHUSETTS TOBACCO CONTROL PROGRAM

The 1980s witnessed the enactment of several key Massachusetts policies that set the stage for a modern, statewide tobacco control movement. In 1985, Massachusetts Department of Public Health (MDPH) officials, acting under the authority of the state hazardous substance law, classified oral snuff as a hazardous substance and required health warning labels on its packages. This action led to the passage of a federal law the following year requiring uniform health warnings on snuff and chewing tobacco packages.<sup>16</sup> In 1986, Massachusetts legislated an excise tax on smokeless tobacco.<sup>17</sup> The 1987 passage of a clean indoor air law limited smoking in some public places, requiring restaurants with seventy-five or more seats to set aside at least 200 square feet (16 seats) as a non-smoking section.<sup>18</sup>

By 1990, the Massachusetts Division of the American Cancer Society (ACS), bolstered by opinion polls indicating public support, recommended that the state emulate California's successful 1988 tobacco tax initiative petition.<sup>19</sup> Thus ensued a two-year campaign to secure and pass a ballot initiative (Question 1) that levied an extra \$.25 tax per pack on cigarettes for the purpose of funding new tobacco education and control programs.<sup>20–22</sup> In the fall of 1992, the ACS-led Massachusetts Coalition for a Healthy Future, despite being outspent 10:1 by the tobacco industry-supported Committee against Unfair Taxes, won passage of the initiative with approval from 54% of voters. The campaign's success has been credited to several factors: an effective coalition led, heavily staffed, and funded by the ACS, which attracted over 250 other organizations to the initiative; sophisticated political guidance to frame a cogent message—“Tax Tobacco, Protect

Kids”—while capitalizing on the ACS logo with its high name recognition and public trust; visibility of volunteer health professionals; expert legal assistance; grassroots support; and media backing (such as supportive editorials from the state's leading newspapers).<sup>20–22</sup>

The passage of the 1992 Question 1 tobacco tax initiative, which raised the state excise tax from \$.26 to \$.51 per pack, established the Health Protection Fund. The advent of new funding greatly expanded low-level tobacco control efforts made possible up to that time by the National Cancer Institute (NCI) American Stop Smoking Intervention Study (ASSIST) program. The Health Protection Fund, which initially generated approximately \$120 million new dollars to the state annually, allowed MDPH to launch the Massachusetts Tobacco Control Program (MTCP) in 1993 with three major goals: (1) to persuade and help adult smokers to stop smoking; (2) to prevent young people from starting to use tobacco and to reduce their access to tobacco; and (3) to protect nonsmokers by reducing their exposure to environmental tobacco smoke (ETS).<sup>23</sup>

## LAUNCHING THE MTCP: INTERLOCKING STRATEGIES TO REDUCE TOBACCO USE

The MTCP promoted interlocking strategies of changing broad social norms as well as individual behaviors. Using the theoretical framework from the NCI ASSIST study and selected program elements of the California Tobacco Control Program,<sup>24</sup> MTCP wove a comprehensive tobacco control effort into the larger public health system of Massachusetts.<sup>25</sup> Robbins and Krakow have detailed three phases of its organizational development: (1) a formation stage, immediately following the passage of Question 1, when a flood of money quickly funneled into programs; (2) a strategic partnership building phase, whereby regional networks linked program components statewide; and (3) a shared leadership stage, whereby expanded statewide external advisory committees represented MTCP stakeholders in decision-making.<sup>25</sup> The community-based infrastructure helped the MTCP balance and complement statewide, regional and local efforts.

### The media campaign: Educating the public

The MTCP media campaign represented one of the first such statewide efforts in the country. Its messages promoted all three major goals for young people, adult smokers, and the general public.<sup>26</sup> The tagline, “It's time we made smoking history,” achieved a high level of recognition among the public.<sup>27</sup> As a major engine of the MTCP, the media component accounted for approximately one-third of the overall program resources (averaging an annual budget of approximately \$13 million from 1994–2001). Consisting mainly of television advertising (80%), complemented by messages through radio, billboards, and newspapers, the media campaign provided the highly visible focal point of the MTCP. It also provided a public counterpoint to the tobacco industry's previously unchallenged promotional advertising, which had led to smoking initiation among receptive youth.<sup>28</sup>

Furthermore, the media campaign complemented and promoted other MTCP activities. The media efforts sought to link smokers to treatment services, both through dedicated messages and also by displaying the Quitline number

and cessation website address in advertisements. In addition, media messages concerning the dangers of second-hand smoke placed the blame on the tobacco industry, not on smokers, and helped create the atmosphere whereby the issue of clean indoor air was kept alive in the public's consciousness. Such momentum helped facilitate the passage of local tobacco control laws and regulations.

Strategies to reach adults, the young, and the general public evolved in a dynamic process over time. MTCP started with "soft" messages to introduce viewers to the topic. Initial approaches for the youth campaign employed humor, professional athlete spokespersons, and messages about the aesthetic consequences of tobacco use. Ongoing research revealed that these initial strategies did not fully engage viewers. Instead, both the young and adults considered the most effective advertisements to be those that evoked strong negative emotion<sup>27,29</sup> and portrayed the serious consequences of smoking.<sup>30</sup>

Ultimately, constant research and revamping concluded that the most successful approach with both the young and adults involved "real people telling real stories." MTCP media campaigns tapped into the authenticity of true stories that were graphic, negative, and emotional to capture the public's attention. The "Truth" campaign featured former employees of the tobacco industry (Wayne McClaren [the late "Marlboro Man"], Janet Sackman [a former cigarette model], and the late Victor Crawford [an ex-tobacco industry lobbyist]) who as "insiders" described the industry's manipulation of nicotine in tobacco and their deception of the public. These advertisements were among those rated most effective by both young people and adults interviewed in follow-up surveys.<sup>27,29</sup>

Two particularly successful series of advertisements featured state residents who suffered deep personal loss and tragedy from tobacco addiction. Advertisements featuring Pam Laffin, who received a lung transplant due to emphysema at age 24, and Rick Stoddard, who lost his wife from lung cancer at the age of 46, generated tremendous interest. Based on the documented success of the "Pam" advertisements among young people,<sup>27</sup> the MTCP developed a school curriculum kit featuring a video documentary about Laffin's saga that reached approximately 150,000 Massachusetts students in grades 6–10.<sup>31</sup> Laffin's death in 2000 marked a tragic milestone in this history. Subsequently, this curriculum gained national exposure, with MTV airing the documentary in 2001,<sup>32</sup> and the CDC disseminating the teaching module in 2002 to schools throughout the country.

In total, the media campaign produced approximately 150 thirty-second television spots from 1993 to 2001. In addition, the mere presence of the campaign itself sparked a cascade of free media, generating related stories relevant to business, human interest, youth, culture, and the arts. Longitudinal study data of the reach and penetration of the television advertisements during the first three years (1993–1996) found that 88% of adults and 94% of adolescents reported seeing at least one anti-smoking advertisement on television during the prior several years. Over half (56%) of the adults and nearly three-fourths (73%) of the young people reported seeing them on a weekly basis.<sup>27,29</sup> Data from the program's ongoing random-digit dial telephone

survey also documented broad awareness of the television campaign among target audiences; from 1995 to 2002, estimates of the percentage of adult smokers who had seen any advertising against smoking on TV ranged from 80%–90%.<sup>33</sup> The media education campaign also had an impact on youth smoking in Massachusetts. A longitudinal study following a cohort of Massachusetts adolescents (aged 12–15) for four years found that the 12–13-year-olds who reported seeing television advertisements sponsored by the MTCP in 1993 were half as likely to progress to established smoking as those who did not see the advertisements.<sup>34</sup>

### Promoting change at the local level

MTCP demonstrated its commitment to local efforts by allocating nearly half of its annual budget to building community-based programs. MTCP operationalized these efforts through a system of six regional networks that linked community-based programs for the state's six million people. Each network coordinated information-sharing between local programs, brought together public and private sector parties to work collaboratively on tobacco control initiatives, wove local media outreach projects with statewide media efforts, and enhanced communication between the regional and state leadership of the MTCP.<sup>23,25</sup>

A major thrust of MTCP was funding and supporting local boards of health and health departments. Such boards and departments, typically underfunded and understaffed, welcomed the resources and opportunity to promote tobacco control at the local level. Specifically, they enacted and enforced local ordinances and regulations that prevented youth access to tobacco products and protected the public from ETS. As a result, Massachusetts cities and towns accelerated passage of ordinances and regulations that restricted tobacco sales to young people and increased levels of compliance to these regulations by tobacco merchants.<sup>35,36</sup> Evaluators found that local youth access regulations reduced the rate of smoking initiation among adolescents,<sup>37</sup> but not minors' self-reported access to tobacco,<sup>38</sup> a topic of ongoing research and debate.<sup>39–41</sup> Other local tobacco control regulations restricted smoking in restaurants and other public places. For example, the number of 100% smoke-free restaurant ordinances in Massachusetts climbed from zero to 97 from 1993 to 2000 (compared with an increase of 64 total ordinances across the rest of the United States in the same time period).<sup>5</sup> By the end of fiscal year 2001, 85% of the Massachusetts population lived in a city or town with some kind of regulation against smoking in public places (compared to 22% in 1993).<sup>42</sup>

Recent research studies confirm that MTCP funding of local boards of health was a key determinant in the enactment of local tobacco control policies. Bartosch and Pope ranked the 351 Massachusetts cities and towns (on a scale of zero [minimum] to 100 [maximum]) on the strength of their local tobacco policy adoption (from 1993–1999).<sup>43</sup> After controlling for community demographics and other possible confounders, the analysis showed that communities with MTCP funding scored significantly higher (an average of 27 points) than nonfunded communities. In fact, of the many variables tested in regression modeling, only the two factors of MTCP funding and larger size of city/town significantly

determined the likelihood of local policy enactment.<sup>43</sup> In a recent analysis of the relationship between the strength of local restaurant smoking regulations in Massachusetts and town-level sociodemographic characteristics, Skeer, et al. found that MTCP funding of local boards of health was the strongest predictor of whether a town adopted a strong or medium regulation.<sup>44</sup>

Statewide support of local tobacco control was also manifest in other ways. The geographically-based Tobacco Free Community Mobilization Networks supported grassroots coalitions that raised local awareness and catalyzed local policy changes. The Community Assistance Statewide Team (CAST) offered legal assistance to localities creating and enforcing smoke-free ordinances and regulations, with an eye toward preventing challenges from the tobacco industry.

### Preventing first use

MTCP efforts to prevent tobacco use in young people involved multiple strategies. In addition to passing and enforcing regulations to restrict their access to tobacco and educating them through the media campaign, the MTCP engaged young people in leadership roles. Through Youth Action Alliances, young people learned research, policy, and media advocacy skills needed to take civic action—in this case, to promote tobacco-free communities. For instance, they participated in Operation Storefront,<sup>45</sup> a 1998 survey of externally visible storefront tobacco advertisements that later prompted action by the state's attorney general to regulate advertisements within 1,000 feet of schools or playgrounds. In the late 1990s, when bidi cigarettes were becoming more widely distributed in the United States, young people assisted in conducting a pilot study in school and community settings to assess adolescents' knowledge and use.<sup>46</sup>

Finally, school students from kindergarten through high school received prevention messages through a Department of Education comprehensive school health education program created through the 1992 initiative petition. From 1993–2002, more than 95% of all school districts participated in the program each year. In some schools, the program was complemented by school health services contracts from MDPH. Evaluation findings confirmed that schools made progress in the implementation of tobacco-free schools policy, smoking cessation programs, and health curriculum focusing on prevention.<sup>47,48</sup> These school-based programs complemented community-based youth activities and policy initiatives of local health departments and coalitions.

### Helping smokers to quit

Since smokers' taxes funded the MTCP, MDPH prioritized tobacco treatment services. The Program provided a wide array of cessation services tailored to individuals' needs and readiness to seek treatment. The MTCP model for treatment services changed over time. Initial minimal interventions, such as health fairs offering educational outreach materials, evolved into intensive interventions in medical settings involving trained tobacco treatment specialists. Currently, four statewide services exist under the umbrella of the TryToStop Tobacco Resource Center of Massachusetts: (1) a toll-free telephone hotline: the Massachusetts Quitline (1-800-TRY-TO-STOP), (2) an interactive website (www

.trytostop.org), (3) a clearinghouse of educational materials, and (4) a QuitWorks program to connect managed care providers and their patients with tobacco treatment services.

The Massachusetts Quitline, initially based on California's effective, well-studied Smokers' Helpline,<sup>49,50</sup> provides free telephone information, confidential counseling from trained staff, referrals to community-based tobacco treatment programs, and referrals to the interactive website, which provides tools to smokers such as a customized plan to quit.<sup>51</sup> From 1994 to 2000, over 40,000 smokers in Massachusetts received counseling from the Quitline.<sup>52</sup> An early analysis comparing nearly 24,000 Massachusetts Quitline smokers with those identified from a population-based sample of state residents found that the former were more highly addicted (percent who reported smoking their first daily cigarette immediately upon waking was 40% for the Quitline smokers vs. 14% for the other state residents), more ready to quit (percent ready to quit in 30 days was 92.9% vs. 29.1%); and had low confidence in their ability to quit without additional services (percent of Quitline participants confident in ability to quit within the next week was 8.9%; very confident: 5.8%). Callers were often women, young people, and members of diverse communities who had barriers to accessing other quit services, such as inability to secure transportation or child care.<sup>53</sup> To overcome such barriers, the MTCP's outreach and referral program made individualized arrangements for people to attend tobacco treatment appointments.

The QuitWorks program represents a major public-private partnership. Launched in 2002, it links Massachusetts physicians in eight major commercial and Medicaid health plans and their patients who smoke to the statewide cessation services described above. Its objectives are promoting provider behavior change, facilitating referrals to treatment, and providing evidence-based, proactive telephone counseling services. Participating providers fax an enrollment form to the Quitline for those patients who agree to make an attempt to quit at the time of an office visit. In turn, Quitline staff proactively call these patients to offer cessation services.

Community-based smoking cessation programs provided smokers with direct comprehensive nicotine addiction treatment that included a combination of counseling and nicotine replacement therapy. Offered through community health centers, hospitals, substance abuse treatment centers, and other health and human service agency programs in Massachusetts, the number of program sites peaked at 85 in 2002 (Personal communication, D. Warner [donna.warner@state.ma.us], e-mail, Feb. 13, 2004) before the complete defunding of community-based tobacco treatment in FY 2003. To provide for more formalized, standards-based training for tobacco treatment specialists, MTCP contracted with the University of Massachusetts Medical School in 1997 to develop a statewide training and certification program,<sup>54</sup> the first of its kind in the United States. From spring 1999 through the end of 2003, the program trained 800 individuals in basic aspects of smoker counseling and over 300 in the specialist training curriculum, certifying 76 individuals as tobacco treatment specialists (Personal communication, B. Ewy, [beth.ewy@umassmed.edu], e-mail, Feb. 23, 2004). The program has been training people from other parts of the country and abroad since 2001.

## SPECIAL POLICY INITIATIVES AND ACCOMPLISHMENTS

Throughout the decade, Massachusetts complemented its programmatic efforts with aggressive policy initiatives that kept the issue of tobacco control alive for the media and the public. Many statewide legal settlements and legislation have had national ramifications (see Figure 1).

### Legislation

Increases in the state cigarette excise tax, beginning in 1992, generated new revenue, funded tobacco control programs, and also discouraged consumption.<sup>53</sup> In 1996, the state legislature employed an innovative strategy that increased the tax another \$.25 (to \$.76 per pack) to fund health care for

uninsured children and senior pharmacy services.<sup>56</sup> After the terrorist attacks of 9/11 and the onset of severe budget crises, the cigarette excise tax in Massachusetts was raised again (2002) to \$1.51 per pack to increase general revenues.<sup>42</sup>

Smokeless tobacco taxes also rose. After passing legislation to tax smokeless tobacco at 25% of wholesale price in 1986, the state pushed through three more increases (in 1992, 1996, and 2002) through legislative action that drove the smokeless tobacco tax up to its current level of 90% of wholesale price.<sup>17</sup> In addition, a 15% tax on the wholesale price of cigars and pipe tobacco initially levied in 1996 later rose to its current level of 30%.<sup>17</sup>

In 1996, Massachusetts' passage of a first-in-the-nation Tobacco Product Disclosure Law required tobacco manufacturers to report: (1) cigarette nicotine yields under average

**Figure 1. Key policy initiatives and accomplishments in tobacco control in Massachusetts**

<i>Legislation</i>	
1987	Clean indoor air law requires restaurants with 75 or more seats to set aside 200 sq. feet as non-smoking section.
1992	Ballot initiative raises cigarette excise tax by \$.25, creating revenue to fund Massachusetts Tobacco Control Program (MTCP).
1996	MA becomes the first state to pass the Tobacco Product Disclosure Law requiring manufacturers to disclose nicotine yield and additives (by brand and level).
1996	First cigar tax in MA is imposed (15% of wholesale price).
1998	MA becomes the first state to legislatively divest state pension funds from tobacco investments.
1998	Smoking is prohibited in State House, state buildings, and state vehicles.
2003	MA Legislature passes statewide ban on smoking in all worksites, making MA the sixth smokefree state (effective July 5, 2004).
<i>Regulations</i>	
1985	MDPH declares oral snuff a hazardous substance under state law and requires health warning labels on packages.
1998	Proposed MDPH smoke constituent reporting regulation requires tobacco companies to test and report toxicity of constituents.
1999	MA Attorney General (AG) requires warning labels on cigar packaging.
1999	MA AG promulgates consumer protection regulations to restrict underage youth access to purchasing tobacco (e.g., ID checks) and to restrict tobacco advertising near schools and playgrounds.
<i>Legal action</i>	
1995	MA becomes fifth state (out of 46) in the U.S. to sue tobacco companies for Medicaid costs due to smoking (Master Settlement Agreement signed in 1998).
1992, 1996	MA AG sues tobacco retailers for selling to minors (result: settled out of court; agreement by retailers to institute new safeguards against sales to minors).
1996–2003	MA defends reporting requirements of Tobacco Product Disclosure Law against tobacco industry in federal courts (result: court upholds nicotine reporting requirement but declares additive reporting requirement unconstitutional).
1999–2002	MA defends youth access and advertising regulations against lawsuit from tobacco industry in Federal District Court, Appellate Court, and Supreme Court (result: purchasing restriction regulations are upheld but advertising regulation is struck down).
<i>Voluntary actions</i>	
1995	MA sports stadiums (New England Patriots and Boston Red Sox) and shopping malls agree to ban smoking.
1999	Tobacco companies agree to test major smoke toxins (42) in 33 brands for Massachusetts Benchmark Study.
2000	Tobacco companies agree to end advertising in youth magazines after publicizing of tobacco industry advertising practices.
2002	MDPH requests that smokeless tobacco companies lower levels of tobacco-specific nitrosamines in oral snuff to <10 µg/g.

MA = Massachusetts

AG = Attorney General

MDPH = Massachusetts Department of Public Health



smoking conditions, and (2) additives in all brands by descending order of weight. Passage of the new law immediately triggered a lawsuit by the major cigarette and smokeless tobacco manufacturers. In 2000, the U.S. First District Court ruled that while the nicotine reporting requirement was valid, the additive reporting provision was unconstitutional.<sup>57</sup> The latter ruling, appealed by the state, was upheld by the First Circuit Appellate Court. Yet, the Tobacco Product Disclosure Law allowed Massachusetts to pass regulations requiring tobacco manufacturers to submit annual data reports on nicotine content of cigarettes and nicotine yield from smoke on all products on the market. These reports, confirming that the vast majority of tobacco products deliver high levels of nicotine,<sup>58,59</sup> raised serious questions about the validity of the Federal Trade Commission's machine-testing protocol used by tobacco manufacturers to classify cigarettes as "light" and "ultra light." In 1998, Massachusetts became the first state to enact a bill prohibiting investment in tobacco companies as part of the state pension portfolio.<sup>60</sup>

### Regulatory action

In 1999, Massachusetts Attorney General Scott Harshbarger implemented a regulation requiring cigar manufacturers to print warnings on cigar packaging. The major cigar manufacturers then sued Massachusetts in federal court. Ultimately, conflicting state requirements for cigar warnings (e.g., in Massachusetts and California) forced the cigar manufacturers to enter into a consent decree with the Federal Trade Commission that required uniform national warnings and limited electronic advertising of cigars.<sup>61</sup> In the same year, new consumer protection regulations to prevent anyone underage from purchasing tobacco were promulgated by the state Attorney General. The regulations, which included requiring retailer training, checking IDs of people younger than age 27, elimination of free-standing displays, and the provision of photo identification with mail order sales, were legally challenged by the tobacco industry and subsequently upheld by U.S. District, Appellate, and Supreme Courts.

In 1995, Massachusetts was the fifth state (out of 46) to sue the tobacco industry for Medicaid health costs due to

smoking, which ultimately resulted in the 1998 Master Settlement Agreement (MSA). The MSA prohibited tobacco companies from outdoor advertising except for tobacco retailer storefront advertisements, limited tobacco sponsorship activity, eliminated free samples, restricted vending machines to adult only establishments, and prohibited targeting cigarette advertising to underage young people.<sup>62</sup>

As mentioned earlier, an observational study ("Operation Storefront")<sup>45</sup> examined externally visible advertising at a sample of retail stores before and after the MSA. The findings of a significant increase in advertisements at establishments most likely to sell to the young<sup>63</sup> prompted the Massachusetts Attorney General to limit advertisements in storefronts within 1,000 feet of schools and playgrounds (January, 1999). This action prompted a lawsuit from the tobacco industry and a court battle that reached the U.S. Supreme Court. In June 2001, the United States Supreme Court ruled against Massachusetts in a 5-4 decision, stating that the tobacco companies' first amendment rights had been violated. In addition, the Supreme Court also concluded that the state was preempted from restricting tobacco advertising by the federal Cigarette Labeling and Advertising Act of 1965.<sup>64</sup>

Research documented increases in tobacco companies' magazine advertising expenditures (both overall and to youth-oriented magazines) immediately following the MSA.<sup>65,66</sup> Tobacco control leaders publicized these research findings.<sup>67</sup> In Massachusetts, the MDPH filed a complaint with the MSA compliance committee and wrote to the CEOs of the four major tobacco companies requesting that they ban advertising in magazines with more than 15% readership among young people. Subsequently, and in light of a California court decision on MSA compliance, companies dropped advertisements in magazines with high youth readership.<sup>68-71</sup> A research study concluded that public pressure had a statistically significant effect on reducing the proportional allocation of expenditures to magazines for young people among the tobacco companies that took these actions.<sup>65</sup>

In other actions, Massachusetts filed suit against retail chains selling tobacco (1992, 1996) for illegal sales to youth, and against the U.S. Tobacco Company (1994) for sending free mail samples of oral snuff to underage youth. These suits ended in settlements that included stricter youth access compliance measures, such as electronic scanning of licenses to deter young people, and increased funding for antismoking counteradvertising. Two recent battles on the policy front include the legal challenge by Massachusetts and other states against the tobacco industry for misrepresenting "light" and "low tar" cigarettes to the public as safer,<sup>72</sup> and charges by public health leaders and tobacco control advocates that new candy-flavored cigarettes are targeted towards kids and violate the MSA.<sup>73,74</sup>

### Voluntary action

During the first decade of the MTCP, the Massachusetts Department of Public Health worked with sport and retail venues to adopt voluntary bans on smoking in many large public spaces, including the sports stadiums of the Boston Red Sox and New England Patriots and shopping malls (1995).

## EVALUATION AND IMPACT OF THE MASSACHUSETTS TOBACCO CONTROL PROGRAM

Evaluation of the large-scale program accomplished several critical purposes: (1) providing ongoing feedback to MTCP program planners to improve interventions over time; (2) justifying the program to budget leaders in the state, as critics constantly demanded evidence of efficacy from this highly visible (and at times well-funded) program; and (3) documenting the success of a comprehensive approach to tobacco control to aid advocates and practitioners in other states or countries.

The comprehensive evaluation strategy utilized multiple measures from a variety of data sources. All of these tools were used to track both process and outcome measures centered on the three program goals (adult cessation, prevention of youth initiation, and reduction of exposure to ETS). Evaluation was conducted at several levels: (1) an overall evaluation by Abt Associates, an independent national research firm; (2) monitoring of smoking behaviors through population-based surveys that focused on adults (e.g., Massachusetts Adult Tobacco Survey, Massachusetts Behavioral Risk Factor Surveillance System [BRFSS]) and schoolchildren (e.g., Massachusetts Youth Risk Behavior Survey); (3) field-initiated research demonstration projects (when funding was available), e.g., investigations of the effects of ETS on health and economics;<sup>75–80</sup> knowledge, attitudes, and behaviors regarding smoking among immigrant groups and adults with disabilities;<sup>81–84</sup> and youth access to tobacco;<sup>85,86</sup> and (4) a Management Information System (MIS) tracking individual program services and accomplishments (e.g., a database of locally enacted tobacco control provisions). Formal evaluation and analyses were performed while acknowledging: (1) the inability to use experimental study designs with randomly-assigned control groups, (2) the difficulty in employing quasi-experimental designs in a small geographic area, (3) the potential diminishment of real program effect due to broad message dissemination among comparison populations, and (4) the challenge of quantifying the impact of the constant campaigning by the tobacco industry.<sup>87</sup> Given MTCP's design as a comprehensive program, the ability to evaluate individual components was limited; for example, the cost-effectiveness of adult cessation treatment programs in the MTCP was not evaluated.

### IMPACT OF PROGRAM

#### Statewide cigarette consumption

Overall cigarette consumption in Massachusetts, measured by adult per capita purchases, dropped by 48% from 1992–2003, declining at a rate 78% greater than the rest of the country (see Figure 2). Massachusetts tax revenue figures show that statewide annual cigarette sales decreased from 547 million packs (1992) to 280 million (2004) (Figure 3).<sup>88</sup>

**Adults.** Over the decade, adult consumption declined sharply. A 1996 study compared consumption levels immediately before (1990–1992) and after (1993–1996) initiation of the MTCP. It concluded that adult per capita consumption had declined substantially more in Massachusetts than in other states (taking into account possible confounding factors of

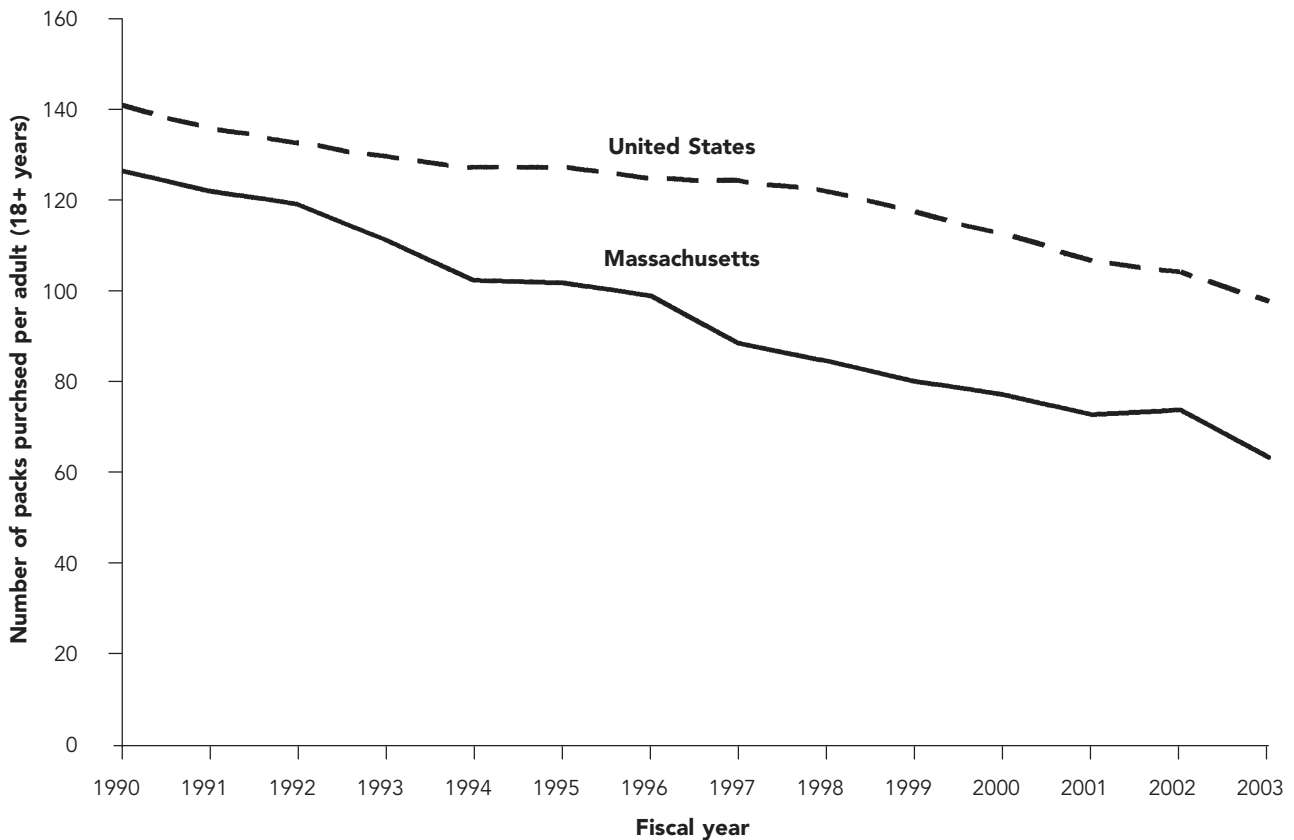
increased cross-border sales [e.g., in New Hampshire], and price changes by cigarette manufacturers).<sup>89</sup> A population trend analysis found that from 1993 on, adult per capita consumption in Massachusetts showed a consistent annual decline of more than 4%, compared to less than 1% a year in comparison states (the other U.S. states excluding California).<sup>90</sup> We note that initial outcome research primarily excluded California in comparisons, since that state's large, comprehensive tobacco control program (established in 1989) had yielded proven results. With the establishment of tobacco control programs in many states during or after 2000, future research can more readily compare outcomes in states with and without tobacco control programs.

Data have also documented declining adult smoking prevalence. Two sources of data, BRFSS and the University of Massachusetts Center for Survey Research tobacco surveys, offer opportunities to track changes over a decade. Weintraub and Hamilton examined BRFSS data and found that, controlling for demographic changes over time, prevalence dropped significantly from 23.5% to 19.4% in Massachusetts (1990–1999), a decline several times greater than in states without tobacco control programs.<sup>91</sup> However, this and subsequent analyses<sup>42</sup> found that decreases in smoking prevalence were not significant for some sub-groups, including women, respondents ages 35–64, those with less than a high school education, and racial/ethnic minorities, implying a limitation of the MTCP in reaching these populations. Reports of national BRFSS data over time also document critical changes. In 1991, Massachusetts ranked 19th lowest in prevalence of current cigarette smoking among adults aged 18 and older (22.5%; 95% CI 20.1, 24.9) among 48 participating states,<sup>92</sup> but in 2002, ranked the third lowest among all U.S. states and territories (19.0%; 95% CI 17.8, 20.2), after Utah (12.7%; 95% CI 11.3, 14.1) and California (16.4%; 95% CI 14.9, 17.9).<sup>93</sup>

For the purposes of measuring tobacco-related indicators and evaluating program outcomes within Massachusetts, the MTCP used data from ongoing cross-sectional surveying conducted by the University of Massachusetts Center for Survey Research (Massachusetts Tobacco Survey [1993], Massachusetts Adult Tobacco Survey [1995–2001], and UMass Tobacco Study [2001–2002]). These surveys provided several advantages over the use of BRFSS data, including larger survey samples initially and the ability to ask more tobacco-related questions than with the BRFSS. Based on the UMass surveys, adult smoking prevalence decreased a statistically significant 20% between fiscal years 1993 and 2002, from 22.6% (95% CI 21.3, 23.9) to 18.1% (95% CI 17.8, 18.4). Furthermore, data show statistically significant declines in the number of cigarettes smoked by Massachusetts adults (19.8 cigarettes/day in 1993; 16.5 in 2002),<sup>42</sup> and Massachusetts experienced the greatest decrease in the nation in the rate of smoking during pregnancy, from 25.3% in 1990 to 8.1% in 2002.<sup>94</sup>

**Young people.** The number of young people who smoke has also declined. During the first years of the MTCP, 1993–1995, smoking increased among high school students in Massachusetts and the nation as a whole.<sup>95,96</sup> In 1993, percentage estimates of high school current smoking rates from the Youth Risk Behavior Survey (YRBS) were roughly

**Figure 2. Trend in annual adult per capita consumption of cigarettes in Massachusetts and the United States,<sup>a</sup> FY 1990–2003**



NOTES: Cigarette purchase data are from *The Tax Burden on Tobacco, Historical Compilation*, Vol. 38, 2003 (Orzechowski and Walker). Population estimates are from the U.S. Census Bureau, 9/30/04. Source: adapted from original publication in Hamilton W, et al., *Independent Evaluation of the Massachusetts Tobacco Control Program: Eighth Annual Report: January 1994–June 2001*. Cambridge, MA: Abt Associates, Inc., 2003.

<sup>a</sup>excluding Massachusetts and California

equivalent in Massachusetts (30.2%; 95% CI 27.3, 33.1) and the U.S., (30.5%; 95% CI 28.6, 32.4). In 1995, both the Massachusetts and U.S. rates increased, with the Massachusetts rate (35.7%; 95% CI 32.9, 38.5) slightly exceeding the U.S. rate (34.8%; 95% CI 32.3, 37.1). In 1997, while the U.S. rate continued to increase (36.4%; 95% CI 34.1, 38.7), Massachusetts first experienced a decrease (34.4%; 95% CI 31.8, 37.0); demonstrating an earlier turnaround than the U.S. as a whole and some states.<sup>96,97</sup> Then, from 1997 to 2003, both Massachusetts and U.S. current high school smoking rates declined, reaching 20.9% (95% CI 18.3, 23.5) in Massachusetts and 21.9% (95% CI 19.8, 23.0) in the U.S.<sup>95,96,98</sup> Other evidence of decreasing smoking by young people in Massachusetts comes from a triennial survey (Massachusetts Prevalence Study) of Massachusetts public school students (grades 7–12), which reported a significant decrease in prevalence of cigarette smoking, cigar smoking, and use of smokeless tobacco (1996 to 1999).<sup>99</sup> Decreases were seen across the board by age, gender, race, and ethnicity, supporting the conclusion that the tobacco control program was effectively reaching a diverse population of young people. In addition,

a recent study among Massachusetts public college students documented lower prevalence of tobacco use among students who were exposed to the MTCP in high school, implying a long-term effect of the program.<sup>100</sup>

**Price vs. program effect.** While price increases on tobacco products constitute one part of the multi-pronged strategy of comprehensive tobacco control programs, some have questioned whether the programs alone, apart from price increases, reduce consumption. A recent study by health economists provides evidence of the efficacy of statewide tobacco control programs. For Massachusetts and three other states with comprehensive programs (California, Arizona, and Oregon), cigarette sales fell an average of 43% from 1990 to 2000, compared with 20% for all other states (after accounting for changes in excise taxes, cross-border sales, and other potentially confounding factors).<sup>101</sup> In unpublished analyses, Farrelly et al., after controlling for the effect of price increases, concluded that 63% of the reduction in cigarette sales from 1992–2000 in Massachusetts was attributable to the MTCP (Personal communication, M.C. Farrelly, Nov. 7, 2003).



### Environmental tobacco smoke (ETS)

The MTCP was associated with reductions in nonsmokers' exposure to ETS. From 1993 to 2001, the percentage of residents ages 18 and older whose worksites prohibited smoking increased from 53% to 82%, and the percentage of smoke-free homes increased from 41% to 71% (Figure 4). At the same time, reported exposure to other people's tobacco smoke in the workplace fell from 44% to 15%, a statistically significant decrease. Self-reported exposure to secondhand smoke at home also decreased significantly, from 28% to 16% (1993 to 2002), as did exposure in restaurants (64% to 37% from 1995 to 2002).<sup>42</sup>

Another recent study confirmed that strong local restaurant smoking policies are associated with reduced self-reported exposure to ETS among young people.<sup>102</sup> Also, Bartosch and Pope have found no significant effects of highly restrictive smoking policies on restaurant business.<sup>75,103</sup> These studies and others helped in countering the economic arguments against imposing smoking restrictions in restaurants and bars. Statewide support for completely smoke-free restaurants increased from 38% in 1992 to 60% in 1999,<sup>104</sup> reflecting changing social norms. In addition, Mayor Thomas Menino and the Boston Public Health Commission led efforts to make all workplaces in Boston (the largest city in New England) smoke-free.<sup>105</sup> Recently, the Massachusetts Legislature approved a comprehensive statewide smoking ban in workplaces (including all restaurants and bars) that began in July 2004.<sup>106</sup> Massachusetts became the sixth state in the country with such a ban.

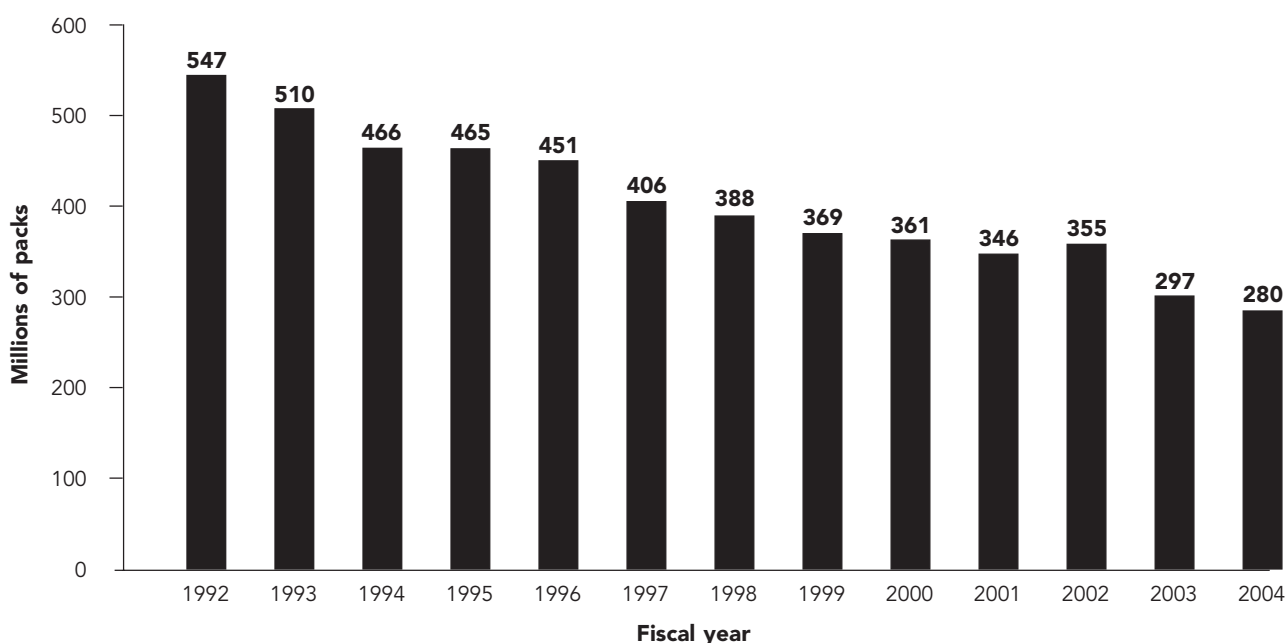
### MTCP FUNDING

While advocates hoped that passage of the 1992 tobacco tax initiative petition would lead to long-term dedicated tobacco control funding, the exact dollar amount was always "subject to appropriation by the state legislature."<sup>22</sup> In fact, despite the existence of presumably dedicated revenue streams, the MTCP faced constant funding threats through each fiscal year of its first decade (Figure 5).

Funding challenges arose in many ways. Initially, after the passage of the tobacco tax ballot initiative, the large coalition of tobacco control advocates and practitioners struggled to develop a unified plan for spending the newly available funds. In this context, the legislature initiated the first of many diversions of MTCP funds for other items in the state budget.<sup>5,22,107-109</sup> In response, coalition leaders established an independent, external oversight council to act as guardians for the tobacco tax funds, as directed by the voters.<sup>110</sup> Meanwhile, after the passage of the 1992 initiative petition, tobacco industry lobbying increased substantially in Massachusetts.<sup>5</sup>

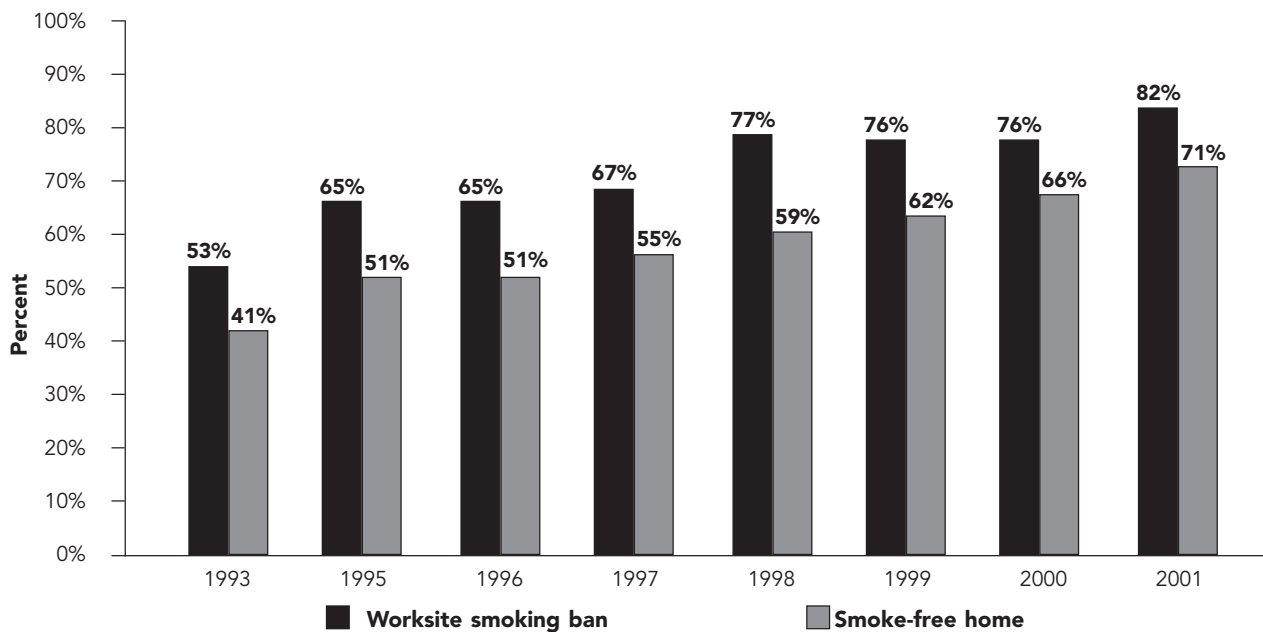
Initial annual funding appropriated by the legislature began at \$52 million during FY 1993<sup>89</sup> but decreased over time to \$31 million in FY 1999.<sup>42</sup> Advocates then expected the historic passage of the 1998 Master Settlement Agreement (MSA) to stabilize and substantially increase MTCP funding, since Massachusetts anticipated receiving an additional \$300M–\$350M per year for 25 years. Indeed, MSA funding initially boosted MTCP resources by \$13M to \$22M

**Figure 3. Cigarette packs sold, Massachusetts: FY 1992–2004**



NOTES: Data are from the Massachusetts Department of Revenue and represent the sum of packs taxed, calculated from tax revenue. Data source: *Summary Report of Cigarette Sales Through June 2004*, Massachusetts Department of Public Health, Massachusetts Tobacco Control Program, July 2004.

**Figure 4. Trends in percentage of survey respondents reporting smoke-free homes<sup>a</sup> and work site smoking bans<sup>b</sup> in Massachusetts, 1993–2001<sup>c</sup>**



NOTES: 1993 data are from the Massachusetts Tobacco Survey (Adults) and 1995–2000 data are from the Massachusetts Adult Tobacco Survey (data source: Biener L, Nyman AL, Roman AM, Flynn CA, Albers A. *Massachusetts Adult Tobacco Survey: Tobacco Use and Attitudes After Seven Years of the Massachusetts Tobacco Control Program: Technical Report & Tables, 1993–2000*. Boston: Center for Survey Research, University of Massachusetts, 2001). The 2001 data are unpublished data from the University of Massachusetts Tobacco Study provided by the Center for Survey Research at the University of Massachusetts Boston.

<sup>a</sup>No indoor smoking permitted

<sup>b</sup>Indoor ban

<sup>c</sup>No survey was conducted in 1994.

annually, pushing the tobacco control budget up to \$54 million in FY 2000.<sup>42</sup>

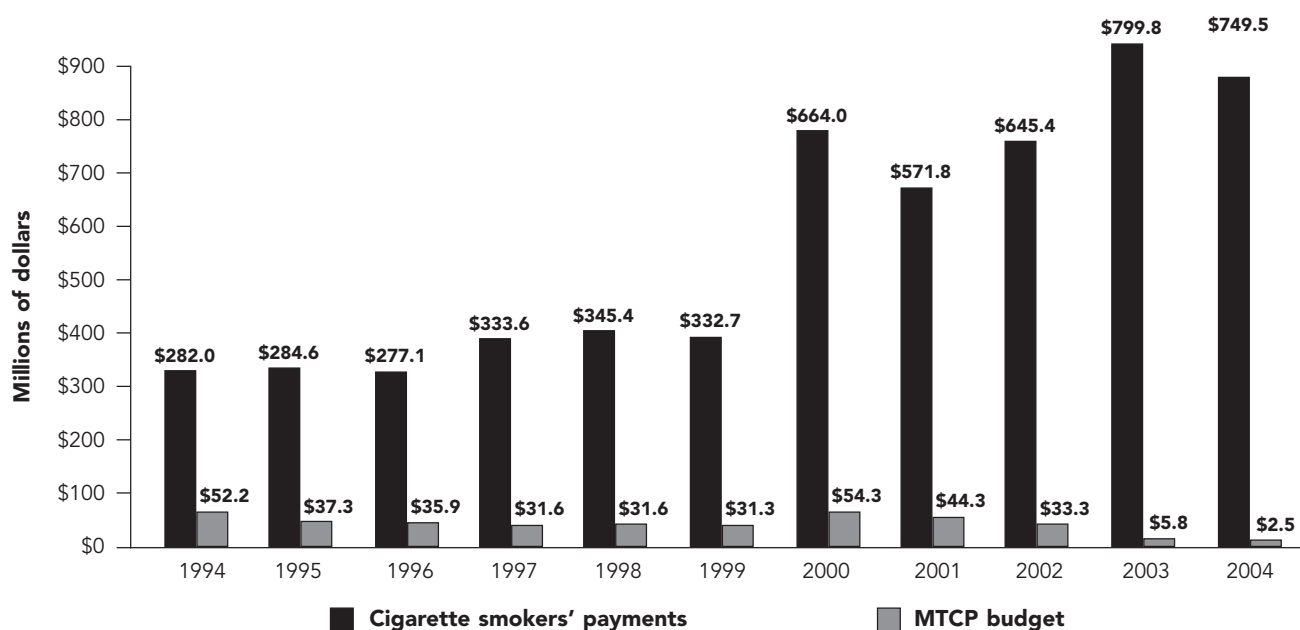
However, the aftermath of 9/11 and the onset of state and national budget crises precipitated severe cutbacks in FY 2002. Of the many attempts to divert tobacco tax money, the most public was when Acting Governor Jane Swift invoked unilateral, emergency “9C” powers in early 2002 to cut the MTCP budget by \$22M. When she defended these cuts as necessary in the face of a burgeoning state deficit, the New England Division of the American Cancer Society and other tobacco control advocates sued, arguing that the Administration’s actions were unconstitutional in the context of a program with a dedicated revenue source.<sup>111</sup> In the spring of 2002, the Massachusetts Supreme Judicial Court found for the Swift Administration, upholding the Acting Governor’s right to cut funding in a time of fiscal crisis.<sup>112</sup> This decision opened the door for a series of further cuts, ultimately leading to the nearly complete defunding of the MTCP. The current FY 2005 budget of \$3.2 million represents a 93% decrease from the budget of \$48 million at the beginning of FY 2002.

While precise reasons for this precipitous decline may never be fully clarified, the combination of long-term lobbying by the tobacco industry (\$690,000 spent in Massachusetts in 2002),<sup>113</sup> the budget crisis, lukewarm support in the

legislature in the face of severe fiscal constraints, and the loss of the lawsuit against the Swift Administration all appear to have contributed to the gutting of the program. Another major factor was the lack of provisions in either the Massachusetts Constitution or the Master Settlement Agreement to mandate funding for tobacco control programming. Administration officials argued that in a budget crisis, dollars should be prioritized for direct health care services over tobacco control and other prevention activities. Furthermore, the state’s innovative policy measures (such as the ban on tobacco advertising near schools and playgrounds and the tobacco product disclosure law) may have served as special targets for the tobacco industry. Advocates of tobacco control used multiple aggressive strategies, including litigation, grassroots advocacy, lobbying at the State House, and paid media, but to no avail.

The MTCP has now been reduced to a skeletal operation. During 2002–2003, all media counteradvertising in the state stopped, as did outreach, referral, and smoking intervention programs among high-risk populations, youth programs, and statewide training of tobacco treatment specialists. Funds for many boards of health and regional grassroots networks were also cut.<sup>42</sup> MDPH decided to maintain its Quitline, smoking cessation website, and training program and offer these services to the state’s health plans with the

**Figure 5. Trends in Massachusetts cigarette smokers' payments and the Massachusetts Tobacco Control Program (MTCP) budget, fiscal years 1994–2004**



NOTES: Cigarette smokers' payments represent the sum of Massachusetts cigarette excise and state retail tax revenues and tobacco industry payments to Massachusetts from the Master Settlement Agreement of 1998 (first payment effective FY 2000). Tax revenue estimates are derived from data from the Massachusetts Department of Revenue (*Summary Report of Cigarette Sales through June 2004*, Massachusetts Department of Public Health Tobacco Control Program, July 2004) and from *The Tax Burden on Tobacco, Historical Compilation*, Vol. 38, 2003 (Orzechowski and Walker). Data on MSA payments to Massachusetts are from the Massachusetts Executive Office for Administration and Finance. MTCP budget figures are provided by the Massachusetts Tobacco Control Program, Massachusetts Department of Public Health.

intent of having them cover the costs of direct treatment of smokers who were formerly covered. While funding for local boards of health and community coalitions was greatly reduced, some funds remained to conduct compliance checks on youth access to tobacco products as required by the federal Synar Amendment, and to enforce the new state workplace smoking ban that went into effect in July 2004. Currently, about half of the meager MTCP budget funds enforcement of local clean indoor air and youth access regulations, while the other half provides minimal statewide support for smoking cessation services.

Tobacco tax revenues combined with MSA payments to Massachusetts now total over \$700M a year. In stark contrast to the CDC's recommended minimum funding level of \$5.76 per capita<sup>4</sup> for comprehensive tobacco control in Massachusetts, current funding for the MTCP translates into approximately \$.50 per capita. Meanwhile, smoking-attributable costs (direct and indirect) in the state are estimated at \$4.4 billion per year (2000).<sup>114</sup> Public health leaders in Massachusetts, Minnesota, and elsewhere have expressed concern about increased susceptibility of young people to smoking since those states' youth campaigns were cut.<sup>115–117</sup>

### SUMMARY: LESSONS LEARNED AND RECOMMENDATIONS

Cigarette consumption dropped nearly by half during the first decade of the Massachusetts Tobacco Control Program.

The comprehensive program appears to have accelerated national trends in reducing consumption of tobacco products among adults and young people; prompted the passage of laws, regulations and ordinances that prevented underage access to cigarettes; reduced the harmful influence of tobacco industry advertising; protected workers and the public from exposure to tobacco smoke; and initiated changing the social norm toward a smoke-free Massachusetts. Many of these evidence-based best practices join those from California and other states in contributing to the "National Action Plan for Tobacco Cessation" recently endorsed by four ex-Surgeons General.<sup>6,8</sup>

The Massachusetts experience offers many lessons learned. First, a strong media campaign can serve as an effective umbrella for local initiatives ("air cover" over the "ground war"). The counteradvertising campaign disseminated messages that focused public attention on the tobacco industry's behavior, offered smokers an array of cessation services, stressed the vision of a smoke-free future for children, and kept the tobacco control issue alive for the public and policymakers alike. Meanwhile, the statewide TryToStop Resource Center helped forge partnerships between public and private entities across the Commonwealth. In particular, the QuitWorks endeavor united the MDPH and all managed care plans in offering treatment services to smokers.

Second, substantial MTCP activity at the community "ground level" reinforced and intensified the statewide messages. Treatment programs based in the community were

woven into hospitals, community health centers, and other existing health care infrastructure. Local media and awareness efforts highlighted youth activities and other efforts that personalized messages in local communities. Grassroots activities pushed policy advances at the local level, such as the groundswell of smoke-free ordinances and regulations. The MTCP focus on young people, starting with its 1992 initiative petition slogan “Tax Tobacco—Protect Kids,” also opened many doors. Many adults were willing to consider changes toward a smoke-free social norm when it was for the good of their children. Such a strategy built community backing for clean air regulations and other tobacco control policies to make Massachusetts the sixth smoke-free state in the country in 2004.

Third, a commitment to evaluation of the MTCP not only improved the program but also armed tobacco control advocates to counter criticism fed by the ever-present tobacco industry lobbying. Evaluation was difficult to sustain, however, as it was routinely the first part of the program cut in the face of budget shortfalls.

Fourth, documenting success was no guarantee for favorable political decisions regarding program funding. Constant program threats necessitated round-the-clock efforts to maintain funding and viability while battling tobacco industry influence. The high media visibility and costs of the program (despite funding from a dedicated, newly-generated revenue stream) invited steady attacks and diversion of funds throughout its first decade. The MTCP finally fell victim to a markedly changed public health landscape when the state fiscal crisis, a hostile political climate, and omnipresent tobacco industry influence led to 95% defunding of the program in FY 2003.

In summary, the first decade of the MTCP has demonstrated that even the most effective public health interventions require vigilant, constant support to weather inopportune political climates. Tobacco control advocates must continue to partner with key policy makers who can appreciate the political and public health gains achieved by tobacco tax increases. Advocates must also find better legal or legislative avenues to protect tobacco control funding, and continue to spotlight misinformation campaigns and MSA violations (e.g. marketing candy-flavored cigarettes aimed at young people) of Big Tobacco.

Keeping tobacco control a salient issue for public opinion leaders in the post-9/11 era remains a major challenge. Health leaders have decried the unfulfilled promise of the Master Settlement Agreement in securely funding tobacco control programs.<sup>7,118,119</sup> Indeed, the possibility of MTCP regaining its previous funding levels remains unlikely for the foreseeable future. Yet rebuilding the MTCP must remain one of the state’s highest priorities. The recent 40th anniversary of the first U.S. Surgeon General’s Report on Smoking and Health underscores that while the nation has made great progress in reducing tobacco addiction, smoking remains the number one preventable cause of death in the U.S.<sup>120</sup> Only with a renewed societal commitment to fully eradicating this addiction will we someday reach the goal to “make smoking history.”<sup>121</sup>

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