

## Effects of the Master Settlement Agreement on Smoking Among Nevada Teens: A Decade After Implementation and Implications of Reduced Funding

Christina A. Demopoulos, DDS, MPH, UNLV School of Dental Medicine

Chris Cochran, Ph.D., Department of Health Care Administration and Policy, UNLV School of Community Health Sciences

### Abstract

**Background:** Tobacco control programs that have adapted the Centers for Disease Control and Prevention (CDC) Best Practices for a Comprehensive Tobacco Control Program (CTCP) have been effective in reducing the rates of tobacco use. This paper investigates the effectiveness that Nevada's tobacco control programs have had on teen tobacco use and rates to date and examines changes to programs given reduced Master Settlement Agreement (MSA) funding. **Methods:** Aggregate data from the Nevada Department of Health and Human Services/Fund for a Healthy Nevada program was analyzed to determine if the tobacco control programs adapted the CDC's Best Practices for a CTCP. **Findings:** The rates of teen tobacco use have declined steadily from the implementation of the MSA funded tobacco control programs in 2001 until the funding was reduced in 2010. Findings also show that CTCP programs have reduced their target goals due to reduced funding. **Conclusions:** Rates of tobacco consumption among teenage youth have shown a steady decline in Nevada since the implementation of effective tobacco control programs, but future funding practices jeopardize ongoing success of the programs.

**Keywords:** tobacco control best practices, teenage tobacco use, smoking, state funding.

### Introduction

On November 23, 1998, forty-six states settled their lawsuits against the nation's major tobacco companies to recover tobacco-related healthcare costs, joining the four previous states that had reached individual settlements detailed in the MSA. The settlements required the tobacco companies to make annual payments to the states estimated to be around \$246 billion over the first twenty five years.

In 1999, Nevada's legislators divided the MSA settlement into three trust funds: 40 percent to the Millennium Trust Fund for college scholarships; 10 percent to the Trust Fund for Public Health; and 50 percent to the Fund for a Healthy Nevada (FHN). The FHN allocations were awarded and administered through the Nevada Department of Health and Human Services (NDHHS) Grants Management Unit (GMU). Funding was awarded on a competitive two year cycle and the funding levels for tobacco control programs varied from each funding cycle. With the economic recession that began in 2007, due to the housing collapse, a decline in tourism revenues was observed (UNLV Center for Business and Economic Research, 2008). A substantial portion of Nevada's state budget relies on the declining values of property taxes and those taxes raised through gaming and tourism revenues. Thus, the state has taken money designated for tobacco control to help its operating budget.

According to the NDHHS State Fiscal Year (SFY10) Annual Report, \$2,759,861 was distributed by the GMU to MSA funded tobacco control programs (Nevada Department of Health and Human Services, 2010). This was a decrease from the SFY09 funding which was \$3,321,131 (NDHHS, 2009). Part of the reason for the decline between SFY09 and SFY10 was that there was less MSA payments made to Nevada due to reduced revenue by the tobacco industry. In addition to the 16.9% reduction in tobacco control program MSA funding in SFY10 due to the lower MSA payments, there was an additional 10% reduction as a result of a special session decision in 2009 (NDHHS, 2010). Figure 1 outlines the significantly lower levels of MSA funding for tobacco prevention programs in

respect to the steady increase in tobacco revenue from FY2000-FY2010.

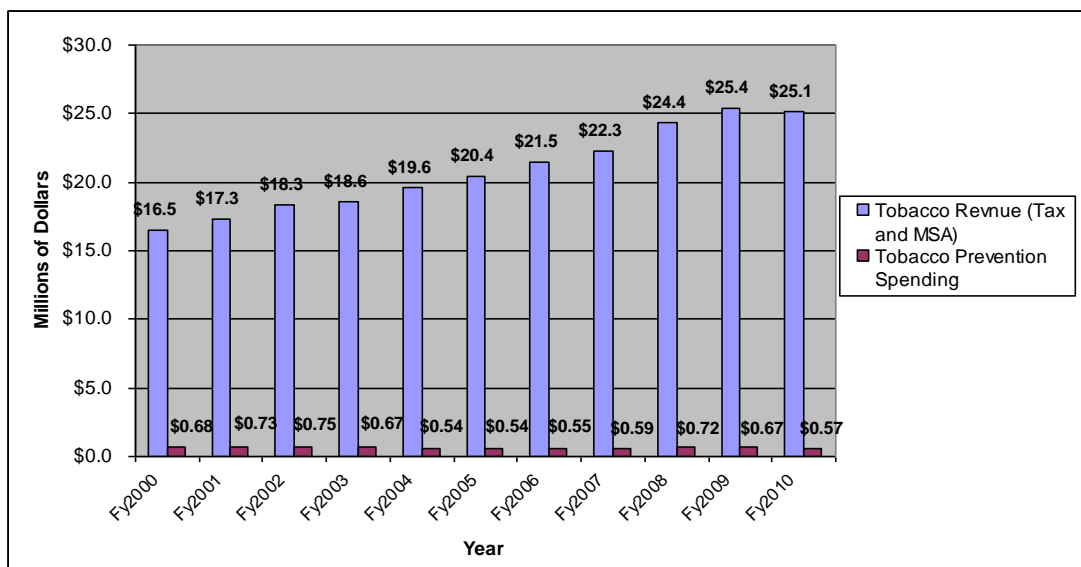


Figure 1: State Tobacco Revenue and Prevention Spending FY2000-FY2010

The CDC recommends that Nevada spend \$32.5 million a year to have an effective, comprehensive tobacco prevention program. Nevada received \$3.8 million in SFY10 for tobacco prevention and cessation, which includes both state and federal funds. According to the “Key State-Specific Tobacco-Related Data & Rankings” report prepared by the Campaign for Tobacco Free Kids (CTFK), Nevada ranks 36<sup>th</sup> among the states in the annual total funding of tobacco prevention programs (Campaign for Tobacco Free Kids, 2010). Nevada’s spending on tobacco prevention amounts to 2.4% of the estimated \$160 million in tobacco-generated revenue the state collects each year from MSA payments and tobacco taxes (CTFK, 2009).

Since implementation of the MSA funded tobacco control programs, tobacco consumption among teenage youth declined in Nevada. Whereas the state ranked first in the nation among teenage consumption in 2001, Nevada improved to 29<sup>th</sup> by 2010 (CTFK, 2010). However, during the 2009 special legislative session, MSA funds for tobacco control in Nevada were discontinued. Thus, the majority of tobacco control programs will no longer offer their services and those remaining will be less effective due to reduced funding from other sources. Subsequent increases in adult smoking and healthcare expenditures related to smoking are projected. Since Nevada no longer has any

state supported tobacco control funds, the state must rely on federal funds for tobacco control.

In 2007, the CDC defined the four goals of a comprehensive tobacco control program and when specific Best Practices were implemented to meet these goals, the tobacco control program would be shown to be effective: prevent tobacco use initiation among youth and young adults, promote cessation among adults and young people, eliminate exposure to secondhand smoke, and identify and eliminate tobacco related disparities.

This paper addresses how Nevada’s Best Practices compare to those of other states and how Nevada’s Best Practices have affected the rates of teen tobacco use in Nevada. After a thorough evaluation of Nevada’s tobacco control programs, the paper will address the following questions: 1) Which of the Best Practices are being used by the Nevada tobacco control programs? 2) How have Nevada’s Best Practices affected the rates of teen tobacco use? 3) What are the effects of reducing MSA funding in Nevada on teen tobacco use?

#### Literature Review

According to the CTFK, 47,000 youth under the age of 18 in Nevada will ultimately die prematurely from smoking (CTFK, 2009). Smoking kills more people than alcohol, AIDS,

car crashes, illegal drugs, murders, and suicides combined – and thousands more from other tobacco-related causes – such as fires caused by smoking and smokeless tobacco use (CTFK, 2009). Currently, the annual healthcare costs in Nevada directly caused by smoking are \$565 million with an additional \$903 million for smoking-caused productivity losses (CTFK, 2009). It is alarming to think that a preventable habit such as smoking can destroy so many lives, yet, the financial means to offer the prevention and cessation services will no longer be available to tobacco control programs as of July 1, 2010.

A comprehensive statewide tobacco control program is a coordinated effort to establish smoke-free policies and social norms, to promote and assist tobacco users to quit, and to prevent initiation of tobacco use (CDC, 2007). Effective tobacco control programs need to implement Best Practices to meet the goals set forth in 2007 and has provided an outline of Best Practices for each of the goals: (CDC, 2007)

*Prevention:* CDC's Best Practices for the prevention of tobacco use initiation rely on school-based and community-based programs that use evidence-based material to create awareness of the dangers of tobacco use. In addition, the CDC recommends conducting mass media education in combination with community interventions; mobilizing the community to restrict the minors' access to tobacco products; implementing smoking bans; and increasing the unit price of tobacco products as a means to reduce the initiation of tobacco use among teens.

*Cessation:* CDC's Best Practices for cessation among adults and young people would include sustaining, expanding, and promoting the services available through population-based counseling and treatment programs, such as cessation quitlines; covering treatment for tobacco use under both public and private insurance, including individual, group, and telephone counseling and all FDA-approved medications; eliminating cost and other barriers to treatment for underserved populations, particularly the uninsured and populations disproportionately affected by tobacco use.

*Eliminate Secondhand Smoke Exposure:* CDC's Best Practices to eliminate secondhand smoke exposure include a clean indoor air policy; smoking bans; school-based and community-based education; and media campaigns that educate the community about the dangers of secondhand smoke exposure.

*Eliminate Disparities:* CDC's Best Practices to eliminate disparities include conducting a population assessment to guide efforts; consulting with specific population groups and community-based organizations; including disparity issues in the strategic plan; culturally competent technical assistance and training; culturally sensitive health communications addressing tobacco related disparities and quitline services; and evaluating efficacy and refining efforts.

The CDC reports that almost 90% of adult smokers started using tobacco before the age of 18; therefore, primary prevention efforts will have the most impact when age appropriate presentations are offered in community and school-based programs (CDC, 2010). Studies in Texas and Oregon report that declines in prevention funding can be attributed to a resurgence of tobacco consumption among youth (Gingiss & Boerm, 2009; Pizacani, et al., 2009).

In the Texas study, three groups were examined: 1) those that were funded continuously two-year minimum; 2) those that were funded but then had funding discontinued, and 3) those that were never funded. The study found that schools receiving continued funding had increased interest in the school-based program, Tobacco Use Prevention Education (TUPE) and were more apt to use evidence-based programs and CDC-recommended teaching methods (Gingiss & Boerm, 2009). The study also found that schools with continued funding had additional community support for tobacco cessation programs. The schools that were previously funded approached the profiles of never funded schools. The funding reductions caused rapid reduction in tobacco prevention and cessation programs in the schools and could not reach the students with effective tobacco messages (Gingiss & Boerm, 2009).

The Oregon study compared change in 30-day smoking prevalence between grades 8 and 11 in school districts during a period of funding and after funding was eliminated (Pizacani, et al., 2009). The study found that smoking prevalence growth was significantly higher among the groups from the defunded period than for the groups from the funded period and was not significantly different from schools that were never funded (Pizacani, et al., 2009). The authors concluded that comprehensive school-based programs, conducted in the context of a statewide tobacco control program, may reduce tobacco use rates from 8<sup>th</sup> grade to 11<sup>th</sup> grade and

that gains achieved through tobacco control programs can be quickly lost upon termination of funding. Thus, school programs appear to be an important prevention strategy if they are long-term, comprehensive, reach youth at all grade levels, and are reinforced in the larger environment (Pizacani, et al., 2009).

As a result of the MSA funding that was received in 1998, the rate of tobacco use in Nevada's youth has shown a steady decline over the last decade. An analysis of reports prepared by the CTFK has documented that Nevada was ranked first for teen tobacco use in 2001 when MSA funded tobacco control programs were first implemented and is currently ranked 29th (CTFK, 2010).

The Nevada Youth Risk Behavior Survey (NYRBS) showed reduced rates between the 2005 NYRBS and 2007 NYRBS in all tobacco categories where data was collected. The percent of high school students that smoked their first whole cigarette before age 13 showed a decline from 16.1% to 12.6%. An even bigger reduction in smoking rates was evident in high school students that smoked on one or more of the past 30 days (18.3% in 2005 vs 13.6% in 2007). According to the 2005-2007 NYRBS, there was a decline in the percentage of high school students that ever tried cigarette smoking (52.0% in 2005 vs 44.7% in 2007). The 2007-2009 NYRBS showed a continued decline in the percent of high school students that smoked their first whole cigarette before age 13 (12.6% in 2007 vs 11.3% in 2009). The most current NYRBS did show an increase in the percent of students that smoked on one of the past 30 days (17.0% in 2009) and the percent of high school students that ever tried cigarette smoking (47.5%). During this time, there was a reduction in the amount of spending for state tobacco prevention programs (\$3.8 million in FY2007 and \$2.9 million in FY2008). Monitoring the Future Survey (MFS) also showed declines in tobacco use among youth. Between 1996 and 2009, current smoking has fallen considerably in 8<sup>th</sup> and 10<sup>th</sup> grade, 69% and 57% respectively (Monitoring the Future, 2009). The prevalence of smoking in 12<sup>th</sup> graders reached a peak in 1997, but has shown a modest decline since then, dropping to 20% by 2009 (MFS, 2009). The survey also found some of the attitudinal change surrounding cigarettes can be attributed to a reduction in cigarette advertising and an increase

in antismoking advertising reaching children. The price of cigarettes may also have had an impact.

Despite the decline, 17% of high school students and 7.0% of middle school students smoke tobacco (CTFK, 2010). In addition, 8.8% of high school students and 4.0% of middle school students use chewing tobacco (CTFK, 2010). Each day in the United States, approximately 3,900 youth between 12 and 17 years smoke their first cigarette and an estimated 1,000 become daily smokers with 2,500 of Nevada's youth becoming regular smokers each year (CDC, 2010).

### Methods

Data collected from the tobacco control programs in Nevada was analyzed to determine if they have adapted the CDC's Best Practices for a CTCP. The Best Practices are evidence-based measures that when implemented in optimally funded tobacco control programs have been shown to be effective in reducing tobacco use. Aggregate data was collected from reports and administrative records made public by the NDHHS. The data highlighted the tobacco control programs funded by MSA dollars. The survey instruments that were used in the data analysis process were the CDC's Tobacco Control State Highlights 2010 document and "A Broken Promise to Our Children: the 1998 State Tobacco Settlement 11 Years Later" document. The data was also compared to National data using survey tools such as the Youth Risk Behavior Survey (YRBS), Monitoring the Future Survey (MFS), Behavioral Risk Factor Surveillance System (BRFSS), and the Campaign for Tobacco Free Kids (CTFK) surveys. The data analysis determined the effectiveness of tobacco control programs on the rates of teen tobacco use. Studies conducted in Oregon and Texas documented that the level of funding affects the effectiveness of tobacco control programs as measured by teen tobacco rates.

Effectiveness in this paper is measured as the rate of teen tobacco use. The paper evaluated how the Nevada tobacco control programs applied the CDC's Best Practices for a CTCP: a) prevent tobacco use initiation among youth and young adults, b) promote cessation among adults and young people, c) eliminate exposure to secondhand smoke, and d) identify and eliminate tobacco related disparities. The outcome data for

Table 1: Nevada’s Best Practices for Comprehensive Tobacco Control Programs

<b>Program</b>	<b>Prevention</b>	<b>Cessation</b>	<b>Eliminate Secondhand Smoke Exposure</b>	<b>Eliminate Disparities</b>
American Lung Association	X	X	X	
Big Brothers Big Sisters of Northern NV	X	X	X	
BOR, NSHE UNCE Mineral County Extension Service	X		X	
BOR, NSHE UNLV School of Dental Medicine	X	X	X	X
Southern Nevada Health District	X	X	X	X
Healthy Communities Coalition	X	X	X	X
Nevada Academy of Family Physicians	X		X	
Nevada Public Health Foundation	X	X	X	
Nevada Rural Hospital Partners Foundation, Inc.	X	X	X	
Nye Community Coalition	X	X	X	
PACE Coalition	X	X	X	
Partnership of Community Resources	X		X	
Saint Mary’s Foundation	X	X	X	
Washoe County Health District	X	X	X	

The SFY10 4<sup>th</sup> Quarter Grantee Progress Report was distributed as part of the October 27, 2010 GMU quarterly meeting. After distribution, slight changes had to be made to some outcome measures. A revised report was made available on the (NDHHS) website. Since two years of data was analyzed to determine the affect of reduced funding during that time period, the paper depicted a cross-sectional descriptive explanatory study.

**Results**

Table 1 depicts MSA funded programs and their level of participation in the CDC’s Best Practices. Only the Southern Nevada Health District, BOR/NSHE UNLV School of Dental Medicine and Healthy Communities Coalition have adapted all four of the CDC’s Best Practices.

As outlined in Table 2, funding from SFY09 to SFY10 was reduced by 16.9% initially then an additional 10% after the special legislative session in 2009. Each of the tobacco control programs modified their outcomes to reflect the reduced funding in SFY10. Comparing the delivered outcomes documented in the SFY10 4<sup>th</sup> Quarter Grantee Progress Report, 10 of the 13 tobacco control programs had a decrease in tobacco services ranging from 3% to 100% of the projected outcomes in SFY09 (NDHHS, 2010). The services that were reduced included training teens, youth smokefree-anti-tobacco awareness, presentations to teens, prevention campaigns to youth, medical provider training in Tobacco Brief Intervention, exposure to anti-tobacco messages (Tar Wars, Life Skills, Positive Action, and Freedom from Smoking)

and anti-tobacco presentations to elementary school students. One of the tobacco control programs had different outcome measures in SFY10 compared to SFY09 so was not used in the comparison.

Coalition changes was not available for FY 2010. Other notable reductions are projected for Nevada’s rural MSA smoking reduction programs.

Table 2 documents the changes proposed for the MSA funded programs based on a funding cut. Several notable reductions have been proposed by tobacco control programs in the activities to reduce teen smoking, most notably among those programs that met all four criteria of the CDC Best Practices including the Southern Nevada Health District and UNLV School of Dental Medicine. Data for the Health Communities

As documented in Table 2, the MSA funded programs implemented the CDC Best Practices in the structure of their tobacco control programs as a means to accomplish the four goals set forth by the CDC. Table 3 highlights the Best Practices that have been implemented and shown to have had a great impact on the effect of the tobacco control programs in Nevada.

Table 2: SFY09/SFY 10 Outcome Comparison

Program	FY09 Funding	FY10 Funding Estimated 16.9% Cut	FY10 Funding	FY09 Outcomes	FY10 Outcomes	FY10 Outcome Evaluation
American Lung Association	\$406,835	\$68,755	\$338,080	-15,300 students get presentation -450 teens trained -250 teens join N.O.T. -85 adults trained	-14,000 students get presentation -350 teens trained -250 teens join N.O.T. -75 adults trained	- meet 127% SFY09 presentation/training for teens -104% SFY09 teens join N.O.T. -128% SFY09 adults trained 8% less teens trained compared to SFY09 outcome 172% SFY09 moments meet 113% SFY09 present TNT to youth 15% less tobacco awareness compared to SFY09 outcome 25% less presentations to elementary students compared to SFY09 outcome
Big Brothers Big Sisters of Northern NV	\$56,493	\$9,547	\$46,946	-25 teens trained -500 moments -20% parents improve attitude	-21 teens trained - 415 moments -20% parents improve attitude	
BOR, NSHE UNCE Mineral County Extension Service	\$35,393	\$5,981	\$29,412	-Present TNT to 400 youth -150 youth smokefree-anti-tobacco awareness to 2000 parents & senior citizens -Present TNT to 35 elementary students	-Present TNT to 300 youth -200 youth smokefree-anti-tobacco awareness to 1500 parents & senior citizens -Present TNT to 25 elementary students	
BOR, NSHE UNLV School of Dental Medicine	\$344,610	\$58,239	\$286,371	-Present to 11,500 students -35 high schools -35 middle schools -Present to 1,000 elementary students -County specific data for tobacco use	-Present to 8,500 students -30 high schools -25 middle schools -Present to 500 elementary students -County specific data for tobacco use	35% less presentations to students compared to SFY09 outcome 100% less presentations to elementary students Compared to SFY09 outcome
Southern Nevada Health District	\$628,533	\$106,222	\$522,311	-30 youth prevention campaigns reaching 110,000 youth - 30 adult prevention and cessation campaigns reaching	-25 youth prevention campaigns reaching 91,300 youth - 25 adult prevention and cessation campaigns reaching	13% less prevention campaigns for youth compared to SFY09 outcome 126% SFY09 adult prevention and

Program	FY09 Funding	FY10 Funding Estimated 16.9% Cut	FY10 Funding	FY09 Outcomes	FY10 Outcomes	FY10 Outcome Evaluation
				1,105,000 -30 campaigns,activities, & community programs reaching 835,000	917,150 -25 campaigns,activities, & community programs reaching 693,050	cessation 126% SFY09 campaigns, activities, & community programs
Healthy Communities Coalition	\$47,738	\$8,068	\$39,670	-5% reduction in youth 30 day tobacco use -30% reduction in youth exposure to SHS -Resources to quit smoking -Reach 6,430 -Native American population: 30 elementary; 45 high school; 150 adults - Cessation awareness to 3 rural communi; reach 150	-Present to 95 businesses -Offer 40 hrs of training to 75 youth -Prevention teams present to 2,751 high school students & 1,500 middle school students	Outcomes changed from SFY09 and SFY10; could not compare change due to funding
Nevada Academy of Family Physicians	\$47,610	\$8,046	\$39,564	-Tar Wars message to 12,000 students -Train 125 medical professionals -Tar Wars Posters	-Market Tar Wars message to all elementary schools -Market Tar Wars to 1,000 medical professionals; train 125 -Present to 11,000 elementary students	49% less students received Tar Wars message compared to SFY09 outcome Two of the outcomes varied from SFY09 so could not compare difference due to funding
Nevada Public Health Foundation	\$138,773	\$23,453	\$115,320	-Survey 300 youth in 4 rural communities to identify misperceptions of tobacco -Increase number of rural Nevadans who disallow smoking in homes & cars; reach 300 youth (5% increase) -Anti-tobacco media campaign; referrals to NTUH & N.O.T.	-Survey 300 youth in 4 rural communities to identify misperceptions of tobacco -Increase number of rural Nevadans who disallow smoking in homes & cars; reach 300 youth (4% increase) -Collaborate on media buy-in	185% SFY09 youth surveys for misperceptions 185% SFY09 number of rural Nevadans who disallow smoking in homes cars
Nevada Rural Hospital Partners Foundation, Inc.	\$240,836	\$40,701	\$200,135	-475 medical providers trained in Tobacco Brief Intervention -95% of pregnant pts will have initial tobacco assessment -Refer to NTUH	--475 medical providers trained in Tobacco Brief Intervention -95% of pregnant pts will have initial tobacco assessment; reach 3,000 -Refer to NTUH	7% less medical providers trained in Tobacco Brief Intervention compared to SFY09 outcome 100% less pregnant patients will have tobacco assessment compared to SFY09 outcome

Program	FY09 Funding	FY10 Funding Estimated 16.9% Cut	FY10 Funding	FY09 Outcomes	FY10 Outcomes	FY10 Outcome Evaluation
Nye Community Coalition	\$52,110	\$8,807	\$43,303	-450 youth receive Life Skills and Positive Action education -5,500 youth and 2,500 adults will show increased knowledge -Counter marketing campaigns for ETS	-380 youth receive Life Skills and Positive Action education -3,000 youth and 1,500 adults will show increased knowledge -Counter marketing campaigns for ETS	3% less youth receive Life Skills and Positive Action compared to SFY09 outcome 36% less youth and adults show increased knowledge compared to SFY09 outcome
PACE Coalition	\$60,847	\$10,283	\$50,564	-Present TNT to 72 elementary students -Present Freedom from Smoking to 20 adults and youth -Present tobacco education at community events; reach 2,750 youth and adults	-Present TNT to 60 elementary students -Present Freedom from Smoking at State Farm Agency; reach 8 tobacco users -Present tobacco education at community events; reach 2,500 youth and adults	433% SFY09 present TNT to elementary students 100% less adults and youth receive Freedom from Smoking presentation compared to SFY09 outcome 225% SFY09 present tobacco education at community events
Partnership of Community Resources	\$62,793	\$10,612	\$52,181	-Anti-tobacco education activities; reach 2,000 people -Present 75 hours of education to teens -Increase by 5% public awareness of tobacco harm; messages in newspaper	-Anti-tobacco education activities; reach 1,660 people -Present 62 hours of education to teens -Increase by 4% public awareness of tobacco harm; messages in newspaper	158% SFY09 anti-tobacco education activities 9% less hours of presentation to teens compared to SFY09 outcome
St. Mary's Foundation	\$309,002	\$52,221	\$256,781	-Train 300 healthcare profess and staff on brief intervention -30 students will develop 6 PSA to air on FOX -Counter marketing ads for ETS; reach 250,000 -25,000 high school and middle school students will attend anti-tobacco presentations	-Train 300 healthcare profess and staff on brief intervention -25 students will develop 6 PSA and air at least 3 -Counter marketing ads for ETS; reach 250,000 -500 high school and middle school students will attend anti-tobacco presentations	164% SFY09 train healthcare professionals 320% SFY09 students develop PSAs 84% less high school and middle school students attending anti-tobacco presentation compared to SFY09 outcome
Washoe County Health District	\$232,110	\$39,227	\$192,883	- Reach 4 high-risk groups with tobacco education message; reach 134,034 - Reach 12% of Washoe County population through classes and web-	- Reach 4 high-risk groups with tobacco education message; reach 53,740 - Reach 4 high-risk groups; 60% intent to improve tobacco related behaviors	134% SFY09 tobacco education message Second outcome varied from SFY09 and SFY10 so could not compare difference due to



Program	FY09 Funding	FY10 Funding Estimated 16.9% Cut	FY10 Funding	FY09 Outcomes	FY10 Outcomes	FY10 Outcome Evaluation
---------	--------------	-------------------------------------	--------------	---------------	---------------	-------------------------

sites; reach 28,876; 10% intent to improve behavior -Campaigns, focus groups, web-based media	-Campaigns, focus groups, web-based media	funding
---	---	---------

Table 3: Nevada’s Best Practices for Comprehensive Tobacco Control Programs-Detailed Summary

Prevention	Cessation	Eliminate Secondhand Smoke Exposure	Eliminate Disparities
Media campaigns, facilitator programs in middle schools and high schools, support initiatives to increase unit price of tobacco products, support of smoking bans, and support legislation to limit access to minors	State Quitline, telephone counseling, treatment, teen specific cessation services	Media campaigns, classroom/community education, Life Skills/Positive Action curriculum, promoting smoke-free homes/cars, and support of the Nevada Clean Indoor Air Act (NCIAA) and additional smoking bans on school and college campuses	Media campaigns and activities for diverse communities, development of community needs assessment

**Discussion**

The paper found that three of the tobacco control programs in Nevada funded by MSA dollars have adapted the four CDC’s Best Practices for a CTCF with the remaining tobacco control programs adapting one to three of the Best Practices. Table 3 identifies the specific Best Practices that have been implemented in the MSA funded tobacco control programs. The Best Practices used in Nevada coincide with the CDC recommendations for effective tobacco control programs. As previously stated, CDC’s Best Practices are evidence-based measures that when implemented in optimally funded tobacco control programs have been shown to be effective in reducing tobacco use. Since implementation of the MSA funded tobacco control programs, tobacco use by Nevada’s teens has declined significantly. An analysis of CTFK reports documented that Nevada was ranked first for teen tobacco use in

2001 when MSA funded tobacco control programs were first implemented and ranked 29<sup>th</sup> at the time the MSA funding was eliminated in June 2010 (CTFK, 2010).

The Oregon and Texas studies found an increased rate of teen tobacco use when funding has been reduced or eliminated entirely. Based on our findings, it appears that the same may be true in Nevada given that less tobacco services were offered when funding levels were reduced. In order to implement and sustain an effective tobacco control program, adequate levels of funding are required.

This paper proposed that the rates of teen tobacco use will increase as a result of loss of MSA funding as of July 1, 2010. A 2010 report by the CTFK has reported that for every percentage point increase in state smoking rates, there will be roughly 1,400 additional high school smokers, 2,200 premature deaths, and

approximately \$305 million in increased long-term healthcare costs from the higher smoking rates (CTFK, 2010). The CDC-recommended level of funding is \$32.5 million (CTFK, 2010). In a recent report by CTFK titled "Using State Tobacco Tax Increases to Fund Comprehensive Tobacco Prevention Programs," Nevada would have to raise the tobacco excise tax by \$.31 in order to reach the CDC-recommended level funding, assuming the increased revenue is earmarked for tobacco control (CTFK, 2009). This would amount to 5,800 less youth smokers and 2,900 less smoking related deaths each year in Nevada. An increase in an excise tobacco tax is expected to be proposed in the next legislative session. Policy makers should consider the tobacco excise tax, but also earmark a percentage of the increased revenue to fund a comprehensive tobacco control program. Some of the most successful tobacco control programs are funded entirely by the revenue generated by a tobacco excise tax (A Broken Promise to Our Children, 2009).

We also suggested that in order to implement and sustain a CTCP in Nevada, tobacco control programs need to adapt the CDC's Best Practices in addition to being funded at the CDC-recommended levels. The literature and proposed FY 2010 outcomes indicate that reduction in funding also reduces the amount of prevention services provided. Policy makers need to be aware that the more effective tobacco control programs are, the more money it will cost the tobacco industry. According to a recent report from the American Lung Association titled "Smoking Cessation: The Economic Benefits," for every dollar Nevada spends on providing tobacco cessation treatments, it has an average potential return on investment of \$1.31 (American Lung Association, 2010).

With limited federal funding available in Nevada for tobacco prevention programs, it would be prudent to use any available funds in the most effective way possible. We suggested that the most effective way to use funding is to award funds to tobacco control programs that have adapted the CDC's Best Practices. While federal grant programs help offset some of the funding, those efforts may be limited to larger community organizations and some of the smaller efforts, especially those targeting rural teens may find it difficult to be successful. Despite the loss of state supported tobacco control funding, there will be some degree of tobacco control in Southern Nevada as a result of the Communities Putting Prevention to Work (CPPW) grant in

2010 and the remaining federal funds that support existing programs. The new scope of work is more along the line of media campaigns and change in behavior compared to the school-based prevention efforts that were previously funded by the MSA.

Leveraging resources and building collaboration are important recommendations to make sure funding these programs is effective (American Legacy Foundation, 2009). Even though research has shown that CDC-recommended level funding is the most effective in states that have adapted the Best Practices, partial funding is better than no funding. This is bolstered by a 2007 Institute of Medicine Report that "budget cutbacks in many states' tobacco control programs have seriously jeopardized further success ... states should adopt a funding strategy designed to provide stable support for the level of tobacco control funding recommended by the Centers for Disease Control and Prevention" (IOM, 2007) Our finding from the SFY09/SFY10 comparison of the MSA funded tobacco control programs is that the

SFY10 delivered outcomes exceeded the SFY09 projected outcomes in tobacco services that were provided by collaborating with community partners or other MSA funded tobacco control programs. This finding supports the recommendations from the American Legacy Foundation report stating the importance of collaboration, strengthening community buy-in and support, and avoiding duplication of services and programs. Leveraging funds will also avoid duplication of services and gain more buy-in from policy makers and benefactors.

One of the limitations of this paper was that the healthcare costs associated with smoking were made available as a general healthcare cost representing the entire population. Reports were not readily available for actual costs associated with the teen population. Data provided by CTFK regarding harm to youth from their own smoking documented that teens will suffer from periodontal disease that can lead to tooth loss, chronic coughing, emphysema, bronchitis, reduced lung function, slowed growth of lung function for the younger teens, hearing loss, vision problems, and increased headaches among the many issues concerning teens (CTFK, 2010). It isn't a far leap to see that there will be an increased healthcare burden to the state if the rates of tobacco increase among teens as a result of lack of funding. According to Lightwood et al., a strong tobacco control program is not only

associated with reduced smoking, but also with reductions in healthcare expenditures (Lightwood et al., 2008). It may also be difficult to determine whether the Best Practices adopted in other states are equally effective among Nevada's population. Risk factors such as a 24 hour lifestyle, high drop out rates among Nevada teens and latchkey care giving are not assessed, but there is no dispute that Nevada teen smoking was significantly reduced during the peak of the MSA funding.

Another limitation of this paper is that the data analyzed from the FHN tobacco control programs was self reporting data and there may have been some discrepancies in the reporting as a result. The outcomes that were reported on the quarterly and annual reports were limited in focus at the request of the FHN external evaluator. As a result, the outcomes reported may not have been all the outcomes measured by the tobacco control programs, but did create a baseline for evaluation of the data. Some tobacco control programs may have had additional outcomes related to their scope of work, but were not reported on the FHN reports either because of the limitation of the reported outcomes or because of multiple funding agencies that may have had varying reporting measures based on the scope of work. Despite the limitations in self reporting data and focused outcome measures, the data reported and presented at meetings is representative of tobacco control program efforts across Nevada.

As of July 1, 2010, MSA funding is no longer available to fund tobacco control programs. As a result, the tobacco control programs will either cease to exist or will function at a level that is not effective in changing the rates of tobacco use. We also projected that a loss of funding will increase the healthcare costs associated with tobacco use as well as the productivity losses incurred as a result of tobacco use. Similar increases in healthcare costs have been noticed with the adult population that has higher prevalence rates of tobacco use. Nevada policy makers must measure short term budget gains against potential long term healthcare cost losses as they make funding decisions.

## References

American Legacy Foundation (2009). Building Effective Collaborations: Organizations Working Together in Tobacco Control. Retrieved from [http://www.legacyforhealth.org/PDF/Building\\_Effective\\_Collaborations\\_Organizations\\_and\\_Com](http://www.legacyforhealth.org/PDF/Building_Effective_Collaborations_Organizations_and_Com)

[munities-Working Together in Tobacco Control.pdf](#).

American Lung Association (2010). Smoking Cessation: The Economic Benefits. Retrieved from <http://www.lungusa.org/stop-smoking/tobacco-control-advocacy/reports-resources/cessation>.

Campaign for Tobacco Free Kids. A Broken Promise to Our Children: the 1998 State Tobacco Settlement 11 Years Later (2009). Retrieved July 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Campaign for Tobacco Free Kids. Key State-Specific Tobacco-Related Data & Rankings (2010). Retrieved November 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Campaign for Tobacco Free Kids. State Harms & Costs From Each One Percentage Point Increase in State Smoking Rates (2010). Retrieved November 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Campaign for Tobacco Free Kids. Tobacco Harm to Kids (2010). Retrieved October 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org)

Campaign for Tobacco Free Kids. Tobacco State Settlement: Nevada (2009). Retrieved October 1, 2010, from the World Wide Web. [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Campaign for Tobacco Free Kids. Toll of Tobacco in the U.S.A. (2010). Retrieved October 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Campaign for Tobacco Free Kids. Using State Tobacco Tax Increases to Fund Tobacco Prevention Programs (2009). Retrieved October 1, 2010, from the World Wide Web: [www.tobaccofreekids.org](http://www.tobaccofreekids.org).

Centers for Disease Control and Prevention. *Best Practices for Comprehensive Tobacco Control Programs – 2007*. Atlanta: 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; October 2007.

- Centers for Disease Control and Prevention. Communities Putting Prevention to Work (2010). Retrieved November 10, 2010, from the World Wide Web: [www.cdc.gov](http://www.cdc.gov).
- Centers for Disease Control and Prevention. *Tobacco Control State Highlights, 2010*. Atlanta: 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, 2010.
- Centers for Disease Control and Prevention (2010). Youth Tobacco Fact Sheet. Retrieved November 1, 2010 from the World Wide Web: [www.cdc.gov](http://www.cdc.gov).
- Gingiss, P.M. & Boerm, M. (2009). Influence of Funding Cuts on Texas School Tobacco Programs. *Journal of School Health*, 79(8), 361-368. doi: 10.1111/j.1746-1561.
- Institute of Medicine. (2007). Ending the Tobacco Problem: A Blueprint for the Nation. Retrieved July 1, 2010, from the World Wide Web: <http://iom.edu/Reports/2007/Ending-the-Tobacco-Problem-A-Blueprint-for-the-Nation.aspx>.
- Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Schulenberg, J.E. (2010). *Monitoring the Future National Results on Adolescent Drug Use: Overview of Key Findings, 2009*. (NIH Publication No. 10-7583). Bethesda, MD: National Institute on Drug Abuse.
- Lightwood, J.M., Dinno, A., Glantz, S. (2008). Effect of the California Tobacco Control Program on Personal Health Care Expenditures. *PLoS Medicine*, 5(8), 1214-1222. Retrieved from [www.plosmedicine.org](http://www.plosmedicine.org).
- Department of Education (2007). 2005-2007 Nevada Youth Risk Behavior Survey State Comparative Data. Retrieved from <http://nde.doe.nv.gov/PDFs/YRBS/05-07ComparativeData.doc>.
- Department of Education (2009). 2009 Nevada Youth Risk Behavior Survey. Retrieved from <http://nde.doe.nv.gov/PDFs/YRBS/2009/2009-YRBS>.
- Nevada Department of Health and Human Services (2009). Grants Management Unit Annual Report July 1, 2008-June 30, 2009. Retrieved from [http://dhhs.nv.gov/Grants\\_HealthyNevada.htm](http://dhhs.nv.gov/Grants_HealthyNevada.htm).
- Nevada Department of Health and Human Services (2009). Grants Management Unit SFY09 3<sup>rd</sup> Quarter Progress Report. Retrieved from [http://dhhs.nv.gov/Grants\\_HealthyNevada.htm](http://dhhs.nv.gov/Grants_HealthyNevada.htm).
- Nevada Department of Health and Human Services (2010). Grants Management Unit Annual Report July 1, 2009-June 30, 2010. Retrieved from [http://dhhs.nv.gov/Grants\\_HealthyNevada.htm](http://dhhs.nv.gov/Grants_HealthyNevada.htm).
- Nevada Department of health and Human Services (2010). Grants Management Unit SFY10 4<sup>th</sup> Quarter Progress Report. Retrieved from [http://dhhs.nv.gov/Grants\\_HealthyNevada.htm](http://dhhs.nv.gov/Grants_HealthyNevada.htm).
- Pizacani, B.A., Dent, C.W., Maher, J.E., Rohde, K., Stark, M.J., Biglan, A., & Thompson, J. (2009). Smoking Patterns in Oregon Youth: Effects of Funding and Defunding of a Comprehensive State Tobacco Control Program. *Journal of Adolescent Health*, 44(3), 229-236. doi: 10.1016/j.jadohealth.2008.07.012.
- UNLV Center for Business and Economic Research (2008). Kids Count. Fighting Teen Smoking in Nevada: Using Excise Taxes. Issue 5.