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Abstract

Introduction: Tobacco control mass media campaigns (MMCs) have been proven to be effective in reducing tobacco use and in preventing initiation. To support global tobacco control efforts, this paper estimates the anticipated reductions in smoking prevalence and in smoking-attributable deaths averted as a result of MMCs in high-income countries and in low- and middle-income countries, in the presence and in the absence of other anti-smoking policies.

Methods: The estimated MMC effect sizes were drawn from a literature review and previous estimations. They were then modeled using the ***Abridged SimSmoke*** model for six prototypical low-, middle- and high-income countries with a population of 10 million each to calculate smoking-related deaths averted.

Results: For high-income countries, we estimate a short-term (five years) relative reduction in smoking prevalence of 6% and a long-term (40 years) relative reduction of 7.5%; for middle-income countries, an 8% prevalence reduction in the short term and 10% long term; and, for low-income countries, a 10% short-term prevalence reduction and 12.5% long-term prevalence reduction. Of the smokers alive today, we predict that in the long term (40 years) there would be 93,750 (62,500-125,000) fewer deaths in a prototypical high-income country with a population of 10 million; the corresponding number of deaths averted would be 150,000 (37,500-187,500), and 187,500 (37,500-281,250) in a prototypical middle-income and low-income country, respectively, as a result of MMCs. With strong synergistic policies, 96,952 (63,567-131,405) deaths would be averted in a prototypical high-income country with a population of 10 million; the corresponding number of deaths averted would be 157,181 (38,398-200,963), and 195,134 (38,263-298,427) in a prototypical middle-income and low-income country, respectively, as a result of MMCs

Conclusion: MMCs substantially reduce smoking prevalence and can avert smoking-related deaths independently and when implemented with other anti-tobacco policies. We found these effects to be stronger in low- and middle-income countries where the tobacco epidemic is in an earlier stage. This paper provides critical information to policymakers on the benefits of investments in MMCs, particularly in resource-limited countries.

On the set of the adaptable “Coughing Up Disease” public service annoucement.

Introduction

Globally, smoking is responsible for at least 7 million deaths per year (1). The World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) and its accompanying technical package of proven interventions, the MPOWER package, seek to reduce this health burden (2-5). MPOWER includes the following six policy interventions: **M**onitor tobacco use and prevention policies, **P**rotect people from tobacco smoke, **O**ffer help to quit tobacco use, **W**arn about the dangers of tobacco, **E**nforce bans on tobacco advertising, promotion and sponsorship, and **R**aise taxes on tobacco. The fourth MPOWER policy, **W**arn about the dangers of tobacco, was originally focused on health warnings on tobacco packaging, but WHO expanded the definition in more recent reports to include mass media campaigns (MMCs) (3, 4).

There is a significant body of evidence on the effectiveness of MMCs in reducing smoking. A number of reviews have found that tobacco control MMCs not only reduce tobacco prevalence but also prevent its uptake in both high-income countries and in low- and middle-income countries (6, 7). In addition, MMCs can be highly cost-effective, including in low- and middle-income countries (8, 9). Thus, tobacco control MMCs, along with other MPOWER policies, offer countries a means of effectively reducing tobacco prevalence and achieving the globally stated goal of a 30% relative reduction of tobacco consumption by 2025 (10).

To effectively implement MMCs, as part of the MPOWER package, countries must have the ability to plan and project what can be achieved in the near and in the longer term. Previous research has suggested that the magnitude of effect of each MPOWER measure varies, depending largely on policy implementation (11). To help policymakers make decisions on MMCs, an understanding of what MMCs can achieve in the short and longer term, alone and in combination with other MPOWER policies, is necessary.

The *Abridged SimSmoke* model is a tobacco control simulation model, based on the original *SimSmoke Tobacco Control Policy Model,* and can estimate the impact of the MPOWER policies on smoking prevalence and smoking-attributable deaths. Details of the model and its development, including its abridgment, are presented in previous publications (12-14). It has thus far been applied in more than 30 countries and 10 states within the United States (13, 15-18). By estimating projected prevalence reductions and smoking-related deaths averted, the *Abridged SimSmoke* model offers decision-makers a way of estimating the impact of MPOWER policies and a means of developing effective plans.

This report describes the application of *Abridged SimSmoke* to estimate the impact of MMCs on smoking rates and smoking-attributable deaths. To estimate impacts in low-, middle- and high-income countries, the model was applied to prototypes of countries at varying levels of economic progress, as described in greater detail below. Finally, by considering the effect of MMCs alone and in combination with other MPOWER policies, this study sought to guide decision-making on the impact of MMCs in low-, middle- and high-income countries.

Methods

Study Approach

To estimate the impact of MPOWER policies, the ***Abridged SimSmoke*** model uses policy effect size estimates that are based on literature reviews, the advice of expert panels, and model validation (11, 13, 15, 17, 19). Thus, in the first stage of this study, a review of all published studies on the impact of tobacco control MMCs was conducted to inform the estimation of effect sizes of MMCs on smoking cessation and prevalence. Specifically, the observed range in reductions in smoking prevalence as a result of MMCs was combined with the aforementioned and previously published expert panel advice and model validation. These were applied in the ***Abridged SimSmoke*** model for six prototypical countries: two each for low-, middle- and high-income countries, one in each category representing countries where anti-tobacco policies have been implemented and one in each category where this is not the case.

Estimating Prevalence Reductions

To compile the effect sizes from a literature review, all publications describing the impact of tobacco control MMCs were identified from online databases, such as PubMed, and the reference lists within review articles. Inclusion criteria included all scientific literature on MMCs published through Nov. 30, 2015. The search terms were as follows: ("cigarette" OR "smoking" OR "tobacco control") AND ("mass media" OR "television" OR "radio" OR "campaign" OR "communication") AND ("effectiveness" OR "evaluation" OR "impact"). The findings of the literature review were then compiled systematically in tables that identified tobacco behavioral outcome: initiation, cessation, prevalence or quantity smoked (see Appendix 1, Tables i, ii and iii.) Studies were excluded if none of these outcomes were reported. Studies that either did not have a baseline for comparison or a comparison/control group within the study were also excluded. Studies that were based on qualitative methods were excluded. From these studies, the effect sizes of MMCs in low-, middle- and high-income countries were deduced as a percentage reduction in smoking prevalence, and dependent on whether the nation was a low-, middle- or high-income nation, which indicates the stage of the tobacco epidemic (20). As per the protocol of the ***Abridged SimSmoke*** model, these were then further combined with results from previous reviews, and advice of expert panels and model validation. The final effect sizes were then applied in the model.

Modeling the Effects of Policies: Abridged SimSmoke simulation model

Abridged SimSmoke uses data from a single year to project short-term (five-year) and long-term (40-year) effects on smoking prevalence. Detailed descriptions of the model are available in previous publications (11, 13, 15, 17, 19). In brief, first, the number of smokers, for both genders, is obtained by multiplying the respective smoking prevalence by the corresponding population size. The number of deaths attributable to smoking is determined using a formula based on the relative risks of smoking (21). The number of deaths averted is calculated by applying the estimate that 50% of smokers would die prematurely due to smoking (21). Based on the complete ***SimSmoke***, a long-term multiplier is estimated for each policy as the ratio of the relative change in prevalence (after 40 years) to the relative change in short-term prevalence (after five years). We apply the relevant policy effect sizes to the number of smokers to calculate the reduction in smokers and deaths as result of a specific policy or group of policies.

For this study, we applied ***Abridged SimSmoke*** to develop six prototypical models: two models each for low-, middle- and high-income countries. The models distinguish countries with strong tobacco control policies from those with weak tobacco control policies. The countries with strong tobacco control include those that have implemented complete smoke-free air policies, strong health warnings and complete cessation treatment policies, while those weak in tobacco control are those that have none of these policies. For each model, we assume a population of 10 million and used prevalence estimates based on current tobacco rates, e.g., 34.6% in India, 36.1% in Indonesia, 28.1% in China (22-24). We assume an average prevalence of 30% in the low- and middle-income countries and 25% in high-income countries. However, the models can easily be modified to substitute alternative smoking rates and population sizes. Model parameters are shown in Table 1.

On the set of the adaptable "What Damage Will This Cigarette Do?" public service announcement.

Results

Estimated Prevalence Reductions from MMCs

High-Income Countries. Studies from high-income countries, including the United States, tended to show relative reductions in smoking prevalence of 5% to 6% (see Appendix, table i.) Earlier studies tended to find greater effects than the later ones. Relative reductions in more recent studies such as those from the United States were around 3% to 4%. Effects on youth and minority groups were consistent.

A group of studies also described total tobacco control campaign expenditures (see Appendix, table ii). Although those expenditures include programs such as local support, school education, and cessation treatment programs, MMCs usually command a much larger share of expenditures than these other programs. Therefore, these studies provide a useful range of the potential impact of MMCs on smoking outcomes. The studies to date have focused on differences in smoking prevalence across the United States. In summary, two studies on the effect of tobacco control campaign expenditures across states in the U.S. found reductions in smoking prevalence of between 5% and 20% associated with tobacco control programs, and three studies found effects in the same range among youth and young adults (25-29). Studies for California, New York, and Washington obtained consistent results, and two separate studies also found strong impacts for cessation (30-33). While the reductions in these studies may be partially explained by policies not explicitly captured in the estimation equations, the literature provides consistent evidence that MMCs, especially as part of larger programs, are effective in changing smoking behaviors.

In conclusion, drawing from this research from high-income countries, and combined with earlier expert panel advice and published data, we estimate that the effect of a high-level MMC (defined as more than $0.50 spending per capita) on smoking prevalence relative to no campaign is a 6% reduction in short-term smoking prevalence. If MMCs are sustained according to international best practices, we estimate a 7.5% long-term reduction, through a continuing effect on initiation and cessation. In light of the uncertainty, we estimate credible ranges of the effect size from 4% to 8% in the short term and 5% to 10% in the long term. These estimates of reduction in prevalence are presented in Table 2.

Low- and Middle-Income Countries. While most evidence is for high-income countries, an increasing number of studies in recent years have been conducted for low- and middle-income countries. Studies are summarized in Appendix 1, table iii. While there are fewer studies from low- and middle-income countries, and therefore greater uncertainty about the effect of MMCs in those settings, studies find roughly similar – if not greater (e.g., Higashi et al., 2011) – results in low- and middle-income countries as in high-income countries on the effect of MMCs on quitting behaviors. On the basis of the findings from the review, for middle-income countries we attribute an 8% (range 2%-10%) prevalence reduction in the short term and 10% (2.5%-12.5%) in the long term. The credible ranges have been increased to reflect the added uncertainty from having fewer studies. Based on the results for the U.S. and other high-income countries in the early stages of tobacco control, and the potential to reverse the increase in smoking prevalence as countries move from low- to middle-income status, the estimated effects are greater for low-income countries than for middle-income countries: a 10% (with range 2%-15%) short-term effect size and 12.5% (2.5%-18.8%) long-term effect size. These estimates are presented in Table 2.

Sunita Tomar, whose story was featured in smokeless tobacco campaigns across India.

Estimating Synergies of MMCs with Other Policies. Estimates of synergies between MMCs and other tobacco control policies were derived from expert advice and previous studies that have examined interactions between MMCs and health warnings, cessation treatment policies, and smoke-free air laws (13, 15-18). While the studies do not report a precise effect size for the interaction between MMCs and other policies, the literature indicates that MMCs do yield additional benefits if implemented along with smoke-free air laws, health warnings and cessation treatment policies, especially smoking cessation phone lines. In particular, studies indicate synergies with smoke-free air laws and health warnings in low- and middle-income countries. We also incorporate synergies by increasing the effectiveness of cessation treatment, smoke-free air laws, and large graphic health warnings on packages. When these policies accompany a media campaign, effect size is increased 20% (range 10%-30%) (Table 1), for complete cessation treatment policies and smoke-free laws in low-, middle and high-income countries; and 10% (range 5%-20%, Table 1) for graphic health warnings in low-, middle and high-income countries, respectively.

Abridged SimSmoke Model Results

Table 2 presents the results of the *Abridged SimSmoke* simulation model for low-, middle-, and high-income countries, each with a population of 10 million and differentiated by the existence of other tobacco policies. For a prototype low-income country of 10 million people with a 30% (combined male and female) prevalence, we project a reduction in smoking prevalence in the short term of 10% (range 2%-15%) in the absence of other policies, with the reduction increasing to 12.5% (2.5%-18.8%) over the long term. In the long term and in the absence of other policies in a prototype low-income country, of the smokers alive today, we predict 187,500 (37,500-281,250) fewer deaths attributable to smoking as a result of the MMC. With strong smoke-free air laws, cessation treatment programs, and health warnings, the short-term reduction is 10.3% (2.0%-15.9%), the long-term impact increases to 13% (2.6%-19.9%), and 195,134 (38,263-298,427) deaths averted in a low-income country.

For a prototype middle-income country with a population of 10 million with 30% prevalence, the reduction in smoking prevalence in the short term, in the absence of other policies, is 8% (range 2%-10%), increasing to 10.0% (2.5%-12.5%) over the long term. In the long term and in the absence of other policies, of the smokers alive today, we predict 150,000 (37,500-187,500) fewer deaths as a result of the MMC in a prototype middle-income country. With strong smoke-free air laws, cessation treatment programs, and health warnings, the short-term reduction is 8.3% (2%-10.7%), which is increased to 10.5% (2.6%-13.4%) in the long term, with 157,181 (38,398-200,963) deaths averted.

For a prototype high-income country with a population of 10 million with 25% prevalence, the reduction in smoking prevalence in the short term, in the absence of other policies, is 6% (range 4%-8%) increasing to 7.5% (5%-10%) over the long term, in the absence of other policies. In the long term and in the absence of other policies, of the smokers alive today, we predict 93,750 (62,500-125,000) fewer deaths as a result of the MMC. With strong smoke-free air laws, cessation treatment programs and health warnings, the reduction in smoking prevalence in the short term is 6.1% (range 4.1%-8.4%), increasing to 7.8% (5.1%-10.5%) over the long term. Of the smokers alive today, we predict 96,952 (63,567-131,405) fewer deaths as a result of the MMCs in a high-income country.

Discussion

Based on the findings from the literature review and consistent with previous research (34, 35), we estimate a short-term relative reduction in prevalence of 6% and a long-term relative reduction of 7.5% for high-income countries. While there was less information for low- and middle-income countries, those studies that existed tended to find strong effects of MMCs. These relatively strong effects mirror the strong effects found in earlier studies of high-income countries when tobacco use was growing. They also suggest the importance of media reach of MMCs in low- and middle-income countries. These findings suggest that low- and middle-income countries, which tend to be earlier in the tobacco epidemic, may expect stronger effects from MMCs (20). Based on this information, we suggest greater effects of MMCs in low- and middle-income countries than in high-income countries in reducing smoking. For middle-income countries we attribute an 8% (range 2%–10%) prevalence reduction in the short term and 10% (2.5%–12.5%) in the long term. The estimated effects are greater for low-income countries than middle-income countries: a 10% (with range 2%–15%) short-term prevalence reduction and 12.5% (2.5%–18.8%) long-term prevalence reduction.

In terms of smoking-attributable deaths averted, for a prototype high-income country, in the long term and in the absence of other policies, of the smokers alive today, we predict 93,750 (62,500–125,000) fewer deaths as a result of the MMC in a population of 10 million, or 9.3% fewer premature deaths in the population. With strong smoke-free air laws, cessation treatment programs, and health warnings, the reduction in smoking prevalence in the short term is 6.1% (range 4.1%–8.4%), increasing to 7.8% (5.1%–10.5%) over the long term. Of the smokers alive today, we predict 96,952 (63,567–131,405) fewer deaths as a result of the MMCs in a high-income country with a population of 10 million, or 9.6% fewer premature deaths. For a prototype middle-income country, in the long term and in the absence of other policies, of the smokers alive today, we predict 150,000 (37,500–187,500) fewer deaths as a result of the MMC, or 15% fewer premature deaths. With strong smoke-free air laws, cessation treatment programs, and health warnings, the short-term reduction is 8.3% (2%–10.7%), which is increased to 10.5% (2.6%–13.4%), in the long term, with 157,181 (38,398–200,963) deaths averted. For a prototype low-income country, in the long term and in the absence of other policies, of the smokers alive today, we predict 187,500 (37,500–281,250) fewer deaths attributable to smoking as a result of the MMC. With strong smoke-free air laws, cessation treatment programs, and health warnings, the short-term reduction is 10.3% (2.0%–15.9%), the long-term impact increases to 13% (2.6%–19.9%), and 195,134 (38,263–298,427) deaths averted in a prototype low-income country, or almost 20% fewer premature deaths in a population of 10 million.

This study thus demonstrates the benefits to countries, particularly low- and middle-income countries, in implementing MMCs, alone or in combination with other tobacco control policies. Although the results presented here were modeled on prototypes of low-, middle and high-income countries, the model lends itself to more specific application to estimate precise country-level impact. Our model can be applied to other countries by adjusting the population size and smoking rates and taking into account the extent of media campaigns currently in existence. Abridged SimSmoke is also available to incorporate the effect of simultaneously implementing other policies, such as a tax increase or smoke-free air law. Future applications of this research may consider this direction.

There are a few limitations to this study that must be noted. In some low- and middle-income countries, mass media may not be able to reach the entire population completely, in particular those in rural areas. For that population, other communication approaches, including interpersonal communication and community-based outreach, may be needed. In addition, this review focuses on the impact of MMCs on smoking cessation but not on other tobacco products, such as smokeless tobacco and shisha, which are commonly used in many low- and middle-income countries. In general, MMCs and impact evaluations of the effect of the MMCs on the prevalence of these products is needed.

In conclusion, our study focused on the effect of MMCs on smoking prevalence and showed potential gains in terms of reduced smoking-attributable deaths. Results suggest that MMCs play an important role both in reducing smoking and in reducing smoking-attributable morbidity and mortality. Although not accounted for in this model, there are additional benefits from MMCS. In particular, they may also play an important role in reducing morbidity and mortality due to secondhand smoke by informing the population of the risks and suggesting bans on smoking in the home, and in reducing smoking-attributable maternal and child health outcomes such as preterm birth, low birth weight and sudden infant death syndrome (SIDS), by informing pregnant women about the harms of smoking.

In sum, we have provided a model to analyze the effectiveness of MMCs and found them to be beneficial in the short and long term. By presenting the shorter- and longer-term gains in different scenarios and settings, our study enables decision-makers to consider MMCs as an important component in a comprehensive approach to tobacco control, and more generally in promoting the public health of the population.

Parents of Robby Indra Wahyuda mourning the loss of their son, who died of laryngeal cancer.

Appendix

Table 1
Model Parameters and Model Results for Prototypical Low-, Middle- and High-Income Countries

Country Prototype		LIC	MIC	HIC
Background parameters	Population	10,000,000	10,000,000	10,000,000
	Smoking prevalence	30%	30%	25%
	Employment rate	95%	95%	95%
	% Employed in agriculture	40%	20%	5%
	Assumed risk (HIC=100%)	100%	100%	100%
Short-term effects of policies alone	Smoke-free air laws	9.6%	11.3%	8.4%
	Cessation treatment	2.2%	2.9%	2.3%
	Health warnings	4.0%	4.0%	2.0%
	Media campaigns	10.0%	8.0%	6.0%
Long-term effects of policies alone	Smoke-free air laws	12.0%	14.2%	10.5%
	Cessation treatment	4.3%	5.8%	4.6%
	Health warnings	8.0%	8.0%	4.0%
	Media campaigns	12.5%	10.0%	7.5%
Synergistic effects (% increase in above effects when implemented with media campaigns)	Smoke-free air laws	20%	20%	20%
	Cessation treatment	20%	20%	20%
	Health warnings	10%	10%	10%

Table 2
Model Results for Prototypical Countries of 10 Million Inhabitants

Country Prototype		LIC	MIC	HIC
Short-term reduction in smoking prevalence (no other policies)	**Best**	10.0%	8.0%	6.0%
	Lower	2.0%	2.0%	4.0%
	Upper	15.0%	10.0%	8.0%
Long-term reduction in smoking prevalence (no other policies)	**Best**	12.5%	10.0%	7.5%
	Lower	2.5%	2.5%	5.0%
	Upper	18.8%	12.5%	10.0%
Long-term smoking-attributable deaths averted (no other policies)	**Best**	187,500	150,000	93,750
	Lower	37,500	37,500	62,500
	Upper	281,250	187,500	125,000
Short-term reduction in smoking prevalence (strong smoke-free air, cessation treatment and health warning policies)	**Best**	10.3%	8.3%	6.1%
	Lower	2.0%	2.0%	4.1%
	Upper	15.9%	10.7%	8.4%
Long-term reduction in smoking prevalence (strong smoke-free air, cessation treatment and health warning policies)	**Best**	13.0%	10.5%	7.8%
	Lower	2.6%	2.6%	5.1%
	Upper	19.9%	13.4%	10.5%
Long-term smoking-attributable deaths averted (strong smoke-free air, cessation treatment and health warning policies)	**Best**	195,134	157,181	96,952
	Lower	38,263	38,398	63,567
	Upper	298,427	200,963	131,405

Appendix (Cont'd)

Table i. Studies of Mass Media Campaigns for High-Income Countries

Article Information			Campaign Information				Exposure	Available Outcome		
Authors	**Title**	**Journal**	**Campaign year**	**Category**	**Survey year**	**Study-target population**	**Media Impact***	**Impact on prevalence/ successful quit for 1 year**	**Impact on Initiation/ relapse**	**Impact on Cessation/ intention to quit**
Hurley and Matthews	Cost-effectiveness of the Australian national tobacco campaign	Tobacco Control	Jun-Nov 1997	Australian adults	1997-2000	Australia-general population	Australian national tobacco campaign (phase 1)	Reduced smoking prevalence by 1.40%	NA	NA
Cotter et al.	The case for recycling and adapting anti-tobacco mass media campaigns	Tobacco Control	1997	Australia adults	6 months after campaign	Sub-population of smokers highly exposed to anti-smoking advertising, but not familiar with specific advertisements	Two advertisements (Sponge and Artery)	Sponge ad has been associated with 3.4% decrease in smoking prevalence.And Artery ad was associated with a 1.4% decline in its first 6 months	NA	NA
Wakefield et al.	Changes associated with the national tobacco campaign pre- and post- campaign surveys compared	Australia national tobacco campaign	Jun, 1997	Australia adults	Pre: May 1997 Post: November 1997	Australia-general population	National tobacco campaign (pre- and post-campaign surveys compared)	A statistically significant reduction of about 1.5% in the estimated adult prevalence of smoking	NA	Increase in one year quit rate from 8% to 11% among smokers and recent quitters
Wakefield et al.	Impact of tobacco control policies and mass media campaigns on monthly adult smoking prevalence	American Journal of Public Health	Jun 1995-Dec 2006	Australia adults	Jun 1995-Dec 2006	Australia general population-NCT	4 ads per month	0.3% reduction in smoking prevalence within 2 months	NA	NA
Wakefield et al.	Does tobacco-control mass media campaign exposure prevent relapse among recent quitters?	Nicotine & Tobacco Research	Jun 2002-Feb 2008	Australia other group	1st wave (2002-2007); 2nd wave (2003-2008)	Australia-baseline quitters	4 ads per month	NA	One anti smoking advertisement after the baseline-quit was associated with a 5% increase in the odds of not smoking at follow-up (OR=1.05, 95% CI; 1.02-1.07)	NA
Wakefield et al.	Effects of mass media campaign exposure intensity and durability on quit attempts in a population-based cohort study	Health Education research	2002-2008	Australia other group	1st wave 02-06; 2nd wave 03-07	Australia-smokers	1000 GRP per quarter	NA	NA	Each 1000 GRP increase per quarter was associated with 11% increase in making quit attempt (OR-1.11, 95%, CI: 1.03-1.19)
Dunlop et al.	Televised antismoking advertising: Effects of level and duration of exposure	American Journal of Public Health	2005-2010	Australia other group	April 2005-Dec 2010	Australia-adult smokers and recent quitters in New South Wales	100-200 GRP per week vs. None	Recent quit attempts: OR=1.17~1.19(100-200 GRP for 6 weeks~3months vs. None)	NA	Thought about quitting at least once per day(100-200 GRP for 8 weeks vs. None)
Perusco et al.	Evaluation of a comprehensive tobacco control project targeting Arabic-speakers residing in south west Sydney, Australia	Health Promotion International	Apr 2005-Oct 2007	Australia other group	Baseline survey: Aug-Dec 2004 Post-intervention survey: Oct-Dec 2007	Arabic speakers residing in Australia	Pre vs. Post-intervention	Decline in prevalence from 26%(baseline survey) to 20.7%(post survey) P<0.05	NA	NA

Table i. Studies of Mass Media Campaigns for High-Income Countries (Cont'd)

White et al.	What is the role of tobacco control advertising intensity and duration in reducing adolescent smoking prevalence? Findings from 16 years of tobacco control mass media advertising in Australia	Tobacco control	1993-2008	Australia youth	1993-2008	Australia-students	Selected TRPs/month vs. non-exposure	NA	Likelihood of smoking: (OR=0.64, 95% CI:0.52-0.79)TRP≥400 for 12 months, (OR= 0.67, 95% CI:0.52-0.86)in TRP 800 for 9 months	NA
Sly et al.	The Florida "truth" anti-tobacco media evaluation: Design, first year results, and implications for planning future state media evaluations	Tobacco Control	April 1998	US youth	Pre: before April 1998 Post: May 1999	US-Florida youth	Truth campaign in Florida vs. National	% change of current cigarette user in Florida(1998-1999): -8.9% change of current cigarette user in National(1998-1999): 11.9%	Susceptible non-smoker: 13.4% drop in FL vs. 0.2% drop in US	NA
Weiss et al.	Longitudinal effects of pro-tobacco and anti-tobacco messages on adolescent smoking susceptibility	Nicotine & Tobacco Research	2000-2003	US youth	2-year follow-up	US-California 6-8th grade	pro-tobacco and anti-tobacco messages	NA	Susceptibility to smoking: 7.4% drop (Exposure vs. non-exposure at year 2 or 3)	NA
Edwards et al.	Out of the Smokescreen: Does an anti-smoking advertisement affect young women's perception of smoking in movies and their intention to smoke?	Tobacco Control	2002 July	Australian youth	NA	Australia-12-17 yrs female	30 sec anti-smoking ad in cinema vs. control	NA	NA	15.9% current smokers are unlikely to smoke in 12 month vs. control
Pechmann and Reibling	Antismoking advertisements for youths: An independent evaluation of health, counter-industry, and industry approaches	American Journal of Public Health	1997-2001	US Youth	NA	US-Public high school students	video tape with antismoking ads vs. control	NA	No significance in lowering smoking intent	NA
Kotz et al.	How cost-effective is 'No Smoking Day'?	Tobacco Control	2007-2009	UK adults	2007-2009	UK-Nationwide adults	Campaign No Smoking Day	Prevalence drop 0.07%	NA	NA
Villanti et al.	Analysis of media campaign promoting smoking cessation suggests it was cost-effective in prompting quit attempts	Health Affairs	2008	US adults	2008	US-Nationwide adults	National EX® campaign, which ran on radio and television in 2008	(One year quit) -0.21%	NA	NA
Hyland et al.	Anti-tobacco television advertising and indicators of smoking cessation in adults: A cohort study	Health Education Research	1999-2000	US adults	Pre:1988-1993 Post:2000-2001	US adults	GRP exposure measures per 5000 GRP	Relative risk of quitting was estimated to be 10% higher (95% CI: 0.98-1.24) for each 5000 GRPs increase over 2 years	NA	NA
Brown et al.	How effective and cost-effective was the national mass media smoking cessation campaign 'Stoptober'?	Drug and Alcohol Dependence	Late 2012	UK adults	2007-2011	UK-Nationwide adults	National 'Stoptober' mass media smoking cessation campaign	Prevalence drop 0.104%	NA	NA

Table i. Studies of Mass Media Campaigns for High-Income Countries (Cont'd)

Hersey et al.	How state counter-industry campaigns help prime perceptions of tobacco industry practices to promote reductions in youth smoking	Tobacco Control	1999-2002	US youth	1999-2002	US States youth	Established campaign vs. new campaign vs. None(Established: campaign at least 50% of CDC recommended level and 15 %in media campaign; New: campaign reach established level but started in 2000-2001; Non: Campaign did not reach level)	Smoking prevalence change 2000-2002: 6.8% drop(existing); 7.1% drop (new); 3.1% drop (non)	Aware of tobacco use prevention education (OR=0.63, P-value=0.000) among 12-17 years old current smoker	NA
Durkin et al.	Effects of different types of antismoking ads on reducing disparities in smoking cessation among socioeconomic subgroups	American Journal of Public Health	2001-2004	US adults	Pre: January 2001-June 2002 Post: January 2003-July 2004	US-Massachusetts adult smokers	Antismoking ads	Odds of having quit at follow-up (per 1000 GRPs: OR=1.11, 95% CI; 1.00-1.23)	NA	NA
McAlister et al.	Media and community campaign effects on adult tobacco use in Texas	Journal of Health Communication	2000	US adults	Pre: April-May 2000Post: November-December 2000	US-Texas adults	Exposure to media campaign vs. no exposure	NA	NA	14% cessation rate was in the area with High-level media campaigns and cessation service delivery whereas, 11% in areas with cessation services in a low-level media campaign.Media campaign without cessation services delivery yielded cessation rates of 8%, while a cessation rate of 5% among no exposure
Niederdeppe et al	Smoking-cessation media campaigns and their effectiveness among socioeconomically advantaged and disadvantaged populations	American Journal of Public Health	2002-2003	US adults	Pre:2003-2004/ Post: Followed 1 year later	US-Wisconsin adult smokers	Smoking cessation media campaigns	No significance found on exposure to ads	NA	NA
Nonnemaker et al.	Self-reported exposure to policy and environmental influences on smoking cessation and relapse: A 2-year longitudinal population-based study	Environmental Research and Public Health	2003-2008	US adults	Baseline survey: 2003-2008/12 month follow up & 24 month follow up	US- New York Adult	smoking cessation ads	Not significant on successful quit	Not significant on relapse	Not significant on quit attempts
Nonnemaker et al.	The effect of exposure to media campaign messages on adult cessation	Addictive Behaviors	2008-2013	US adults	July 2008-Oct 2012/ follow: Oct 2009-Oct 2013	US-Florida adult smokers	Average quarterly TRPs in 100s	NA	NA	First observed quit attempt are higher at higher levels of TRPs(Adjusted OR: 1.02, P=0.023) Odds ratio for relapse not significant

Table i. Studies of Mass Media Campaigns for High-Income Countries (Cont'd)

McAfee et al.	Effect of the first federally funded US antismoking national media campaign	Lancet	2012 March-June	US adults	Pre: Feb-Mar 2012/ Post: Jun-Jul 201	US national	TIPS pre vs. post	NA	NA	Quit attempt increase: from 31.1% to 34.8% (12% relative increase. OR 1.20, 95% CI:1.02-1.40)
Xu et al.	A cost-effectiveness analysis of the first federally funded antismoking campaign	American Journal of Preventive Medicine	March-June 2012	US adults	Pre: Feb-Mar 2012/ Post: Jun-Jul 2012	US-national (TIPS)	TIPS pre vs. post	6.1% 6 months sustained quit rate due to TIPS	NA	12% relative increase in quit attempts
Jenkins et al.	The effectiveness of a media-led intervention to reduce smoking among Vietnamese-American men	American Journal of Public Health	1990-1992	US other group	Pre 1990, Post 1992	US Vietnam-American Men	Pre vs. Post	Odds ratio of being quitter: (1.65, 95% CI: 1.27 to 2.15) (SF-exposed vs. Houston-non)		Quit rate prior 2 years significantly higher in San Francisco (OR=1.65, 95% CI; 1.27,2.15)compared to Houston
Vallone et al.	Evaluation of EX: A national mass media smoking cessation campaign	American Journal of Health Promotion	March-Sep 2008	US adults	Base: Feb-Apr 2008 Post 6 month	US-low income group	Ex Media Campaign (pre vs. post)	NA	NA	Quit attempts between baseline and follow-up (OR=1.24, P=.046) among aware vs. unaware (6month exposure vs. baseline)
Farrelly et al.	Evidence of a dose-response relationship between truth antismoking ads and youth smoking prevalence	American Journal of Public Health	2000-2002	US youth	1997-2002	US-youth population	Pre vs. Post	Smoking prevalence dropped from 25.3% to 18% and campaign accounted for 22% of this decline	NA	NA
Secker-Walker et al.	A mass media programme to prevent smoking among adolescents: Cost and cost effectiveness	Tobacco Control	1986-89	US youth	Baseline 1985/ follow each year till 1991	US- students in ages 10-12	Mass media & school programme vs. school programme only	Smoked last week, prevalence drop: 25.9% to 20.4%	NA	NA
Freels et al.	Evaluation of the effects of a smoking cessation intervention using the multilevel thresholds of change model	Evaluation Review	Before 2002	US youth	Base/immediate/6 month/12 month/18month	US-Chicago women high school or less education	Exposure vs. non-exposure	Quit rate of exposure / non-exposure: 12.8%/10%(12 month);15.4%/11% (18 month); 17.6%/10.6% (24 month)	NA	NA
Solomon et al.	Mass media for smoking cessation in adolescents	Health Education & Behavior	2002-2005, annually	US youth	2001 base, follow each year for 3 years	US-public middle & high school students	380 GRP vs. comparison	3 year quit rate change: 16%(exposed) vs. 12.8%(comparison) 16% in exposure vs. 12.8% in comparison	6.7% less in resuming smoking over 3 years 59.4% in exposure vs. 66.1% in comparison	NA
Putte et al.	Interpersonal communication as an indirect pathway for the effect of antismoking media content on smoking cessation	Journal of Health Communication	Nov 2003-April 2004 / Nov 2003 Nov-Dec 2003	Netherland	1st wave: Nov 2003; 2nd wave: Jan-Feb 2004; 3rd wave: Apr- May 2004	Dutch Population (2 Campaigns Combo)	The Netherland quit smoking. Smoking-free Workplace campaign	NA	NA	16% attempt to quit at wave 2 vs. wave 1. 6.5% more attempt to quit between wave 2 & wave 3
Mudde and Vries	The reach and effectiveness of a national mass media-led smoking cessation campaign in the Netherlands	American Journal of Public Health	1990-1991	Netherland	Pre Dec 1990/ post April 1991/ follow up after 10 month in 1992	Netherlands-Dutch population	Pre vs. Post campaign. Dose response relation between exposure and quitting were found	4.5% of Dutch smokers campaign stimulated to quit equivalent to 187,000 ex-smokers	Sustained abstinence was enhanced by recalling more campaigns (OR= 3.28,95% CI= 1.65,6.48) and watching more TV clinic episodes(OR=1.36, 95% CI= 1.13, 1.65)	Campaign exposure is related to attempting to quit between the pretest and the post test (OR= 1.18, 95%CI= 1.08, 1.28, and OR= 1.31, 95% CI=1.31, 1.52, respectively). Quit attempts between the post test and the follow-up test and abstinence after the campaign and at follow-up were each promoted by campaign exposure (OR= 1.37, 95% CI= 1.15, 1.62; OR= 1.21, 95% CI= 1.04, 1.39; and OR= 1.27,95% CI= 1.09, 1.48,

Table i. Studies of Mass Media Campaigns for High-Income Countries (Cont'd)

McVey and Stapleton	Can anti-smoking television advertising affect smoking behavior? Controlled trial of the Health Education Authority for England's anti-smoking TV campaign	Tobacco Control	1st phase: Dec 1992-Mar 1993/2nd phase Dec 1993-March 1994	England Adults	Oct 1992 baseline/ May-July 1993. 6 month follow up/May-July 1994 18 month follow up	England Adults	Campaign vs. No intervention	campaign reduce smoking prevalence by 1.2% over 18 months	4.3% ex- smokers relapsed	By 18 months, 9.8% of successfully followed smokers reported having stopped.
Steven et al.	Cost-effectiveness of a community anti-smoking campaign targeted at a high risk group in London	Health Promotion International	1996-1997	Turkish people living In London England other group	Pre: May-Aug 96/ Post: 12 months in 1997	UK-Turkish group living in London	Pre vs. Post campaign (Medium level)	2.9% net reductions in smokers	NA	NA
Lewit et al.	The effects of government regulation on teenage smoking	Journal of Law and Economics	1967-1971	US public	1966-1970	US youth 12 to 17yrs.	Interviewed during campaign vs. interviewed before campaign	Reported 3.0-3.4 percentage point drop in youth smoking prevalence from its initial level of about 12% in various regression model	NA	NA
Sims et al.	Effectiveness of tobacco control television advertising in changing tobacco use in England: A population-based cross-sectional study	Addiction	2002-2010	England adults	2002-2010	England Adults	400-point increase in Tobacco control GRP per month	Population seeing 4 advertisements per month was associated with 3% of lower odds smoking 2 months later &accounted for 13.5% of the decline in smoking prevalence seen over this period. 0.5 percentage-points fall in smoking prevalence attributable to MMCs	NA	NA
Emery et al.	The Effects of Smoking-Related Television Advertising on Smoking and Intentions to Quit Among Adults in the United States: 1999–2007	American Journal of Public Health	1999-2007	US adults	1999-2007	US adults	10 ads exposures over 4 months	Quit attempt: State campaign: (OR=0.99,P=.392); legacy campaign: OR=1.01, P<0.043) 2.6% reduction in the odds of current smokers with each 10 ads increase over 4 months	NA	Intention to quit due to Legacy campaign: (OR=1.02, P<.003) State campaign: (OR=1.046, P<.006) with each 10 ads increase over 12 months
Siegel et al.	The impact of an anti-smoking media campaign on progression to established smoking: Results of a longitudinal youth study	American Journal of Public Health	1993-1997	US youth	1993-1997	US- Massachusetts youth	Baseline exposure to TV antismoking ad vs. not exposed	NA	Adolescents aged 12 to 13 years at baseline who were aware of the campaign were less likely to progress to established smoking (OR=0.49, 95% CI:0.26,0.93), but no effects were found for older adolescents	

Table i. Studies of Mass Media Campaigns for High-Income Countries (Cont'd)

Nonnemaker et al.	The influence of antismoking television advertisements on cessation by race/ethnicity, socioeconomic status, and mental health status	PLoS One	2003-2011	NA	2003-2011	New York Adults above 18 yrs.	Confirmed recall Greater GRP level was associated with a higher likelihood of making a quit attempt	NA	NA	Quit attempt, OR=1.38(white non hispanic); 1.99(black non hispanic); 1.52(earning ‹$30000); 1.46 (›=$30000);1.46(good mental health); not significant (poor mental health)
Nagelhout et al.	Effectiveness of a national reimbursement policy and accompanying media attention on use of cessation treatment and on smoking cessation: A real-world study in the Netherlands.	Tobacco Control	Dec. 2010-Jan. 2011	NA	Base: Sep-Oct 2010;Wave 3: Mar 2011;Wave 4: Jun 2011;	Netherlands	Pre vs. Post	Quit attempt OR=1.33, 95% CI: 1.24 to 1.74) (wave 3 vs. base);OR=1.47,95 % CI:1.24 to 1.74 (wave4 vs. base)	NA	NA

*Media impact: By spending per capita: Low (‹$0.05), Medium ($0.05-$0.50), High (›$0.50); By GRP/TRP: (approximately) 100 GRP = 1 Advertisement exposure.

Table ii. Studies of Tobacco Control Campaigns for High-Income Countries

Article Information			Campaign Information		Exposure	Available Outcome	Simulation
Authors	**Title**	**Journal**	**Campaign year**	**Country-target population**		**Impact on prevalence/successful quit for 1 year**	**Elasticity/marginal effects**
Farrelly et al.	A comprehensive examination of the influence of state tobacco control programs and policies on youth smoking	American Journal of Public Health	2002-2008	US-States	Tobacco control policies: tobacco control program expenditures-Per capita cumulative funding for state programs	Current smoking OR=0.993, Established smoking OR=0.993. Past-year Initiation: OR=0.993; Susceptible to smoking OR=0.996 Define current and established smoking. (Current smoker: smoked cigarettes on at least 1 day in the past 30 days; established smoking: youth who had smoked cigarettes on at least 1 day in the past 30 days and had also smoked at least 100 cigarettes in his or her lifetime.)	Elasticity for current smoking: -0.04; established smoking: -0.041; past year initiation -0.059; susceptible to smoking: -0.023 (Elasticity: if -0.017, means 10% increase in price lead to 0.17% drop in smoking)
Farrelly et al.	The impact of tobacco control programs on adult smoking	American Journal of Public Health	1985-2003	US- Adults	Tobacco control policies: Per capita expenditures on tobacco control program	Prevalence drop: -0.04/-0.048/-0.052 (assuming currency discount rate at 10%, 25%, 50%)	Simulation: Elasticity for cumulative per capita spending in changing prevalence: -0.017; -0.014; -0.010 under discount rate 10%; 25%; 50% (indicates doubling the expenditure would result in 1.0%-1.7% prevalence drop)
Lightwood and Glantz	The effect of the California tobacco control program on smoking prevalence, cigarette consumption, and healthcare costs: 1989–2008	Plos One	1989-2008	US-California	Tobacco control policies: Per capita tobacco control funding	Reduction in current smoking prevalence of 0.0497 percentage points	No other simulation

Table ii. Studies of Tobacco Control Campaigns for High-Income Countries

Ciecierski et al.	Do state expenditures on tobacco control programs decrease use of tobacco products among college students?	Health Economics	1997-2001	US- young adults	Tobacco control policies:Per capita expenditures on tobacco control program (lagged spending; 1 year lag campaign expenditure)	Coefficient for Poisson model: -0.04(Daily smoker); Coefficient for Poisson model: -0.08(Cigar use in past 30 days); other prevalence not significant (To measure the prevalence of smoking, they use: a dummy indicator set equal to one if the respondent reports any use of cigarettes in the past year and zero otherwise; a dummy indicator set equal to one if the respondent reports any use of cigarettes in the past 30 days and zero otherwise; and a dummy indicator of daily smoking.)	Doubling of lagged per capita expenditure associated with 3.8% decline in prevalence of daily smokers and 6.3% decline in prevalence of cigar users
Farrelly et al.	Are tobacco control policies effective in reducing young adult smoking?	Journal of Adolescent Health	2002-2009	US-young adults	Tobacco control policies:Per capita expenditures on tobacco control program	Prior year initiation OR=0.994/ Current smoking OR=0.992/ Established smoking OR=0.992 Add any results from the simulation, be specific on what is estimated	Elasticity for prior year initiation: -0.040; current smoking -0.034; established smoking -0.036 (Elasticity: if -0.017, means 10% increase in price lead to 0.17% drop in smoking,)
Tauras et al.	State tobacco control spending and youth smoking	American Journal of Public Health	1991-2000	US-Youth	Tobacco control policies: Per capita tobacco control expenditures per year	Coefficient of per capita spending in profit model to explain smoking prevalence: 0.0321(Model 1: include tobacco producing indicator), -0.0345 (Model 2: include census division indicator), -0.0081 (Model 3: include state indicators)	Predicted prevalence of smoking under no state-level spending; Mean; CDC minimum recommendation; CDC maximum recommendation: 24.68%; 24.22%;21.16%; 16.02%(Model 1) 24.72%; 24.22%; 20.95%; 15.50%(Model 2) 24.37%;24.26%; 23.46%; 21,98%(Model 3)
White et al.	What impact have tobacco control policies, cigarette price and tobacco control programme funding had on Australian adolescents' smoking? Findings over a 15-year period	Addiction	1990-2005	Australia adolescent	Tobacco control policies: National per capita cumulative spending for tobacco control program	Smoking prevalence (OR=0.99, 95% CI: 0.98-0.99)	No other simulation found
Dilley et al.	Effective tobacco control in Washington state: A smart investment for healthy futures	Prevention Chronic Disease	2000	US- Washington	Washington Tobacco control program, post vs. pre	Prevalence drops in Washington:4.7%(vs. national drop: 1.8%)	No simulation found
Davis et al.	Antismoking media campaign and smoking cessation outcomes, New York state, 2003-2009	Prevention Chronic Disease	2003-2009	US- NY adult	New York Tobacco control program post vs. pre	Prevalence drop: 18%; quit attempts increase 16% (62% vs. 46%)30-day intention to quit increase 9%:(35% vs. 26%).	No simulation found
Rhoads	The effect of comprehensive state tobacco control programs on adult cigarette smoking	Journal of Health Economics	1991-2006	US adults	Tobacco control policies: tobacco control program expenditures-Per capita increase	reduction in current smoking prevalence of 0.0497 percentage points	Elasticity of tobacco control program for smoking prevalence: -0.012; -0.009; -0.005; -0.004 under model (cumulative with 10% discount rate; cumulative with 25% discount, cumulative with 50% discount; current spending)

Table iii. Studies of Mass Media Campaigns for Low- and Middle-Income Nations

Article Information			Campaign Information			Exposure	Available Outcome		
Authors	**Title**	**Journal**	**Campaign year**	**Survey year**	**Country-target population**	**Media Impact***	**Impact on prevalence/ successful quit for 1 year**	**Impact on Initiation/relapse**	**Impact on Cessation/ intention to quit**
Murukutla et al.	Results of a national mass media campaign in India to warn against the dangers of smokeless tobacco consumption	Tobacco Control	Nov-Dec 2009	Dec 2009-Jan 2010	India-smokeless tobacco user	Mass media campaign	Tried to stop using smokeless tobacco in previous 2 months vs. not exposed: 19% increase (smokeless user); 8% increase (dual users)	NA	18% seriously considered quitting smokeless tobacco
Dhumal et al.	Quit history, intentions to quit, and reasons for considering quitting among tobacco users in India: Findings from the Wave 1 TCP India survey	Indian Journal of Cancer	2009-2010	August 2010-December 2011	India	Exposure to anti-tobacco messages	NA	NA	Intention to quit not significant for exposure through TV and radio
Higashi et al.	Cost Effectiveness of Tobacco Control Policies in Vietnam: The Case of Population-Level Interventions	Applied Health Economic Health Policy	2006-2011	combine multiple study findings	Vietnam	Mass media campaign pre/post	NA	NA	Smoking uptake: RR=0.857, 95% CI: 0.755, 0.974Cessation rate: RR=1.496, 95% CI: 1.171, 1.913
Li et al.	Reported exposures to anti-smoking messages and their impact on Chinese smoker's subsequent quit attempts	International Journal of Behavioral Medicine	2006-2009	2006-2009	China-multi cities	13 anti-smoke messagee.g. TV, radio	Quit attempt (OR=1.03, 95% CI: 1.02-1.05, P<0.001) per additional channel exposure	NA	NA
Achia	Tobacco use and mass media utilization in Sub-Saharan Africa	Plos One	2006-2011	2006-2011	South Africa	High media utilization vs. Low media utilization	Risk of tobacco use with high media utilization compared to low media utilizationAmong Women: (OR=0.95. 95% CI: 0.82-1.00) Among Men: OR=0.79, 95% CI: 0.73-0.85	NA	NA
WHO	WHO report on the global tobacco epidemic, 2013: Enforcing bans on tobacco advertising, promotion and sponsorship	WHO, 2013	2011 four week	NA	Bangladesh	Tobacco control campaign	NA	NA	40% who recall the campaign making quit attempt vs. 10% who did not recall
Murukutla et al.	Male smoker and non-smoker responses to television advertisements on the harms of secondhand smoke in China, India and Russia	Health Education Research	2010-2011	rating after watching ads	China, India, Russia	TV advertisements	no desired outcome (analyze rating not awareness), no control group	NA	NA
Turk et al.	Using a smokeless tobacco control mass media campaign and other synergistic elements to address social inequalities in India	Cancer causes control	Nov-Dec 2009	Dec 2009-Jan 2010	India	Smokeless tobacco control mass media campaign	Rural population: quit attempt in last 2 months: 46.9% vs. 22.5%	NA	NA

Table iii. Studies of Mass Media Campaigns for Low- and Middle-Income Nations

Wakefield et al.	Smokers' responses to television advertisements about the serious harms of tobacco use: Pre-testing results from 10 low- to middle-income countries.	Tobacco Control	Sep 2008-Sep 2010	survey right after ads	10 low- tomiddle-income countries	Five advertisements	graphic health effects ads were most likely to be perceived as effective	NA	NA
Durkin et al.	Potential effectiveness of anti-smoking advertisement types in ten low and middle income countries: Do demographics, smoking characteristics and cultural differences matter?	Social Science & Medicine	NA	NA	10 low to middle income countries	Five advertisements	graphic health effects ads were most likely to be perceived as effective	NA	NA
Perl et al.	Responses to antismoking radio and television advertisements among adult smokers and non-smokers across Africa: Message-testing results from Senegal, Nigeria and Kenya.	Tobacco Control	NA	NA	Senegal, Nigeria and Kenya	Three advertisements	Comparison between ads, no control group, based on 5 points scale	NA	NA
Chang et al.	Effects of Smoking Cessation Media and Community Campaigns in Taiwan	Journal of Adolescent Health	2010	2010-2011	Taiwan	Cessation media and community campaign (Pre vs. Post)	quit attempt (OR=1.12; 95% CI:1.01-1.25), awareness of cessation (OR=1.36; 95% CI: 1.20-1.53), unassisted quitting methods (OR=1.39, 95% CI: 1.13-1.72),	NA	Intention to quit (OR=1.15, 95% CI: 1.02-1.30)
Thrasher et al.	Linking mass media campaigns to pictorial warning labels on cigarette packages: A cross-sectional study to evaluate effects among Mexican smokers	Tobacco Control.	2010	2010-2012	Mexican smokers	Mass media campaign & health warning labels	NA	NA	Health warning labels made you stop when about to smoke, OR=2.55, 95% CI: 1.43 to 4.57 (pictorial only), OR=2.13, 95% CI: 1.23 to 3.69 (campaign only), OR=2.51, 95% CI:1.46 to 4.31 (picture & campaign)
Huang et al.	Impact of the "Giving Cigarettes is Giving Harm" campaign on knowledge and attitudes of Chinese smokers	Tobacco Control	2009	2007-2008 vs. 2009	multi-cities in China	Mass media campaign " Giving Cigarettes is Giving Harm "	Campaign positively associated with knowledge of smoking harm: p=0.001	NA	Attitude towards cigarettes as gifts for friends & family, OR=1.63, 95% CI: 1.02 -2.55)
Sansores et al.	Impact of mass communication media on an anti-smoking campaign	Salud Publica de Mexico	1998-1999	NA	Mexico	Mass communication media on an anti-smoking campaign	Estimated: 1853 smokers tried to quit after campaign	NA	Monthly sales of smoking cessation products: 24206 to 55604 (p‹0.01)
Thrasher et al.	Interpersonal communication about pictorial health warnings on cigarette packages: Policy-related influences and relationships with smoking cessation attempts	Social Science Medicine	Canada: 2001,2012, Australia: 2006, 2012, Mexico: from 2010.	September 2012, January 2013, May 2013, September 2013, January 2014	Australia, Canada, and Mexico	Health warning labels	NA	NA	Health warning labels was an independent predictor of subsequent quit attempts OR=1.53 in Mexico

*Media impact: By spending per capita: Low (‹$0.05), Medium ($0.05-$0.50), High (›$0.50); By GRP/TRP: (approximately) 100 GRP = 1 Advertisement exposure.

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