11

An Overview of Media Interventions in Tobacco Control: Strategies and Themes

Media interventions for tobacco control have a history dating back to the 1960s. This chapter examines current and future trends in these types of interventions, including

- *The evolution of media efforts in tobacco control, from their roots under the Federal Communications Commission's Fairness Doctrine to initiatives involving tobacco prevention and cessation advertising campaigns funded by state authorities and the 1998 Master Settlement Agreement*
- *Examples of advertising themes used in public-health-sponsored tobacco control programs, as well as other efforts, such as commercial advertising for smoking cessation products and the tobacco industry's own youth smoking prevention campaigns*
- *A summary of research on factors that determine performance of antitobacco advertisements*
- *The potential impact of and future directions for new-media channels such as interactive health communications using the Internet*

Today, a solid evidence base exists for developing antitobacco advertising that can garner positive outcomes in terms of target audience appraisal, recall, and indicators of message processing. Numerous areas for future study exist, ranging from better understanding of effects on specific population groups to designing effective online interventions.

Introduction

This chapter examines how media interventions have been used in tobacco control, their trends over time, and factors that make them effective. It begins with an historical overview of mass media interventions aimed at discouraging tobacco use. Subsequent sections describe traditional antitobacco mass media interventions that have been or continue to be used, how their characteristics and intensity have varied, and the target audiences to whom they have been directed. Next, the relative effectiveness of different antitobacco televised advertising messages is summarized. The chapter then concludes with observations about the development and direction of traditional and new media interventions in tobacco control.

This chapter describes the environment for tobacco control media interventions, with media channels being used as a key tool for stakeholders on both sides of the tobacco issue. Chapter 12 describes studies of the effects of antitobacco advertising interventions as a whole on smoking behavior, and other chapters explore countervailing media efforts on the part of protobacco interests. Chapter 10 examines the influence of the entertainment media, including "new media," such as the Internet and video games, on adolescent and adult smoking behavior. A later section of this chapter summarizes how new-media interventions could be applied to tobacco control to make effective cessation practices available to a broader audience at lower costs.

Historical Overview

Over the past 50 years, the representation of cigarettes on television and radio has changed radically. Fifty years ago, cigarettes were associated with glamour, good times, and fun. Their images were accompanied by jaunty jingles extolling their quality, taste, and mildness. Tap-dancing Old Gold cigarette packs appeared at the opening of some of the most popular television shows.[1]

Dancing cigarette advertisement from 1950s quiz show

This feel-good atmosphere was interrupted in September 1968 when William Talman, who played the prosecutor on the Perry Mason television series, appeared in a public service announcement looking thin and pale from the ravages of lung cancer. After opening pictures of the actor's children playing in the yard of their home in Encino, California, the camera focused on Talman. The actor explained that he had lost his first case when he was only 12 years old by starting to smoke cigarettes. He knew he now was going to die and would have only a little more time "with this family that I love so much." He enjoined the audience, "Don't be a loser. Don't smoke." Indeed, Talman had died the month before the spot aired.[2] In the years following this memorable appeal, numerous other celebrities went on the air to decry the health damage done by smoking. In 1985, Yul Brynner, best known as the Siamese king in *The King and I*, advised, "Don't smoke whatever you do!" in a spot aired shortly after he had died of lung cancer.

The use of the mass media in the United States to discourage tobacco use often is traced back to July 1, 1967. At that time, lawyer John Banzhaf III succeeded in having the Federal Communications Commission apply the Fairness Doctrine to cigarette advertising, requiring that broadcasters offer free air time for one antitobacco message for every three cigarette commercials they aired.[3] This practice was followed until 1971, when cigarette advertising in the broadcast media was banned. Over that period, nearly $200 million in commercial advertising time (in 1970 dollars) was donated for this purpose.[4] That figure is equivalent to approximately $341 million in 2006 dollars. Chapter 12 describes several empirical studies assessing the effect of these antitobacco advertisements, concluding that they essentially neutralized the effect of cigarette advertising during the period.

Since 1970, mass media have been used in a variety of formats to promote the goals of tobacco control. The National Clearinghouse for Smoking and Health (NCSH) produced public service announcements.[5] (NCSH was the forerunner of the Office on Smoking and Health [OSH] of the Centers for Disease Control and Prevention [CDC].) Voluntary agencies such as the American Lung Association and the American Cancer Society (ACS) used television and media events to involve the public in community-based smoking cessation programs. The National Institutes of Health sponsored research on community intervention trials, which sometimes included a mass media component.[6–8]

In the United States, the first statewide antismoking mass media campaign was conducted in Minnesota in 1986 as a result of state government funding of approximately $2 million per year.[9,10] The decision to invest in such a campaign followed presentations of the experience of a successful mass media intervention in Australia.[11–13] Advertisements designed to increase youth awareness of the negative social consequences of smoking and to change normative expectations for smoking among adolescents were broadcast on television and radio and displayed in newspapers and on billboards.

Developments Since 1990

Starting with California in 1990, 44 states have used mass media as part of comprehensive antitobacco programs to reduce tobacco use among their adult and youth citizens. Eighty percent of these efforts began after 1998 with funds received as part of the Master Settlement Agreement (MSA).* However, in practice, since the MSA, few states have devoted the amount recommended by CDC to tobacco control efforts.[14,15] Since 1992, with the development of pharmaceutical products to help smokers quit, extensive commercial advertising on television and in print media has promoted these products.

In 1998, two tobacco companies, Philip Morris and Lorillard, initiated their own mass media youth smoking prevention campaigns, with advertisements directed toward youth and parents.[16] From early 2000, the American Legacy Foundation (Legacy)—the nonprofit foundation created as part of the MSA—mounted a national antitobacco campaign.

Wakefield and colleagues[17] used archival records of television advertising exposures from Nielsen Media Research

*The MSA was an agreement between 46 state attorneys general and U.S. tobacco companies in November 1998 to settle state lawsuits to recover billions of dollars in costs for treating smoking-related illnesses (http://www.naag.org/tobacco.php; see chapter 3).

for the largest 75 media markets in the United States to compare the levels of potential exposure of households and adolescents aged 12–17 years with a variety of types of antitobacco advertising. These marketing messages included advertisements produced by state tobacco control programs and the national Legacy program, tobacco-company-sponsored youth smoking prevention advertising targeted toward youth and parents, pharmaceutical company advertising for nicotine replacement therapy (NRT) and bupropion (a prescription smoking cessation aid), and other miscellaneous antitobacco advertising.

Table 11.1 shows that from 1999 to 2003, pharmaceutical companies were the largest individual sponsor of antitobacco advertising for households (10.37 advertisements per month) and provided significant potential exposure among adolescents (2.61 advertisements per month). Combined tobacco company youth/parent advertising potential exposures were close to those for combined state/Legacy campaigns—respectively, 4.56 versus 4.97 advertisements per month among households and 3.05 versus 3.38 advertisements per month among adolescents. This study demonstrates that both youth and adults in the United States may be exposed to public-health-sponsored antitobacco campaigns as frequently as tobacco-industry-produced campaigns (see chapters 6 and 12).

A more detailed investigation of potential exposure to state-sponsored antitobacco campaigns showed that in 37 states studied, average exposure for television households increased from 1.30 ads per month in 1999 to 3.63 ads per month in 2002. For adolescents aged 12–17 years, such exposure increased from 0.84 ads per month in 1999 to 1.43 ads per month in 2002. In 2003, although a few more states ran paid media campaigns, average population exposure to antitobacco advertising campaigns declined to 3.20 ads per month among television households and 1.13 ads per month among adolescents aged 12–17 years, reflecting an overall reduction of campaign funding that states attributed to budget crises.[18,19] Tables 11.2 and 11.3 show the average household exposure and adolescent exposure, respectively, to state-sponsored antitobacco advertising by state. After 2003, additional cuts in antitobacco funding may further reduce the number of states with antitobacco media campaigns.

Nontelevised Mass Media Antitobacco Interventions

Many different mass media channels have been used for tobacco control messages. Table 11.4 lists, by sponsor, mass media antitobacco campaigns conducted since 1990 by individual state health departments, state foundations established with funds from the MSA, and, in one case, a city (New York). This table was adapted from information provided by the CDC's Media Campaign Resource Center (MCRC). A service of OSH, the MCRC has licensed many of the advertisements that state health departments and other groups have produced. The MCRC facilitates access to those advertisements and provides technical assistance for states and nonprofit organizations wishing to implement tobacco control mass media campaigns. The MCRC maintains a searchable online database of available advertisements that may be used by health departments and health-related organizations that are developing tobacco countermarketing campaigns.[20] Data in table 11.4 on media channels, audiences targeted, and themes of advertisements are based on records of advertisements the MCRC received as well as advertisements ordered by various

Table 11.1 Mean Monthly Exposures per Year to Tobacco-Related Television Advertising for Television Households and Adolescents Aged 12–17 Years, Based on the Top 75 Designated Market Areas in the United States

	1999			2000			2001			2002			2003			1999–2003
Exposure Type	**M**	**SE**	**Range[a]**	**M**	**SE**	**Range**	**M**	**SE**	**Range**	**M**	**SE**	**Range**	**M**	**SE**	**Range**	**M**
Household exposures, by sponsor																
American Legacy Foundation	—	—	—	4.24	.10	0.0–15.1	1.83	.05	0.0–8.6	3.67	.09	0.5–14.5	2.83	.06	0.4–12.4	2.51
State tobacco control programs	1.30	.10	0.0–27.8	1.14	.09	0.0–22.7	3.03	.18	0.0–38.2	3.63	.15	0.0–29.8	3.20	.17	0.0–46.4	2.46
Tobacco parent	1.74	.09	0.0–10.6	1.69	.04	0.0–5.2	1.96	.05	0.0–7.6	3.34	.03	0.8–8.5	3.17	.01	0.3–15.3	2.38
Tobacco youth	4.32	.06	0.6–11.7	3.70	.06	0.9–11.0	2.23	.03	0.5–5.6	0.31	.01	0.0–2.1	0.32	.01	0.0–1.4	2.18
Tobacco corporate[b]	1.57	.10	0.0–18.8	9.03	.19	0.2–34.8	3.81	.06	0.2–10.9	0.00	0.00	0.00	1.83	.09	0.0–14.3	3.25
Pharmaceutical	14.34	.29	1.4–51.8	9.70	.21	0.0–29.9	7.92	.13	1.5–19.8	7.83	.17	2.6–27.2	12.07	.23	1.3–34.6	10.37
Other	0.10	.01	0.0–2.6	0.07	.02	0.0–8.8	0.03	.01	0.0–6.8	0.14	.01	0.0–1.6	0.06	.01	0.0–3.0	0.08
Total public health-sponsored[c]	1.30			5.38			4.86			7.30			6.03			4.97
Total tobacco youth + parent	6.06			5.39			4.19			3.65			3.49			4.56
Total tobacco-sponsored[d]	7.63			14.42			8.00			3.65			5.32			7.81
Teen exposures, by sponsor																
American Legacy Foundation	—	—	—	4.20	.10	0.0–17.5	1.73	.05	0.0–7.3	3.05	.06	0.5–10.3	2.52	.05	0.3–8.3	2.30
State	0.84	.07	0.0–16.1	0.65	.05	0.1–13.8	1.32	.07	0.0–14.7	1.44	.06	0.0–13.9	1.13	.06	0.0–18.3	1.08
Tobacco parent	0.73	.04	0.0–4.5	0.66	.02	0.0–2.7	0.73	.02	0.0–6.5	1.26	.02	0.3–4.8	0.76	.02	0.1–2.9	0.83
Tobacco youth	4.43	.07	0.5–12.5	3.69	.06	0.6–13.8	2.37	.04	0.6–8.7	0.32	.02	0.0–3.1	0.29	.01	0.0–1.3	2.22
Tobacco corporate	0.45	.03	0.0–5.7	2.08	.04	0.1–7.0	0.87	.01	0.1–1.9	0.00	0.00	0.00	0.26	.01	0.0–2.4	0.73
Pharmaceutical	3.88	.08	0.4–13.5	2.44	.05	0.0–8.3	2.17	.03	0.6–4.8	2.00	.04	0.7–7.2	2.58	.05	0.2–8.6	2.61
Other	0.02	.00	0.0–1.0	0.04	.02	0.0–4.2	0.01	.00	0.0–2.8	0.04	.00	0.0–0.5	0.02	.00	0.0–0.4	0.03
Total public health-sponsored	0.84			4.85			3.05			4.49			3.65			3.38
Total tobacco youth + parent	5.16			4.35			3.10			1.58			1.05			3.05
Total tobacco-sponsored	5.61			6.43			3.97			1.58			1.31			3.78

Note. M = mean; SE = standard error. From Wakefield, M., G. Szczypka, Y. Terry-McElrath, S. Emery, B. Flay, F. Chaloupka, and H. Saffer. 2005. Mixed messages on tobacco: Comparative exposure to public health, and tobacco company- and pharmaceutical company-sponsored tobacco-related television campaigns in the United States, 1999–2003. *Addiction* 100 (12): 1875–83.

[a]Range of actual monthly means for 75 markets. [b]Includes advertisements publicizing the company Web site (www.quitassist.com), which began in 2003. [c]Includes all state and American Legacy Foundation advertising. [d]Includes all tobacco company advertising.

Table 11.2 States Ranked for Mean Monthly Exposures to State Antitobacco Television Advertising (Households, Gross Rating Points [GRPs])

	1999		2000		2001		2002		2003	
Rank	State	Mean	State	Mean	State	Mean	State	Mean	State	Mean
1	AZ	14.75	UT	6.67	UT	19.32	UT	15.22	UT	24.03
2	CA	5.87	AZ	6.38	NY	10.96	GA	7.66	WA	10.10
3	MA	5.81	MA	6.00	MN	8.45	NY	7.46	MN	7.67
4	FL	4.04	OR	4.38	WI	7.68	OR	7.10	IN	7.64
5	IN	3.20	CA	3.97	MA	7.33	OH	7.01	CA	6.25
6	OR	2.51	IN	2.57	WA	7.31	IN	6.83	OH	6.09
7	OK	1.67	FL	2.37	CA	5.95	CA	6.58	AZ	5.98
8	HI	1.28	MN	2.00	NM	5.82	WI	5.75	AR	5.52
9	UT	1.09	WA	1.60	AZ	5.60	WA	5.66	WI	4.99
10	MI	0.68	HI	1.50	GA	5.07	FL	5.37	NY	4.81
11	NM	0.42	NY	1.33	OR	4.40	MN	5.35	HI	4.46
12	NY	0.19	MI	0.83	IA	3.97	HI	5.22	NM	4.29
13	MO	0.15	KS	0.69	FL	3.96	NE	4.84	NE	3.68
14	WI	0.13	TX	0.51	NE	3.60	AZ	4.78	CO	3.15
15	GA	0.13	IA	0.41	HI	2.84	MD	4.69	OR	2.94
16	IA	0.10	WI	0.07	OK	2.75	PA	3.82	VA	2.88
17	WA	0.09	MO	0.02	IN	1.65	VA	3.28	WV	2.69
18	AR	0.09	NC	0.01	CT	1.00	AL	2.91	GA	2.67
19	IL	0.07	IL	0.01	AL	0.57	CO	2.52	OK	2.20
20	KS	0.07	NE	0.01	CO	0.51	MA	2.25	IA	2.18
21	NV	0.05	OH	0.01	TX	0.50	DC	1.96	PA	2.17
22	TN	0.05	TN	0.01	MI	0.45	IL	1.84	CT	2.15
23	CO	0.04	CT	0.01	MO	0.40	IA	1.41	DC	2.01
24	TX	0.04	OK	0.00	PA	0.32	WV	1.15	MA	1.87
25	NC	0.04	NV	0.00	MD	0.25	MI	1.00	FL	1.51
26	OH	0.04	VA	0.00	DC	0.14	OK	0.94	MI	1.31
27	VA	0.04	KY	0.00	OH	0.08	TX	0.61	AL	0.70
28	LA	0.03	NM	0.00	VA	0.04	NV	0.43	TX	0.53
29	CT	0.03	AR	0.00	SC	0.01	NM	0.40	NV	0.52
30	MN	0.03	GA	0.00	KY	0.01	MO	0.21	TN	0.22
31	KY	0.03	LA	0.00	WV	0.01	NC	0.09	IL	0.06
32	PA	0.02	CO	0.00	NC	0.00	KS	0.09	MO	0.06
33	MD	0.02	PA	0.00	TN	0.00	TN	0.01	KS	0.05
34	NE	0.02	SC	0.00	AR	0.00	KY	0.01	NC	0.04
35	SC	0.01	WV	0.00	IL	0.00	SC	0.00	KY	0.04
36	WV	0.01	DC	0.00	KS	0.00	AR	0.00	MD	0.01
37	DC	0.01	AL	0.00	LA	0.00	CT	0.00	LA	0.00
38	AL	0.00	MD	0.00	NV	0.00	LA	0.00	SC	0.00
Mean		1.30		1.14		3.03		3.63		3.20

Note. GRP ratings data reported for top 75 designated market areas (DMAs); states not covered in the top 75 DMAs are not included in rankings (AK, DE, ID, ME, MS, MT, NH, NJ, ND, RI, SD, VT, WY). For states with multiple DMAs, the mean for each market was averaged. From Szczypka, G., M. Wakefield, S. Emery, B. Flay, F. Chaloupka, S. Slater, Y. Terry-McElrath, and H. Saffer. 2005. *Population exposure to state funded televised anti-tobacco advertising in the United States—37 States and the District of Columbia, 1999–2003.* ImpacTeen Research Paper series 31. Chicago: Univ. of Illinois at Chicago. http://www.impacteen.org/ab_rpno31_2005.htm. Reprinted with permission.

Table 11.3 States Ranked for Mean Monthly Exposures to State Antitobacco Television Advertising (Adolescents Aged 12–17 Years, Target Rating Points [TRPs])

	1999		2000		2001		2002		2003	
Rank	State	Mean	State	Mean	State	Mean	State	Mean	State	Mean
1	AZ	10.25	AZ	4.36	UT	8.73	UT	6.98	UT	10.01
2	FL	4.88	UT	3.48	MN	4.62	FL	3.72	WA	3.12
3	IN	2.70	FL	2.87	FL	4.19	OH	3.17	OH	2.99
4	MA	2.55	MA	2.11	AZ	3.76	MN	2.99	MN	2.70
5	CA	1.79	MN	1.91	NY	3.19	IN	2.79	IN	2.70
6	OR	1.00	IN	1.74	WA	3.16	VA	2.66	VA	2.31
7	HI	0.54	OR	1.20	WI	2.83	DC	2.44	DC	1.93
8	MI	0.51	CA	1.15	NE	2.19	GA	2.41	AR	1.67
9	OK	0.43	WA	1.09	IA	2.10	HI	2.37	AZ	1.42
10	UT	0.39	TX	0.55	MA	1.83	OR	2.12	WI	1.32
11	WI	0.13	NY	0.42	CA	1.57	NY	1.95	CA	1.32
12	NM	0.10	MI	0.38	HI	1.51	WI	1.94	NY	1.27
13	GA	0.07	HI	0.37	IN	1.33	NE	1.93	CO	1.11
14	MO	0.06	IA	0.29	NM	1.31	MD	1.66	FL	1.07
15	KS	0.06	KS	0.24	GA	1.31	WA	1.54	WV	1.00
16	NY	0.06	WI	0.03	OK	0.99	CA	1.51	IA	0.96
17	IL	0.05	MO	0.01	OR	0.81	IA	0.98	HI	0.91
18	NC	0.04	TN	0.01	TX	0.55	AZ	0.94	NE	0.81
19	VA	0.04	NE	0.01	MO	0.43	CO	0.81	GA	0.65
20	WA	0.04	IL	0.01	CT	0.37	AL	0.78	NM	0.60
21	OH	0.04	VA	0.01	CO	0.22	PA	0.71	OR	0.59
22	TN	0.03	OH	0.00	MD	0.21	IL	0.69	CT	0.58
23	TX	0.03	NV	0.00	AL	0.13	TX	0.58	OK	0.57
24	MD	0.03	NC	0.00	MI	0.11	MA	0.40	TX	0.49
25	CO	0.03	KY	0.00	PA	0.11	OK	0.38	PA	0.47
26	IA	0.03	OK	0.00	VA	0.04	WV	0.31	MA	0.30
27	PA	0.03	CT	0.00	OH	0.02	MI	0.24	MI	0.25
28	KY	0.03	AR	0.00	DC	0.01	MO	0.22	AL	0.09
29	AR	0.03	LA	0.00	SC	0.01	KS	0.08	TN	0.09
30	SC	0.03	CO	0.00	WV	0.00	NM	0.06	NV	0.07
31	MN	0.02	PA	0.00	KY	0.00	NV	0.04	IL	0.07
32	NV	0.02	WV	0.00	NC	0.00	NC	0.02	MO	0.04
33	CT	0.02	SC	0.00	AR	0.00	TN	0.00	KS	0.04
34	LA	0.02	NM	0.00	IL	0.00	AR	0.00	KY	0.01
35	NE	0.02	AL	0.00	KS	0.00	CT	0.00	NC	0.01
36	WV	0.01	DC	0.00	LA	0.00	KY	0.00	MD	0.00
37	DC	0.01	GA	0.00	NV	0.00	LA	0.00	LA	0.00
38	AL	0.00	MD	0.00	TN	0.00	SC	0.00	SC	0.00
Mean		0.84		0.65		1.32		1.43		1.13

Note. TRP ratings data reported for top 75 designated market areas (DMAs); states not covered in the top 75 DMAs are not included in rankings (AK, DE, ID, ME, MS, MT, NH, NJ, ND, RI, SD, VT, WY). For states with multiple DMAs, the mean for each market was averaged. From Szczypka, G., M. Wakefield, S. Emery, B. Flay, F. Chaloupka, S. Slater, Y. Terry-McElrath, and H. Saffer. 2005. *Population exposure to state funded televised anti-tobacco advertising in the United States—37 States and the District of Columbia, 1999–2003.* ImpacTeen Research Paper series 31. Chicago: Univ. of Illinois at Chicago. http://www.impacteen.org/ab_rpno31_2005.htm. Reprinted with permission.

Table 11.4 Mass Media Antitobacco Campaigns in the United States, 1990–2004

Organization	Campaign history				Media types				Audience					Themes				Ad sources	
	State	Start of campaign	End of campaign	Years of campaign (as of 2004)	TV	Radio	Print	Bill-board	State	Adults only	Youth only	Adults and youth	Other	Youth prevention	Cessation	Secondhand smoke	Smokeless tobacco	Produce their own ads?	Use other states' ads?
California Department of Health Services	CA	1990	—	14	✓	✓	✓	✓	CA	▪	▪	✓	GLBT Asian Americans Pregnant women Hispanics African Americans	▪	✓	✓	✓	✓	▪
Massachusetts Department of Public Health	MA	1993	2002	9	✓	✓	✓	✓	MA	▪	▪	✓	No	✓	✓	▪	▪	✓	▪
Arizona Department of Health Services	AZ	1996	—	8	✓	✓	✓	✓	AZ	▪	▪	✓	Hispanics Pregnant women	✓	✓	✓	✓	✓	✓
Kansas Health Foundation	KS	1997	2000	3	✓	✓	✓	✓	KS	✓	▪	▪	No	▪	▪	✓	▪	✓	▪
Florida Department of Health	FL	1998	—	6	✓	✓	✓	✓	FL	▪	✓		No	✓	▪	▪	▪	✓	▪
Partnership for a Healthy Mississippi (MSDH is part)	MS	1998	—	6	✓	✓	✓	✓	MS	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Utah Department of Health	UT	1998	—	6	✓	✓	✓	✓	UT	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Minnesota Department of Health	MN	1999	2003	4	✓	✓	✓	✓	MN	▪	✓	▪	No	✓	▪	▪	▪	✓	▪
Minnesota Partnership for Action Against Tobacco	MN	1999	—	5	✓	✓	✓	✓	MN	✓	▪	▪	No	▪	✓	✓	▪	✓	▪
Oregon Department of Human Services	OR	1999	—	5	✓	✓	✓	✓	OR	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Colorado Department of Public Health and Environment	CO	2000	—	4	✓	✓	✓	✓	CO	▪	▪	✓	Hispanics	✓	✓	✓	▪	✓	✓
Georgia Department of Human Resources	GA	2000	—	4	✓	✓	✓	✓	GA	✓	▪	▪	No	▪	✓	✓	▪	▪	✓
Iowa Department of Public Health	IA	2000	—	4	✓	✓	✓	✓	IA	▪	▪	✓	No	✓	✓	▪	▪	✓	✓
Illinois Department of Public Health	IL	2000	—	4	✓	✓	✓	✓	IL	▪	✓	▪	No	✓	▪	▪	▪	✓	▪
Partnership for a Tobacco Free Maine (MBH is part)	ME	2000	—	4	✓	✓	✓	✓	ME	▪	▪	✓	Pregnant women	✓	✓	✓	▪	✓	▪
Michigan Department of Community Health	MI	2000	—	4	✓	✓	✓	✓	MI	▪	▪	✓	No	✓	✓	✓	▪	▪	✓

Organization	Campaign history				Media types				Audience					Themes				Ad sources	
	State	Start of campaign	End of campaign	Years of campaign (as of 2004)	TV	Radio	Print	Bill-board	State	Adults only	Youth only	Adults and youth	Other	Youth prevention	Cessation	Secondhand smoke	Smokeless tobacco	Produce their own ads?	Use other states' ads?
Montana Tobacco Use Prevention Program (MDPHHS works with)	MT	2000	—	4	✓	✓	✓	✓	MT	▪	▪	✓	Native Americans	✓	✓	✓	▪	✓	✓
Nebraska Health and Human Services	NE	2000	—	4	✓	✓	✓	✓	NE	▪	▪	✓	No	✓	✓	✓	✓	✓	✓
Texas Department of Health	TX	2000	—	4	✓	✓	✓	✓	TX	▪	▪	✓	Hispanics	✓	✓	✓	▪	✓	✓
Vermont Department of Health	VT	2000	—	4	✓	✓	✓	✓	VT	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
American Lung Association of Alaska	AK	2001	—	3	✓	✓	✓	✓	AK	▪	▪	✓	Pregnant women Native Americans	✓	✓	✓	▪	✓	✓
Alabama Department of Public Health	AL	2001	2001	0	✓	▪	▪	▪	AL	✓	▪	▪	No	▪	▪	✓	▪	▪	✓
Delaware Division of Public Health	DE	2001	—	3	✓	✓	✓	✓	DE	✓	▪	▪	No	▪	✓	✓	▪	✓	✓
Hawaii Department of Health	HI	2001	—	3	✓	✓	✓	✓	HI	▪	▪	✓	Asian Americans African Americans	✓	✓	✓	▪	✓	▪
Idaho Department of Health and Welfare	ID	2001	—	3	✓	✓	✓	✓	ID	▪	▪	✓	No	▪	✓	✓	▪	✓	✓
Indiana Tobacco Prevention and Cessation Agency	IN	2001	—	3	✓	✓	✓	✓	IN	▪	✓	▪	No	✓	▪	▪	▪	✓	✓
Kansas Department of Health and Environment	KS	2001	—	3	✓	✓	✓	✓	KS	▪	▪	✓	No	✓	✓	✓	▪	▪	✓
New Jersey Department of Health and Senior Services	NJ	2001	—	3	✓	✓	✓	✓	NJ	✓	▪	▪	No	▪	✓	▪	▪	✓	▪
New Mexico Department of Health	NM	2001	—	3	✓	✓	✓	✓	NM	▪	▪	✓	Native Americans	✓	✓	✓	▪	✓	✓
New York City Department of Health and Mental Hygiene	NY	2001	—	3	✓	▪	✓	✓	NY	✓	▪	▪	Hispanics African Americans	▪	✓	✓	▪	✓	✓
New York State Department of Health	NY	2001	—	3	✓	✓	✓	✓	NY	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Ohio Department of Health	OH	2001	—	3	✓	✓	✓	✓	OH	▪	▪	✓	No	✓	✓	✓	▪	▪	✓
Rhode Island Department of Health	RI	2001	—	3	✓	✓	✓	✓	RI	✓	▪	▪	No	▪	✓	✓	▪	✓	✓
Washington State Department of Health	WA	2001	—	3	✓	✓	✓	✓	WA	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Arkansas Department of Health	AR	2002	2002	0	✓	✓	▪	▪	AR	✓	▪	▪	African Americans	▪	✓	✓	▪	▪	✓

— = ongoing through 2004; ▪ = no; ✓ = yes

Table 11.4 Mass Media Antitobacco Campaigns in the United States, 1990–2004 *(continued)*

Organization	Campaign history				Media types				Audience					Themes				Ad sources	
	State	Start of campaign	End of campaign	Years of campaign (as of 2004)	TV	Radio	Print	Bill-board	State	Adults only	Youth only	Adults and youth	Other	Youth prevention	Cessation	Secondhand smoke	Smokeless tobacco	Produce their own ads?	Use other states' ads?
Connecticut Department of Public Health	CT	2002	—	2	✓	▪	▪	▪	CT	▪	▪	✓	No	✓	✓	✓	▪	▪	✓
Maryland Department of Health and Mental Hygiene	MD	2002	—	2	✓	✓	✓	✓	MD	▪	▪	✓	No	✓	▪	✓	▪	✓	▪
New Hampshire Department of Health and Human Services	NH	2002	2003	1	✓	✓	▪	▪	NH	✓	▪	▪	No	▪	✓	▪	▪	✓	✓
Ohio Tobacco Use Prevention and Control Foundation	OH	2002	—	2	✓	✓	✓	✓	OH	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Oklahoma State Department of Health	OK	2002	—	2	✓	✓	✓	✓	OK	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
South Dakota Department of Health	SD	2002	—	2	✓	✓	✓	✓	SD	▪	▪	✓	No	✓	✓	✓	✓	▪	✓
Virginia Tobacco Settlement Foundation	VA	2002	—	2	✓	✓	✓	✓	VA	▪	✓	▪	Pregnant women	✓	✓	✓	▪	✓	▪
West Virginia Department of Health and Human Services	WV	2002	—	2	✓	✓	✓	✓	WV	▪	✓	▪	No	✓	▪	▪	✓	✓	▪
Louisiana Department of Health and Hospitals	LA	2003	—	1	▪	✓	✓	▪	LA	✓	▪	▪	No	▪	▪	✓	▪	✓	✓
Pennsylvania Department of Health	PA	2003	—	1	✓	✓	✓	✓	PA	▪	▪	✓	No	✓	✓	✓	▪	✓	✓
Wisconsin Department of Health and Family Services	WI	2003	—	1	✓	✓	✓	✓	WI	▪	✓	▪	No	✓	▪	▪	▪	✓	▪
Wyoming Department of Health	WY	2003	—	1	✓	✓	▪	▪	WY	✓	▪	▪	No	▪	✓	▪	▪	▪	✓
Total (out of 47 campaigns)					46	44	42	41		13	7	27		33	37	36	5	38	33
Percentage					98	94	89	87		28	15	57		70	79	77	11	81	70

Note. — = ongoing through 2004; ▪ = no; ✓ = yes. Not all themes of advertisements are listed here. Information compiled by the Centers for Disease Control and Prevention/Office on Smoking and Health's Media Campaign Resource Center, June 10, 2004. To date, the following states did not have campaigns in the years between 1990 and 2004: KY, MO, NC, ND, NV, SC, TN, and DC. GLBT = gay, lesbian, bisexual, transgendered; MSDH = Mississippi State Department of Health; MBH = Maine Bureau of Health; MDPHHS = Montana Department of Public Health and Human Services.

programs. Information about campaign start and end dates was collected from program Web sites and, in some cases, telephone interviews with state health department staff. Other audience targets and themes may have been addressed using materials not shared with the MCRC.

Table 11.4 shows that 98% of 47 campaigns tracked by CDC's MCRC used television advertisements, 94% used radio, 89% used print (including paid newspaper advertisements and transit advertisements), and 87% used billboards. The choice of channel has an important impact on cost as well as on the campaign's reach (i.e., the proportion of the population exposed to the message), the specificity of the audience reached, and the extent of involvement with the message that will result from exposure.[21]

Population surveys of youth in California[22] and youth and adults in Massachusetts[23,24] compared the proportion of the population who recalled antitobacco advertisements on television, radio, and billboards. Mass media campaigns in California and Massachusetts had used these three channels. These studies demonstrate that antitobacco advertisements on television were recalled by about twice as many respondents as those on the radio. Youth in both states were more likely to recall antitobacco advertisements on billboards compared with those on the radio.

Among adults, Nelson and colleagues[25] demonstrated, using a national adult population survey of media usage in 2002–03, that smokers tend to be heavier users of television and radio than nonsmokers but are less likely to be magazine or newspaper readers. In this study, nearly one-third of smokers were regular daytime or late-night television viewers. Television is the medium for achieving the greatest exposure among smokers or potential smokers (youth).

Although the cost per thousand people reached (in terms of size of intended target audience that could be exposed) via television generally is lower than that in other media, its cost, in absolute terms, is the highest.[26] When sufficient funds are not available for television advertisements, other channels can be used.

Most of the literature on antitobacco media campaigns has focused on television advertisements. Therefore, much of the following discussion addresses this particular channel. Despite the relatively good population reach to smokers offered by radio[25] and the low cost of producing and airing radio ads, there has been little published research on the impact of advertising using this medium. However, tobacco control efforts have used other forms of media to involve individuals in tobacco control activities in their communities, through short-term cessation events, media-based cessation contests, and media advocacy.

Media-Based, Short-Term Cessation Events

Around the globe, several major media events of varying duration promote tobacco control and prevention. These events encourage tobacco users, especially those who already are interested in quitting, to discontinue or decrease their use for a short time. The events' objectives are to (1) increase smokers' confidence about their ability to quit their tobacco use permanently after a short-term success, (2) heighten awareness about the dangers of tobacco use among all audiences, and (3) promote policies that encourage a tobacco-free lifestyle.

One of the longest-running media events of this type is ACS's Great American Smokeout, held annually on the third Thursday in November. The inspiration came from a

1971 event that Arthur P. Mullaney had organized in Randolph, Massachusetts. Mullaney asked people to give up smoking for one day and donate the money they would have spent on tobacco to a high school scholarship fund. After statewide smokeout days proved successful in Minnesota (1974) and California (1976), the event became national in 1977.[27]

The smokeout initiative continued to expand over the years. In 1996, ACS increased its visibility considerably by including paid advertisements on television and in magazines and newspapers. Population survey results show that the number of respondents participating in the event (trying either to quit or to reduce smoking) increased from 18% the previous year to 26%. Also, sales of over-the-counter nicotine medications increased 11% between a four-week baseline period and the four-week promotion period surrounding the event.[28]

Over the years, the smokeout initiative has focused on a variety of issues and audiences—for example, teenagers, blue-collar populations, and minorities[29,30] Local organizers—who also coordinate media coverage and distribute smokeout kits throughout their communities—often create specific themes. Participation remains reasonably high, with an estimated 19% of the nation's smokers taking part in the 2002 smokeout and 6% of those smokers still refraining from smoking 1 to 5 days after the event.[31]

The United Kingdom has reported success with a similar event called No Smoking Day, held by a charity of the same name based in London. The event began in 1984 and is held annually in March.[32] Organizers redesign the campaign and its slogans each year. However, the objective remains constant: help smokers who already have decided to quit to reach their goal. The group reports that almost 1.5 million smokers have participated in the event each year and the campaign has helped 1.4 million smokers to quit smoking completely.[33]

A third daylong antitobacco event is World No Tobacco Day, held each year on May 31. The World Health Organization (WHO) sponsors the event and invites all countries to recruit smokers who will give up tobacco for the day. Local organizers often develop activities that focus on promoting support of tobacco cessation services and specific themes chosen each year,[34] such as "Second-Hand Smoke Kills—Let's Clear the Air" in 2001, "Tobacco Free Sports—Play it Clean" in 2002, and "Tobacco Free Film, Tobacco Free Fashion" in 2003.[35–37] The campaign appears to have been relatively successful in recruiting smokers to participate. In 1999, the Coalition for World No Tobacco Day reported, "30 percent of tobacco users who were aware of World No Tobacco Day tried to reduce their habit, including 9 percent who tried to quit smoking."[38(p.15)]

Media-Based Cessation Contests

Stop-smoking days offer tobacco users a supportive atmosphere in which they are surrounded by others with the shared goal of quitting tobacco use. Stop-smoking contests offer a similar support structure along with additional incentives, such as cash prizes or free travel packages. These "quit and win" contests typically span several weeks. They were pioneered in the United States in the 1980s and later were incorporated into broader cardiovascular health programs, such as the Minnesota Heart Health Program and the North Karelia Project in Finland.[39,40]

North Karelia's first contest was held in 1985. It blossomed into a national contest in 1986, and Estonia joined in for a second

national contest in 1989.[40] WHO coordinated the first International Quit and Win Campaign in 1994 within its Countrywide Integrated Noncommunicable Disease Intervention framework. The event has since been held nearly every other year. A total of 63,000 smokers from 13 countries participated in 1994.[41] The number of participants has continued to rise, reaching 700,000 in 2002. Organizers expected up to 1 million tobacco users from 100 countries to participate in the 2004 contest.[42]

Any adults who have used tobacco products for at least one year are eligible to take part in the International Quit and Win Campaign. Participants attempt to quit smoking (and/or quit using other forms of tobacco) for four weeks (May 2 to May 29) leading up to World No Tobacco Day. Some of the contests also have included supporters' contests, in which nonusers continue to abstain from tobacco use and work to promote the cause and spread information.[40] National and local organizers are responsible for implementing the contest and its activities and for seeking media coverage.[42] Winners are drawn after one month has passed, and two witnesses and laboratory tests verify their abstinence.[41] Chapter 12 in this monograph discusses attempts to evaluate the effectiveness of these events.

Media Activism

Media activism includes strategies that directly oppose tobacco industry messages and advertisements, often through humor and parody. Many of these activities can be considered a form of media literacy, which is discussed in chapter 10.

In 1977, Alan Blum founded Doctors Ought to Care (DOC). This group was a pioneer in developing counteradvertisements that parody tobacco industry advertising and its products, images, brand names, and corporate messages.[43–45]

Another form of media activism is demonstrating against a live event sponsored by tobacco companies or tobacco products. Well-known examples include the many demonstrations sponsored by DOC and other groups at Virginia Slims tennis tournaments and other cigarette-sponsored events.[46–48] A particularly noteworthy example was the use of the "Statue of Nicotina" by the Washington State chapter of DOC to oppose the Philip Morris "Bill of Rights" tour throughout the fall of 1989.[49] These activities have often earned free media coverage through news stories (chapter 9 in this monograph discusses "earned media").

Groups such as DOC have demonstrated the use of nontraditional media in their campaigns. For example, in the late 1970s, DOC purchased $3,000 worth of bus-bench advertisements in Miami, Florida (less than $25 per month per bench). The benches often were located alongside billboards promoting cigarettes. One bus-bench advertisement welcomed passersby to the taste of "country fresh arsenic." Others featured slogans such as "full bodied cyanide" and "ten year supply only $7,000." In a 1988 regatta off the coast of Corpus Christi, Texas, DOC sponsored a sailboat "flying the largest no smoking symbol known to exist."[50]

Children and adolescents, often as part of school competitions, also can create

DOC-sponsored bus bench advertisement for Country-Fresh Arsenic

Media Activism: Taking Aim at Tobacco Advertising

Artist Bonny Vierthaler at the BADvertising Institute[a] has produced more than 70 advertisements by, according to her Web site, "doctoring-up tobacco ads to make them honest." The Web site continues, "By juxtaposing silly, gross and disgusting images on top of deceitful ads, we jolt people into realizing how tobacco ads are concealing the truth about smoking." For example, her version of an advertisement for a "new crush-proof box" for Merit cigarettes features a large wooden casket.[b]

Some advocacy groups and individual activists have taken this form of advertising further by using civil disobedience. The Australian group Billboard Utilising Graffitists Against Unhealthy Promotions (BUGA UP) spray-painted graffiti on tobacco billboards, often attempting to change advertising slogans to antitobacco messages. Thus, "Marlboro" became "it's a bore," and "Gold [cigarettes] is the perfect mixer" became "Cancer is the perfect fixer." Similar graffiti activities followed in the United Kingdom, the United States, and Canada.[c]

[a]BADvertising Web site. http://www.badvertising.org.

[b]*American Medical News.* 1986. Spoofing the "Joy of Smoking." December 5, pp 1, 29.

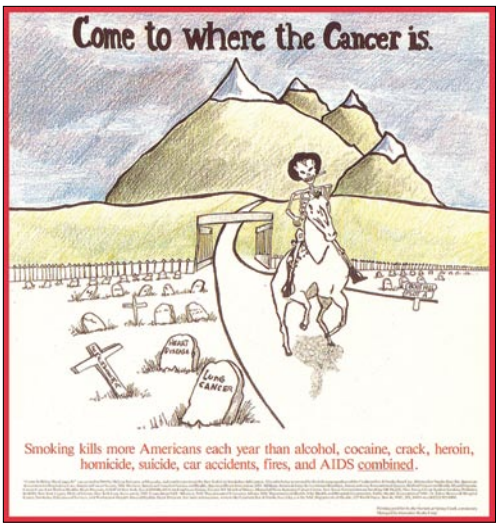
[c]Chapman, S. 1996. Civil disobedience and tobacco control: The case of BUGA UP. *Tobacco Control* 5(3): 179–85. http://tc.bmjjournals.com/cgi/reprint/5/3/179.pdf.

antitobacco advertisements.[51,52] An early example is the winning entry in a DOC competition among schoolchildren in Iowa that was published in the *Medical Journal of Australia* in 1983.[53] Booklets containing artwork from these types of competitions have been published by Smokefree Educational Services in 1991,[54] the Washington State chapter of DOC in 1995,[55] and the Wayne County (Michigan) Medical Society Foundation in 2003.[56] The American Academy of Family Physicians Tar Wars program[57] combines a national antitobacco advertising poster contest with a school educational program targeting students in grades 4 and 5.[58]

Occasionally, media outlets have donated free space for counteradvertisements, particularly those developed by youth. Viacom Outdoor donated space on 60 small billboards (30-sheet panels) for the display of award-winning artwork from the Wayne County Medical Society Foundation's counteradvertising contest held in 2002 among several schools in the Detroit, Michigan, area.[52]

Smokefree Educational Services sponsored "ad-spoof" contests and attempted to purchase space on New York City's subway trains for its award-winning artwork. A 12-year-old girl designed the winning poster in the 1989 contest. The poster showed a skeletal cowboy riding through a graveyard beneath the heading, "Come to where the Cancer is," as a parody of a well-known Marlboro advertisement ("Come to Where the Flavor Is"). Gannett Transit initially rejected the advertisement on the grounds that the line drawing style used in the "Come to where the Cancer is" poster was "graffiti prone." After the New York City commissioner of consumer affairs urged the Metropolitan Transportation Authority to reverse Gannett's decision, Gannett agreed to run the advertisement on all 6,000 subway cars during November of 1990.[59–61]

In April 1990, R.J. Reynolds test-marketed the Dakota cigarette brand, aimed at young blue-collar women.[49] An advertisement for Dakota appeared in newspapers in Houston (one of the test-market sites), asking readers to choose between Dakota and



Smokefree Educational Services contest-winning poster displayed on New York City subway cars

Philip Morris's Marlboro cigarettes. DOC produced a parody offering a choice between Dakota tumors and "Barfboro" radiation treatments, underlined by the slogan, "Dakota, DaCough, DaCancer, DaCoffin." Major daily newspapers in Houston rejected the DOC counteradvertisement. However, an alternative newspaper accepted it and lost its R.J. Reynolds advertising as a result.[62]

The Smoke Free Movies[63] project at the University of California at San Francisco has placed more than 20 advertisements in the *New York Times* and *Variety* (a movie industry trade publication), attacking smoking in the movies. The sixth and seventh advertisements in the series criticized the movie *In the Bedroom* and its lead actress, Sissy Spacek, for "gratuitously promoting Marlboro brand cigarettes on screen and in dialogue." The *New York Times* published the paid advertisements in January and February of 2002, but *Variety* and the *Hollywood Reporter* rejected them,[64,65] possibly related to nominations of *In the Bedroom* for five Academy Awards (including Best Picture) and the upcoming 74th Annual Academy Awards ceremony, scheduled for March 24, 2002.

One study assessed the comparative effect on smoking-related attitudes of a workshop for junior high school students involving discussion and analysis of cigarette and antitobacco ads and a production workshop in which students discussed, analyzed, and then created their own antitobacco advertisements. Results showed overall support for the production workshop in eliciting more attention and positive perceptions of antitobacco messages as well as a reduction in positive attitudes about smoking, compared with the analysis workshop.[66] Aside from this study, there have been no empirical studies on the impact of this kind of media activism and related informal advertising on individual attitudes and behavior, tobacco industry activity, and media coverage. Chapter 12 provides more details about the impact of this style of advertising, as used in formal televised antitobacco advertising for some state tobacco control programs and Legacy.

Televised Antitobacco Advertisements

Broadcast antitobacco campaigns have been a central component of many government- and foundation-sponsored tobacco control efforts. Mass media have the power to educate and inform the public and influence policymakers,[49,67,68] and the CDC recommends that states and communities spend between $1 and $3 per capita on antitobacco advertising campaigns that include paid television advertising.[14] Although the intensity of televised campaigns has varied, most major tobacco control programs have included them.

Public-Health-Sponsored Campaigns

Campaigns sponsored by public health agencies have varied in their target

audiences as well as their predominant themes and messages. This section provides examples that highlight these variations.

California—Changing Social Norms about Smoking

The California Tobacco Control Program, funded in 1989 by Proposition 99, was the first ongoing, comprehensive statewide tobacco control program in the United States. In California, the allocation of funding to antismoking advertising was approximately 59¢ per capita (for the population age 18 years or older), or 17% of total program expenditure, in the period 1989 to 1992–93.[69] The allocation was 41¢ per capita, or 20% of program expenditure, in the period 1993–94 to 1995–96.

The California Tobacco Control Program's overarching goal is to change social norms about tobacco use so that smoking no longer is viewed as a normal, acceptable practice.[70] Rather than focusing on changing individual smokers, the mass media campaign is designed to engage the entire population, smokers and nonsmokers alike, and to change the environment. Messages focusing on secondhand smoke accounted for 44% of media spending in 1997–98, anti-industry messages accounted for 34%, and cessation/prevention messages accounted for 20%.[71]

Reducing youth smoking initiation is another program goal. The designers believe the most effective way to achieve this goal is by targeting the older generation's norms to change the social environment. The California media campaign is seen as an essential component of the statewide tobacco control program, lending support to local tobacco control interventions. The media campaign is designed to frame the issues and attract and sustain public attention.

Australia—Showing the Physical Damage of Smoking

In Australia, a national antismoking media campaign targeted toward adults aged 18–39 years used fear-based messages graphically depicting the potential short-term consequences of smoking. The campaign, which began in 1997, presented these negative outcomes as certain, as opposed to probable, consequences of smoking.[72,73] With the tag line, "Every cigarette is doing you damage," the campaign was specifically designed to increase a smoker's sense of urgency about giving up cigarettes. It tried to connect the mundane rituals of lighting a cigarette and inhaling the smoke to images of damage to the smoker's internal organs.

Six of the seven advertisements produced since 1997 graphically portray health damage to evoke a strong visceral response of disgust in the viewer. For example, the advertisement *Stroke* depicts a smoker's brain being cut in half to reveal blood oozing from a clot, and *Eye* shows a smoker's retina with bursting blood vessels leading to blindness.[74] In the first three years of the campaign, four of these types of advertisements were created, portraying the incremental development of emphysema, atherosclerosis, genetic damage leading to cancer, and stroke. Two advertisements depicting smoking as causing incremental damage leading to blindness in one case and chronic lung disease in another were added in the fourth year of the campaign. One of the advertisements used a different approach. *Call* showed a smoker picking up a telephone, calling a quitline, and a counselor responding to the call. Evaluation studies from this campaign are discussed in chapter 12.

Kansas—Making Smokers into "Heroes"

Between 1997 and 2000, the Kansas Health Foundation sponsored a media

campaign titled, "Take it Outside." It featured television, radio, and print advertisements that focused on the harm to children from exposure to secondhand smoke. The program designers' formative research suggested smokers' homes and cars were their last refuges for smoking and challenging their right to smoke in those places would be met with hostility. The research also convinced program designers that smokers rejected the "more hard-line 'scare' tactics of existing media campaigns."[75(p.36)] Their approach was to depict people who smoked outside and away from children as "heroes."[75] The stark black-and-white advertisements were intended to evoke a sense of family obligation for smokers to protect their children.[20] In one, an older adolescent with his baby brother on his lap speaks to the camera while telling his parents that as a child he was unable to avoid their secondhand smoke and that while he now can leave to escape it, his baby brother cannot. He asks them, "Please, if you have to smoke, take it outside."

Florida and the American Legacy Foundation—Questioning Tobacco Industry Positions

A settlement between the state of Florida and tobacco companies provided funding for the Florida Tobacco Pilot Program.[76] Targeting youth aged 12–17 years, the program used an anti-industry approach in attempting to reduce tobacco use. This campaign's strategy was to market a youth brand called "Truth" as the counterpoint to the "lies" marketed by tobacco companies. The campaign designers rejected the heavy "life or death" tone of other antitobacco campaigns. They claimed that social marketing approaches used in other states were having little impact, and the campaign needed to provide a brand that would give youth a way to identify themselves.[77]

Campaign designers' research with youth led them to believe that the deadly nature of cigarettes made them appealing to youth as a tool of rebellion. The designers decided that the best way to counter that appeal was to make the tobacco industry's duplicity and manipulation a target for adolescent rebellion. Television advertisements created for this campaign portray industry executives as unconcerned in response to information about the negative health effects of cigarettes. Other advertisements use youth actors to convey the notion that cigarettes are addictive. Evaluation findings from the Florida campaign are discussed in chapter 12.

Legacy's "truth" campaign was modeled after the Florida campaign. Launched in 2000 with more than $100 million per year for media, the Legacy "truth" campaign was a national landmark event in the history of tobacco counteradvertising.[78] It focused specifically on youth aged 12–17 years who were susceptible to smoking.[79] Legacy has run a variety of advertising themes, most focusing on the tobacco industry's misleading and cynical practices.

The "Body Bags" series began with an advertisement showing young people jumping out of a truck and piling body bags on the sidewalk outside of what was labeled a "major tobacco company." Using a megaphone to reach the workers in the building, a youth says, "This is what 1,200 dead people looks like." Another series ("1 out of 3") used fantasized scenes such as an exploding soda can to convey the message that tobacco is the only product that results in the premature death of one out of three people who use it. Shifting to a testimonial approach, a later series ("Follow the Dots") featured young people speaking in emotional segments about loved ones they have lost purportedly because of smoking. Evaluation studies from the Legacy media campaign are presented in chapter 12.

Virginia—Making Smoking Look "Stupid"

In 2002, Virginia launched a youth-focused campaign designed to empower the youth of the state to "choose not to use tobacco products." The campaign included television, radio, and print advertisements as well as a Web site.[80] The campaign used a core tag line, "Can anybody tell us why smoking isn't stupid?" Many of the advertisements featured the humorous character "Buttman," described as "America's most pathetic superhero."[81] The character was shown to be incompetent in social situations because of his smoking. Another series showed young actors engaged in gross or dangerous behavior, such as licking garbage cans or climbing a pole in a thunderstorm, the stupidity of which was equated with smoking.

Advertisements for Commercial Products

Advertisements for NRT products and other pharmaceutical aids to tobacco use cessation have been a feature on television since 1992.[82] The intensity of this marketing increased exponentially, from $13 million to $220 million in 1996, when the U.S. Food and Drug Administration (FDA) approved nicotine replacement products for over-the-counter sale.[83] The following year, the FDA relaxed rules governing direct-to-consumer advertising of prescription drugs, prompting a major increase in television advertising for bupropion. These advertisements tended to describe the benefits of one medication in contrast to another and suggested that the product can be a great help in achieving cessation. Unlike most government-sponsored advertisements, these advertisements have so far narrowly targeted smokers who are ready to take action to quit smoking. Analyses have shown that advertising for NRT patches increases sales of those products, but advertising for nicotine gum does not.[84]

Pharmaceutical advertisements on television may be designed to encourage uptake of pharmaceutical smoking cessation products among adult smokers who are ready to quit. However, televised advertisements can reach all television viewers (table 11.1), including nonsmokers and smokers not ready to quit. Bolton and colleagues[85] demonstrated experimentally that compared with participants exposed to information on techniques of unaided quitting, participants exposed to information about the features and benefits of NRT indicated that they considered smoking significantly less risky and reported lower intentions to quit. They concluded that among adult smokers who are not ready to quit, implying that these products offer an "escape from danger" may lead smokers to defer quit attempts and lower their perceptions of smoking risks.[85]

Others have suggested that these types of advertisements could encourage smoking among adolescents by inadvertently conveying the message that quitting can be easy if these products are used.[82] This is a concern because optimism about quitting is a predictor of smoking experimentation and progression to heavier smoking among youth.[86] However, two experimental studies exposing youth to combinations of NRT, bupropion, quitline, and tobacco control advertisements have found limited support for adverse effects of the advertisements.[82,87] Population-based research on this little-explored subject seems important for adults and youth, especially because advertising for pharmaceutical smoking cessation products is the leading source of tobacco-related advertising exposures on television (table 11.1).

Tobacco-Industry-Sponsored Antitobacco Advertisements

Tobacco companies in the United States have launched their own antismoking mass media campaigns in response to increasing

documentary evidence and consequent growing liability that tobacco companies marketed their products to youth and misled consumers and the general public about the health risks of tobacco use.[88] One of Philip Morris's campaigns had an annual budget of $100 million before it was withdrawn in the United States in January 2003. Its slogan was, "Think. Don't Smoke." These advertisements were targeted to youth between 10 and 14 years of age.[89] The first group of these advertisements featured an off-camera adult asking teenagers in various locations whether they smoked cigarettes. All of the adolescents interviewed were nonsmokers who responded that they did not need to smoke to be cool. Later executions showed young actors involved in popular activities such as karate and skateboarding, demonstrating that they were better off for not smoking.

In July 1999, Philip Morris launched a campaign emphasizing parental responsibility for talking to children about smoking, with the slogan, "Talk. They'll Listen."[90] In one of these advertisements, a teenager was shown being reminded by her father not to smoke before she went out for the evening and then refusing an offer of cigarettes during the course of her evening out. In October 1999, Lorillard also launched a youth smoking prevention campaign with the slogan "Tobacco Is Whacko if You're a Teen."[91] Its budget was around $13 million.[16]

Research pertaining to the effectiveness of these campaigns is presented and discussed in chapters 6 and 12.

Relative Performance of Televised Antitobacco Advertising Approaches

Paid television advertisements tend to be the most costly component of comprehensive tobacco control programs. Therefore, it is imperative for program designers to make evidence-based and cost-effectiveness decisions about the design of advertisements for particular audiences (i.e., what themes and execution styles are likely to be most effective for which target groups). A first step toward answering these questions is to examine some useful parameters on which advertisements can differ. The marketing literature conceptualizes the characteristics of advertisements in terms of the message strategy (i.e., what is said) and the execution strategy (i.e., how it is said)[26] or, similarly, the informational content, emotional content, and format.[92] Table 11.5 presents a relatively simplified scheme for characterizing message and execution strategies incorporating the major factors seen in the research.

Establishing an empirical basis for choosing among these characteristics is difficult. It is challenging to establish how one specific audience (e.g., young teenagers susceptible to smoking) responds to variations in advertisement parameters, let alone to determine how these parameters might interact with each other and with audience characteristics to affect individual responses. Controlled experiments could investigate these questions, and some of this work is reported below. However, when individuals are asked to view an advertisement to rate its characteristics, the manner in which they respond to the advertisement is likely to be different than if they were to view the advertisement in a natural setting.[93] Perhaps the ideal is to search for consistencies in findings across multiple studies. This section reviews research that compares audience response to antitobacco advertisements that vary along one or more of the characteristics listed in table 11.5. Table 11.6 summarizes these audience response studies.

Studies Using Controlled Exposure

Several studies have evaluated responses of youthful audiences to antitobacco

Table 11.5 Characterizations of Antitobacco Advertisements' Content and Style

Informational Content
Consequences of smoking and quitting: negative health, psychological, and social consequences to smoker of smoking; negative health consequences to others of secondhand tobacco smoke; benefits to smoker of quitting smoking; benefits to others of quitting smoking
Advice and tips for quitting: coping techniques; motivational techniques; sources of help (quitlines, health care providers); support and encouragement; pharmaceutical aids
Anti-industry information: chemical content of cigarettes; deceptive marketing (light cigarettes); predatory marketing (targeting youth, women, minorities, the poor)
Emotional Content
Level of emotion evoked: high to low
Valence of emotion evoked: positive emotions: pride, joy, happiness, hope, amusement/humor, love, devotion; negative emotions: fear, sadness, loss, anger, disgust
Format or Style[a]
Testimonial or endorsement: real people discussing their experiences with smoking
Scientific evidence: statistics or research results sometimes presented by experts
Graphic image: a visual graphic depiction of the health consequences of smoking
Fantasy: use of unrealistic characters or situations
Slice of life or lifestyle: staged scenes with actors portraying consequences of smoking or benefits of not smoking or quitting

[a]Adapted from Kotler, P., N. Roberto, and N. Lee. 2002. *Social marketing: Improving the quality of life.* 2nd ed. Thousand Oaks, CA: Sage.

advertisements in forced-exposure situations. In the first published study of this type, Goldman and Glantz[94] reviewed reports of 186 focus groups, containing more than 1,500 youth and adults, that had been conducted by advertising agencies as part of pretesting of some 118 broadcast antitobacco advertisements or advertising concepts. The authors concluded that advertisements portraying tobacco industry manipulation or featuring the health effects of secondhand smoke were the "most effective," ads featuring addiction and cessation messages were "average," and ads concerned with limiting youth access to tobacco, short- or long-term health effects of smoking, and teens rejecting tobacco were "not effective." This study was criticized for failing to provide transparent criteria for what was described as "effectiveness."[95,96]

In later studies, groups first viewed individual advertisements and then rated them on a variety of scales that measure some aspect of response thought to bring the target audience closer to not smoking. A well-cited, but unpublished, study involved 20 focus groups of 7th to 10th graders in Arizona, California, and Massachusetts in early 1999. The study sought to assess the extent to which a series of 10 antismoking advertisements made them "stop and think" about smoking.[97] Advertisements were shown, and group members made individual ratings of the advertisements and discussed them as a group.

Findings from the three states in this study were quite consistent. Advertisements that graphically, dramatically, and emotionally portrayed serious negative consequences of smoking received the highest ratings by respondents. These types of advertisements, which tell stories about real people, were very compelling to respondents. Advertisements using industry manipulation

Table 11.6 Studies Examining the Relative Performance of Different Advertising Messages

Study	Advertisement comparisons	Target group	Study design	Main outcomes
Goldman and Glantz 1998[94]	118 antitobacco ads aired in the United States and additional ad concepts that were not progressed to advertisements	Youth who did and did not smoke and adult smokers	Review of 186 focus groups of over 1,500 youth and adults conducted by advertising agencies as part of concept testing and qualitative advertising evaluation	Ads featuring anti-industry and secondhand smoke messages were deemed "the most effective." Ads concerned with limiting youth access to tobacco, short- or long-term health effects, and romantic rejection of smoking by youth were concluded to be not "effective."
Teenage Research Unlimited 1999[97]	10 state-funded antitobacco advertisements	7th to 10th graders in AZ, CA, and MA who were "at risk" of using tobacco because they indicated an intention to try smoking in the next year, had some to most of their family or close friends who were smokers, or held particular beliefs indicating a likely disposition to use tobacco	Controlled exposure: participants in 20 focus groups viewed each of 10 antitobacco advertisements in early 1999, made ratings of each, and discussed them as a group.	Advertisements that graphically, dramatically, and emotionally portrayed the serious negative consequences of smoking were rated highest. Advertisements using an industry manipulation theme were only rated high in terms of "stop and think" value by respondents in groups in CA. Advertisements with a theme emphasizing that teens need to make a choice about whether or not to smoke had the lowest ratings.
Murphy 2000[98]	10 state-funded antitobacco advertisements and 1 CDC advertisement	11–18-year-olds in Utah, with a mix of smokers and nonsmokers	8 focus groups viewed each of 11 ads, made ratings of each, and discussed them as a group.	Both smokers and nonsmokers indicated that the ads communicating real-life experiences about the harm of tobacco were more thought provoking and more likely to change their smoking intentions. An ad featuring a cartoon character talking about quitting was perceived as least effective.

Table 11.6 Studies Examining the Relative Performance of Different Advertising Messages *(continued)*

Study	Advertisement comparisons	Target group	Study design	Main outcomes
Pechmann et al. 2003[102]	The 7 antitobacco advertisement themes were disease and death, endangers others, cosmetic effects, smokers' negative life circumstances, refusal skills role model, marketing tactics, and selling disease and death. 8 advertisements had each of these themes, 56 advertisements in total.	1,667 7th and 10th graders	Controlled exposure: youths were randomly assigned to view 1 message type, after which they were asked about feelings and thoughts in relation to the advertisements, attitudes toward smoking, and intention to smoke.	Advertisements featuring 3 themes (endangers others [smoke and smoking hurts family members], smokers' negative life circumstance [smokers are "uncool," unwise, and misguided], and refusal skills role model [nonsmokers are popular and respected]) reduced intentions to smoke.
Youth Smoking and the Media – U.S. study—Terry-McElrath et al. 2005;[99] Wakefield et al. 2003;[100] Wakefield et al. 2005[101]	Pharmaceutical advertisements, tobacco company youth smoking prevention advertisements, tobacco control advertisements, and within tobacco control advertisements: 8 message themes, 2 executional styles, and target group of advertisements (youth vs. general audience)	268 8th-, 10th-, and 12th-grade susceptible nonsmokers or experimenters in Boston, MA, and Chicago, IL; the study was replicated in Australia and Britain for a total of 615 8th-, 10th-, and 12th-grade susceptible nonsmokers or experimenters in U.S., Australia, and Britain.	Controlled exposure: youth completed immediate ratings after viewing each of 10 advertisements in late 2000/early 2001, selected highest "stop and think" advertisement at end of session; 1-week telephone follow-up to establish recall and discussion about advertisements.	Compared with tobacco control advertisements, tobacco company advertisements are more likely to elicit positive emotions and be of less interest to youth. Pharmaceutical advertisements were less likely to cognitively engage youth in the session or be thought about or discussed at follow-up. Tobacco control advertisements with personal testimonial or visceral negative characteristics achieved greater appraisal, recall, and discussion at follow-up. After accounting for executional characteristics, advertisement target audience and theme were unrelated to outcome measures. Youth in the 3 countries responded in similar ways to the same advertisements.

Study	Advertisement comparisons	Target group	Study design	Main outcomes
Biener et al. 2000[103]	9 MA advertisements that featured negative consequences of smoking, positive consequences of quitting, or advice about quitting. Advertisements also varied in level of emotional arousal and whether the tone was negative (sad or frightening), positive (funny and entertaining), or neutral.	1,544 MA adults who completed a telephone survey in 1993 and 1996	Naturalistic exposure: in the 1996 survey, interviewers briefly described each advertisement and asked if respondents recalled seeing it; if so, respondents rated each one on a scale of 0–10 indicating how good an antitobacco advertisement it was perceived to be.	Sad/frightening advertisements, which were highly emotional and dealt with the serious health consequences of tobacco use, scored significantly higher on perceived effectiveness than did funny or neutral advertisements for all respondents.
Biener 2002[104]	The most prominent antitobacco advertisements broadcast by the Massachusetts Tobacco Control Program and those produced by Philip Morris. 4 categories: illness, outrage, other MA, and Philip Morris	733 youth 14–17 years of age	Naturalistic exposure: youth were asked in telephone survey whether they had seen any antitobacco advertisements on television in the previous month. If so, they were asked to describe one in detail and to rate its effectiveness on a 10-point scale.	Advertisements featuring serious consequences of smoking were seen as significantly more effective by youth than MA advertisements that did not discuss illness and Philip Morris "Think. Don't Smoke." advertisements.
Farrelly et al. 2002[79]	American Legacy Foundation "truth" advertisements featuring industry manipulation messages compared with Philip Morris youth smoking prevention advertisements asking youth to "Think. Don't Smoke."	6,897 12–17-year-olds in baseline survey and 6,233 in postlaunch survey	Naturalistic exposure: nationally representative cross-sectional telephone surveys prior to campaign launch and 10 months after launch; measures were confirmed of recall, smoking attitudes and beliefs, and intention to smoke in the next year.	Exposure to "truth" advertisements was associated with an increase in antitobacco attitudes and beliefs; those exposed to Philip Morris advertisements were not. Those exposed to Philip Morris advertisements were more likely to be open to smoking.
Donovan et al. 2003[74]	5 advertisements graphically featured the serious health effects of smoking; 1 advertisement encouraged smokers to call a quitline.	9,033 18–40-year-old smokers and recent quitters in Australia	Naturalistic exposure: repeated cross-sectional telephone surveys over a total of 43 weeks of 3 phases of a campaign in 1997–99. Respondents were asked about confirmed advertisement recall and recognition.	Advertisements with clear figure-ground executional formats were more memorable than those without. Advertisements illustrating the serious health effects of smoking had higher memorability than those encouraging calls to a quitline.

Table 11.6 Studies Examining the Relative Performance of Different Advertising Messages *(continued)*

Study	Advertisement comparisons	Target group	Study design	Main outcomes
Biener et al. 2004[105]	MA advertisements broadcast over the period leading up to 1997: 4 advertisements featured serious illness, 2 advertisements used humor, 2 advertisements were about normative behavior.	618 MA youth aged 12–15 years	Naturalistic exposure: cohort study surveyed youth by telephone in 1993 and 1997, which determined confirmed advertisement recall and perceived effectiveness using a scale from 0 to 10.	Youth were more likely to recall and perceive as effective advertisements featuring messages about serious health consequences that had been independently rated as high in negative emotion, compared with advertisements featuring messages about normative behavior or advertisements relying on humor.
Pechmann and Reibling 2006[106]	8 types of advertisements including serious health effects of smoking (disease and suffering, dying parent, secondhand smoke); tobacco industry manipulation (activism and marketing tactics); and social themes (acceptance, cosmetic)	1,725 9th graders in CA	Controlled exposure: youths were randomly assigned to view a television program in which particular themed advertisements or control advertisements were embedded in 2002. At baseline, personality traits were measured, and after exposure, students were asked about smoking intentions, feelings and beliefs, and advertisement appraisal.	Advertisements focusing on young victims suffering from serious smoking-related disease elicited disgust, enhanced anti-industry motivation, and reduced intentions to smoke, but counterindustry and tobacco company youth smoking prevention advertisements did not. Youth with conduct disorders were not influenced by any advertisements' themes.

as a theme were rated high in terms of "stop and think" value only by groups in California, where this approach was a familiar one. Respondents in the other states often misunderstood the anti-industry message that the advertisements attempted to communicate. Finally, advertisements with a theme emphasizing that teenagers need to make a choice about whether or not to smoke had the lowest ratings. These results imply that advertising campaigns that use teenager-choice approaches exclusively, such as Philip Morris's youth smoking prevention campaign and the Virginia "Ydouthink.com" campaign, are likely to be relatively ineffective in motivating youth to stop and think about smoking. This may be because these advertisements fail to change broader population-wide social norms relating to tobacco use.[107]

Murphy[98] reported on eight focus groups of 11- to 18-year-olds in Utah, where participants viewed and discussed ads made by other state tobacco control programs. Both smoking and nonsmoking youth indicated that ads about real life experiences were more thought provoking and more likely to change their smoking intentions. The advertisements *Janet Sackman* (former Lucky Strike model shares her throat cancer story), *Cowboy* (Marlboro Man's lung cancer story told by his brother), *Pam Laffin* (26-year-old discusses her experience with emphysema), and *Voicebox* (Pam Laffin smokes through her stoma) were rated the highest on these attributes by youth in these groups.

Terry-McElrath and colleagues[99] asked 268 8th-, 10th-, and 12th-grade susceptible nonsmokers or experimental smokers (those who have experimented with smoking cigarettes) in Boston, Massachusetts, and Chicago, Illinois, to view a set of 10 advertisements selected as representative of all advertisements produced between 1997 and 2001 by tobacco control programs, tobacco companies, and pharmaceutical companies. Five different sets of advertisements were tested, totaling 50 advertisements in all. After viewing each advertisement twice, the youths completed a rating form. The outcome measures included comprehension (open-ended responses to a query about the main point of the advertisement) and appraisal (an index of the perceived effectiveness of items).

A follow-up telephone call one week later was used to obtain the following additional outcome measures: recall (whether the advertisement was correctly described) and engagement (whether the youth reported having thought about and discussed the advertisement during the intervening week). Unlike immediate ratings of attributes of the ad, later ruminations about, or discussion of, an advertising message are evidence of further cognitive processing of the advertisement.[108–111] The predictor variables included target audience (whether the advertisement was designed for a youth or an adult audience); theme (health effects, cessation, secondhand smoke, health benefits, industry manipulation, or smoking being "uncool"); format (use of either the testimonial technique or visceral negative imagery); and sponsor.

The pharmaceutical industry advertisements were rated as the least engaging, and at follow-up, were the least likely of the three sponsors to generate ad-related thoughts or discussion. The use of the personal testimonial and visceral negative formats had the strongest and most consistent relationships with high appraisal, and at follow-up, with greater recall and ad-related additional thoughts and discussion. When format was controlled in multivariate analyses, the message had no consistent effect on outcome. This was due to the correlation between format and message. Testimonial executions were used in advertisements addressing health effects, secondhand smoke, and industry activities, but not with the other themes.

Pechmann and colleagues[102] reached a different conclusion. Their two-part study to categorize and rate different antismoking advertisements included almost 3,000 7th and 10th graders. Less than one-half of the youths (n = 1,129) grouped 194 antismoking advertisements into seven distinct message themes. The remainder (n = 1,667) were involved in a copy test of the advertisement types. The copy test used 8 randomly selected advertisements to represent each of the seven message themes—56 advertisements in total. Participants were randomly assigned to view just one message theme. They then were immediately asked about their feelings and thoughts in relation to the advertisements, attitudes toward smoking, and intention to smoke. The seven message themes were disease and death, endangers others, cosmetic effects, smokers' negative life circumstances, refusal skills role model, marketing tactics, and selling disease and death.

LISREL analyses demonstrated that three of the seven message themes reduced reported intention to smoke: endangers others (smoke and smoking hurts family members); smokers' negative life circumstances (smokers are "uncool," unwise, and misguided); and refusal skills role model (nonsmokers are popular and respected). (LISREL is a structural equation modeling method for empirical assessment of scientific theories.) These message themes resonated with the participants by increasing perceptions that smoking entailed an increased risk of social rejection. On the basis of these findings, the investigators found antismoking advertisements that focus on negative social consequences of smoking more effective than those focusing on health effects. Even though health messages increased youths' perception of the health risks of smoking, the messages did not increase their perceptions of vulnerability to those risks as protection motivation theory would require.[112]

A study by Pechmann and Reibling[106] randomly exposed 1,725 9th-grade students in California schools to one of nine videotapes containing a television show embedded with antismoking or control advertisements. Advertisements focusing on young victims suffering from serious diseases caused by tobacco elicited disgust, enhanced anti-industry attitudes, and reduced intentions to smoke among all participating adolescents except those with conduct disorders. However, advertisements portraying tobacco company conduct and tobacco company youth smoking prevention advertisements did not significantly lower participants' smoking intentions.

Studies Using Naturalistic Exposure

Several other studies have examined the relative performance of different types of antitobacco advertising by using data from segments of the target audience of the various campaigns. Farrelly and colleagues[79] used telephone tracking surveys to examine the responses of youth and young adults to Legacy's "truth" and Philip Morris's "Think. Don't Smoke" campaigns. The researchers associated confirmed recall of each campaign with antitobacco attitudes and openness to smoking. Recall of Legacy's "truth" advertisements was more strongly associated with endorsement of antitobacco attitudes than was recall of "Think. Don't Smoke" advertisements. Furthermore, respondents who recalled the "Think. Don't Smoke" advertisements were more likely to be open to smoking than those who recalled the "truth" advertisements.

The Massachusetts Tobacco Control Program conducted a well-funded media campaign between 1993 and 2001. Over the course of eight years, the campaign addressed a variety of audiences (youth, adult smokers, and a general audience) and focused on different goals: increasing

cessation, discouraging uptake, and promoting tobacco control policies.[113–115] Population surveys conducted each year were designed to evaluate various aspects of response to the media campaign. In 1996, more than 1,500 adults who had previously been interviewed for the 1993 baseline study of smoking in Massachusetts were recontacted. They were surveyed about their reactions to nine Massachusetts advertisements that had been selected to vary in terms of the following messages: negative consequences of smoking, positive consequences of quitting, and advice about quitting. The advertisements also varied in the level of emotional arousal and whether the tone was negative (sad or frightening), positive (funny and entertaining), or neutral. Interviewers briefly described each advertisement to respondents and asked if they recalled seeing it. If respondents had recalled viewing advertisements, interviewers asked them to rate each one on a scale of 0 to 10 indicating how good an antitobacco advertisement it was perceived to be.

The sad/frightening advertisements, which were highly emotional and addressed serious health consequences of tobacco use, scored significantly higher on perceived effectiveness than did both the humorous and neutral advertisements. Other analyses examined perceptions of the advertisements according to respondents' smoking status category. Sad/frightening advertisements were rated as significantly more effective than either the humorous or neutral advertisements by all groups: smokers who quit during the campaign, smokers who continued smoking, and individuals who were nonsmokers at both baseline and follow-up.[103]

Other researchers[105] conducted a similar study with a cohort of Massachusetts youth interviewed first in 1993 and again in 1997, with similar results. Respondents were more likely to recall and perceive as effective the advertisements featuring messages about serious health consequences that had been independently rated as high in emotional arousal and in negative emotion, compared with advertisements featuring messages about normative behavior for teenagers or advertisements relying on humor.

Another youth study used a slightly different approach. More than 700 teenagers between ages 14 and 17 years were asked in a telephone survey whether they had seen any antitobacco advertisements on television in the previous month. If they had, they were asked to describe one advertisement in detail and then to rate its effectiveness. The Massachusetts Tobacco Control Program and Philip Morris produced the most widely broadcast antitobacco advertisements in Massachusetts during the time covered by the survey. The advertisements described by respondents were grouped into four categories based on their sponsor and approach: illness, outrage, other Massachusetts-produced ads, and all Philip Morris ads. The illness and outrage categories included advertisements that both aroused negative emotion (fear, sadness, or anger) and presented serious health consequences of smoking. The "other Massachusetts" ads and Philip Morris categories included advertisements that did not discuss consequences in a serious manner. Instead, they focused on normative issues, such as smoking is not "cool," smoking makes it hard to do well at sports, smoking sets a bad example for siblings, and such. In this study, youth saw advertisements featuring the serious consequences of smoking as significantly more effective than both the Massachusetts advertisements that did not discuss illness and the Philip Morris "Think. Don't Smoke" advertisements.[104]

A limitation of the foregoing Massachusetts research is that the outcome measure was "perceived effectiveness." It is unclear whether advertisements perceived to be effective also led to longer term changes in behavior and attitudes.

One study used a somewhat different approach but found similar results.[116] A population-based sample of more than 700 Massachusetts adults who had quit smoking in the prior two years was asked whether "any television commercial about tobacco contributed to [their] quitting smoking."[116(p.219)] Those who responded affirmatively were asked to describe one such commercial. Their open-ended descriptions were coded into a number of generic themes. The rate of mentions of each theme was compared to its media weight.

Of those who had quit smoking in the prior two years, 32% reported being influenced by a television commercial. Of those who reported having been helped by a television commercial, 70% described an advertisement featuring an emotional or a graphic depiction of the harm done to the protagonist or a loved one by smoking. Only 20% of the media weight of all mentioned advertisements was in this category. A mere 7% described an emotional advertisement depicting a smoker's resolve to quit for the sake of his or her child. Only 2% of the media weight was in this category. As few as 5% described one of Legacy's "Body Bags" advertisements, which earned only 2% of the total media weight. Only 1% of the individuals described a pharmaceutical advertisement although 58% of the total media weight was due to pharmaceutical advertisements. Although people are only partially aware of factors that influence their behavior, this study provides evidence that emotional advertisements about negative health consequences may be effective in promoting smoking cessation.

Summary of Studies of Relative Performance

Of 11 known studies that assessed responses of research participants to different types of advertisements, 9 yielded similar results. Among those 9, advertisements addressing serious harm resulting from tobacco use in an emotionally evocative way performed well. Advertisements that used humor—whether to make fun of teenagers who smoked, make fun of tobacco companies, or portray the health benefits of nonsmoking in an exaggerated way (e.g., a Massachusetts advertisement showing an infant performing gymnastics because of the healthy air in his home)—performed relatively poorly. Philip Morris's "Think. Don't Smoke" advertisements also performed relatively poorly.

In looking at table 11.5, what can be said to media campaign designers about the optimal themes, emotional content, and formats for antitobacco advertisements? In practice, informational content, level of emotion, valence of emotion, and format tend to correlate. With regard to theme and valence of emotion, advertisements that portray negative health consequences of smoking—to smokers or to those around them—tend also to evoke negative emotions of fear, sadness, anger, disgust, or loss. Advertisements focusing on the benefits of quitting and those providing information or support for quitting tend to evoke positive emotions such as humor, pride, and hope. Advertisements that focus on the social consequences of smoking—both negative (e.g., peer disapproval, cosmetic effects) and positive (e.g., athletic achievement, peer acceptance)—also tend to evoke positive emotions. Advertisements that focus on anti-industry messages are more difficult to summarize. Some attempt to evoke anger and outrage by showing that tobacco companies are aware of the harms of tobacco, whereas others use parody to evoke humor.[99,103,105]

The valence of emotion evoked in advertisements tends to be correlated with the amount of emotion inspired, such that advertisements evoking negative emotions are rated as more "moving" or "powerful" than those inspiring positive emotions.[103,105]

Furthermore, format and content tend to be related. Personal testimonials from "real people" (nonactors) are most often used to illustrate negative health consequences of smoking. Visceral imagery also is associated with health consequences. Humorous advertisements usually are staged with actors or use a fantasy approach. Consequently, it is unclear whether the relatively successful performance of advertisements focusing on negative health consequences of smoking through testimonials or visceral negative imagery is due to the theme, format, negative emotion, or level of emotion, or some combination of these factors.

Arousal, Negative Emotion, and Advertising Impact

In advertising theory, for an advertisement to be effective it must first be attended to, then decoded and understood, and ultimately acted upon.[93,117] Following the work of Miller,[118] Lang and colleagues[119] maintain that viewers have a finite mental capacity for these activities. Those cognitive resources are distributed to a number of potential sources of incoming information in the environment. The viewer's interests, motivations, and needs play a role in how those resources are allocated. However, Lang and other colleagues[120,121] have demonstrated that automatic responses to the content and structural features of what is broadcast control these processes to some extent. These researchers conducted a series of experiments on the role of level of arousal and valence of emotion on attention to and memory for media messages. This research helps account for the consistent finding that antitobacco advertisements that perform well in immediate ratings and indicators of message processing evoke high levels of negative emotion using personal testimonials of loss and pain; include graphic shots of diseased bodily organs; or use other strategies that arouse anger, disgust, fear, or sadness.

By using physiological measures of attending to and processing information (i.e., reduced heart rate and slowed reaction time on a competing task), experimental studies have demonstrated that broadcast messages with negative emotional content elicit greater attention than those without such content.[119,122] The researchers reiterate that negative messages usually are more arousing than positive ones and that arousing messages are remembered better than less arousing ones.[119,121] When the arousal level of a message with positive emotional content could be raised to equal that of a message with negative emotional content, the positive messages were remembered better than the negative ones.[121] If an antitobacco advertisement with positive emotional appeal could be constructed so that the level of emotion evoked was very high, it could perform as well as one with negative emotional appeal. The studies reviewed here, however, suggest that this is difficult to accomplish with antitobacco messages.

Some structural features of advertisements that tend to increase the extent to which they are perceived as arousing are independent of the informational or emotional content. These include pacing, use of loud music, and cuts or edits,[120] which are linked to increased message sensation value.[123] One study demonstrated that antitobacco advertisements with more features that enhance perceived message sensation value evoke higher levels of message processing.[124] Future research should investigate whether these message characteristics can improve the impact of advertisements that use positive emotional appeals. Many organizations that resist sponsoring advertisements that arouse high levels of negative emotion would welcome this type of outcome. Administrators prefer to associate their agencies with positive

uplifting messages rather than with those that emphasize the darker consequences of health-damaging behaviors. This is true even though the latter messages demonstrate a more successful performance.

Corrective Advertising for "Light" or "Low-Yield" Cigarettes

Tobacco manufacturers have long marketed low-tar or "light" cigarettes to smokers who are concerned about the health effects of their smoking[125,126] (see chapter 5). However, authoritative reviews have concluded that low-yield cigarettes are designed to allow compensatory smoking behaviors that enable a smoker to derive a wide range of tar and nicotine yields from the same brand, offsetting much of the theoretical benefit of a cigarette with reduced tar.[127] Consequently, there is little evidence of reduced risk of disease from use of low-yield cigarettes.[127]

Despite this, studies have shown that a substantial proportion of American smokers believe that using "light" cigarettes is less risky than using regular cigarettes.[128–130] This has led some tobacco control programs to attempt to correct smokers' misperceptions through advertising.

For example, in 1994, the Massachusetts Department of Public Health aired two 30-second television advertisements about "light" cigarettes. One advertisement focused on vent blocking; that is, the small vent holes around the filters of most "light" cigarettes can dilute the inhaled smoke, but in practice smokers may block these filter holes with their fingers when inhaling, thus delivering a higher dose of smoke constituents. In the other advertisement, an animated "skull and crossbones" speaks, saying it should be—but is not—warning smokers about light cigarettes. An evaluation survey showed that within Massachusetts, compared with a nationwide sample, smokers who saw the anti-light-cigarette advertisements were less likely to think light cigarettes decreased the risk of health problems (26% versus 44%) and more likely to know of filter vents (64% versus 47%).[131] However, compared with other states, Massachusetts had other antitobacco advertising and stronger tobacco control policies that may have influenced smoking beliefs and behavior in the state. Thus, this quasi-experimental, posttest-only study provides weak evidence that the advertising may have influenced some participants' smoking beliefs and behavior.

A study by Koslowski and colleagues randomized smokers of light cigarettes who participated in a telephone survey to hear (n = 293) or not hear (n = 275) a 60-second radio advertisement cautioning that light cigarettes are no safer than regular cigarettes and that listeners should think about quitting.[131] Those who heard the advertisement were more likely to report that one light cigarette could give a smoker the same amount of tar as one regular cigarette, and 55% said the message made them feel more like quitting. Koslowski and colleagues followed up about one-half of the respondents in each group who could be contacted seven months later to determine whether there were any persistent effects from hearing the radio advertisement.[132] The message group respondents were more likely than the control group to report that one light cigarette equaled one regular cigarette in tar yield to smokers, light cigarettes did not decrease health risks, and they wanted to quit smoking. However, they did not report greater intention to quit or more knowledge of filter ventilation. These results suggest that smokers found the information in the radio advertisement important and remembered it, especially given that the information was played only once seven months beforehand.

Shiffman and colleagues also experimentally assessed responses to differently framed persuasive messages about light cigarettes. In randomized studies of radio messages[133]

and 30-second television advertising concepts,[134] smokers were most likely to change their beliefs about light cigarettes and be more interested in quitting when exposed to a message emphasizing that the sensory effect of light cigarettes can be deceptive.

Taken together, these experimental studies suggest that advertising to dispel misperceptions about light or low-yield cigarettes can improve smokers' awareness of and knowledge about these cigarettes and may move smokers toward quitting. However, studies have not yet examined quit rates among those exposed or not exposed to this type of advertising.

Tobacco manufacturers have introduced a variety of nontraditional tobacco and nicotine products that claim to reduce the risk of smoking (potential reduced-exposure products [PREPs]). As discussed in chapter 5, PREPs include Eclipse and Advance. Several studies have shown that advertising promoting these products leads smokers to consider them to have lower health risks and fewer carcinogens than do light cigarettes[135] and reduces smokers' interest in quitting.[136] Depending on the extent to which PREPs become more widely promoted and used, a future communications challenge in tobacco control will be to enable consumers to have access to risk assessments aligned with scientific evidence about the risks these products pose.

Targeting and Tailoring of Antitobacco Advertisements

Commercial advertisers spend a great deal of effort on audience segmentation (see chapter 3). This involves identifying population subgroups whose members are similar to each other and distinct from other groups along dimensions that are meaningful in the context of the product being marketed or the behavior to be changed.[137] In the realm of antitobacco advertising, major segments have been defined by age, race/ethnicity, or nationality. It is important to know whether tailoring antitobacco advertisements yields a substantial improvement in effectiveness because tailoring increases the cost of producing media campaigns.

Targeting Age Groups

Most campaigns create different types of advertisements for youth and for adults. Beaudoin[138] performed a content analysis of 197 antitobacco advertisements produced between 1991 and 1999. Among the dimensions coded were (1) the type of consequence presented (health, social, or both); (2) whether the consequences were short term, long term, or both; and (3) whether the appeal used humor, fear, sociability, or several other strategies. Beaudoin found that advertisements targeting youth commonly used sociability and humor appeals and presented short-term consequences. Advertisements targeting adults commonly used fear appeals and addressed the long-term health consequences.

At first glance, these differences seem logical and appropriate. Some common objectives for youth and adult advertisements exist (e.g., presenting cigarettes in a negative light and having the audience reject them). However, issues relevant for adult smokers (e.g., overcoming the addiction, coping with withdrawal, giving up one's "best friend")[139] are quite different from those relevant for youthful nonsmokers (e.g., appearing to be grown up, conforming to group norms, establishing an identity). However, the empirical findings presented in this section indicate that, like adults, youth tend to respond more favorably to advertisements warning of serious long-term health consequences of smoking presented in an emotionally evocative way. Several studies that explicitly compared teenagers' responses to youth-targeted versus adult-targeted advertisements

found that youth respond favorably to adult-targeted advertisements.

Wakefield and colleagues[140] showed that the adult cessation focus of the Australian campaign ("Every Cigarette Is Doing You Damage") was as likely as a teen-focused campaign to make teenagers in South Australia feel they should not smoke. This was true despite the teen campaign's favorable pretesting with a youth audience. By using national and state survey data in Victoria, Australia, White and colleagues[141] found that youth perceived the adult campaign as relevant to them and effective in promoting antismoking attitudes.

Schar and Gutierrez[142] describe an evaluation of the English testimonial campaign that targeted adults and featured a 34-year-old man with lung cancer and a teenage girl speaking about her father who has lung cancer. Surveys of youth (11–15 years old) and adults indicated comparable levels of campaign awareness and perceived effectiveness among the two groups.

Considerable debate has occurred about whether tobacco control campaigns should focus primarily on youth (because most people initiate smoking before age 18) or on adults.[107,143] The findings reported here suggest that an adult-targeted campaign appears to be as effective in communicating with youth as with adults. This may be due to such adult-targeted campaigns changing broader social norms about smoking.[107]

Targeting by Race/Ethnicity or Nationality

Antitobacco media campaigns are believed to be more effective if they are tailored to the cultural values of various targeted racial and ethnic groups.[144] Members of different ethnic groups have different beliefs and attitudes about the social appropriateness of smoking, associated risks, and acceptability of using professional help.[145,146] Therefore, tailoring messages in a manner that takes those differences into account would appear to increase an advertisement's effectiveness. There is a surprising dearth of empirical support for this hypothesis, however. Very few campaign evaluations pit a general-audience message against a tailored message to compare audience reactions.

Several studies of youth have demonstrated that advertisement characteristics are more important than either ethnicity or nationality in determining participants' reactions to antitobacco advertising. Farrelly and colleagues[147] conducted a content analysis of 51 advertisements broadcast by Legacy ("truth" campaign), Philip Morris ("Think. Don't Smoke"), and Lorillard ("Tobacco Is Whacko if You're a Teen"). Advertisements were coded as to message sensation value, an index of features believed to elicit arousal reactions: number of cuts, use of loud music, surprise endings, intense visual images, and theme (e.g., long-term versus short-term health effects, industry manipulation, smoking as a personal choice). Repeated cross-sectional telephone surveys of white, African American, Hispanic, and Asian youth assessed recall and appraisal of varying groups of advertisements. Multivariate analyses demonstrated that advertisement characteristics were more important than audience race/ethnicity as a determinant of appraisal.

Wakefield and colleagues[100] repeated in Australia and Great Britain the study in the United States described earlier.[99] In that study, groups of young people viewed and rated a series of counteradvertisements and were reinterviewed by telephone one week later to determine which of the advertisements were recalled and had stimulated further thoughts. The purpose of this study was to determine whether youth of different nationalities responded similarly or differently to antitobacco advertisements. The researchers found that participants in these three English-speaking countries responded in very similar ways

to the advertisements. As was true in Chicago and Boston, youth in Australia and Great Britain responded not to the theme or target audience but to the arousal characteristics of the advertisements.

These findings suggest that advertisements that perform well on immediate ratings and indicators of message processing tend to do so among many population subgroups. This implies that the added expense of designing tailored executions for small subgroups may not need to be incurred. The findings also suggest that advertisements can be shared, at least among more-developed countries, provided language requirements can be met. This could reduce costs in areas where funding for tobacco control advertising is scarce. At this point, research is inadequate to generalize to less-developed nations.

New-Media Interactive Health Communications for Smoking Cessation

Interactive health communications (IHC), also called "consumer health informatics" and "eHealth," can include the Internet, personal digital assistants, computer-tailored print materials, interactive voice response, computer-driven kiosks, and CD-ROMs. This section, however, focuses on the Internet as the leading instantiation of IHC, given its ready accessibility to smokers.

The proportion of adults (18 years and older) in the United States with Internet access in 2007 exceeded 72%.[148] The proportion of adults with home Internet access increased from 56% in 2001 to 65% in 2007.[148] Moreover, the number of hours spent online by adult Internet users increased from 9.7 hours per week in 2001 to 15.9 hours per week in 2007.[148] In a Pew survey[149] of U.S. adults with access to the Internet, 63% reported using the Web to obtain information on a specific disease or medical problem and 6% had used the Web for information about how to quit smoking. A study by Biener and colleagues of 787 Massachusetts adults surveyed in 2001–02 who had quit smoking in the past two years found that 3.9% had accessed a Web site for help to quit compared with 0.8% who had accessed telephone quitlines.[116] Although more than four times as many former smokers had accessed the Internet than had used telephone quitlines, almost all of those who accessed these sources of help reported them to be helpful.

Those who are less likely to access the Internet tend to be less educated, African American, and 65 years or older.[150] In addition, population survey data from the Health Information National Trends Survey indicate that smokers who use the Internet are more likely to have higher income and be employed, despite being younger, compared to smokers who do not use the Internet.[151] This study also found that Internet-connected smokers reported less psychological distress, fewer barriers to health care, and a greater interest in quitting smoking.

Why do people use the Internet as opposed to other sources of assistance and information? An earlier Pew report[152] found that of those using the Internet for health information, 93% thought it was important to obtain the information at any convenient hour and 80% liked the ability to obtain health information anonymously without having to talk to anyone. In addition, cigarette smokers who use the Internet have expressed a desire for anonymity and noted discomfort in speaking with human counselors.[153]

While the reach of public Internet sites for smoking cessation appears to be high relative to alternative treatment modalities, the quality of these sites remains largely

untested. In a systematic analysis of the content, quality, and usability of smoking cessation treatments on the Internet, Bock and colleagues[154] found that 80% of such sites failed to address one or more key components of recommended smoking cessation treatment guidelines, with the interactive nature of the Internet generally ignored. In reviews of computer-generated health behavior change interventions, the application of theoretically informed approaches for health behavior change and/or decision making has been found to be poor or nonexistent.[155] A key concern is that individuals with limited understanding of smoking cessation theory and practice generate most of the information on the Internet. Thus, digital "pamphlet racks" persist as the most common type of smoking cessation Internet sites because they are easy to build. Unfortunately, research on Internet-based health programming continues to focus on these simple information transfer models.[156] The Internet and IHC in general, providing they are informed by smoking cessation theory and research, offer greater potential than a simple clearinghouse of smoking cessation pamphlets.

Bock and colleagues[154] provide an excellent review of, and criteria for, Internet-based smoking cessation programming. This section focuses instead on: (1) ideas for advancing smoking cessation programming using IHC's interactive capabilities, (2) the dissemination of these programs, and (3) the future of such programs.

Types of Interactivity

A key advantage of IHC is its interactivity within a mass audience, reflecting how individuals normally seek help and advice. Four types of interactivity relevant to smoking cessation programming are (1) user navigation, (2) expert systems, (3) collaborative filtering, and (4) human-to-human interaction.

User Navigation: A Vast Library at Users' Fingertips

The interactive strategy most commonly used on the Internet requires users to search through the Internet, identifying what they consider as the most relevant sites and information within those sites. Once in a site, users search for the information relevant to their needs and interests. Similar to a library, the Internet has methods of searching for the large amount of available health information. Also like a library, however, the Internet does not automatically make available the best information or advice that an individual needs at a particular time.

A number of studies in the general non-Internet-specific educational literature have found that, when compared with fixed sequencing of instructional material, user control results in deviations from important information or methods of instruction and subsequent lower performance.[157–161] Users who begin a program with low levels of knowledge or ability about the subject matter appear to perform even more poorly in user-navigated environments.[157,159,162]

Applying these findings to the area of IHC, it seems plausible that users with little prior knowledge, experience, or perceived competence might be less successful with user-navigated IHC programming. As discussed in the next section, IHC programming that provides guidance tailored to an assessment of needs and interests may help users become more effective and efficient in their search process.

Expert Systems: When a Counselor Is Needed

A second interactive approach, closely approximating a counseling experience, is termed an *expert system.* These systems, which have undergone more experimental research than any other IHC system,

attempt to apply an expert's assessment, decision rules, and feedback strategies to software. The expert systems tested in the health behavior area typically require (1) a collection of characteristics, at an individual level, relevant to the targeted behavior change; (2) an algorithm that uses these data to generate messages tailored to the specific needs of the user; and (3) a feedback protocol that combines these messages in a clear, vivid manner. The inferences made from the data are an attempt to reflect standards of a human expert.[163,164]

Over the past 10 years, expert-tailored print interventions for smoking cessation have been developed and evaluated in diverse settings. Some of these tailored programs have been migrated to the Internet after testing in non-Internet-based settings, such as by telephone or print-mediated delivery systems.[165–167] A generally positive body of evidence demonstrates the efficacy of print-based, computer-tailored smoking cessation interventions in adults.[168] In a Cochrane Collaboration meta-analysis of smoking cessation materials developed by expert systems, Lancaster and Stead[168] found an average odds ratio (OR) of 1.42 (95% confidence interval [CI], 1.26–1.61) for such materials compared with untailored or stage-matched materials in 17 trials. The evidence was strongest for tailored materials compared with no intervention but also supported tailored materials as more helpful than standard materials. The review concluded that part of this effect could be due to the additional contact or assessment required to obtain individual data.

Results of two randomized clinical trials of Internet-based expert systems for smoking cessation have been positive and consistent with the results of computer-tailored print materials. In a randomized clinical trial of visitors to a smoking cessation Web site, Etter[165] found an OR (7-day point-prevalence abstinence) of 1.24 (95% CI, 1.08–1.43) 10 weeks after program entry. The study compared an Internet-based program tailored to coping strategies, health risks, nicotine dependence, and use of NRT with an Internet-based program focusing largely on nicotine dependence and use of NRT.

In a study of nicotine patch users, Strecher and colleagues[166] found an OR (10-week continuous abstinence) of 1.33 (95% CI, 1.13–1.57) 12 weeks after program entry. This study compared an Internet-based program tailored to the individual's self-efficacy deficits, cessation motives, smoking history, social support, and health risks against an Internet-based program with a very similar graphic design but untailored smoking cessation information. The results of this study were very similar to those found in two previous trials of tailored print materials tested among NRT users.[169,170]

Will underserved individuals, particularly those with low literacy skills, respond to tailored materials? A noteworthy study by Lipkus and colleagues[171] found a significantly higher cessation rate among low-income and indigent African-American smokers receiving tailored smoking cessation materials plus provider advice than among those who received provider advice alone. Supporting these results, McDaniel and colleagues[172] found high satisfaction among 100 low-income inner-city female smokers who participated in a usability study of an interactive, computer-mediated smoking cessation program in Indianapolis, Indiana. At a one-week follow-up, there was a significant decrease in favorable attitudes to smoking and an increase in cognitive change processes related to smoking. However, a challenge for the reach of these kinds of programs is that low-income populations have less access to the Internet.[173]

With increasing reach and greater potential for interactivity and lower cost, expert systems delivered via the Internet offer significant potential for smoking cessation.

Further published controlled trials of Internet-based expert systems in this area are greatly needed. One barrier to conducting these studies is the complexity of building expert system interventions on the Internet. This situation is likely to improve as content management systems and tailoring of application frameworks are further developed and implemented.

Collaborative Filtering: What Other Smokers Like You Are Doing to Quit

It is common to use the actions and subsequent outcomes of peers to inform one's own decisions. A local bookseller may say, "I know six other customers like you who enjoy John le Carré mysteries.… They're now really reading this new Tom Clancy novel." Using a similar approach, a collaborative filtering system on the Internet is able to convey that, "We have six hundred thousand other customers who, like you, enjoy John le Carré mysteries.… Many of them are now reading this new Tom Clancy novel."

Larger numbers of individuals allow greater discrimination in filtering, with the potential for creating more useful advice. Collaborative filtering on the Internet could match coping strategies and preferences of similar smokers with specific needs and interests. For example, a female smoker in her late 20s who is trying to quit but worried about gaining weight could be linked to coping strategies of other women of similar age, diet, and physical activity levels who have successfully maintained their weight while quitting smoking. At present, however, in the field of health-related behavior, the application of this concept has yet to be subjected to formal research inquiry.

Human-to-Human Interaction: A Channel for Social Support

Evidence for integrating social support, or "buddy systems," into smoking cessation programming is decidedly mixed.[174] Notable examples of improved short-term outcomes from buddy systems exist.[175] However, a review of 10 studies examining social support and buddy systems found only 2 that demonstrated even short-term positive effects. Nonetheless, it is possible that such systems work well for a small proportion of smokers who need this type of assistance.

Online support groups give users a convenient way to provide and receive informational and emotional support.[176,177] The 24/7 accessibility of online support may be a significant advantage to smokers. Again, anonymity is a frequently cited benefit of computer-mediated groups. As one participant stated in the study by Shaw and colleagues, "It's a gift to be able to tell people as much or as little as you want about yourself."[177(p.141)] No study could be found that examined the reach or effectiveness of online discussion groups for smoking cessation. Although some have questioned the reach of face-to-face group cessation programs,[178] the anonymity and convenience of online groups might encourage participation among many people who would not normally use a face-to-face group.

Another human-to-human interaction relevant to IHC involves online therapists. This approach is similar to the model for telephone hotlines that involve counselors or information specialists and could be proactive or reactive, although this has not yet been reported in the literature. Outside the field of tobacco control, however, Tate and colleagues[179] found that using an online counselor with an Internet-based weight loss program significantly contributed to 12-month weight loss compared to the Internet program alone. Online Internet interactions with smoking cessation counselors offer significant convenience to both the user and counselor. They also may offer an added degree of anonymity and therefore the possibility

of more honest expressions of behaviors, attitudes, and emotions. As is the case with telecounseling services, however, proactive online therapy could be difficult and expensive to disseminate with high quality to large populations of smokers.

Dissemination of Interactive Health Communications

Adoption, implementation, and maintenance of high-quality IHC for smoking cessation through clinical practices, health maintenance organizations, voluntary health organizations, state and federal agencies, and employers will evolve only when such programming has been demonstrated to have several capabilities. These include (1) high reach to the population in need, (2) high efficacy in achieving desired outcomes, and (3) low cost. Decision makers will require a greater understanding of the importance of theoretically and empirically informed programming in achieving desired outcomes.

Many larger health organizations typically prefer to create their own smoking cessation materials. However, they are beginning to understand that developing Internet sites that extend beyond the digitization of their pamphlets involves significant expertise, effort, and expense. IHC development for smoking cessation is most likely to be accomplished by for-profit companies and large nongovernment organizations. These organizations would need to devote significant resources to development but offer the final programming to millions of smokers at a very low per-person fee.

Innovative financial models for Internet dissemination may move from per-user fees to fee scales based on the size of the population. This approach encourages the organization licensing the software to promote the cessation programming to the largest number of smokers, lowering the per-user fee with every new participant.

To maximize its acceptability to funders and potential users, IHC programming would need to run without significant problems, work for a variety of user interfaces (e.g., operating systems and connection speeds), and work well under extreme loads. Crossing the chasm from research prototype to real-world product is a huge endeavor, and partnerships with the IHC industry are considered advisable.

Future Directions for Interactive Health Communications

The IHC field continues to change rapidly with respect to information technologies, access to these technologies, and consumer attitudes toward the technologies and associated interventions. Many studies published even a few years ago used information technologies that now are dated among subjects with different attitudes toward the technology. For example, early research on even crudely tailored print materials for smoking cessation may have found positive outcomes due to the central processing of information considered novel and interesting to the user.[180] However, it is likely that most people have tired of receiving countless “Hello <your name>!” materials through the Internet and conventional mail.

Scientists and others have not fully explored the potential factors relevant to tailored IHC. The idea of tailoring interactive programming to the learning style of the user is not new,[181] but it has yet to elicit research interest. Other individual characteristics that may be considered relevant for tailored communications include previous experience with smoking cessation, perceived competence, cultural factors, self-efficacy, need for cognition, motivation, and locus of control, among many others.

An interesting area of research within this field moves beyond the Internet to

technologies that allow more-immediate methods of data collection and feedback.[182] Collection of data in real time from a real-world environment may offer the possibility of instantaneously providing tailored feedback within that environment through call phones, pagers, and other devices. Additional ideas for enhancing interactivity and studying effects on users have been discussed elsewhere.[183–187]

More difficult to predict are the emergent interactions among consumer health informatics systems discussed in this section and medical informatics (e.g., electronic medical records), bioinformatics (e.g., genomics), and public health informatics (e.g., surveillance, epidemiological). These interactions should provide greater efficiencies and effectiveness at both clinical and population levels.

Summary

Media interventions have become a key component of tobacco cessation efforts over the past four decades. A wide variety of antitobacco media campaigns have been broadcast in the United States and other countries, with television advertising being the most commonly selected medium. Advertisements have used a range of different themes and executional formats and have targeted different population subgroups, such as adults or youth, and various racial/ethnic groups.

The U.S. population is exposed to a wide range of antismoking messages in the media. These include television advertisements from state and national tobacco control campaigns, commercial advertising for smoking cessation products, and advertisements advocating youth smoking prevention from tobacco companies.

A strong evidence base is emerging for antitobacco advertising, with a consensus that advertisements that arouse strong negative emotions perform better than those that do not. These advertisements tend to depict serious harm done by smoking or secondhand smoke in an authentic way and sometimes include depictions of tobacco industry awareness of the dangers of smoking. Experimental research on information processing supports the hypothesis that advertisements that evoke high arousal will receive greater viewer attention and will be remembered more readily than those that do not. Further, negative content tends to produce higher levels of arousal than does positive content. Targeting these types of advertisements to specific demographic groups remains an area for future study. However, there is evidence that the content of these advertisements is more important than such targeting. In particular, youth notice, understand, and are positively influenced by adult-oriented antitobacco advertisements.

With the increasing reach, interactivity, media richness, and speed of the Internet, greater research attention could be focused on its efficacy and "active ingredients" to promote and maintain smoking cessation. More than four times the number of smokers appear to use the Internet for help in quitting than to seek help through quitlines.[116] Yet, the quality of publicly available cessation services on the Internet generally is poor and lacks evidence-based content. Looking toward the future, new-media channels for IHC include tailored print materials and tailored Web-based programs. Although not directly compared, reviews of each independently suggest that the effectiveness of tailored print materials for smoking cessation may be nearly equivalent to other high-reach but more expensive smoking cessation programming (e.g., quitlines). Further research is needed to examine expert systems and other interactive approaches among smokers requiring the greatest assistance in quitting.

Conclusions

1. From their beginnings with the successful 1967–70 application of the Fairness Doctrine to cigarette advertising in the broadcast media, media interventions for tobacco control have evolved to become a key component of tobacco control efforts. These interventions have been aided by funding from the 1998 Master Settlement Agreement.
2. Media channels commonly used for tobacco control advertising include television, radio, print, and billboards. Much research on tobacco control media interventions revolves around television, regarded as the most powerful medium.
3. Public-health-sponsored antitobacco advertising has included themes such as the health risks of smoking, exposure to secondhand smoke, questioning the accuracy of tobacco industry communications, and the declining social acceptability of smoking. Other forms of smoking-relevant advertising include advertisements for commercial smoking cessation products as well as the tobacco industry's youth smoking prevention and adult cessation programs.
4. Numerous studies have shown consistently that advertising carrying strong negative messages about health consequences performs better in affecting target audience appraisals and indicators of message processing (such as recall of the advertisement, thinking more about it, discussing it) compared with other forms of advertising, such as humorous or emotionally neutral advertisements. Some of these negative advertisements also portray deception on the part of the tobacco industry. Advertisements for smoking cessation products and tobacco-industry-sponsored smoking prevention advertising have been shown to elicit significantly poorer target audience appraisals than do advertisements based on negative health consequences.
5. Studies have shown that particular characteristics of advertisements (such as those eliciting negative emotion) are more important than demographic factors (such as race/ethnicity, nationality, and age group) in driving immediate advertising-related appraisals and indicators of message processing.
6. Because many smokers search the Internet for help to quit, interactive Web-based health communications may have potential for assisting smoking cessation. However, these services need to be informed by smoking cessation theory and research and structured to expose users to appropriate information.

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