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Future Directions

Mass media have been used both to encourage the growth of tobacco use over past decades and to contribute to tobacco control efforts, and today the media remain a key factor in reducing the public health burden of tobacco. This concluding chapter examines areas for future research and action based on the findings of this monograph across two fundamental areas of interest:

- *The role of media in tobacco promotion, including marketing practices such as price discounting, point-of-purchase displays, and cigarette packaging; depictions of tobacco use in entertainment media; and the public relations efforts of the tobacco industry, as well as measures to counteract tobacco promotion*

- *The impact of media as a vehicle for tobacco control efforts, including media advocacy, understanding the effects of tobacco-related news coverage, paid promotional campaigns for prevention and cessation, corrective advertising designed to counter tobacco industry claims, and the potential for better use of alternative channels such as online media, as well as measures to counteract tobacco promotion, such as the World Health Organization's Framework Convention on Tobacco Control*

To further inform tobacco control policy and program decisions, more research attention should be paid to the inherently dynamic interplay between the forces driving tobacco promotion and tobacco control.

Introduction

During the past four decades, great strides have been made in understanding how tobacco promotion increases the likelihood of tobacco use and how tobacco control media interventions can reduce tobacco use. A fundamental theme of the work reviewed here is the great agility of tobacco companies in using a variety of communication channels, strategies, and rhetorical devices to continue to sell tobacco products, frame the public debate on effects of tobacco use, and influence key stakeholders. These stakeholders include the media, policymakers, activists, scientists, and other opinion leaders. The evidence presented in this volume illustrates the ability of tobacco companies to anticipate, or at least keep in step with, tobacco control policies and limits on tobacco promotion and evolve their strategies accordingly. When one channel has closed or become limited, tobacco companies have nimbly switched to different channels to promote tobacco products and protobacco ideas.

This volume offers important lessons in how the media could be harnessed to further reduce tobacco use in the United States, and these lessons have implications for other nations seeking to achieve the same aim. Despite this extensive body of work, a considerable amount of research remains to be done, partly because the relationship between tobacco promotion and tobacco control is dynamic: Action in one area produces change in another. As long as tobacco companies are able to develop new tobacco marketing strategies to circumvent tobacco control measures, the need for monitoring, research, and policy advisement continues.

More broadly, the need for research continues as the communications environment becomes ever more complex. A growing range of communication channels and information-delivery systems provides increasing opportunities for tobacco companies to target communications to consumers, sometimes with little oversight from policymakers, regulators, or those working in tobacco control. The fragmentation of audiences across this proliferation of channels also means that those working to stem tobacco use must consider a bewildering number and variety of communication channels to run campaigns and deliver antitobacco messages. Limited funds and resources are further strained, and efforts to monitor tobacco promotion become more complex.

The growing socioeconomic disparity in tobacco use is another important trend with implications for study of tobacco-related media communications. In general, tobacco users are more likely to be among the groups that are disproportionately deprived in social and economic areas.[1] At the same time, increasing globalization, proliferation of communication channels, and movement across global borders mean that nations with weaker tobacco control efforts, usually low-income countries, are most susceptible to the effects of tobacco marketing.

A more vigorous, systematic, and empirical research agenda can further understanding of how mass communications contribute to tobacco promotion and tobacco control. Against this background, this final chapter discusses future directions for such media and communications research.

Future Directions to Address Tobacco Promotion

A major conclusion of this volume is that cigarettes are one of the most heavily promoted products in the United States. Expenditures in 2005 were $13.5 billion (in 2006 dollars) ($37 million per day

on average) for cigarette advertising and promotion. The information on tobacco marketing in the chapters of this volume plainly demonstrates the evolution of these practices in response to imposed tobacco marketing restrictions. In general, there is abundant evidence that tobacco companies failed to adhere to voluntary agreements on tobacco marketing (see chapter 3). However, once one avenue for tobacco marketing is closed by an imposed restriction, the attention of the tobacco companies shifts to alternative media to generate exposure to tobacco brands. For this reason, partial restrictions on tobacco marketing have limited effectiveness in reducing tobacco use and consumption (see chapter 7). Only comprehensive restrictions can achieve this aim.

Because restrictions were imposed on tobacco marketing through television, radio, and billboard advertising, alternative avenues for tobacco marketing have emerged in the United States. First, the tobacco industry has seen a huge shift in marketing expenditures toward the point of purchase (POP, see chapter 4). Second, cigarette packaging has assumed a more significant role in communicating the brand image of tobacco products (see chapter 4). Third, sponsorship of events by tobacco companies, to promote both tobacco brands and corporate image, has increased substantially (see chapters 4 and 6). Depiction of smoking in movies, including use of cigarette brands, has also become more prevalent and is a risk factor for youth smoking (see chapter 10).

Price Discounts

More than 70% of tobacco industry expenditures on advertising and promotions are used to provide price discounts (see chapter 4). Research is needed to increase understanding of the ways in which these price discounts interact with other promotional strategies to influence tobacco

use. Research has provided convincing evidence that the tobacco industry has modified marketing strategies in step with the extent of tobacco control. For example, cigarette sales promoting price discounts to add value (e.g., "Buy one pack, get one pack free") are more likely in states with higher amounts of tobacco control funding and higher cigarette taxes.[2] To the extent that such marketing strategies undermine the benefits of tobacco control programs and policies such as cigarette tax increases, these findings are considerable cause for concern and underline the importance of developing effective policy limits on tobacco marketing.

Point-of-Purchase Tobacco Marketing

At the POP, in addition to tobacco promotions, the tobacco industry also relies on optimal placement of cigarettes near the cash register for maximum exposure. As detailed in chapters 4 and 7, research demonstrates that the placement of tobacco in convenience stores beside candy and everyday consumer goods increases the sense of "friendly familiarity" with tobacco, increases youth perceptions of high smoking prevalence, and may increase the likelihood that youth will initiate smoking.

In countries where restrictions on tobacco marketing are more extensive than in the United States, the POP environment has seen the emergence of ever-larger advertising signage and huge power walls of cigarette-packaging displays provided by tobacco companies (see chapter 3). These kinds of POP strategies have yet to fully evolve in the United States. In countries such as Australia and Canada where POP tobacco advertising and promotions were eliminated, policies to remove tobacco from the line of sight are beginning to be implemented.[3]

Research on the POP environment that could further inform the field includes studies on the relationship between exposure

to POP tobacco promotions and advertising and youth smoking attitudes and behavior. Especially important are studies with longitudinal or time-series designs. Studies that use eye-tracking methods[4] could help to ascertain what kinds of POP advertising and display configurations are most attractive to youth. In addition, studies could assess the effect of POP advertising and packaging displays on the urge to buy cigarettes among adults attempting to quit smoking and among recent quitters. Exit surveys of store customers, population surveys, self-completion diary studies, qualitative studies, and experimental studies of the urge to smoke in smokers randomly assigned to view photographs of POP displays might further examine (1) the extent to which POP strategies influence regular smokers or persons experimenting with smoking or (2) whether some subgroups, such as low-income smokers or young adults, may be most responsive to POP marketing practices for tobacco sales, as suggested in a cross-sectional study by White and colleagues.[5] Brain-imaging studies may also be helpful to gauge the levels of neurological arousal evoked by various POP configurations (see "Need for Emotionally Evocative Advertising" later in this chapter).

Beyond individual outcomes, more studies are needed on POP marketing strategies, restrictions on them, and cigarette sales data, which primarily reflect adult smoking. Studies of cigarette sales data might analyze sales volume data from convenience store or supermarket scanners. Only one relatively small-scale study of cigarette sales data at the retail level has been performed.[6]

Cigarette Packaging

The tobacco industry has placed a much greater reliance on cigarette packaging as a form of marketing as traditional avenues for promoting tobacco use became unavailable (see chapter 4). Cigarette packaging is designed to create and reinforce brand imagery and, because of the increasing importance of the POP in tobacco marketing, to promote greater salience of the brand family in POP retail displays. Cigarette packaging is all the more important because, unlike other consumer-product packaging that is discarded after purchase, cigarette packs are taken out and may be displayed whenever a cigarette is smoked.

Research on perceptions about popular cigarettes, including those that appear to communicate reduced harm, could provide helpful information on youth perceptions and misperceptions of particular brands. Youth-oriented education and advocacy that have sought to publicize tobacco industry marketing approaches might focus on how tobacco companies use packaging to entice young consumers to their brands. Adult smokers might also benefit by better understanding how tobacco companies seek to reassure them about health concerns through clever cigarette packaging (see "Corrective Advertising About Tobacco Industry Product Claims" later in this chapter).

Additional areas for future research include the following:

- Exploring how packaging and price work in concert to drive brand selection, especially among low-income consumers

- Studying the extent to which the design of cigarette packs elicits physiological responses that may lead to cognitive, affective, and attitudinal outcomes

- Understanding how tobacco companies have worked to design packaging that obscures or minimizes required health warnings or labeling information about the constituents of tobacco products or cigarette smoke

- Examining the effectiveness of tobacco company statements about health or packaged messages such as Philip Morris's "onserts"[7] in communicating health risks

The United States lags behind nations that have introduced graphic pictorial health warnings on tobacco products.[8] Government-mandated pictorial warnings have been shown to garner greater attention and to communicate risks more effectively than do written health warnings.[9–12] Studies comparing U.S. health-warning statements on cigarette packs with those in other countries would add to the evidence base for stronger warnings for U.S. smokers.

Entertainment Media

Youth are frequently exposed to depictions of smoking in entertainment media (see chapter 10). The prevalence of smoking is overrepresented in movies, and identifiable cigarette brands appear in about one-third of movies. Smokers in movies are more likely than smokers in real life to be affluent and white. Experimental studies demonstrate that depiction of smoking in movies enhances the perception that smoking is normal and desirable and increases intentions to smoke. The association between exposure to depiction of smoking in movies and youth smoking initiation lends weight to the justification for efforts to reduce movie depictions of cigarette smoking and youth exposure to them (see chapter 10). Proposals for action have focused on the individual, family, and societal levels, including improving the media literacy of youth; encouraging greater parental responsibility for restricting youth viewing of R-rated movies, which depict smoking more commonly; and placing an R rating on movies featuring tobacco use.

Although clear and consistent evidence indicates that exposure to smoking in movies increases the likelihood of youth smoking initiation, research has yet to determine the role smoking in movies plays (1) in the transition from experimental to regular smoking in youth and young adults, (2) in prompting relapse among former smokers, or (3) in making it more difficult for smokers to quit. Descriptive studies suggest that the effects of adolescent exposure to smoking in movies can be decreased (1) by motivating parents to restrict access to such movies or (2) by teaching adolescents to evaluate smoking in movies with more skepticism through training in media literacy.[13] However, no published intervention studies have evaluated these hypotheses.

Tobacco exposure in online media remains an area for further study (see chapters 4 and 10). YouTube,[14] the free video-sharing Internet site, has hosted advertisements by the Office of National Drug Control Policy[15] as well as protobacco material.[16] The extent to which tobacco is promoted on other Web sites for social networking is also a topic for future research.

Video games are emerging as a prime medium for marketing products to youth.[17] Only limited research has assessed the extent and effects of tobacco use in video games (see chapters 4 and 10).[18] More research attention could be paid to (1) tracking tobacco involvement in video games over time, (2) the reasons for tobacco involvement (e.g., paid promotions or tobacco use by game designers), and (3) the effects of video-game tobacco use and cigarette brand identification on smoking-related attitudes, intentions, and behaviors of consumers.

Tobacco Company Public Relations Strategies

Because of the tobacco industry's history of concerns about corporate image and the investment of significant resources to remedy those concerns (see chapter 6), its use of the media for public relations warrants scrutiny. This issue is particularly important because corporate-image and industry-sponsored campaigns to prevent youth smoking may engender

sympathy for tobacco companies,[19,20] and favorable attitudes toward the tobacco industry are related to increased likelihood of youth smoking initiation.[21] These industry campaigns could also dampen motivation to quit smoking or undermine support for tobacco control policies. One possible direction is for the Federal Trade Commission (FTC) or another governmental agency to monitor the tobacco companies' annual expenditures for advertising and promoting corporate brands as the FTC does for cigarette and smokeless tobacco advertising and promotion.

Future research could measure public opinion about tobacco companies, public support for tobacco control policies, and their relationship with exposure to corporate advertising, including tobacco company-sponsored ads for prevention of youth smoking and Web-based messages on smoking cessation from tobacco manufacturers. Research could also examine the link between exposure to corporate-image campaigns and adult smokers' intentions and behaviors related to quitting smoking. Evidence indicates that shaping a positive or negative corporate reputation directly affects consumers' responses to a company's brand advertising.[22,23] Research is needed to assess more directly the role of corporate-image advertising in opposing more restrictive laws and regulations as well as possible intermediate effects. For example, researchers might study the views of leaders of societal opinion or media gatekeepers (e.g., newspaper editors or columnists) and relate corporate-image campaigns to these gatekeepers' attitudes about the tobacco industry and strength of support for tobacco control policies and tobacco control funding.

Media campaigns for prevention of youth smoking that are sponsored by tobacco companies have a face-value message that tobacco companies do not want youth to smoke. Statements against self-interest tend to increase the perceived trustworthiness of the source of the statement.[24] Thus, these media campaigns serve as a highly effective public relations tool for the tobacco industry. Because peer-reviewed, population-based research has convincingly demonstrated that these campaigns have negligible or adverse outcomes on youth smoking,[20,25] tobacco company-sponsored media campaigns on preventing smoking or promoting smoking cessation require careful scrutiny. As part of a broader approach to media literacy, tobacco control programs might create ads that highlight the ineffectiveness of the industry's ads in prevention of youth smoking and emphasize their public relations value to the industry in an effort to educate the community about the purpose of public relations.

Additional research is needed to understand for which audiences and under what circumstances exposure to such messages dilutes or undermines the demonstrated beneficial effects of media campaigns sponsored by the public health community. For example, population subgroups with lower socioeconomic status (SES), which have the highest prevalence of smoking in industrialized countries, may have more difficulty sorting through complex health messages[26] and reconciling conflicting messages. Research is needed to assess the effects of corporate-image campaigns and tobacco company-sponsored smoking prevention campaigns on smoking-related attitudes and behaviors among adults in different SES subgroups. States with high levels of exposure to media campaigns on tobacco control, especially ads featuring the manipulative nature of tobacco companies, may be more protected from the adverse effects of campaigns sponsored by the tobacco industry. A cross-sectional study by Hersey and colleagues[27] suggests this conclusion, but longitudinal research and time-series studies could be undertaken to more thoroughly examine this important question.

The global impact of these types of public relations activities is another important area for future study. In the United States, the extent of mass-media advertising paid for by tobacco companies is far greater than in any other country. This advertising has introduced a unique aspect to the ever more cluttered media environment that is not present to the same extent in any other country, so lessons learned in the United States may not apply worldwide. Future research could examine how multinational tobacco companies use public relations advertising to manage corporate image in other markets and could compare the behaviors and reputations of the tobacco industry in the United States with those in other countries.

Issues in Cross-National Tobacco Promotion and Tobacco Control

The World Health Organization's Framework Convention on Tobacco Control (FCTC)[28] directs countries to undertake a comprehensive ban on all tobacco advertising, promotion, and sponsorship. Article 13 of the FCTC recognizes that some countries may be unable to impose a comprehensive ban because of constitutional principles and should therefore apply restrictions to tobacco marketing practices that are consistent with their legal environments (see sidebar on the FCTC in chapter 8).

However, Article 13 also includes several references to the need to eliminate cross-border advertising. Tobacco advertising and promotion may cross national borders through international print media, especially magazines; direct broadcast satellite linked to domestic receiving dishes; paid product placement in movies and video games; and the World Wide Web and other Internet-based communication channels. To control cross-border advertising under the FCTC, Kenyon and Liberman[29] recommend a multilayered approach

including formal law and regulation, monitoring and enforcement practices, education, and international cooperation. An FCTC guideline and protocol on cross-border advertising, promotion, and sponsorship is in development.[30] Article 13 of the FCTC seeks to curtail protobacco cues in the environment so prohealth messages can be communicated with fewer encumbrances. Finally, Article 11 of the FCTC imposes measures to ensure that tobacco product packaging and labeling do not create erroneous impressions about tobacco products. As of April 2008, the United States had not become a party to the FCTC, although 154 other countries had done so.

The continuing ability of tobacco companies to overcome limits placed on tobacco marketing, as well as the globalization of tobacco promotion, means that many tobacco marketing strategies originating in the United States have adverse consequences for other nations. At the same time, First Amendment issues (see chapter 8) complicate options for limiting tobacco marketing in the United States. Progress on these issues could be greatly facilitated by convening a panel including lawyers and experts in first amendment law, media and marketing experts, and tobacco control experts to outline how the industry might evolve its marketing tactics. Areas to address might include POP advertising and displays of cigarette packs; use of cigarette brands and tobacco company names in sponsorships; magazine advertising; and use of color, imagery, and brand slogans in cigarette packaging. Some research has been conducted on consumer response to "plain packaging" (e.g., black and white, text only).[31,32] However, more research is needed to assess the potential impact of plain packaging on smoking-related attitudes and behaviors, including the effects across sociodemographic groups. Researchers could also examine implications of tobacco marketing in the United States that extend

beyond U.S. borders, such as the influence of the Marlboro brand.

In summary, tobacco marketing is still pervasive in the United States, and it frequently exposes millions of youth and smokers who want to quit smoking to images and cues designed to promote tobacco use. It is important to recognize that tobacco control efforts occur within this environment of heavy tobacco advertising and promotional activity. The aggressiveness of tobacco industry marketing varies according to the level of tobacco control effort,[2,33] and the tobacco industry lobbies to undermine the creation, extent, and targeting of media campaigns for tobacco control (see chapter 13). This dynamic relationship between tobacco industry efforts and tobacco control efforts indicates that the balance between these countervailing forces will determine the success of tobacco control efforts.

Future Directions for Media Strategies in Tobacco Control

News Coverage and Media Advocacy

Despite general acceptance that news coverage can influence public perceptions and shape behaviors, tobacco control researchers have paid only limited attention to news coverage as a potentially important exposure variable related to changing smoking-related attitudes and behaviors in the population (see chapter 9). Although media advocacy efforts are commonly used in tobacco control, studies exploring change in volume and framing of tobacco-related news coverage in relation to those efforts are still uncommon. Research might usefully investigate the news production process to determine the issues and frames (ways of presenting arguments) that engage news

directors, reporters, and editorial staff. This investigation should be conducted in a way that could lead to greater appreciation of the complexities of tobacco control and effective remedies. The research could explore how journalists use controversial or scientifically suspect sources to provide balance in their stories and could include exploration of journalists' own knowledge and attitudes relevant to tobacco issues. Research can also help to identify underlying common frames that are communicated to audiences in news coverage. Although case studies may provide insights into new or unusual issues, closer examination of more general tendencies in news reporting is likely to be more instructive and generalizable across jurisdictions.

Studies of Audience Response to Tobacco-Related News Media Messages

Although studies of audience response to paid antitobacco media campaigns are common, little attention has been given to how news is interpreted by key population groups, including smokers in general, low-SES groups, and community opinion leaders or policymakers. Tobacco control programs usually pretest antitobacco ads to hone and improve various elements of these paid communications, but pretesting is rarely done to guide and improve media advocacy efforts. Years ago, to improve their advocacy efforts, tobacco companies used continuous tracking to study audience responses to particular spokespeople and arguments put forth in news debates.[34] Tobacco control practitioners could conduct similar pretests to select and refine ways of communicating to lay audiences and to more informed audiences of policymakers, especially for complex or controversial tobacco control issues. Nelson and colleagues[35] pointed out that a large, knowledge-generating research establishment focuses on identifying

risk factors, but a very small knowledge-use research establishment focuses on translating scientific knowledge into policy and practice. Thus, knowledge is lacking on how tobacco control evidence is disseminated and used through various media channels. Consequently, this field is ripe for research attention. This issue is particularly important for media advocacy pertaining to complex or potentially confusing issues in tobacco control, such as harm reduction strategies for smoking cessation.

News Media Effects on Tobacco Policies and Smoking in the Population

Researchers need to better understand the impact of news coverage on the likelihood of change in tobacco control policies and individual smoking behavior. Quantitative research in this area is uncommon. The application of complex statistical methods, such as multilevel analysis, time-series analysis, and event history analysis, may offer great promise for separating the effects of news coverage from those of other determinants of change in tobacco policy.[36] The 50 states and the District of Columbia and thousands of U.S. counties and cities exhibit huge variation across time and place in the extent to which audiences are exposed to news about tobacco, in the extent to which tobacco control policies have been implemented, and in smoking behavior. This diversity offers a potentially rich research environment in which to assess linkages between news coverage and both policy and behavioral outcomes.

Furthermore, most studies examined only the volume of news coverage without attention to news coverage about particular tobacco control topics or perspectives. Agenda-setting research and framing studies suggest that some kinds of news coverage may be more influential than others, so future research could examine effects of both the volume and content of news coverage on policy and behavioral change.

Studies linking news coverage on tobacco issues to attempts at smoking cessation are sorely needed. No published research is available on the extent to which news coverage about tobacco, favorable or unfavorable, might enhance or undermine effects of paid antitobacco advertising campaigns. It is important to identify best practices for cost-effective paid media campaigns. For jurisdictions with limited funding for tobacco control, such information can be helpful for guiding advocacy efforts to achieve "earned media" (i.e., unpaid coverage) as a substitute for paid antitobacco media campaigns.

For practical reasons, most research involving news media has focused on newspaper coverage of tobacco, but the changing landscape of news and "infotainment" media—encompassing television, radio, the Internet, and short message service or text messaging—also deserves attention as a subject for study. Social inequalities in news media consumption may contribute to observed disparities in smoking behavior (see chapter 2). Local broadcast and cable television news may have broader reach across the community than do newspapers as a source of news and information. Groups with lower SES may pay less attention to health-related topics in the news media or may be more likely to discount such information in favor of their social network's dominant opinions, or other factors may apply. However, high levels of media coverage of tobacco issues may attenuate disparities in beliefs about tobacco and health.[1,37] Such findings and possibilities underline the importance of media advocacy efforts as a timely area for future research.

Media Interventions for Tobacco Control

Paid mass media campaigns for tobacco control play an important role in a comprehensive tobacco control strategy.

Aside from preventing smoking uptake and motivating smoking cessation, such campaigns can be key in directing smokers to smoking cessation services such as quitlines or Web-based cessation programs. Media campaigns can also set the agenda for the passage of stronger tobacco control policies by increasing the knowledge of consumers, opinion leaders, and policymakers about tobacco control issues, including the ways in which smoking can lead to adverse health consequences, the difficulty of quitting smoking, the availability of cessation treatments, and the need for improved environmental supports to maximize the likelihood of long-term abstinence. Environmental supports include higher tobacco taxes, more comprehensive smoke-free policies, and broader restrictions on tobacco marketing. Mass media campaigns should be considered as a key component of any national or state tobacco control program.

The research based on paid mass media campaigns provides strong evidence that such campaigns decrease youth smoking uptake and prompt smoking cessation among adults (see chapter 12). Considerably more studies have been concerned with youth smoking rather than adult smoking as an outcome, possibly reflecting greater societal concern with and political palatability for tobacco control efforts directed at youth rather than adults. For two reasons, tobacco control efforts need strategies that can prompt and support adult smoking cessation. First, adult smoking patterns set the normative environment for youth smoking. Second, smoking cessation rates for adults have a much greater impact than do rates of smoking initiation for youth on short-term trends in smoking prevalence in the general population. Reduction in the prevalence of adult smoking will have the greatest impact on reducing the enormous toll of smoking-related morbidity and mortality in the near future.[38] Before the 2008 launch of the "EX" campaign by the National Alliance for

Tobacco Cessation (http://www.thenatc .org/), no national media campaign in the United States sponsored by the public health community had been broadcast to encourage adult smoking cessation since the late 1960s, when the Fairness Doctrine required television stations to air large numbers of antismoking advertisements to counterbalance cigarette commercials (see chapters 11–13). State tobacco control programs increasingly directed media campaigns to adults rather than to youth during 1999–2003,[39] when state funding for tobacco control increased. However, little information exists about campaign targeting in the years since then when state funding for tobacco control generally declined.

Campaigns directed at adult smoking can be expected to influence youth smoking. A campaign that successfully reduces smoking among adults reduces youth exposure to adult-smoker role models (including parents)[40] and can modify perceived rates of adult smoking.[41,42] Both exposure to adult smokers and perceived rates of adult smoking can be predictors of smoking initiation among youth. In addition, if adult smoking seems less desirable, motivation to use tobacco as a signifier of adulthood may decrease. Finally, most adolescents identify with and aspire to be treated as adults,[40] increasing the likelihood that they will attend to messages crafted for adults. Thus, campaigns directed at adults can produce a two-for-one effect by favorably influencing adults and youth (see chapter 11).

Nonetheless, much more research is needed on the effects of media campaigns in prompting smoking cessation attempts and in encouraging and supporting cessation. This research should consider the role campaigns can have in sustaining abstinence from smoking and preventing relapse to smoking, by providing a timely reminder and reinforcement for not smoking. Examination of the extent to which media campaigns might reduce daily cigarette consumption

among smokers would also have value. Further scrutiny of the population subgroups most influenced by adult-focused smoking cessation campaigns is particularly important. For example, the predominantly adult-focused media campaigns in California, along with other tobacco control policies such as comprehensive smoke-free policies, were followed by substantial declines in the prevalence of smoking, but young adults rather than middle-aged or older adults were most responsible for driving these changes.[43]

In the United States, pharmaceutical companies advertise products such as nicotine replacement therapies, bupropion, and varenicline to help people quit smoking (see chapter 11). This marketing is likely to enhance awareness of options for smoking cessation, but the effects of such campaigns on behaviors are unclear. Open questions include whether emphasis on the difficulty of quitting smoking in these ads could result in reduced self-efficacy for cessation among subgroups of smokers or, conversely, could lead smokers to feel they could use pharmaceutical aids to quit smoking at any time, thereby reducing the sense of urgency to quit smoking as soon as possible.[44] Other questions revolve around which subgroups of smokers benefit most when these marketing campaigns prompt smokers to use pharmaceutical aids and attempt to quit smoking in greater numbers. For example, would these campaigns be more likely to influence middle- and upper-class audiences than those from lower socioeconomic groups, thereby increasing the disparity in smoking prevalence between the groups? More research is needed in these areas.

Mass Media Campaign Expenditures

How Much Audience Exposure Is Needed?
Research to build a stronger evidence base to guide media buying for tobacco control campaigns is overdue. Three frequently asked questions among personnel in

tobacco control programs are how much advertising to buy, over what duration, and what kinds of ads work best in preventing smoking initiation and prompting cessation. Limited research data are available to determine the optimal reach and frequency for campaigns. The risk is that some campaigns may be underexposing or overexposing target audiences. Advertising theory suggests lack of a dose-response relationship between exposure and impact but, instead, a nonlinear relationship in which increasing advertising exposure begins to exert diminishing marginal effects on the target behavior, that is, an advertising response function[45] (see also "Economic Issues in Tobacco Advertising" in chapter 7).

Research is needed to identify the point at which increments of advertising exposure yield ever-smaller increments in attitude or behavior change. In addition, tobacco control programs would greatly benefit from knowledge of the circumstances in which this optimal level of exposure increases or decreases according to the presence or absence of tobacco control policies, such as tax increases or smoke-free policies. Such policies can provide additional structural inducements or supports for preventing smoking initiation or prompting cessation. Research methods might relate changing weekly advertising doses, as measured by gross ratings points, for example, to outcomes such as weekly calls to telephone quitlines, weekly cigarette sales, or weekly measures of smokers' intentions to quit smoking or change smoking behaviors, as estimated by population-tracking surveys.

Further research could help tobacco control programs make the most of advertising dollars. For example, advertising research reveals that the effects of advertising linger over the days and weeks after the broadcasting ends,[46] but relatively little is known about the rate at which these advertising effects decay in relation to tobacco control. People may recall

antitobacco ads, especially memorable ads, long after they are discontinued, but the decay of behavioral effects, which are the most important outcome, have rarely been the subject of study. Advertising research suggests that behavioral effects of antitobacco advertising would decay relatively quickly. Collecting this kind of information in evaluations of antitobacco media campaigns could help to guide tobacco control programs in buying media more efficiently, for example, in pulses or bursts, also known as flights, rather than as a continuous purchase.

Context for Advertising Exposure

Relatively little is known about the factors that might maximize exposure to and processing of antitobacco advertising messages in the context of communitywide campaigns. For example, might placement of ads in particular types of television programs lead to better processing of the intended messages? Some types of programs such as comedies[47] or narratives[48] may limit the potential of media campaign advertising by exposing smokers when they are in a less-than-receptive frame of mind or mood. Experimental research in which audiences watch television programs, some embedded with antitobacco ads, might be one way to study effects of program placement. In addition, fruitful research methods might be interviews of television audiences immediately after exposure to a broadcast ad[47] or examination of the relative efficiency of various kinds of ads in different television programs in generating calls to telephone quitlines.[49] Such research could assist program planners in developing a strategy for purchasing advertising that favors particular types of television programs.

As indicated in chapter 2, engagement with mass media campaigns does not occur in a context free of interpersonal networks. Much advertising is viewed or heard in the presence of another person, but even viewed alone, it may still be the subject of later conversations among work colleagues or other social groups. As shown by theory and evidence, interpersonal communication may be prompted by exposure to antitobacco advertising and may mediate, reinforce, or dampen campaign effects.[50] Discussion prompted by exposure to antitobacco advertising might empower viewers with information they feel compelled to share with others or allow them to broach a previously difficult-to-raise topic, such as the need for a family member or friend to try to quit smoking. Further research would be useful on the kinds of advertisements and circumstances under which ad-elicited interpersonal discussions reinforce or undermine campaign goals.[25,47,51–53]

Differences in Population Subgroups and Effects of Campaigns

Aside from age (youth versus adults), a limited number of studies have compared the effects of mass media campaigns on population subgroups such as race, ethnicity, and SES. Patterns of exposure to advertising have varied among smokers in different SES groups (chapter 2). Smokers are more likely than nonsmokers to be heavy users of television and radio and less likely to read magazines and newspapers or to have Internet access.[54] Some have criticized media campaigns as resonating with middle-class preoccupations over healthy lifestyles while bypassing poor, less-educated smokers and thereby exacerbating inequalities in smoking behavior. Few research studies have addressed these issues.

However, one study of calls to telephone quitlines during periods of media campaign activity suggests that responsiveness to antitobacco advertising is relatively equal across SES subgroups, compared with periods of no media campaign activity.[55] Additional research is needed to assess effects on alternative and additional behavioral outcomes, such as population survey responses of smokers in different SES groups or cigarette sales in neighborhoods

of different SES. Such research would be helpful in determining which population subgroups had the greatest positive effects from media campaigns or whether effects were relatively equal.

Greater Role for Recycling or Sharing Effective Antitobacco Advertisements

Tobacco control programs are sometimes hesitant to use ads created by other tobacco control programs; they prefer to create a particular style of ads and branding. Fees to actors to recycle existing ads can be high, but compared with the time, cost, and difficulty of creating effective ads from scratch, recycling of ads that performed well elsewhere, with appropriate pretesting and rebadging, could be more widely adopted. This practice could increase the cost-effectiveness of funding allocated to antitobacco advertising by minimizing the need for development of ads. The Media Campaign Resource Center at the Office on Smoking and Health, Centers for Disease Control and Prevention,[56] provides online access to ads developed by tobacco control programs. This resource provides a starting point for tobacco control programs wanting to recycle or adapt existing ads. An additional improvement would be for the Office on Smoking and Health, on the basis of research, to recommend ads that are likely to be most effective. Sharing development costs of ads across tobacco control programs is another strategy that could achieve this goal.

Media Campaign Content

Need for Emotionally Evocative Advertising

Much research has been performed on appraisal, recall, and processing of messages from different kinds of antitobacco ads in an effort to identify common elements that might be more successful (see chapter 11). Numerous studies have shown consistently that advertising with strong negative messages about health consequences perform better on target audience appraisals and indicators of message processing

(e.g., recall of the ad, thinking more about the ad, or discussing the ad) than do other forms of advertising (e.g., humorous or emotionally neutral ads). Such emotionally evocative ads might feature the negative health consequences of smoking or the ways in which the tobacco industry has been shown to mislead the public about health effects, addiction, or marketing to youth. However, few *population-based* studies have directly compared the impact of these message types on smoking outcomes such as intention to smoke and smoking behavior. Further research is needed to determine whether the more proximal indicators of superior performance (e.g., appraisal, recall, and discussion about advertising) translate into population effects on actual smoking behavior.

A continuing challenge for tobacco control programs is to create ads that permit smokers to gain fresh insights into the risks posed by smoking and the benefits of quitting smoking. Although effective with their target audiences, emotionally evocative advertising messages are less palatable to the persons or groups funding tobacco control than are emotionally neutral or "feel good" messages. A key task for persons who disseminate research is to ensure that those who fund tobacco control efforts understand why investment in particular kinds of campaigns is likely to yield the best outcomes. Much is yet to be learned about other elements of ads that might increase the likelihood audiences will attend to and process intended messages about tobacco (see chapter 11).

Research results suggest that narrative ads, which tell a story about a real person, and storylines that elicit emotional responses or help people identify with the characters, might reduce the target audience's tendency to argue against the intended message of the ad.[57,58] Future research might focus on the extent to which different types of antismoking messages influence psychological outcomes beyond overt

beliefs and attitudes about smoking. Such outcomes might be accessibility of attitudes about smoking, implicit attitudes about smoking, or unconscious activation of goals, behavior, or both. Each of these outcomes could affect smoking cessation or the potential to be influenced by advertising.

Findings in one study suggest that measuring the response to antismoking advertising needs to address more than whether attitudes are positive or negative. For example, the accessibility of an attitude is a key factor in the influence of that attitude on behavior.[59] Although research suggests that more accessible attitudes are more likely to predict behavior,[60,61] it is unknown whether particular types of messages are more likely to increase the accessibility of antismoking attitudes. The strength of the association between antismoking attitudes and the self might also be a predictor of behavior change. Evidence from the broader field of advertising research suggests that advertising is more effective if it encourages the viewer to relate the information in the message to self and past experiences.[62] This self-referencing response might enhance the effectiveness of antismoking messages, and some kinds of ads (e.g., personal testimonial or narrative messages) might be more likely to encourage this kind of response.

Other evidence suggests that simply measuring the supposed antecedents of behavior change (e.g., ad recall, attitudes, or intentions) is not enough to predict behavior because behavior can be influenced without conscious awareness. Consumers have been influenced by advertising without explicit recall, and researchers suggest that purchasing behavior is based on knowledge about a product rather than what is explicitly recalled about an ad.[63] Antismoking messages, even when not explicitly recalled, might serve to shift smokers' implicit attitudes toward those of nonsmokers.[64,65] Social psychological research has also shown that changes in

intentions are not necessary for an effect on behavior.[66] Some behaviors can be driven by nonconscious goals, which can be automatically activated without conscious awareness. Because this process does not rely on conscious decision making, it is less likely to be influenced by cognitive reactance or biases that may arise in response to antismoking ads. Antismoking messages might influence smokers' behavior by using models to prime the goal to quit smoking. Future studies might consider which types of messages are most likely to have an effect at this implicit level.

In a new line of research, investigators are beginning to examine physiological responses (e.g., heart rate and skin conductance) to exposure to tobacco control ads that vary in the strength of the argument and the sensation value of the message.[67] Such physiological responses are being compared with self-reported responses to determine whether they might be more discriminating measures of advertising-induced attention and arousal and whether they might predict ultimate behavioral response. In the broader field of neuromarketing, scientists are beginning to experiment with using functional magnetic resonance imaging to study patterns of brain responses to different ads and branded products.[68,69]

Research would be useful for identifying the extent to which different kinds of advertising messages reach and influence all smoker subgroups, including those with different race and ethnicity and those of lower SES. Examination of dose effects for different kinds of campaign messages would also be instructive for media buyers, because some kinds of advertising messages may not require as frequent repetition as others to generate desired outcomes.

Corrective Advertising About Tobacco Industry Product Claims

In recent years, a variety of potential reduced-exposure tobacco products such as Eclipse

and Advance have been introduced into the marketplace. Several studies show that ads promoting these products increased smokers' beliefs that they pose lower health risks than conventional cigarettes and reduced smokers' interest in quitting smoking (see chapter 11). Past experience surrounding promotion of low-tar cigarettes (chapters 3–5 and 11) showed the tobacco industry to be adept at designing misleading messages about smoking risks. Depending on the extent to which potential reduced-exposure products become more widely promoted and used, a future communications challenge will be to ensure that consumers assess risk more closely aligned to the scientific evidence about the actual risks these products may pose. Proposals from the public health community that entertain a harm-reduction perspective for tobacco control, if implemented, could critically change the future communications environment for tobacco control.[70] Research on risk trade-offs among smokers, decision making under uncertainty, and careful pretesting of proposed harm-reduction messages will be crucial for guiding the development of media communications on tobacco control that clarify rather than confuse public understanding.

Alternative Channels for Media Communications in Tobacco Control

Changing Face of Television
Nearly all of the published research on media messages promoting tobacco control has involved television because it is by far the most widely used medium. Several research studies assessed the effects of screening ads before movies to protect audiences against portrayals of smoking in movies (see chapter 10). Research on tobacco control campaigns that use other media channels such as radio, print, and billboard messages is rare. Because these media require less investment, they may be a useful adjunct to or substitute for televised media campaigns in jurisdictions where tobacco

control funding is poor. Additional research on the effects of antitobacco campaigns using these channels of communications would be useful. In general, however, television advertising is needed to carry the volume of message required to ensure adequate population exposure, so tobacco control programs need sufficient resources to conduct televised media campaigns. However, the number of cable channels has grown, requiring greater scrutiny of which television channels and which programs are watched by smokers and by youth, including those of lower SES,[71] to ensure delivery of an adequate dose of campaign messages.

Studies of media use suggest that, far from abandoning television, audiences are using multiple media sources.[26,71] Digital technologies such as TiVo enable viewers to edit out standard television ads from recorded television programs, but it is unclear how often this happens in practice. The likely beneficiaries of any move away from television advertising are the Internet, product placement in television shows, and video-on-demand advertising. This situation reinforces the urgency for research to monitor and understand the effects of smoking-related messages embedded in these communication channels.

Online Media
Online media hold great promise for mass delivery of smoking cessation advice and support because they are four times more commonly used by smokers seeking help to quit smoking than are dedicated telephone quitlines.[72] However, most sources of Web-based help lack evidence-based content, despite research evidence showing that interactive, tailored, Web-based expert-systems programs can significantly increase rates of smoking cessation (see chapter 11). Because maintaining these Web-based systems can be inexpensive once they are established, they may provide highly efficient assistance to the majority of smokers who prefer not to use "formal" sources of help

to quit smoking. A challenge for tobacco control programs is the considerable costs to set up and program these expert systems, suggesting that sharing of existing systems across programs might make good financial sense. The upfront investment required to cross the chasm between research prototype evaluation and real-world online product availability could be taken on by for-profit companies or large nongovernmental organizations. Per-participant fees and fee scales based on population size are two possible ways to recoup costs. A limited amount of research suggests that such intervention options might be an advantage to groups of lower SES (see chapter 11). Present rates of access to and use of the Internet by these groups are much lower than for other groups. Thus, there is a long way to go before equality might prevail.[73] However, this situation may change as content-management systems and the tailoring of application frameworks are further developed and implemented.

Rapidly changing technologies have created many new program and research opportunities in the field of new media. The video-sharing Web site YouTube has hosted antitobacco ads, achieving additional exposure among visitors to the site and prompting people to comment and/or send the Internet link to others in their network. A video tribute to a person's mother who died of lung cancer, entitled "Thanks Tobacco, You Killed My Mom," was posted on April 13, 2007, on YouTube.[74] By June 18, 2007, the video had been viewed over 10,000 times. One visitor to the site wrote, "Powerful stuff. I smoked for 17 years before quitting three weeks ago, and was having a bad day today. I went looking for a reminder of why I quit smoking…. Wow, my urge to smoke just vanished as I watched this. Sorry for your loss."

A Pew survey in October–November 2006 found that 55% of U.S. youth aged 12 to 17 who use the Internet have accessed social networking sites such as MySpace or Facebook,[75] where a user can create a profile and build a personal network to connect to other users. For example, the American Legacy Foundation launched "new truth" profile pages (InfectTruth) on popular Internet social networking sites such as MySpace, Hi5, Bebo, Piczo, and Xanga, a community of online diaries and journals[76] to offer a "truth-like" take on the harms of tobacco and tools to help teens share the information with one another. Unpublished preliminary results indicate that during a typical campaign using television, radio, print, and traditional online banners, traffic to Legacy's www.thetruth.com Web site[77] reached approximately 30,000–40,000 unique visitors a week. With the addition of the social networking sites, traffic on Legacy's "truth" Web site increased to 50,000–60,000 unique visitors a week.[78]

Research is needed to determine the extent to which such sites can communicate desired messages to promote smoking prevention and their effects on youth. In addition, research would be helpful in ascertaining (1) the effects of online chat rooms and sharing of online quitting-relevant images and messages among smokers trying to quit and (2) how personal organizers and text messaging might benefit cessation attempts by providing reminders and prompts to avoid smoking.[79] These personal communication vehicles could also help to assess responses to media messages such as antismoking advertisements.

Conclusions

All tobacco control strategies, including media interventions, operate in the context of some level of tobacco promotion and therefore need to counter varying degrees of tobacco marketing. The tobacco industry has weathered restrictions on tobacco marketing in the United States, and tobacco promotion remains pervasive and effective

in encouraging tobacco use. History has demonstrated that when limits are placed on tobacco promotion, the industry resists and then evolves new strategies to effectively reach current and potential smokers with media messages that promote its products. Similarly, when media interventions appear to be effective in reducing tobacco use, they often are challenged or countered by the tobacco industry. Understanding this dynamic relationship between tobacco promotion and tobacco control is critical in conceptualizing and designing relevant research that contributes to the evidence base for tobacco control.

Monitoring tobacco industry activities in the changing media environment is a key research task for the future. Continuing industry activities include efforts to work around new restrictions on tobacco marketing and to create new marketing strategies. In tobacco control, improving

the evidence base for efficient use of the media and selecting and refining messages and channels to reach and influence current and potential smokers are key goals for the research agenda.

As implied throughout this chapter, research must be seen as a means toward achieving progress in tobacco control, rather than as an end in itself. Evidence is sufficient to conclude that tobacco marketing and tobacco use in movies encourage youth smoking initiation. Decisions about further restricting tobacco promotion, mounting adequately funded and effective media campaigns for tobacco control, and funding further research are made in a political environment. Reducing the enormous toll of tobacco-related illness and premature death in the United States will depend on the extent to which research, such as that summarized in this monograph, informs tobacco control policy and program decisions.

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