

Communication and Diet: An Overview of Experience and Principles

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ABSTRACT

As nutrition officials face the need to address widespread chronic obesity and its associated diseases, many have turned to media campaigns as a strategy for reaching large audiences. In the past, such efforts have had mixed results. Examples of successful and unsuccessful major public health campaigns are presented, including a small number related to diet. One implication of the analysis of those cases is the importance of obtaining high levels of exposure to messages. Several strategies for maximizing exposure are elaborated, including the use of paid advertising, relying on donated time, and earning coverage through media advocacy.

Key Words: communication campaigns, diet, evaluation

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INTRODUCTION

With 64% of the nation's adults currently overweight or obese, associated chronic diseases have become a major concern of public health officials.¹ Despite recent controversy over the accuracy of reports about the number of deaths attributable to obesity, researchers estimate that poor nutrition and sedentary lifestyles are still the second leading cause of preventable deaths, trailing only smoking.² In fact, according to one estimate, poor diet and lack of physical activity currently contribute to an estimated one third of all premature deaths in the United States.² As a result, nutrition-related interventions and weight-loss promotion are perhaps more important than ever before. But to reach the hundreds of thousands of people who could be helped by dietary changes, small-scale interventions and localized campaigns may be insufficient. When health officials want to effect change on a national scale, one option is to turn to mass media. But like any intervention strategy, if these programs using mass media are implemented without careful consideration of the relevant theory and research, they can have disappointing results. One essential feature of a successful campaign is obtaining high exposure to a message, a feat that can be quite challenging. An inability to achieve this goal is often the reason for campaign failures. Insights from communication theory and examples from previous public health communication cam-

aigns can help illuminate strategies for success and prevent the potential pitfalls of using a media strategy.

THEORETICAL FOUNDATIONS

The field of communication campaign research has numerous foundations, including behavior change theory, which is grounded in the psychological and sociological literature³⁻⁸; message theory, which focuses on the construction of messages; and elements of marketing perspectives. Behavior change theories, including the Theory of Reasoned Action or the Theory of Planned Behavior, and the Trans-theoretical Model are often used to identify which determinants of health behavior to focus on changing in a health communication campaign (ie, social norms, as opposed to attitudes).^{9,10} Message theory has been applied to determine which features should be employed in the advertisements or communication materials. Some of these might include using strong or weak arguments, social norm or emotional appeals, or narratives.¹¹⁻¹⁵ The marketing framework provides ideas about what strategies must be implemented in order to ensure the communication campaign will succeed. It takes into account the changes in the nature of a product, the distribution mechanism, and the price people will pay, along with its focus on exchange theory.¹⁶ An example might include ensuring that low cost fruits and vegetables are available in a community where a Five A Day campaign is running.

Another important foundation for communication research is exposure theory,^{17,18} which suggests that success in public health communication may be better predicted by variation in exposure to messages than by variation in the quality of those messages. The goal in achieving high "exposure" to messages is to ensure that the intended audience hears or sees the messages, and often that the messages are

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heard or seen frequently, and over time.^{17,18} Although this goal of achieving exposure seems self evident, it is often not achieved, as will be discussed below.

For campaign designers, a central focus may be on choosing a target behavior, such as reducing soda consumption in children, and a message strategy, such as normative appeals. As other papers in this volume suggest, there is a good deal of experience and theory underpinning such decisions. However, rather less attention has often been paid to trying to get that message delivered to a large number of people on a consistent basis, and why that may matter. As a result, it is important to understand how exposure matters and how to produce it.

THE USEFUL EXPERIENCE OF COMMUNICATION CAMPAIGNS

A number of examples of evaluated communication campaigns can be helpful in illustrating how such programs work in practice. Unfortunately, not many diet-specific communication campaigns have been evaluated, so although some have been included here, several of the other examples are related to health topics other than nutrition, such as drug prevention or smoking cessation. The lessons learned may be relevant to nutrition and physical activity initiatives, though. These examples provide a good basis for discussion about the place for exposure, which has been historically understudied.

Some Disappointing Results

Over the years, a number of campaigns have failed to achieve their desired outcomes. Three examples will be presented here and contrasted with more successful campaigns, and some lessons to be learned from them will be described. The first example is the COMMIT anti-tobacco trial, an attempt by the National Cancer Institute (NCI) to reduce heavy smoking. During this study, which occurred during the 1990s, 11 pairs of matched cities were randomly assigned to serve as either an experimental or a control city.¹⁹ Each city was given a US \$900,000 budget and 58 activities in which they were supposed to engage over a 4-year period. Campaign activities involved educating the public and health care providers, carrying out work site activities, and developing and distributing cessation resources. After 4 years, 18% of the heavy smokers in the experimental group and 18.7% of heavy smokers in the control group had quit smoking.¹⁹ Clearly, no evidence existed that the campaign was successful in the target group (though moderate smokers' quit rates were better in the experimental cities than in the control cities).

A second example is the Minnesota Heart Health program, a project sponsored by the National Heart, Lung and Blood Institute (NHLBI) to reduce cardiovascular risk-related behavior. The 6-year project involved 6 cities—3 each in the experimental and control groups. Program

components included retraining health workers, risk factor screening, mass media outreach, and classes. The decline in estimates of overall cardiovascular disease risk after 6 years was 7% in the control group and 4% in the experimental group (not a statistically significant difference). One positive result was that smoking declined among women in the experimental cities more than in the control cities.²⁰

A third unsuccessful communication campaign has been the National Youth Anti-Drug Media Campaign, which has spent more than US \$1 billion, beginning in 1999.²¹ The primary objectives were to reduce initiation of marijuana use and to try to keep youth who were already experimenting with marijuana or other drugs from becoming regular users. Most of the money was spent on paid advertising, with campaigns directed both at youth and parents. Public relations work was another component of the campaign. Essentially, exposure to messages does not seem to have made a difference in keeping youth from initiating marijuana use by round 2 of the study. Indeed, some evidence even suggests a boomerang effect. Youth who were more exposed to the advertisements actually had higher intentions to use marijuana.²¹

One concern that arises from both the COMMIT trial and the Minnesota study is the possible lack of incremental exposure achieved in the intervention groups. The COMMIT trial employed 5 channels: smoking cessation kits, health care sites, work sites, mass media, and religious organizations. If these measures are combined into a 5- to 45-point additive exposure scale, the treatment cities achieved a mean exposure of 15.2 and the control cities a mean of 14.9. This result suggests very little difference in extra exposure as a result of the intervention. This outcome may have reflected a tendency to use channels that reached only a minority of the population on a regular basis (and not mass media channels consistently), but to assess exposure (and effects) on a sample representative of the entire population.¹⁸

In the Minnesota study, a 10-point scale captured exposure to mass media, classes and contests, and screening activities. (This scale was based on questions about recent participation in the program activities). The mean for the treatment group was 2.5, and for the control group the mean was 1.9.¹⁸ Again, the 2 groups barely differed in their exposure to the message. Indeed even this small difference in reported exposure during the middle of the multiyear program was no longer significant by year 5 of the program.

The drug campaign had better evidence for good exposure. Forty percent of youth recalled at least weekly exposure to campaign television advertisements. Seventy-five percent recalled at least weekly exposure to all forms of antidrug advertising.²¹ However, although there was substantial exposure to campaign messages, general press coverage of youth and drugs did not change at this time. That finding was reflected in the fact that interviewees had no change in recall of such stories in the media. Thus, this theme was not picked up by the media. The only exposure to messages was that directly produced by the campaign,

and it may not have added very much antidrug content to that already present in the environment, particularly for youth in schools already receiving antidrug messages.

Some Relatively Positive Findings

By contrast, several campaigns have had more positive effects on behavior change. These campaigns include the Kentucky Drug Intervention, The Swiss AIDS campaign, the California Tobacco Campaign, the National High Blood Pressure Education Program, and the VERB campaign.

In the Kentucky Drug Intervention, Palmgreen and colleagues conducted a 2-county trial of paid antimarijuana advertising on television.²² The researchers designed their media buys to reach about 70% of youth, about 3 times per week with their messages. In fact, 85 percent or more of all youth recalled seeing the television ads during the intervention periods. The investigators were studying the effects of one behavior moderator from message theory, called “sensation seeking,” a personality trait associated with the need for novel, complex, emotionally intense stimuli and the willingness to take risks necessary to obtain them.²² Youth who were low on sensation seeking consistently refrained from using marijuana over time. For the high sensation seekers, however, the likelihood of using marijuana increased until the first campaign, and then the rates started to decrease. In time, the likelihood of using began to increase again in the high sensation seekers. But researchers ran a second campaign, and a second decline followed. Each campaign was associated with a sharp decline in past 30-day use of marijuana only among the high sensation seekers. Using interrupted time series, the authors were able to show that the campaign produced declines in use when it was running and that in the comparison county, where no campaign ran, there were no declines among high sensation seekers during that time. Subsequently, when the campaign was introduced to the comparison community, there were similar declines.

Of the hundreds of AIDS campaigns that have been conducted around the world in the past 2 decades, Switzerland’s campaign was perhaps the most intense. This national campaign used television, radio, and newspaper advertisements, as well as booklets distributed to all households. The campaign achieved high rates of exposure. One evaluation found that 56% of all households had someone who had read the brochure.²³ In 1987, the proportion of 17- to 30-year-olds who said they “always” used condoms when engaging in casual sex was less than 10%. By 1989, that rate was nearly 50%, and that percentage was maintained through 1994.²⁴ As in most countries, the campaign was conducted at the same time as heavy mass-media coverage, so it is probable that some of the change could be attributed to that effect. Nonetheless, given that heavy media coverage was worldwide and evidence for effects of this magnitude are rare, a claim of campaign effects for the Swiss effort has some merit.

The California Anti-Tobacco campaign also had some positive results. This program, which ran from 1989 to 1993, used a multistrategy approach, including raising taxes on cigarettes and a US \$15 million per year media campaign. During that time, California’s smoking rates declined at a faster rate than the decline in the rest of the United States.²⁵ Some evidence attributed change to the media campaign specifically, over and above the tax increases.²⁶

The National High Blood Pressure Education Program was a multifaceted campaign aimed at changing the environment around the way high blood pressure was treated. The project was launched in 1972 by NHLBI and some mass media, with the involvement of many health professional groups and community organizations, as well. The program was associated with a change in awareness of the risks of high blood pressure and with a large decline in stroke mortality rates.²⁷ In the 12 years before the start of the campaign, the stroke rate was declining at 1.6% per year. In the 12 years beginning in 1972, stroke declined by 6% per year. A number of analyses have tried to tease out the causes, including whether drug or hospital treatment practices also might have caused the decline, but these changes do not explain all of the observed decline.²⁷ Evidence of change in blood-pressure-related control and diet exists, which some would argue could be attributed to the campaign.

In one final example, the Centers for Disease Control and Prevention (CDC) released a report in 2005 of a prospective study on the VERB campaign, a multiethnic media campaign to increase physical activity in “tweens”—youth aged 9 to 13.²⁸ The results show that the campaign achieved high levels of awareness in the first year and that those who had better recall of the advertisements were also more likely to engage in physical activity. The McKinnon paper in this volume discusses the development of this campaign.²⁹

Communication and Diet Campaigns

Although lessons from some of the campaigns targeting other health behaviors like smoking cessation and drug use prevention can be valuable, there are some features of diet-related behaviors that pose unique challenges. Unlike health contexts for which one clear recommendation can be made (ie, “don’t smoke” or “avoid marijuana”), dietary recommendations can be much more complex, varying from one individual to the next, depending on age, activity level, and body mass index (BMI). Even for campaigns with the same goal, such as weight loss, there is no genuine agreement about which dietary strategies are most effective. Most often, even when behavioral goal categories are clear (“less energy in, more energy out”), there are many specific behaviors that can satisfy those goals. And sometimes, if individuals adopt one specific behavior (lower-fat cookies), it may be replaced by another that has no greater benefit (lower-fat but high-calorie cookies). Also, it is not as if

health officials can recommend avoiding all fat, as even some saturated fat is necessary for healthy brain function.³⁰ Further complicating matters is the fact that recommendations can be contradictory, one study showing fiber reduces colon cancer risk and the next showing no association between the two.³¹ It is also difficult to define successful outcomes, as changes in dietary behavior are relevant only if they are maintained, and often in the context of other supportive behaviors. Successful outcomes involve an ongoing cycle of decisions, occurring, for most people, at least 3 times *every day*.

Perhaps it is because of some of these difficulties that only a few campaigns specific to communication and diet have been evaluated. Three types are relevant here: (1) the stand-alone campaign focused on diet and using only mass media; (2) the diet-focused campaign, with media as one element but also reaching audiences through other channels; and (3) the heart disease campaigns, which use mass media as one element and address diet as but one of several topics.

One example of the stand-alone campaign is the 1996 “1% or less” campaign in Wheeling, West Virginia.³² In this community, health promoters focused paid advertising for 6 weeks on just one message: switching to 1% or fat-free milk. Low-fat milk sales increased from 29% of all milk sales to 46% in the month after the campaign ran. The increase was maintained at the 6-month follow up, and the researchers were also able to show a higher proportion of low-fat milk consumption in their experimental community than in the control.³²

In Victoria, Australia, the “2 Fruit and 5 Veg Every Day” campaign ran on television from 1992 to 1995. Annual telephone surveys of approximately 500 people over the age of 20 found that patterns in the level of public awareness, reported consumption, and beliefs about appropriate levels of consumption tended to parallel changes in the level of mass media investment.³³ In the 2 years when the most money was spent on advertising, awareness was significantly higher than in the years with the reduced media budget. After the first year, reported consumption of produce was significantly increased, and this higher level of consumption seemed to be maintained throughout the course of the study.³³

As far as broad diet-focused campaigns that included media components, the NCI’s Five A Day programs and those conducted by individual states are good examples. These programs have intervened through a variety of paths, with diffusion of messages through media channels among them. The evaluations of both the California Five A Day program from 1989 to 1991 and the national campaign from 1991 to 1997 showed small increases in fruit and vegetable consumption. However, evaluators argue they could be explained by secular trends or demographic changes in the population over the same period.^{34,35}

Another example was the collaboration between NCI and the Giant food chain in Washington, DC. This program, which ran from 1987 to 1989, provided information

about diet and cancer risk reduction in more than 100 Giant stores in the Washington, DC area. Stores in Baltimore, Maryland were the comparison group. A matched-pair evaluation was conducted in 20 stores in each group, focusing on surveys of shoppers and sales data. Media included shelf price labels, a food guide, monthly 4-page information bulletins, signs in the produce department, some radio and TV ads, and additional interventions in selected stores. The evaluation did not show consistent statistically significant effects on behavior.^{36,37}

Two other public communication programs focused on heart-disease risk generally, but they also had objectives relating to reduction of dietary fat or serum cholesterol—the Stanford Five City Project and the previously mentioned Minnesota Heart Health Program. Both operated during the 1980s and included both mass media and local outreach efforts. Neither found significant effects on those outcomes.

WHAT CAN BE LEARNED FROM REVIEWING THIS CAMPAIGN EXPERIENCE?

These results (and the much broader set of findings from which they are drawn) present a mixed picture—some successful programs, others unsuccessful. What is to be learned from them about conducting communication campaigns to improve diets? First, some of the explanations must be considered for the apparent failures in contrast to some of the successes. Next, focusing on one particular explanation for the level of success or failure, exposure to messages, an attempt must be made to sort through why exposure might matter, and how necessary exposure might be achieved. Finally, there is the somewhat distinct question of evaluation—and what the implications are for evaluating programs given the arguments about theories of campaigns and the central role of exposure.

Communications Campaigns Can Falter for a Variety of Reasons

Campaigns may fail because they seek to affect target audiences through only one path. Too often, communication campaigns are seen as having their effects through individual exposure to messages. A person is exposed to a message and we hope he or she hears it and decides to engage in the behavior of interest. However, communication can have an effect through other distinct paths. As the Theory of Reasoned Action would suggest, a program may influence social norms about a behavior, and the norms may influence individual behavior regardless of whether all individuals were personally exposed to messages. This approach assumes that the message is viewed and discussed by social networks, creating social acceptability for the behavior, which is then followed by the members of the social network who want to belong.^{4,38} Such social networks may be particularly influential when it comes to diet-related behav-

iors, as meals are often enjoyed with others, and many people—especially children and teens—are often under the control of another member of the household, who does the shopping and food preparation.^{39,40,41}

In yet a third pathway, campaigns also may influence institutions, including schools, market systems, or policy makers who, in turn, affect individual behavior. For example, a campaign aimed at increasing children's fruit and vegetable consumption may focus on encouraging school officials to change the cafeteria menu options. This goal is intended to indirectly cause individuals to change their eating habits. Or, in the case of market systems, media attention to the low-carbohydrate fad may have influenced manufacturers to produce more low-carbohydrate foods, which may have influenced individual purchasing and eating behavior. On the policy level, a state representative may notice a campaign to increase exercise and propose a bill to allocate more funding for bicycle trails and parks.

There are other explanations for campaign success or failure as well. In some cases, a particular audience might not be open to change. For example, for the severely overweight, exercise might cause more pain or discomfort than it seems to be worth. In that case, no matter how convincing the message, the barriers may outweigh the benefits and prevent behavior change. Communication may not always be the answer!

Some behaviors may be too difficult to change with communication alone. For example, a message may encourage a switch to low-fat milk, but the local convenience stores do not carry enough of that type of milk to meet the increased demand, and so some people have no choice but to buy the higher-fat milk left on the shelves. In situations like these, as a marketing perspective would suggest, the environmental changes that support the behavior are essential to the success of the message.

Sometimes a campaign may not actually be failing. Rather, its apparent failure reflects unreasonable expectations for the speed and amount of change it can achieve. The campaign may not be in the field long enough and with enough intensity to match the expectations for success. For example, the anti-tobacco movement has had a large success in the United States, but declines in tobacco use have taken place over a long period of time—only 1% or 2% relative decline occurred per year, but this number added up to a very large decline over decades.⁴² Many short-term evaluations would not capture this result. Or, as Fishbein points out in a 1996 editorial, the evaluation may not have enough power to detect a small effect. He writes, "Unfortunately, in our intervention studies, we rarely have the power to test for a small effect, despite the fact that a small effect size of 5% to 10% often is substantively meaningful, with important public health implications."⁴³ Some researchers have suggested that this may have been the problem in the case of the Minnesota Heart Health Program—that it was underpowered to detect small effects.⁴⁴

Another possibility is that the featured messages were the wrong ones; they targeted beliefs that do not really

affect a particular behavior and missed more salient ones. Campaigns need to be constructed around messages that address beliefs (or other cognitions or emotions) that are known to influence behaviors. For example, people may be unresponsive to beliefs about the reduced risk of future heart disease that comes with weight loss when considering whether to try to lose weight. In contrast, they may be influenced by the self-esteem-enhancing and stress-relieving benefits of weight loss. Campaigns too often mistake pleas for "good" behavior ("lose weight") or explanations of medical justifications for good behavior for effective messages ("lose weight to be healthy"). Messages should address the reasons why people do or do not engage in a recommended behavior; those reasons may not correspond to medical justifications. This is an argument for conducting formative research to discover the salient beliefs before attempting to create a campaign.

For some campaigns, an additional challenge is the competitive advertising environment. While this may not be the case for antidrug campaigns, as there are no legitimate institutions promoting the counter message, it is certainly a relevant factor for designers of campaigns related to reducing alcohol use or promoting healthful foods.^{45,46}

In addition to each of these reasons, one additional explanation is worth particular attention. Campaigns may not work because the messages simply do not garner very much exposure over enough time. They do not reach much of the audience, they do not reach them frequently, and they do not reach them over time. Although exposure is not sufficient for success (for example, high exposure did not produce favorable results for the antidrug campaign described above), high exposure is very likely to be necessary for success. It is worth special emphasis as to why it matters and what can be done to achieve needed exposure.

WHY DOES EXPOSURE MATTER?

Five potential reasons explain why exposure matters for the success of a diet or any other health behavior campaign. Each represents a theoretical claim; whereas some have empirical evidence behind them, others are arguments awaiting evidence.¹⁷ The first is the basic principle that repetition is effective. The more times a person hears a message, the more likely he or she is to learn it. This idea is a basic principle of advertising. Second, it is plausible that repeated exposure increases the likelihood that a message will reach an audience member when he or she is ready to receive it. The third is the notion of social expectation. If the same message is repeated in multiple channels, it creates the perception that many different sources are saying the same thing. If everyone is echoing the same idea, audiences will begin to think it must be important. This situation can create a sense of credibility for the message. The fourth reason is that heavy exposure also may increase the social discussion and diffusion of the message through social networks. The diffusion may communicate an im-

PLICIT expectation about a behavior or communicate a new social norm. Fifth, if heavy exposure leads to a perception of great public interest in an issue, it may increase the interest of policy makers. It may convince them that the health behavior is an issue they should be paying attention to and that they should be making institutional changes. These institutional changes may then influence individual behavior.¹⁸

Thus, achieving high levels of exposure is seen as crucial. However, achieving repeated exposure through multiple channels over time can be difficult, and sometimes, it simply will not be possible. If this is the case, then it may be unrealistic to expect major effects from communication programs. But several strategies can help to ensure maximum exposure. The examples here focus on achieving mass media exposure. However, the arguments for exposure are not limited to using mass media channels; the same logic applies to the use of any channel:

Pay for Exposure

Paying for exposure is the only way to *guarantee* it. The National Youth Anti-Drug Campaign budget was US \$185 million or more every year between 1998 and 2001. This amount dropped to US \$180 million in 2002. As a result, the campaign received wide exposure on television and radio, with an average of 2.7 youth-targeted ads per week per youth and 2.3 parent-targeted ads per week per parent (September 1999 through June 2001).²¹

The American Legacy Foundation's Truth campaign also was able to buy exposure because it had a budget of \$100 million per year beginning in 2000, as a result of the Master Settlement Agreement between the tobacco industry and 46 states.⁴⁷ As a result, the campaign was able to reach 75% of its target audience.⁴⁷ Some state anti-tobacco campaigns also have been able to purchase advertising time.^{25,48} Of course, most projects are not so well funded as to pay for this type of widespread exposure, which is particularly true if campaigns seek to operate in national markets, or in cities with many competing communication channels. In that case, 2 other options are possible: begging for it or earning it.

Beg for Exposure

Donated time is an alternative when budgetary constraints do not allow for paid advertising. Public service advertising can be garnered through the Advertising Council, which acts as an intermediary between non-profit organizations and media. Some of these campaigns have had success.¹⁸ Unfortunately, however, many of the programs that have relied on donated time have ended up failing to achieve much exposure. In fact, a 2002 report from the Kaiser Family Foundation found that the television industry donates just 15 seconds per hour of coverage to public service advertising. This number rep-

resents only 0.4% of all airtime.⁴⁹ Forty-three percent of all public service advertisements are run in overnight time slots, and only 9% are shown during prime time.⁴⁹ As a result, donated time is likely to be more successful with a novel message that is appealing to local stations, when a small dose of exposure is sufficient and when grassroots lobbying support can be mobilized to stimulate local replay of the messages. In other circumstances, relying on donated time has little prospect of success.

Earn Exposure

The third approach to obtaining exposure is to depend on what public relations professionals call "earned media." Earned media is exposure obtained by making news in a way sufficiently interesting to obtain coverage by important news outlets, which might mean exploiting legitimate news events (for example, the 2005 death from lung cancer of ABC News anchor Peter Jennings) to encourage newspapers or television stations to do additional stories about the dangers of tobacco use. The legitimate news story provides a hook. Such earned exposure can be viewed in two ways. It can be seen as an additional path to general audience exposure, as one more way to encourage individual behavior change. Or it can be seen as a tactic in the struggle to encourage changes in public policies.

This second approach, called media advocacy by Wallack and Dorfman, is "the strategic use of mass media to apply pressure to advance healthy public policy."⁵⁰ This strategy attempts not only to influence the topics covered by the media, but also the framing of those topics—or the way in which the topics are covered. For example, the goal may be to have reporters focus their obesity stories less on poor individual decisions about diet and more on the role of food manufacturers and advertisers in encouraging poor diets. The goal of such a campaign would not be to encourage individual behavior change. Rather, the primary audience is policy makers. The goal of reframed media coverage would be to increase policy makers' recognition of the public interest served by policy solutions such as increasing restrictions on advertising, which can support individual behavioral interventions. The Dorfman paper in this volume makes similar arguments.⁵¹

WHAT ARE THE IMPLICATIONS FOR EVALUATION OF CAMPAIGNS?

The research community is always focused on determining with certainty the causal effectiveness of interventions and prefers randomized controlled trials (RCTs) because they provide the most confidence in causal claims. However, learning about communication may not always be best served by RCTs.

Some successful campaigns work because they are "kitchen sink" campaigns that combine numerous components and exploit the national media machine to produce

their effects. Under those conditions, RCTs can get in the way of doing communication the way it needs to be done. For example, it is possible that the COMMIT trial, with its elegant evaluation design, controlled away the interesting variation in the communication. For example, it cannot exploit coverage of the issue by national media outlets, because both experimental and control sites would have such exposure. However, it may be that major campaign effects are found in the complex interaction of purposive messages, natural media coverage, and institutional responses to public attention to a new issue. The last 2 may not happen at a local level; rather, they occur only in the context of issue coverage by the national media machine. An RCT can control that interaction away, leaving the real effects of the campaign undiscovered.

Sensible program design needs to drive evaluation designs, rather than vice versa. This statement does not mean that evaluation is hopeless. It just means that better methods to sort out the paths of effect need to be developed. Recommendations about how to design such evaluations when the nature of the program does not permit RCTs have been developed.¹⁸

CONCLUSION

If no strategy exists to get multichannel exposure at a level that has any promise of achieving effects on the intended target audience, it may be necessary to adjust the objectives of the campaign. It may be necessary, for example, to choose an easier goal for which less exposure will be enough, or to redefine the target population to one for which it is possible to get exposure, such as children for whom an in-school advertising campaign can have good reach. Communication planners have become good at developing messages and choosing target behaviors with great care, but they may be behind in trying to produce enough exposure to actually affect audiences on a large scale. This failure is somewhat ironic, in that reaching a large audience is the fundamental reason many programs turn to the media in the first place. Sometimes a project simply will not have the resources to mount a campaign that will achieve enough exposure to have any hope of affecting behavior. If a campaign cannot define a realistic exposure strategy (buying, begging, or earning) to complement its behavior change and message strategies, it should get out of the business of communication interventions. It may simply be unable to achieve its objectives through this mechanism.

Clearly, many other elements of the program do matter as well: communication interventions that are complemented by institutional, policy, and environmental changes; high-quality messages; reasonable expectations for the speed and magnitude of change; careful selection of a behavior that is amenable to change and a thorough understanding of what might change it; and sometimes even

segmenting the audience. However, the focus on exposure in this paper is a response to the limited results achieved by campaigns summarized here. It is not an argument for discounting those other issues; rather, it reflects a concern that too little attention has been paid to this frequent weakness of programs. With careful consideration of some of these issues and sufficient and realistic attention to achieving exposure, campaign planners may improve their chances of achieving success with diet-related communication campaigns.

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