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## **Paid Advertising for AIDS Prevention—Would the Ends Justify the Means?**

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### **Synopsis** .....

*An examination by the Centers for Disease Control and the Research Triangle Institute concluded that "hard-to-reach" populations could be*

*reached with AIDS prevention messages through the broadcast and print media and that a study should be undertaken to assess whether paid placement of these messages could have an effect on HIV-related behaviors.*

*The recommended target population for a study of paid advertising would be sexually active 18-24-year-old black urban dwellers. Its behavioral objectives would include abstinence and safer sex practices.*

*For any evaluation of a paid advertising campaign to be valid, there would have to be extensive audience profiling, research into the development of the message, pretesting of the message, and involvement of the community. The proposed study would include measurement of various "dosage" levels of paid advertising, use of a no-intervention comparison group, and a novel data collection technique.*

*Although a specific target group and specific messages would be involved, the evaluation would make a substantial contribution to resolving the broader issue of whether and how mass media should be used directly or indirectly to change or reinforce health-related behaviors.*

**I**N THE BELIEF THAT the public media are valid vehicles for the dissemination of health information and education and disease prevention activities, the Federal Government's AIDS efforts in this regard

have been directed since 1987 by the National AIDS Information and Education Program (NAIEP) of the Centers for Disease Control (CDC).

*'The effectiveness—let alone the relative cost-effectiveness—of paid advertising for AIDS prevention compared with other prevention activities has not been explored.'*

NAIEP has developed and distributed numerous public service announcements (PSAs) on AIDS and the human immunodeficiency virus (HIV) infection under the auspices of the "America Responds to AIDS" (ARTA) campaign. These PSAs have been broadcast by national television and radio networks and by local radio and television stations and published by the print media, all free of charge. The ARTA campaign has received more than \$65 million in donated media placement. Much of this donated placement by broadcast media has been during air times with high audience viewership and in print vehicles with heavy readership. But, not unexpectedly, a substantial proportion of the television PSAs have been aired during off-peak times when audiences are smaller and commercial advertisers consequently are less likely to purchase time.

Although the level of donation for the ARTA campaign has exceeded that of any other government-sponsored health campaign, the National Institute of Medicine recommended, in a 1986 report, paid advertising of AIDS messages to ensure that important HIV prevention messages were aired at appropriate times and with adequate frequency (1). In 1988, the Presidential Commission on AIDS recommended that CDC purchase advertising time to enhance the effectiveness of its public information campaigns.

The U.S. Armed Forces, U. S. Postal Service, Amtrak, U.S. Immigration and Naturalization Service, and U.S. Mint all have budgeted funds for paid advertising. In addition, the Armed Forces have been able to negotiate donated air time in combination with paid placement. Historically, the Department of Health and Human Services (HHS) has not paid for advertising. Some State health departments and private organizations, however, have paid for PSA placement.

Based on findings of a positive temporal relation between placement of paid messages and calls to the National Cancer Information Service, HHS is devising guidelines outlining the best methods and reasons to purchase air time for cancer campaign messages (2).

Determining if and how to use paid advertising for AIDS prevention messages is problematic. Control of the timing and placement of messages would improve the efficiency of reaching the target audience. Whether this is the most effective use of AIDS prevention dollars is less clear. The effectiveness—let alone the relative cost-effectiveness—of paid advertising for AIDS prevention compared with other prevention activities has not been explored.

In October 1989, NAIEP and the Research Triangle Institute (RTI) began to examine a series of questions surrounding the issue. Can such hard-to-reach people as young adults, members of minorities, the underserved, and the non-English-speaking be reached through the public media with AIDS prevention messages? Could their AIDS risk behavior be thus changed? Would the media cooperate? Would paid advertising specifically directed at these audiences be feasible? Could the results be evaluated?

It was decided that any study of these questions would have to include

1. an examination of the experiences of public service campaigns that have used paid advertising, especially in terms of how paying for advertising affects the availability of donated PSA time,
2. identification and critical review of the research literature on whether and how hard-to-reach audiences use the media, the behaviors of hard-to-reach audiences related to HIV transmission, and the implementation of mass media campaigns directed at modifying health behaviors,
3. an examination of whether proposed advertising campaign messages would be acceptable to the decision makers of each network or publication—usually referred to as media "gatekeepers,"
4. recommendations on how a study of paid advertising should be designed and implemented so that results could be evaluated.

## Methods

The CDC-RTI study was completed in October 1990. It produced reports based on the literature in public health, the behavioral sciences, and mass communications, supplemented with project reports and discussions with experts in related fields. The reports dealt with

1. media consumption, sexual behaviors, and intravenous drug use among young people, and

2. the potential of mass media campaigns to promote risk reduction and achieve behavior change.

To assess experiences with paid advertising for public service campaigns, unstructured interviews were conducted with 35 campaign leaders and media gatekeepers.

Campaign leaders were identified in a "snow ball" fashion, beginning with all those known to NAIEP and those who had attended an October 1989 National Cancer Institute consensus meeting on paid advertising. Gatekeepers included representatives from major television networks (ABC, NBC, CBS, Fox), local television and radio stations, and the outdoor advertising industry.

To identify local television stations, stations in the 10 largest and 20 smallest markets listed in the Broadcasting and Cablecasting Yearbook (3) were first eliminated. From the remaining markets, 20 were randomly selected; within these a commercial television station was randomly selected. By this process, 11 network affiliates and 9 independent stations were chosen. Fifteen radio stations were similarly selected.

To assess media outlet policies concerning the content of potentially controversial messages, unstructured interviews were also conducted with either the community affairs director, public service director, or programming director of 35 local television network affiliates, independent television stations, and radio stations.

Given the relatively small number of all the informal interviews, findings cannot be considered conclusive. However, the people interviewed included key decision makers, and the consistency in responses lends credence to the findings.

The recommendations on the target population and on the content of the prevention messages for the study of a paid campaign were based on evidence that (a) the chosen population is at increased risk of HIV infection; (b) they are underserved by existing AIDS prevention campaigns; (c) an adequate number of comparable study sites, or communities, would be available; and (d) data on baseline and outcome assessment, media use, and campaign exposure would be available or attainable (see box).

## Results

**Impact of paid placement on donated time.** All 11 campaign managers with experience in using paid

### Criteria for Selection of Target Audience and Target Behavior in a Study of Paid Advertising for AIDS Prevention

1. Availability of data on the prevalence of the behavior of interest in each population group
2. Availability of outcome measures for use in assessing intervention effects
3. Likelihood that an adequate number of comparable intervention sites could be identified
4. Evidence of substantial risk of HIV infection within the population
5. Availability of data on media consumption habits of the groups
6. Evidence that a reasonable sample of the group could be reached at a reasonable cost for intervention assessment
7. Evidence that the group is in fact hard to reach in the sense of being "underserved" by existing AIDS information and prevention activities

advertising on multiple campaigns canvassed in the study were enthusiastic about it, especially in terms of improving their ability to target messages. All intended to continue using paid advertising. They felt that it did not impair their receipt of donated time for either the same campaign's messages or those of their agency's other health campaigns. Indeed, many of those surveyed were able to obtain varying combinations of paid and donated time, either concurrently or in subsequent calendar quarters, using the purchase as leverage in negotiations with the various local television stations, radio stations, and newspapers.

Network and local station representatives reported a trend toward decreasing time allotted to PSAs and increasing allocation of PSAs to less desirable times, but there are no solid data to confirm or refute these reports. Local stations had no problem mixing simultaneous paid and unpaid PSAs from any given campaign, but people from national networks noted that some policies might require sequential airings or differing sponsors of the same message if simultaneous airings were desired.

**Attitudes toward controversial messages.** Media gatekeepers did not feel payment would influence

Number of radio and television stations willing to air messages related to HIV risk reduction, 1989 CDC study of paid advertising

Message	Independent TV stations (N = 9)	TV network affiliates		Radio (N = 15)
		Fox (N = 6)	ABC-CBS-NBC (N = 5)	
Sexual abstinence..	6	4	2	9
Condom use .....	5	4	0	11
HIV testing .....	8	5	4	15
Drug treatment.....	8	5	5	15
Needle sharing.....	6	3	3	13
Needle cleaning....	3	3	1	8
Needle exchange ..	0	0	0	4

their decision on the acceptability of any given piece of material. They were most receptive to messages encouraging HIV testing and participation in drug treatment programs, but there were mixed responses to messages against sharing needles and on sexual behaviors such as condom use and abstinence (see table). Some viewed the promotion of condom use as condoning promiscuous behavior; others saw the promotion of abstinence as unrealistic and therefore likely to be ineffective. (It might be noted that in a study done subsequent to this data collection by Jason and colleagues, two of these same four network representatives stated that they would be willing to air PSA condom messages under some conditions.) Gatekeepers were least receptive to messages promoting needle cleaning and needle exchanges.

Potentially controversial messages were more acceptable to them if they were "tasteful" and of high quality, sponsorship was provided by local agencies and addressed local concerns, and media gatekeepers were involved in their formative research and evaluation.

**Target audience for paid advertising.** To be successful, paid advertising must be directed toward very narrow population segments (4). NAIEP and RTI examined the literature concerning at-home black youth, at-home Hispanic youth, homeless-runaway youth, and various subgroups within each of these populations (for example, not yet sexually active, sexually active, injecting drug users, males, females).

There were problems with targeting each potential subgroup, but, based on the criteria outlined in the accompanying box, we recommended that the target audience for the campaign be persons who are sexually active, black, urban, ages 18-24 years, and living in a household (5).

**Targeted behavior.** Behaviors considered included prevention of intravenous drug use, modification of drug use habits, and postponement of sexual intercourse or modification of sexual habits in those already sexually active. We recommended, based on the criteria outlined in the box, that the goal would be the modification of unsafe sex practices and the promotion and reinforcement of safer sex practices among the sexually active population. Such practices would be measured by self-reporting and, to some extent, by the pregnancy rate and condom sales or distribution.

**Criteria.** Based on the criteria specified in the box, for the purposes of paid advertising, this audience and behavior seemed the most appropriate target for the following reasons (5):

1. Sexual activity among young people has been extensively investigated. Various studies present a fairly consistent pattern of black youth experiencing sexual intercourse in their early teens and having multiple sexual partners. Data on Hispanic youth are inadequate.
2. Obtaining baseline and outcome data is far more feasible for measurement of safer sexual practices than of illegal drug use within a population. To measure a delay in the initiation of sexual activity would require a lengthy study.
3. The prevalence of injecting drug use varies widely among urban areas. Significant behavioral and cultural variations exist among Hispanic subgroups. Blacks represent a relatively more homogeneous group that lacks significant regional variation in patterns of sexual activity.
4. AIDS incidence and seroprevalence studies have consistently demonstrated that members of minorities are at increased risk of HIV infection compared with whites. While intravenous drug use is a major route of HIV transmission, a very low proportion of adolescents use drugs intravenously. Because of its prevalence, sexual activity represents a significant potential route of HIV transmission. This risk increases in proportion to the prevalence of HIV within the sexually active population.
5. Both commercial and academic research provide readily available data on the media use by black youth. Data on Hispanic youth are limited.
6. Past research on both media consumption patterns and sexual activity of black at-home youth support the possibility of recruiting samples of this population for an evaluation of paid advertising. Studies of street youth have been much more problematic.

7. Despite prevention efforts, HIV seroprevalence rates in some urban centers continue to increase, especially within minority populations. Adolescents are highly knowledgeable about AIDS and predominantly cite media as the source of their AIDS information (6). But knowledge about disease is not necessarily associated with behavior change (7,8).

The target group and behavior selected were not necessarily those we would have chosen for an intervention. But the goal of this project was to recommend a project that could be studied, and these targets met the criteria outlined in the box better than did any others evaluated. For example, although runaway-homeless youth are at increased risk of both sexual activity and intravenous drug use, existing data are not adequate to characterize the HIV prevalence and patterns of risk-related and media-use behaviors of this population. Assuring the sampling and interviewing of a representative group would also be extremely unlikely. Compared with Hispanic youth, black youth appear to be more likely to engage in sexual activity and intravenous drug use, as well as being more active media consumers. Furthermore, Hispanic subpopulations vary quite markedly in linguistic and cultural characteristics. This variability would limit the development of well-targeted, appropriate campaign materials and the number of comparable communities available as potential study sites.

People ages 18-24 were selected rather than younger persons in part because younger adolescents are more likely to be exposed to AIDS prevention messages through the school system. Urban locations were specified because the overwhelming majority of reported AIDS cases occur within metropolitan areas. Injecting drug use was rejected as a target behavior for a number of reasons, including the marked geographic variations in injecting drug use and in HIV seroprevalence among drug users and the obvious difficulties in measuring behaviors for which there are strong legal and social sanctions. Sexually active youth were targeted because sexual activity is highly prevalent within this target group and is therefore a behavior for which campaign impacts could be measured within the short time frame of a study.

### **Overall Goal**

The overall goal of a proposed paid advertising campaign would be to prevent the spread of HIV infection within the target population. Given the

constraints of time, this overall goal is not one upon which measurable effects are likely to be achieved. We therefore defined a number of specific, measurable, intermediate objectives related to the achievement of the broad prevention goal. These included the modification of unsafe sex practices and the promotion and reinforcement of safer sex practices among 18-24-year-old, urban black youth.

The three major behaviors to be encouraged were

- abstinence from sexual intercourse (including deferral of first sexual intercourse by the younger, nonsexually active, nontarget population incidentally receiving the messages),
- increased substitution of nonpenetrative sex practices for intercourse,
- condom usage on all occasions for all forms of penetrative intercourse (vaginal, anal, and oral).

The following related behaviors might also be considered to represent successful campaign outcomes:

- an increase in the number of persons who discuss AIDS and HIV with their partners before engaging in sexual activity
- a decrease in a person's number of sex partners
- an increase in the proportion of sexual encounters in which a condom is used,
- an increase in the proportion of the target audience that uses condoms at least for some sexual encounters,
- an increase in the proportion of the target audience that purchases or carries condoms,
- an increase in the proportion of the target audience that learns about or knows how to negotiate safer sex practices, including abstinence and condom use.

**Strategy development, media selection, and formative research.** Substantial developmental research is needed to determine the appropriate message strategy and media channels for the target audience. The research would include an examination of the motivations for safer sex practices among those currently practicing safer sex or abstinence; means of facilitating safer sex practice; and structural, attitudinal, and belief-related inhibitors to safer sex practices among those not practicing safe sex. The campaign would likely address the key areas of peer norms, interpersonal skills, and functional knowledge of correct condom use. All campaign-

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specific communication materials must be pretested against the target audience to ensure that the messages are clearly understood, have the capacity to change beliefs and attitudes, and have the capacity to motivate behavior change.

**Study design.** The evaluation would have community-level interventions, but data collection would be at both the individual and the community level. While this design has statistical limitations, it is the only one practically feasible in a study of mass media. This design has precedents in the areas of health intervention research (for example, the Stanford three- and five-city studies, the Australian smoking studies, and the North Karelia project) (9-11).

The principal hypotheses tested would be (a) whether the message frequency and placement achieved through paid advertising will result in improved delivery of messages, increased interpersonal communication among the target population, and changes in their related knowledge, attitudes, intended behaviors and reported behaviors and (b) whether the magnitude of these effects increases in proportion to the intensity with which campaign messages are aired.

In the evaluation design, comparable communities would be randomly assigned to one of four intervention conditions or the background comparison condition. The communities assigned to the background condition would receive only those AIDS PSAs that naturally reach the community. Those in the first intervention level would receive the PSAs produced specifically for this campaign, distributed through routine PSA channels ("unpaid advertising"). Those in the second level would receive what local commercial marketers believe is a suboptimal level of paid in-home and out-of-home multimedia exposure. Those in the third level would receive optimal levels, and those in the fourth level would receive superoptimal levels of exposure, with the media mix for all payment levels being equal.

Since donated time can be negotiated in combination with paid time, exposure would be determined in terms of "rating points," not dollars expended. One person would be assigned to each local health department to coordinate the evaluation and would consult with an advertising agency to achieve the planned schedule at the lowest possible cost. Actual cost would be recorded for use in a cost-effectiveness analysis.

To measure the project's impact on the individual, interview data would be collected through a continuous tracking methodology (12) as well as a pretest-posttest design. For continuous tracking, small cross-sectional samples of the target population are interviewed weekly and resultant data are analyzed in the form of rolling moving averages, much as is done in stock market analysis. The pretest-posttest design, to be used in one community in each evaluation phase, would control for the possibility of a potential interview effect from continuous tracking. This proposed combination of several "dosage" levels and continuous tracking will provide a rich source of data with respect to base effects, response curves, and decay functions. In addition to the interview data on knowledge, attitudes, behavior, and campaign exposure, additional data—concerning, for example, condom sales and the number of persons seeking treatment for sexually transmitted diseases—would be monitored in all study communities.

The study of a proposed paid advertising campaign is projected to require 33 months, with the initial 15 months devoted to selection of communities and acquisition of their collaboration; critically needed formative research, including the production-pretesting of appropriate messages and materials; further design specification; design and clearance of evaluation instruments; and negotiations for airing times. The study's implementation phase would last 12 months, beginning with collection of baseline data, and including six "flights" of media airings, lasting 6 weeks each, with intervening 2-week silent periods. Data analysis would occur throughout the study and continue for 6 months following the completion of field work.

**Study implications and impact.** The results of this study would have the potential to make a major contribution to our understanding of the role of mass media advertising in influencing not only AIDS-related behaviors but health behaviors in general. The tracking questionnaires would include items to assess various theoretical concepts and behavioral theories. Therefore, the results would en-

hance our understanding of the relationships among message exposure, recall, comprehension, and characteristics (for example, type of appeal); media scheduling variables (for example, frequency, timing, channel); and the targeted knowledge, attitude, and behavior outcomes. The study's findings would have significant implications in regard to the effectiveness of media in reducing health-related risk behaviors or maintaining low-risk behaviors, or both.

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**Monitoring the Exposure of "America Responds to AIDS" PSA Campaign**

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**Synopsis** .....

*The "America Responds to AIDS" campaign is*

*the focal point of an integrated mass communications system for AIDS education and information dissemination developed by the National AIDS Information and Education Program of the Centers for Disease Control.*

*Television and radio public service announcements are an integral part of the campaign. One measure of their success is the extent to which they are aired on both national and local levels.*

*Since 1987, the total dollar value for air time donated to the "America Responds to AIDS" campaign is more than \$65 million, representing 47 percent of all donations of air time for AIDS public service announcements. These results suggest that the campaign has been successful in reaching a large proportion of the public.*

**E**STABLISHED IN 1987 by the Department of Health and Human Services (HHS), the National AIDS Information and Education Program (NAIEP) of the Centers for Disease Control (CDC), has developed an integrated mass communications system for the dissemination of AIDS education and information. Centerpiece of the

system is the "America Responds to AIDS" (ARTA) campaign. Public service announcements (PSAs) on television and radio are an integral part of the ARTA campaign.

The PSAs produced in each of ARTA's five phases contained varying amounts and types of information for both the general public and spe-