# Summary Report

## *Setting a Research Agenda for Entertainment-Education*

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## Foreword

*CDC's Entertainment-Education (EE) efforts can be traced informally to the 1970s, when two EIS officers (one of whom, Dr. Jeffrey Koplan, would later become Director of CDC) in Los Angeles served as consultants to a television pilot that depicted the work of a disease detective. A decade later, the threat of HIV/AIDS spurred efforts by CDC to disseminate timely information about this emerging epidemic through a variety of mass, organizational and interpersonal channels, including EE.*

*Although CDC had long recognized the tremendous potential of EE as a strategy for public health promotion, it was also keenly aware of potential political pitfalls in attempting to forge a cooperative relationship between a federal agency and the mass media. Facing several challenging questions, CDC convened an Expert Panel in 1994 to investigate and discuss the propriety of launching an EE initiative. Feedback from this Panel was overwhelmingly supportive and encouraging. Not only were EE efforts deemed appropriate, they were considered obligatory given the potential of EE as a strategy for combating the HIV/AIDS epidemic.*

*Much has changed since CDC's early forays into the world of EE. In 1992 CDC added the word "Prevention" to its name and in 1996 started to establish health communication offices. A formal, centralized EE Program came next, to draw on a variety of strategies that provide accurate and timely information about public health to the entertainment industries. These strategies have achieved a number of successes to date. However, as CDC looks ahead, it recognizes the pressing need for new research and theory building to serve as the scientific foundation for efficacious EE initiatives of the future. Much of the research that has long guided our thinking about the effects of*

*entertainment programming was conducted years ago, or in international settings, long before the advent of many communications technologies that are now commonplace, and in cities and countries that vary significantly from the U.S. media environment. If CDC EE efforts are to achieve their potential and become a vital component of an integrated public health strategy, they need to be grounded in and informed by innovative social and behavioral science. It is with this need in mind that the CDC's Office of Communication convened this meeting of experts in mass communication research.*

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## Executive Summary

In May, 2000, the Office of Communication at the Centers for Disease Control and Prevention convened an Expert Panel of fourteen mass communication scholars to:

- assess the existing research and theory on Entertainment-Education (EE)
- identify research gaps, and
- propose a meaningful and practical research agenda, wherein health issues are the central content areas and positive health effects are the goals

In both presentations and ensuing discussion, the Expert Panelists expressed considerable enthusiasm and optimism for EE's promise as a vehicle for health promotion. There was consensus that EE can be an important and potentially vital component of a successful public health strategy, especially given the current political interest in and advocacy for responsible entertainment programming targeted to children and teens. Nevertheless, the Panelists also identified a number of important gaps in research that must be addressed for current EE initiatives to be validly evaluated and for future EE initiatives to be based on scientifically sound principles.

In terms of general recommendations, the Panelists noted that:

- There is an urgent need for funding to sponsor new research on effects of entertainment programming in light of recent revolutionary changes in information and entertainment technologies, options and delivery systems;
- There is an equally compelling need for funding research on the potential efficacy of EE strategies for influencing youths aged eight and above, an important group in terms of public health goals that is often difficult to reach;

- There is a need as well to encourage the development of new theory and evaluation methodologies to guide and develop EE interventions.
- In addition, there is a need to sponsor research to enhance understanding of contextual dynamics of EE effects, such as structured interpersonal communication accompanying EE messages, integration of EE messages with other communications vehicles such as the internet, repetition of EE messages, and the potential for "mixed messages" portrayed in entertainment programs.

In addition to these general recommendations, the Expert Panelists identified 63 specific research questions that need to be addressed. Following the conference, the Panelists prioritized these 63 research questions, organized in terms of five major research topics.

Judged to be of highest priority is research on the topics of "EE outcomes and effects," followed by research on "EE content and messages" and "EE audiences." Research on "The Entertainment Industry Itself" and "Evaluation of CDC-Specific EE Activities" was judged to be important, but of lower priority.

Within the three highest-priority research topics, funding is needed to sponsor research to answer such questions as:

- How can EE messages influence knowledge, attitudes and health-related practices?
- What levels and types of exposure to EE content are necessary for adoption of pro-health practices?
- How (in what ways) are health issues/concerns portrayed in entertainment programming?

- What specific theories are most applicable to developing EE messages?
- What health issues/concerns are being depicted over time, and with what frequency?
- What are different ways in which characters can be shown to cope with health problems, and which are the most effective in terms of modeling?
- What types of television characters are considered credible sources of health information?
- How can youth be targeted through EE messages?
- What media do children and youths use for entertainment, and what opportunities for synergy exist (between, for example, internet and television)?

**Summary Report**

***Setting a Research Agenda for Entertainment-Education***

## I. Introduction

For nearly three years, CDC's Office of Communication, Division of Health Communication, has conducted an Entertainment-Education (EE) initiative in conjunction with communications staff in several CDC Centers, Institutes and Offices. This initiative has been multifaceted, while focusing primarily on developing a credible and helpful presence in the television entertainment community. Progress in relationship-building has occurred through a variety of strategies, including: developing partnerships with principals in the entertainment industry; supplying the television industry with information and expert consultation about health and health-related issues; encouraging storylines about health issues of national import; acknowledging exemplary depictions of health-related topics; and amending any misconceptions about health that may exist among creators of media content.

The primary assumption behind this initiative is that the mass media in general, and television in particular, provide enormous amounts of information about health through storylines in entertainment programming. This information may be correct or incorrect, peripheral or central to characters' lives, planned or serendipitous; in any case, it is plentiful, and thus it has been important for CDC to work with industry representatives to enhance the nature and quality of health information disseminated

through entertainment programs. Equally important, entertainment storylines and network campaigns can serve as important channels for reaching at-risk audiences with prevention messages from CDC health communication initiatives.

With this initial phase successfully underway, the Office convened an Expert Panel of fourteen mass communication scholars in May 2000 to synthesize lessons learned from prior EE initiatives and to develop a research agenda to provide a foundation for scientifically sound EE efforts in the future. Specifically, the Expert Panelists were charged with the following missions:

(1) assess the existing research and theory on EE

(2) identify research gaps, and

(3) propose a meaningful and practical research agenda, wherein health issues are the central content areas and positive health effects are the goals

The meeting was organized in terms of three main sections, which also serve as the organizational structure of this report:

(1) presentations on state-of-the-art practices, knowledge, and research on EE in domestic and international contexts;

(2) discussion of lessons learned about prior EE initiatives, as well as recurring issues and problems that merit future research; and

(2) formation of an agenda for research to guide CDC and others in designing and evaluating EE initiatives.

Summaries of these sessions follow.

## II. State-of-the-Art Knowledge About EE

The meeting began with six presentations designed to summarize the evolution of CDC's EE activities and to provide a current assessment of EE successes, challenges, questions, and needs for future research. These presentations were:

- How has the CDC effort in EE developed? *(Vicki Beck, CDC)*
- What are the lessons from research on the Harvard Alcohol Project? *(Deborah Glik, UCLA)*
- What are the lessons from research on Sesame Street? *(Sholly Fisch, Sesame Workshop)*
- What are the lessons from research on international EE efforts? *(Everett Rogers, University of New Mexico)*
- What are the shortcomings associated with research on international EE efforts? *(John Sherry, Purdue University)*
- What are the strengths of pro-social media effects research? *(Marie Mares, University of Wisconsin; presented by Dorothy Singer, Yale University)*

### A. Evolution of CDC's EE Initiative

*(Vicki Beck, CDC)*

With the formation of the Office of Communication in 1996, CDC established a formal, centralized EE Program in 1998 charged with the following goals:

- Establish CDC as a credible and responsive information source.
- Educate television writers about public health issues.

- Provide health/audience information for shows and networks.
- Build capacity and support for EE activities and research.

As part of this program, CDC identified several target audiences for EE efforts, including television writers and producers, network and industry executives, and advocacy organizations. To reach these audiences, CDC has used a variety of strategies. One of the first was to develop the CDC Resource Book for TV Writers/Producers, which has been sent to more than 400 writers and producers since June 1999. It includes a CD-ROM version and nearly 60 tip sheets on health issues. This has positioned CDC as a provider of health information and as a key resource on health issues. A second was to create the "Sentinel for Health Award for Daytime Drama," designed to acknowledge excellence in entertainment portrayals of health-related issues in soap operas. A third strategy was to provide network briefings and to consult on storylines for numerous television shows, including: MTV campaign on violence; NBC's "The More You Know"; an "ER" episode on Hepatitis C; an episode of "Chicago Hope" on tuberculosis; a "Beverly Hills 90210" episode on skin cancer; and an episode of "One Life to Live" on breast cancer, to name only a few. A fourth strategy has been to develop partnerships via Soap Summit IV and the Prime Time Summit, which bring together top industry executives and CDC experts, among others, to discuss health topics for potential storylines in entertainment programming.

Research has played an important, but limited, role in the early stages of the EE Program. From research on media use, the Program has learned that of the top twenty prime-time shows on the three major networks, eighteen are entertainment shows (Nielsen Media Research, 09/20/99-05/14/00). And according to research by the Gallup

Organization (03/01/99), television viewing is America's favorite pastime, a finding that has remained consistent for the past forty years. Youth watch more than three hours of television daily, with one-third watching more than three hours per day. Lower-income, Black, Hispanic and at-risk youths watch even higher amounts on a daily basis. Another use of research has been to link demographic and psychographic segmentation variables with soap opera viewing frequency to get an enhanced understanding of audience values, attitudes and beliefs. CDC analysis of data from a national census-based survey reconfirms other studies that describe regular soap opera viewers with characteristics similar to audiences at greatest risk for preventable diseases. Findings indicate nearly half of regular viewers said they learned something about health from soap operas and one-third took some action as a result.

As CDC views the future of EE efforts, it recognizes several challenges and opportunities. Among the former are budget issues, limited staff and resources, need for greater access to the television industry, the substantial distance between the EE Program Office (Atlanta) and centers of entertainment programming (New York and Los Angeles), and relative lack of evaluation research. Among the latter are potentials for new partnerships, greater EE activities in various CDC CIO's, youth tie-ins, and an emerging agenda for research and evaluation.

B. Lessons Learned From The Harvard Alcohol Project

*Deborah Glik, UCLA*

Inspired by the policy agenda of Mothers Against Drunk Driving (MADD) and by efforts in Sweden to promote the designated-driver concept, Dr. Jay Winsten, a Harvard

University Professor, organized the Harvard Alcohol Project. Launched in 1987, the Project was designed to model designated-driver practices through entertainment programming and to change social norms with regard to drinking and driving. The strategy employed was to establish collaborative relationships with major television networks. Through meetings with more than 160 producers, writers and media executives, the Project was successful in planting the designated-driver concept in more than 80 television episodes and promoting the concept through network-sponsored public service advertisements, reaching an estimated 45 million television viewers in the process. Survey data collected by such organizations as Gallup, Wirthlin and Roper showed significant increases in awareness of and behavioral compliance with the designated-driver concept during the period in which this Project occurred.

This project represents a landmark effort to mobilize mass media to model pro-social behaviors. At the individual level, this project had an impact through social modeling, vicarious learning and reinforcement, encouraging parasocial interaction, and selecting characters with whom audience members could identify. At a social level of analysis, the project also showed that entertainment media could influence public policy through an agenda-setting process and affect many, rather than merely one or two, strata of society. Finally, this project showed the utility of public opinion poll data for tracking changes in receptivity for emerging social practices, such as the designated driver.

C. Lessons Learned From "Sesame Street"

*Sholly Fisch, Sesame Workshop*

One of the most famous and longest-running EE initiatives in the United States is "Sesame Street," created in 1969 by the Children's Television Workshop (now Sesame Workshop). This television series, which was designed to cultivate learning among preschoolers, has been found to have had a significant impact on children's knowledge of: the alphabet and numbers, body parts, geometric forms, classification skills, and social skills.

"Sesame Street" has been the focus of considerable evaluative research. An early study found that viewership of educational television, and "Sesame Street" in particular, was a predictor of time spent reading, mathematical skills, vocabulary, and school readiness and, ultimately, adjustment. Another study found that "Sesame Street" viewers were more likely than non-viewers to recognize letters of the alphabet, read storybooks on their own, and not require remedial reading instruction. Other studies have found significant effects in terms of long-term grades in English, mathematics and science, cooperative behavior, and reductions in aggressive behavior during free play.

In sum, research on this landmark television series lends considerable credence to the notion that EE can be enormously effective in influencing children's cognitions, attitudes and behaviors. Essential for this effectiveness is designing messages that are clear and age-appropriate, as is consistent with theories on development and learning. Also important is the extensive use of formative research to design messages, a linear structure of story-telling that children can follow, and creative use of entertaining artistry

(e.g., music, animation, special effects, celebrities) to capture the attention of young viewers.

D. Lessons Learned From International EE Efforts

*Everett Rogers, University of New Mexico*

EE strategies have been perhaps most prevalent and most successful in international health promotion efforts. One of the earliest EE programs was "Simplemente Maria," a telenovela aired in Peru in the late 1960s. The show depicted how a young woman could overcome tremendous odds and rise to success through hard work, motivation, and skill with a Singer sewing machine. Subsequent research showed that the program attracted strong audience ratings, and sales of Singer sewing machines increased significantly throughout the country. Inspired by this success, Miguel Sabido, a television executive in Mexico, produced seven EE soap operas and, in the process, created a blueprint for successful EE projects throughout the world. EE programs such as "Hum Log" in India, "Tushauriane" in Kenya, "Twende na Wakati" in Tanzania, and "Soul City" in South Africa are in large part based upon the success of the Sabido formula for achieving high audience ratings and commercial success while promoting pro-social themes.

Evaluative research indicates that the success of international EE efforts is contingent upon five primary factors. First, research on audiences indicates that different audience segments interpret EE messages differently, and that no uniform "reading" or interpretation of the pro-social message is likely to be achieved. Further, effects that occur are more likely to be cognitive rather than behavioral in nature; consistent with

much of the literature on media effects, audience members are more likely to acquire information and learn of new opportunities than to change personal habits or behaviors. In terms of organizational factors, research indicates that multiple "champions" of social change must buy into EE for it to succeed, and that collaborations among organizational stakeholders—health officials, broadcasters, religious leaders, commercial sponsors—are often critical as well. Research on the media environment in which EE occurs indicates that the effects of EE programs are enhanced when accompanied by supplementary messages in the same and alternative media to form an integrated campaign. Critical to the success of all EE efforts is extensive use of theory and evaluation. Formative evaluation, both quantitative and qualitative, is necessary to identify appropriate themes, role models and messages. Summative evaluation is essential to gauge the effectiveness of EE efforts and to promote the success of these types of programs to other broadcasters, prospective commercial sponsors and policy makers. Finally, research on program-specific factors identifies a number of important factors that influence the success of EE efforts, including: the importance of repetition in disseminating a pro-social message; the importance of a balance between entertainment and education to ensure that the pro-social message is not too dry; and the need for realistic depictions, language, life situations, celebrities and epilogues to attract and educate audiences.

## E. Shortcomings of International EE Studies

*John Sherry, Purdue University*

While experience from international research can shed a great deal of light on the potential effectiveness of EE initiatives, it also has its limitations, particularly in relation

to domestic EE efforts. First, many international EE efforts have occurred in nations characterized by fundamentally different political and economic systems, with different sets of constraints and potentials affecting collaboration between government and mass media. Arrangements that may work well in those nations may simply be infeasible in the U.S. Second, the media environments in many of these countries are very different from the U.S. media environment. Loyal viewership and high audience ratings are more possible in nations with fewer media outlets and fewer competing sources of entertainment.

Perhaps the most significant limitation of international EE research is the lack of research leading to theory development. Much of the research appears to be designed to prove that EE is effective rather than to explain psychological processes through which EE messages might have an impact. Further, research that has been done in many of these countries has used pre-experimental designs that are not capable of establishing cause-and-effect relationships between EE exposure and outcome measures. Statistics from these studies typically report univariate results without controlling for other variables. These methodological limitations are not necessarily shortcomings of the researchers involved, but rather represent byproducts of the resources and capabilities stemming from the political and social environments in which the research is taking place.

F. Lessons Learned From Studies of Prosocial Media Effects[1]

*Marie Mares, University of Wisconsin; presented by Dorothy Singer, Yale University*

How do prosocial effects of television viewing on children compare with negative effects of viewing violent content? According to a recent meta-analysis, the effect size is comparable. However, research is clear that several factors can significantly influence the magnitude of prosocial effects. First, the viewing context is critical; prosocial effects are much stronger and persistent when adults elaborate on the television content or when viewers engage in follow-up activities or discussions of the material. In other words, it is not sufficient to simply air pro-social material, but rather it must be incorporated into school curriculum or integrated into family discussions. Second, prosocial messages must be specific in terms of the behaviors they model. Children may not grasp vague or abstract prosocial themes or generalize one type of prosocial behavior to another. Research on message comprehension suggests that children do not always grasp the moral or lesson of a story, again reinforcing the need for discussion or follow-up curricular materials.

Research clearly suggests that prosocial and antisocial messages should not be mixed in EE programs designed for children aged eight or younger. For example, a television show depicting a person committing violent acts and subsequently getting punished is not likely to induce a desired, prosocial effect, probably because of younger children's relatively poor comprehension. In fact, the data show that the negative effect

[1] Based on Marie-Louise Mares and Emory H. Woodard, IV, "Positive Effects of Television on Children's Social Interaction: A Meta-Analysis." To be published in Jennings Bryant and Rod Carveth (eds.) Meta-Analyses of Media Effects. Hillsdale, NJ: LEA.

size for combined prosocial and antisocial content is greater than the negative effect size for antisocial content alone. The lesson is clear: it is preferable to show characters engaging in prosocial behaviors alone than to show characters engaging in negative behaviors even if they are punished. Further research is needed to investigate whether the effects are the same for older children.

Research also indicates that prosocial effects tend to be stronger on children under the age of eight. This finding speaks to the importance of tailoring message content and presentation to appropriate age groups in order to maximize comprehension.

## III. Discussion Of Various Lessons Learned

Following these six presentations, conference participants discussed various points made and elaborated upon lessons learned. Following is a distillation of these points:

- Much of what is known about the effects of entertainment programming was learned before the advent of the internet, proliferation of new programming alternatives via satellite and other delivery systems, and new technology-based games and interactive toys. The utility of previous research on entertainment effects is thus of limited value in the new media environment, which strongly suggests the need for new research.
- There is a fair amount of research on children under the age of 8, a group for which EE interventions appear to have the greatest impact. Youths aged 8 and above constitute a group that is often difficult to research and yet a very important group in terms of health risks and corresponding goals of many public health

efforts. They are thought to be tuning into shows designed for young adults rather than for children, and are thought to identify with characters who are older rather than in the same age group.

- While the use of theory is clearly essential to EE effectiveness, there is no single theory that must be used to design EE interventions. Social cognitive theory is obviously relevant in terms of predicting likely effects from modeling pro-social behaviors. But several other theories—including cultivation, agenda setting, uses and gratifications and others—may be relevant as well. Ideally, new theory would be developed that would better take into account bio-behavioral factors and individual differences. However, even if new theory is developed, the receptivity of writers to developing theory-driven portrayals cannot be taken for granted.
- Audience members do not like to be lectured to. The trick is to maintain the entertainment qualities of the programming, capture viewers' attention through portrayals of engaging characters and creative devices, but still promote learning. This is often a challenge for writers.
- The most effective EE interventions tend to be integrated with other communication-campaign vehicles. The internet affords new opportunities for viewers of EE programming to reinforce pro-social messages through interactive learning. Comic books, board games and other forms of entertainment also should be considered as ways of reinforcing EE messages.
- Effects of EE interventions appear to be enhanced when accompanied by and/or followed by structured interpersonal communication about the topic. Experience suggests that efforts should be made to target parents, encourage them to watch

EE programs with their children and to discuss themes presented in the programs. Additionally, efforts should be made with teachers as well so that EE content can be reinforced through classroom activities and discussions.

- Many successful international EE efforts have involved season-long shows addressing in multiple episodes a limited number of health-related issues. That model appears more difficult to achieve in the U.S., given the system of commercial broadcasting and heritage of freedom of governmental intervention that exists in this country. Nevertheless, given the importance of repetition of messages in order to achieve effects, efforts should be made to identify opportunities for extended treatments of health-related issues in television series rather than one-shot depictions.
- Media fragmentation makes it more difficult for EE effects to occur and to be measured. Assessing the "dosage" and actual source of information in an increasingly complex and cluttered media environment is critical to developing scientific measures of EE effectiveness. Research is needed on new methodologies that can accomplish this with validity. In addition, process evaluation is needed if the ultimate goal is to link health-related behaviors with the number and placement of EE messages.
- Much of the research to date on EE effectiveness has not relied on formal methodologies capable of controlling for other factors. This is particularly the case with the use of opinion polls to gauge shifting social trends and with many research efforts conducted in developing nations. Future EE efforts need be evaluated with greater scientific rigor in terms of design and statistical analysis.

- EE interventions can elicit many outcomes, all of which should be articulated in order for accurate assessments to occur. These outcomes can include: increasing the visibility of health issues; reducing the visibility of unhealthy messages or portrayals; imparting knowledge; influencing attitudes and social norms; promoting adoption of a new behavior; change existing behaviors; and reinforce existing, desirable behaviors.
- EE efforts do not occur in a vacuum, but rather in the context of numerous influences that can adversely affect viewers' knowledge, attitudes and practices. Product placement efforts for fast food, candy and alcohol represent the commercial analogue of EE efforts, as well as a significant source of revenue for media organizations. Thus, even if writers and producers are willing to introduce EE themes in shows, they may also be creating mixed messages by juxtaposing product placements for unhealthy products with pro-social messages.
- A caveat should be added about the assumptions underlying EE efforts. We cannot assume that merely providing more information will necessarily result in desired behavior change. A host of factors can intervene between viewing a pro-social message and making behavioral decisions, particularly where a health threat may be years away from a young person's immediate experience. Our expectations must be set appropriately and in the context of the recent proliferation of competing influences on children and adolescents in the new media environment.

## IV. Defining an EE Research Agenda for CDC

On the second day of the conference, participants worked together in a single group to build a research agenda. The session began with Vicki Beck reviewing CDC's assumptions with regard to EE, describing previous CDC EE efforts in smoking and HIV/AIDS, and answering questions from participants. Discussion then focused on various unresolved theoretical and methodological issues that are in need of research. This discussion generated sixty-three specific research questions.

Following the conference, participants were asked to prioritize these sixty-three questions, organized in terms of five major research topics. Following is this prioritized list of research topics and research questions within those topics. Simply by virtue of being mentioned, all the research questions should be considered important and worthy of future research; however, some research questions were singled out as particularly noteworthy by a number of participants, and these are designated as "High-Priority Research Questions" in the lists below.

### A. Research Area of Highest Priority: EE Outcomes and Effects

*First and foremost, research is needed to identify and systematically study factors that can potentially mitigate or enhance the magnitude of EE effects and effectiveness.*

#### High-Priority Research Questions

- How can EE messages influence knowledge, attitudes and health-related practices? *(mentioned by 8 participants)*
- What levels and types of exposure to EE content are necessary for adoption of pro-health practices? *(mentioned by 6)*
- Under what conditions are unintended effects (boomerang, confusion, stigmatization) most likely to occur *(mentioned by 5)*

- What effect does post-viewing discussion have on adoption of pro-health practices? *(mentioned by 5)*
- Can we enhance EE effects through links with chat rooms and other Internet features? *(mentioned by 5)*
- How can EE be used to influence social norms? *(mentioned by 5)*

### Other Research Questions Mentioned As Important:

- To what extent do EE messages motivate viewers to adopt pro-social behaviors?
- To what extent are planned and intentional portrayals of health issues more effective in influencing KAP than unplanned and incidental portrayals?
- How do different discussion variables (setting, participants, amount, timing) influence the impact of EE content?
- Can EE be used to generate community discussion, and how does discussion modify EE effects?
- To what degree do EE messages have different effects on different audience segments?
- How does viewer involvement with the television content moderate EE effects?
- What is the role of bio-behavioral variables in influencing understanding and adoption of prosocial messages? At what ages can children handle what messages?
- To what extent is the explicit mention of health an effective motivator? For example, are children and youth influenced more by appeals to popularity or glamour than health?
- How do EE effects vary over time? What are short-term and long-term impacts?
- What kinds of effects occur as a result of depiction of mixed messages?
- At what point do EE messages wear out?
- Do viewers object to certain kinds of EE messages and strategies, either because they are too heavy-handed, moralistic, intrusive, or distracting from program content?
- What methodological/statistical procedures do we need to use to assess such things as threshold effects, ceiling effects, cyclical effects, and sudden effects of EE messages?
- Are EE effects most appropriately studied under laboratory or natural conditions?
- In what order do different EE effects occur, and under what conditions? For example, do traditional, linear models of effects (which predict changes in knowledge followed by changes in attitude and finally practices) apply to effects of EE depictions?

## B. Research Area Of Second-Highest Priority: EE Content and Messages

*Research is needed to focus on describing the health-information environment in terms of the nature and frequency of EE content appearing in entertainment programming. Research is needed as well to systematically investigate the influence of various production and executional features that may enhance or mitigate the effectiveness of EE initiatives (features which, it should be noted, are not typically under the control of organizations supplying ideas and information to the networks).*

### High-Priority Research Questions

- How (in what ways) are health issues/concerns portrayed in entertainment programming *(mentioned by 7 participants)*
- What specific theories are most applicable to developing EE messages? *(mentioned by 7)*
- What health issues/concerns are being depicted over time, and with what frequency? *(mentioned by 6)*
- What are different ways in which characters can be shown to cope with health problems, and which are most effective in terms of modeling? *(mentioned by 6)*
- Are there patterns involving particular types of characters (e.g., hero vs. villain; males vs. females) or settings (e.g., depictions of rural vs. urban communities) in depictions of health-related issues? *(mentioned by 5)*
- What are the most common ways in which EE messages are embedded in entertainment programming? *(mentioned by 5)*
- What makes certain characters appealing as role models? Are there enduring qualities of appealing characters that cut across programs and audience segments? *(mentioned by 5)*

### Other Research Questions Mentioned As Important:

a. Content Descriptors

- How much health information is currently included in entertainment programming?
- To what extent are portrayals of health issues and concerns changing over time?
- In what ways are prescriptive EE messages changing over time?
- Are EE strategies used in some entertainment genres (e.g., sit-coms, dramas) more than in others?
- To what extent is product placement for health-related products used in entertainment programming, and for which products?

b. Production/Executional Features

- How do such peripheral cues as music, laugh tracks, studio-audience applause intervene to influence the effectiveness of EE depictions?
- How can relationships be used effectively in a storyline to portray pro-social themes?
- Does the use of humor make EE efforts more effective, either through drawing children and youths to programs, through reinforcing messages or through keeping attention of viewers?
- What is the "right" kind of humor, i.e., humor that can take the edge off taboo topics, increase attention, comprehension and recall? How can humor backfire or create mixed messages?
- What is the best way in which to portray culturally sensitive health issues via entertainment?

## C. Research Area Of Third-Highest Priority: EE Audiences

*Research is needed to develop an enhanced understanding of the audiences for EE programs, particularly children and youth.*

### High-Priority Research Questions

- What types of television characters are considered credible sources of health information? *(mentioned by 9 participants)*
- How can youth be targeted through EE messages? Is forced exposure (i.e., bringing a group together to view a show) more effective than voluntary exposure? *(mentioned by 8)*
- What media do children and youths use for entertainment, and what opportunities for synergy exist (between, for example, internet and television)? *(mentioned by 6)*
- What are the various health concerns of most adults, youths and children? *(mentioned by 5)*

### Other Research Questions Mentioned As Important

- Who are positive and negative role models for various audience segments?
- What do youths consider "cool" and "uncool," and how do these determinations relate to their processing of health messages?
- To what extent is audience segmentation necessary to enhance the effectiveness of EE efforts?

## D. Research Area Of Fourth-Highest Priority: The Entertainment Industry Itself

*A fourth genre of research is needed to focus on descriptive research about the entertainment industry itself, the interface between the scientific community and the entertainment creative process, and understanding industry needs for health information and receptivity to EE partnerships.*

### High-Priority Research Questions

- What do writers/producers want from health-information resources, and in what form? What do they think of CDC as an information source in particular? *(mentioned by 9 participants)*
- What are effective ways of motivating writers/producers to address health-related issues in their programming? What are different and appropriate types of incentives? *(mentioned by 8)*
- What sources of information do writers/producers currently use to get expert advice and/or accurate information? *(mentioned by 6)*
- What health issues and concerns are currently on the agenda of writers/producers? *(mentioned by 6)*

### Other Research Questions Mentioned As Important

- Who are the key figures--gatekeepers--who have ultimate control over storyline development and scripts?
- What are their attitudes toward EE initiatives, using expert input to help develop scripts and shows, and working with governmental agencies and others to develop program content?
- Are writers/producers receptive to findings from EE research studies on message design, portrayals, etc.?
- How do networks and marketing/advertising executives influence story development and character choices?
- What do writers/producers think of when writing storylines? Whom do they envision as their audience?

- What are "best practices" used in previous EE efforts to attract attention to health issues?

## E. Research Area Of Fifth-Highest Priority: Evaluation of CDC-Specific EE Activities

*The following applied research is needed as well to evaluate the effectiveness of CDC EE efforts.*

### High-Priority Research Questions

- What are the most appropriate outcome measures to use in evaluating the effectiveness of CDC EE efforts? *(mentioned by 7 participants)*
- How can CDC most effectively frame health issues to producers of media content? *(mentioned by 7)*
- What specific methodologies and/or research techniques are most appropriate for assessing the impact of CDC EE efforts? *(mentioned by 5)*
- How can CDC measure the extent to which its own EE efforts have directly enhanced the visibility of CDC health-promotion initiatives? *(mentioned by 5)*

### Other Research Questions Mentioned As Important

- Should CDC attempt to create an intensive-exposure, long-term "message" in which several episodes deal with a single health issue?
- To what extent can CDC use EE to reach unique/niche audiences?
- Should CDC emphasize negative (e.g., "don't do....") or positive (e.g., "do.....") messages in its EE proposals to scriptwriters?
- What methodologies would most effectively gauge media-content producers' awareness, use, and satisfaction with CDC initiatives to provide health information?

# V . Conclusion

Throughout the meeting, the Expert Panelists expressed considerable enthusiasm for EE's promise as a vehicle for health promotion. There was strong consensus that EE can serve as an important and potentially vital component of a successful public health strategy. However, there was an equally strong consensus that, for this to happen, funding is needed for research that will create a social and behavioral scientific

infrastructure to guide future EE efforts. Given that much of what we (think we) know about media effects stems from research conducted before the advent of current and emerging communications technologies, this funding for research can have a significant social impact that far exceeds any single EE initiative.

The Panelists identified a number of important gaps in research that must be addressed for current EE initiatives to be evaluated with validity and for future EE initiatives to be based on scientifically sound principles.

In terms of general recommendations, the Panelists noted that:

- There is an urgent need for funding to sponsor new research on effects of entertainment programming in light of recent revolutionary changes in information and entertainment technologies, options and delivery systems;
- There is an equally compelling need for funding research on the potential efficacy of EE strategies for influencing youths aged eight and above, an important group in terms of public health goals that is often difficult to reach;
- There is a need as well to encourage the development of new theory and evaluation methodologies to guide and develop EE interventions.
- In addition, there is a need to sponsor research to enhance understanding of contextual dynamics of EE effects, such as structured interpersonal communication accompanying EE messages, integration of EE messages with other communications vehicles such as the internet, repetition of EE messages, and the potential for "mixed messages" portrayed in entertainment programs.

In addition to these general recommendations, the Expert Panelists identified sixty-three specific research questions that need to be addressed in future research.

Essentially, the Panelists concluded that there is much that we do not know about how and under what conditions EE is most likely to have desired effects, and that the research community needs to acquire this knowledge before advising the design and evaluation of specific EE initiatives. Further, we lack even basic descriptive data about the frequency and nature of health information already contained in entertainment programming, information which is critical to decisions about what is needed in future EE initiatives.

In some ways, this research agenda reflects the values of a community of scholars and less the pragmatic concerns of individuals engaged in the day-to-day design and implementation of EE initiatives. For example, the Panel's recommendations to develop theory and study manipulations of message themes, peripheral cues (such as music), and characters may seem less relevant to an organization that seeks to influence media portrayals but neither aspires to nor has the capability to control actual executional features of entertainment programs. Nevertheless, the Panel recommends research of this type because it can lead to the development of scientifically sound EE programs, potentially enhance effectiveness of CDC and allied EE initiatives, and simultaneously have a profound effect on the field of health communication in general.

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## VII. Appendix: Additional References

DeJong, W. & Winsten, J.A. (1999) The use of designated drivers by US College students: A national study. Journal of American College Health, 4, 147-150.

Fisch, S., Truglio, R. and Cole, C (1999) The Impact of Sesame Street on Preschool Children: A Review and Synthesis of 30 Years' Research. Media Psychology,1, 165-190.

Fisch, S (2000) A Capacity Model of Children's Comprehension of Educational Content on Television. Media Psychology, 2, 63-91.

Hayes, D.S., & Casey, D.M. (1992) Young children and television: The retention of emotional reactions. Child Development, 63: 1423-1436.

Rogers, E.M., Vaughn, P.W., Swalehe,R.M., Rao, N., Svenkernd, P., & Sood, S. (1999) Effects of an entertainment-education radio soap opera on family planning behavior in Tanzania. Studies in Family Planning, 30, 193-211.

Tower, R.B., Singer, D.G., Singer, J.L., & Biggs, A. (1979) Differential effects of television programming on preschoolers' cognition, imagination, and social play. American Journal of Orthopsychiatry, 49: 265-281.

van den Broek, P., Lorch, E.P., & Thurlow, R. (1996) Children's and adults' memory for television stories: the role of causal factors, story-grammar categories, and hierarchical level. Child Development, 67, 3010-3028,

Winsten, J.A. (1994) Promoting designated drivers: the Harvard Alcohol Project, American Journal of Preventive Medicine, 10, 11-14.