

Virtual Mentor

American Medical Association Journal of Ethics
December 2009, Volume 11, Number 12: 980-987.

MEDICINE AND SOCIETY

HIV/AIDS Prevention Messages

Seth M. Noar, PhD, and May G. Kennedy, PhD, MPH

As the HIV/AIDS epidemic swept across the United States and the world over the past 25-plus years, those engaged in prevention activities recognized that effective health communication was vital to stemming its progress [1-3]. Given that no cure or vaccine is on the horizon, prevention information—from knowledge of HIV transmission routes to behavior-change messages that encourage individuals and communities to reduce sexual and drug-risk behaviors—remains a key intervention strategy.

The mass media have traditionally played an important role in this effort, serving as the conduit for scores of public-service campaigns [4, 5]. In addition to such traditional campaigns, the development, launch, and evaluation of entertainment-education (EE) initiatives have increased in the United States and worldwide [6, 7]. More recently, Internet-based media are playing a role in HIV/AIDS prevention efforts [8].

This article provides an overview of these three (distinct but overlapping) areas of health communication and HIV/AIDS prevention: (1) traditional health communication campaigns, (2) entertainment education, and (3) Internet- and computer-based media technologies.

Traditional Campaigns

Health-communication campaigns are typically defined as efforts “to generate specific outcomes or effects in a relatively large number of individuals, usually within a specified period of time, and through an organized set of communication activities” [9]. Campaigns employ single or multiple media at the national, regional, and local levels, either as stand-alone efforts or as part of multicomponent programs involving such strategies as community coalitions, peer education, counseling, group discussions/support groups, hotlines, and provision of campaign-related materials (e.g., brochures, condoms, etc.). While media spots such as televised public service announcements (PSAs) are often an essential element of campaign efforts, in practice they are typically only a single part of a larger campaign [5]. In fact, only about one-quarter of published campaigns use a single media channel; the remainder use multiple media channels, and most involve multiple campaign strategies to get the message out.

The earliest major HIV/AIDS PSA campaign initiative in the United States was America Responds to AIDS, launched in 1987 to raise the public’s awareness of the

disease. The campaign continued to be designed generally for the public at large, although some messages were aimed at higher-risk audiences [10, 11].

More recent campaigns have been designed specifically for at-risk audiences—sex workers and injection drug users—with the goal of changing high-risk behaviors rather than simply raising awareness about AIDS [5, 12-15]. The Kaiser Family Foundation has partnered with several media organizations in recent years to prevent HIV/AIDS among youth. The campaigns and partners include Rap it Up (with Black Entertainment Television), Staying Alive (with MTV), Fight for Your Rights: Protect Yourself (with MTV), and KNOW HIV/AIDS (with Viacom) [16]. In addition to using PSAs, these youth-centered initiatives integrate HIV/AIDS storylines into popular television programs, a concept known as entertainment education. Finally, the CDC is preparing to introduce Act Against AIDS in the United States, a multiyear, multifaceted prevention campaign that will use mass media and direct-to-consumer channels with the hope of reducing new HIV infections among the highest-risk populations, notably African Americans. The theme for the kick-off phase is “9 1/2 minutes,” emphasizing the fact that someone becomes infected with HIV in the United States every 9-1/2 minutes [17].

Can we measure the impact of the campaign efforts described above? Given that health-communication campaigns are conducted in the field and therefore cannot typically be evaluated using randomized controlled trials, many campaigns have suffered from poor evaluation design [5, 11]. Despite this, there is evidence from several studies with quasi-experimental designs that media campaigns can reduce rates of unprotected sex and increase HIV testing behaviors, although effects are typically short term [5, 14, 18, 19]. Future evaluation studies will apply more rigorous designs tailored to assessing health-communication campaigns [20].

Entertainment Education

The EE approach integrates health information into offerings that are primarily entertaining, especially those with narrative structures [21]. Prevention messages that use mass media EE reach large audiences and engage them through memorable plots and appealing characters. EE weaves health information into a short-term storyline within an ongoing commercial television series [22]. Most HIV storylines are in afternoon soap operas or evening dramas, but some situation comedies (e.g., “Girlfriends”) have included HIV storylines. The narrative format makes it possible to demonstrate strategies for overcoming barriers to a recommended behavior and the consequences of either adopting the behavior or failing to do so. Hollywood writers and producers retain creative control over content, and their primary concern is increasing viewership, not promoting public health, but they often collaborate with HIV experts to ensure that the health information in their shows is accurate and that prevention messages are compelling.

One evaluated example was a storyline in “The Bold and the Beautiful,” an afternoon soap opera. After an episode in which a character disclosed his positive serostatus to his fiancée, viewers were urged to call the National AIDS Hotline if

they wanted more information about the disease. Calls to the hotline spiked dramatically during those time slots, and the spikes were significantly higher than others that year that coincided either with PSA campaigns representing much more air time (e.g., the week-long Rap it Up campaign) or AIDS information spots on shows (e.g., “60 Minutes”) with substantially larger audiences [23].

Other TV shows have addressed risk factors for HIV infection. One storyline in the primetime drama “ER” concerned syphilis, a disease that increases the risk of HIV infection among urban gay men [24]. In a post-episode online survey of men visiting chat rooms, viewers were significantly more likely than nonviewers to say they intended to be screened for syphilis and tell others to be screened [25]. Another disease risk factor—the perception among 12-to-17 year olds that condom use is sufficient protection—was affected by a mixed-message episode of the situation comedy “Friends” [26]. The episode dramatized a pregnancy that resulted from one night of sexual activity during which there was condom use. Meanwhile, “Condoms are only 97% effective,” flashed across the screen. More than half of the viewers remembered the message to be: “...lots of times, condoms don’t prevent pregnancy.” Forty percent of teen viewers, however, watched the show with an adult, and these teens were more likely than either nonviewers or solo viewers to say that condoms are highly effective.

We need a better understanding of how EE works, so that positive effects can be strengthened. It is also important to learn how transmitting EE offerings through new, social, and interactive media affects outcomes.

New Media Technologies

The Internet, a communication channel with the ability to deliver multimedia and interactive content to specific audiences, has become a portal for HIV/AIDS prevention messages [27]. While mass media are often concerned with reaching general audiences, the Internet offers the possibility of narrowcasting to more carefully defined groups and even tailoring HIV-prevention messages to individuals [28, 29].

The Internet also presents an opportunity to reach high-risk individuals who may not be accessible through traditional community-based settings [30]. Indeed, studies show that many use the Internet to seek sex partners online, and, moreover, that those who use the Internet for this purpose tend to engage in higher-risk sexual behaviors than those who do not [31, 32]. For these reasons, many cities have undertaken major Internet-based outreach and intervention initiatives to find and engage members of these high-risk populations. The Internet has been used for banner ads, chat-room outreach, and online-partner notification [33].

Studies have shown that safer-sex and HIV/AIDS-prevention resources on the Internet vary widely. While many web sites consist merely of safer-sex information, others feature animation, video clips, video games, quizzes, and polls [34-36]. More sophisticated web sites offer communication opportunities, such as message boards

and chat rooms, with some providing peers or experts who are available to talk, e-mail, or reply on message boards [36]. Many web sites are stand-alone ventures, while others are associated with campaigns like those described above, although it is not yet clear how they can best contribute to campaign effectiveness.

Most online safer-sex resources have not been evaluated for efficacy, but there is a growing literature on computer-based interventions in general, and these studies include rigorous evaluations. By way of definition, computer-based interventions are those that use computers as the primary or sole medium from which to deliver a message [37]. Some of these applications are Internet-based; others are stand-alone computer programs or CD-ROMs that run on local computers in community or clinical settings. These programs vary widely in their make-up; some tailor responses to individual characteristics, others address particular at-risk groups, while interactive-video applications seek to simulate the decision-making experiences that one encounters in a sexual situation [38-40].

A recent meta-analytic study synthesized the literature on the first 12 randomized controlled trials on the effect of computer-based interventions on safer-sexual behaviors [37]. Results indicated that the interventions were effective in improving condom use and that the effects were similar to those produced by previously tested human-delivered messages. While only a small number of studies measured other outcomes, such as number of sexual partners and incidence of sexually transmitted diseases, results in those studies indicate a positive impact on these outcomes [37]. These results are promising for the future application of programs and other computer-based technologies to communicate HIV-prevention messages.

The area of new media technologies and HIV prevention is ripe for research and innovation. Studies are needed to help us understand how to best harness the potential of the Internet as a prevention tool. Given the broad use, and increasing sophistication of cell phones (and various mobile devices), studies are beginning to examine HIV prevention via mobile devices, including text messaging [41, 42]. Finally, studies of HIV-prevention messages using social networking web sites such as Facebook and MySpace are warranted [43].

References

1. Edgar TM, Noar SM, Freimuth VS. *Communication Perspectives on HIV/AIDS for the 21st Century*. New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008.
2. Maibach EW, Kreps GL, Bonaguro EW. Developing strategic communication campaigns for HIV/AIDS prevention. In: Ratzan SC, ed. *AIDS: Effective Health Communication for the 90s*. Washington, DC: Taylor & Francis; 1993:15-35.
3. Holtgrave DR. Public health communication strategies for HIV prevention: past and emerging roles. *AIDS*. 1997;11(Suppl A):S183-S190.

4. Bertrand JT, Anhang R. The effectiveness of mass media in changing HIV/AIDS-related behaviour among young people in developing countries. *World Health Organ Tech Rep Ser.* 2006;938:205.
5. Noar SM, Palmgreen P, Chabot M, Dobransky N, Zimmerman RS. A 10-year systematic review of HIV/AIDS mass communication campaigns: have we made progress? *J Health Commun.* 2009;14(1):15-42.
6. Kennedy MG, Beck V, Freimuth VS. Entertainment education and HIV prevention. In: Edgar T, Noar SM, Freimuth VS. *Communication Perspectives on HIV/AIDS for the 21st Century.* New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008: 253-276.
7. Singhal A, Rogers EM. *Combating AIDS: Communication Strategies in Action.* Thousand Oaks, CA: Sage; 2003.
8. Bull S. Internet and other computer technology-based interventions for STD/HIV prevention. In: Edgar T, Noar SM, Freimuth VS. *Communication Perspectives on HIV/AIDS for the 21st Century.* New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008: 351-376.
9. Rogers EM, Storey JD. Communication campaigns. In: Berger CR, Chaffee SH. *Handbook of Communication Science.* Beverly Hills, CA: Sage; 1987: 821.
10. Ratzan SC, Payne JG, Massett HA. Effective health message design: the America responds to AIDS campaign. *Am Behav Sci.* 1994;38(2):294-309.
11. Myhre SL, Flora JA. HIV/AIDS communication campaigns: progress and prospects. *J Health Commun.* 2000;5 Suppl:29-45.
12. CDC AIDS Community Demonstration Projects Research Group. Community-level HIV intervention in 5 cities: final outcome data from the CDC AIDS Community Demonstration Projects. *Am J Public Health.* 1999;89(3):336-345.
13. Horner JR, Romer D, Venable PA, et al. Using culture-centered qualitative formative research to design broadcast messages for HIV prevention for African American adolescents. *J Health Commun.* 2008;13(4):309-325.
14. Zimmerman RS, Palmgreen PM, Noar SM, Lustria ML, Lu HY, Horosewski ML. Effects of a televised two-city safer sex mass media campaign targeting high-sensation-seeking and impulsive-decision-making young adults. *Health Educ Behav.* 2007;34(5):810-826.
15. Alstead M, Campsmith M, Halley CS, Hartfield K, Goldbaum G, Wood RW. Developing, implementing, and evaluating a condom promotion program targeting sexually active adolescents. *AIDS Educ Prev.* 1999;11(6):497-512.
16. Hoff T, Davis J, James M. Leveraging entertainment media to communicate about AIDS: The Kaiser Family Foundation media partnership model. In: Edgar T, Noar SM, Freimuth VS. *Communication Perspectives on HIV/AIDS for the 21st Century.* New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008: 401-406.

17. Centers for Disease Control and Prevention. Act against AIDS: refocusing national attention on the HIV crisis in the United States. 2009. <http://www.cdc.gov/hiv/aaa/pdf/refocusing.pdf>. Accessed November 4, 2009.
18. Snyder LB, Hamilton MA, Mitchell EW, Kiwanuka-Tondo J, Fleming-Milici F, Proctor D. A meta-analysis of the effect of mediated health communication campaigns on behavior change in the United States. *J Health Commun.* 2004;9 Suppl:71-96.
19. Vidanapathirana J, Abramson MJ, Forbes A, Fairley C. Mass media interventions for promoting HIV testing. *Cochrane Database Syst Rev.* 2005;(3):CD004775.
20. Noar SM, Palmgreen P, Zimmerman R. Reflections evaluating health communication campaigns. *Commun Methods Measures.* 2009;3(1-2):105-114.
21. Singhal A, Rogers EM. *Entertainment-Education: A Communication Strategy for Social Change.* Mahwah, NJ: L. Erlbaum Associates; 1999.
22. Beck V. Working with daytime and prime-time television shows in the United States to promote health. In: Singhal A, Cody MJ, Rogers EM, Sabido M, eds. *Entertainment-Education and Social Change: History, Research, and practice.* Mahwah, NJ: L. Erlbaum Associates; 2004: 207-224.
23. Kennedy MG, O’Leary A, Beck V, Pollard K, Simpson P. Increases in calls to the CDC national STD and AIDS hotline following AIDS-related episodes in a soap opera. *J Commun.* 2004;54(2):287-301.
24. Hall-Baker PA, Nieves E, Jajosky RA, et al. Summary of notifiable diseases—United States, 2007. *MMWR Morb Mortal Wkly Rep.* 2009;56(53):1-94.
25. Whittier DK, Kennedy MG, St Lawrence JS, Seeley S, Beck V. Embedding health messages into entertainment television: effect on gay men’s response to a syphilis outbreak. *J Health Commun.* 2005;10(3):251-259.
26. Collins RL, Elliott MN, Berry SH, Kanouse DE, Hunter SB. Entertainment television as a healthy sex educator: the impact of condom-efficacy information in an episode of friends. *Pediatrics.* 2003;112(5):1115-1121.
27. Cassell MM, Jackson C, Chevront B. Health communication on the Internet: an effective channel for health behavior change? *J Health Commun.* 1998;3(1):71-79.
28. Rimal RN, Adkins AD. Using computers to narrowcast health messages: The role of audience segmentation, targeting, and tailoring in health promotion. In: Thompson TL, Dorsey AM, Miller KI, Parrott R. *Handbook of Health Communication.* Mahwah, NJ: L. Erlbaum Associates; 2003: 497-515.
29. Noar SM, Harrington NG, Aldrich R. The role of message tailoring in the development of persuasive health communication messages. In: Beck CS.

- Communication Yearbook 33*. New York, NY: L. Erlbaum Associates; 2009: 73-133.
30. Bull SS, McFarlane M, King D. Barriers to STD/HIV prevention on the Internet. *Health Educ Res*. 2001;16(6):661-670.
 31. Bull SS, McFarlane M, Lloyd L, Rietmeijer C. The process of seeking sex partners online and implications for STD/HIV prevention. *AIDS Care*. 2004;16(8):1012-1020.
 32. McFarlane M, Bull SS, Rietmeijer CA. Young adults on the Internet: risk behaviors for sexually transmitted diseases and HIV(1). *J Adolesc Health*. 2002;31(1):11-16.
 33. McFarlane M, Kachur R, Klausner JD, Roland E, Cohen M. Internet-based health promotion and disease control in the 8 cities: successes, barriers, and future plans. *Sex Transm Dis*. 2005;32(10 Suppl):S60-S64.
 34. Tietz A, Davies SC, Moran JS. Guide to sexually transmitted disease resources on the Internet. *Clin Infect Dis*. 2004;38(9):1304-1310.
 35. Smith M, Gertz E, Alvarez S, Lurie P. The content and accessibility of sex education information on the Internet. *Health Educ Behav*. 2000;27(6):684-694.
 36. Noar SM, Clark A, Cole C, Lustria ML. Review of interactive safer sex web sites: practice and potential. *Health Commun*. 2006;20(3):233-241.
 37. Noar SM, Black HG, Pierce LB. Efficacy of computer technology-based HIV prevention interventions: a meta-analysis. *AIDS*. 2009;23(1):107-115.
 38. Redding CA, Morokoff PJ, Rossi JS, Meier KS. A TTM-tailored condom use intervention for at-risk men and women. In: Edgar T, Noar SM, Freimuth VS. *Communication Perspectives on HIV/AIDS for the 21st Century*. New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008: 423-428.
 39. Lightfoot M, Comulada WS, Stover G. Computerized HIV preventive intervention for adolescents: indications of efficacy. *Am J Public Health*. 2007;97(6):1027-1030.
 40. Read SJ, Miller LC, Appleby PR, et al. Socially optimized learning in a virtual environment: reducing risky sexual behavior among men who have sex with men. *Human Commun Res*. 2006;32(1):1-34.
 41. Ybarra ML, Bull SS. Current trends in Internet- and cell phone-based HIV prevention and intervention programs. *Curr HIV/AIDS Rep*. 2007;4(4):201-207.
 42. Fjeldsoe BS, Marshall AL, Miller YD. Behavior change interventions delivered by mobile telephone short-message service. *Am J Prev Med*. 2009;36(2):165-173.
 43. Latkin CA, Knowlton AR. A network-oriented HIV prevention intervention: The SHIELD study. In: Edgar T, Noar SM, Freimuth VS. *Communication perspectives on HIV/AIDS for the 21st Century*. New York, NY: L. Erlbaum Associates/Taylor & Francis Group; 2008: 413-417.

Seth M. Noar, PhD, is an associate professor in the Department of Communication at the University of Kentucky in Lexington. He is principal or co-investigator on several NIH- and CDC-funded projects that use traditional and new media to reduce sexual risk behaviors among African American and rural American populations. Dr. Noar co-edited *Communication Perspectives on HIV/AIDS for the 21st Century*.

May G. Kennedy, PhD, MPH, is an associate professor at the Virginia Commonwealth University School of Medicine in Richmond, where she teaches health communication in the MPH program and conducts applied prevention-communication research, particularly on entertainment education and social marketing. Prior to Fall 2005, Dr. Kennedy was a communication analyst in the Division of Health Communication of the Office of the Director of the CDC. There, she consulted on social marketing with CDC staff and national partners, helped evaluate the CDC's Entertainment Education Program, and guest-edited a special issue of the *Journal of Health Communication*. Dr. Kennedy began her professional career as a member of the psychology faculty at Mercer University in Macon, Georgia, where she designed, conducted, and evaluated social skills-based preventive interventions for adolescents.

Acknowledgement

We would like to thank Rick Zimmerman for helpful comments provided on an earlier draft of this article.

The viewpoints expressed on this site are those of the authors and do not necessarily reflect the views and policies of the AMA.

Copyright 2009 American Medical Association. All rights reserved.