REACHING MEN WHO HAVE SEX WITH MEN FOR HIV PREVENTION MESSAGING WITH NEW MEDIA: RECOMMENDATIONS FROM AN EXPERT CONSULTATION

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ABSTRACT: We report on the results of an expert consultation held by the Centers for Disease Control and Prevention (CDC) on the use of the Internet and new media to deliver HIV prevention messaging to men who have sex with men (MSM). Experts from government, academia, community-based AIDS service organizations (CBOs/ASOs), and the private sector participated in discussions to examine the strengths and weaknesses of specific channels, technologies, and Websites for delivering HIV prevention messages; and how the issues raised could inform the development of electronic materials to educate, and support choices for different risk reduction strategies. Analysis of the meeting discussion suggested that consultants viewed the Internet and other new media as having great potential to reach MSM with HIV prevention messages. Key themes related to flexibility, reach, visual appeal, engagement, interactivity, and community building were discussed with emphasis given to optimizing the impact and effectiveness via message timing and linking to other resources or data. Several challenges were noted, including structural barriers and the need to deliver HIV content in the context of MSM health issues. Implications for health promotion practice are discussed.

INTRODUCTION

In the United States, men who have sex with men (MSM) account for more than 50% of all new HIV infections [1]. They also represent 71% of all HIV infections among men [2], while only representing 4% of the adult male population [3]. MSM are 50 times as likely to be infected with HIV as the general population, and ethnic/racial minority and young MSM are disproportionately affected [4]. These statistics underscore the need for both developing and evaluating new strategies to reach MSM with HIV prevention messages.

We report on a consultation meeting sponsored by the Centers for Disease Control and Prevention's (CDC's) Division of HIV/AIDS Prevention to share lessons learned from experts currently using new media-based strategies to communicate with MSM and discuss how these emerging technologies can best be used to deliver HIV prevention messages to MSM. We use the phrase "new media" to refer to the new technological developments and devices that mediate information exchange between people, or people and HIV prevention interventionists. The essential quality of these new media being communication, connection, and engagement [5]. For a growing number of Americans, particularly younger people, the Internet, social media, and mobile technology use are becoming ubiquitous channels for communication [6, 7]. Thus, these technologies are potentially useful in delivering HIV prevention messaging. However, because technology is constantly changing, implementing and maintaining interventions and tools that decrease HIV risk are challenging. Research with MSM shows that they perceive benefits and challenges when the Internet is used for HIV prevention messages as Table 1 summarizes. Because of the potential promise new media may hold for HIV prevention, CDC convened an expert panel to share opinions, experiences, and best practices that could inform practice in this area.

BACKGROUND

In March 2010, CDC convened a consultation with 16 experts from government, academia, community-based organizations (CBOs), and the private sector currently using the Internet, social media, and/or mobile technology to communicate with MSM. Experts are listed in the acknowledgements section. The consultation (1) discussed how using specific channels, technologies, or Websites varies by important demographic and behavioral characteristics; (2) determined the strengths and weaknesses of specific channels, technologies, or Websites for different types of HIV prevention messages; and (3) discussed how points raised can inform the development of online tools that might help MSM minimize risk for HIV infection and maximize their sexual health overall. This paper reports on a subset of these questions related to strengths, weaknesses, and challenges; describes the consultants' recommendations for using new media; and implications these recommendations have for health promotion practice.

METHODS

We audio-recorded and transcribed the discussion verbatim, and three members of the project team took notes. To summarize the group discussion, two team members independently read the transcripts; reviewed the notes; and made lists of major points brought up in the discussion; common themes; the strengths, weaknesses, and challenges of using the Internet, social media, and mobile technology for HIV prevention messaging; and any recommendations. The two team members subsequently met to discuss the lists and agreed on the resulting presentation of conclusions described below. The other authors, also in attendance at the meeting, reviewed and agreed on the conclusions. The consultants were able to comment on the entire report.

SUMMARY OF GROUP DISCUSSION

Existing Web-Based Decision Support Tools

We asked the consultants to identify the strengths and weaknesses of existing publically available Web-based decision support tools. They mentioned a handful of tools and did not identify any strengths. Conversely, the consultants identified several weaknesses of existing tools:

Table 1. MSM's Perceived Benefits and Challenges for Using the Internet for HIV Prevention	
Benefits	**Challenges**
• Functional and practical • Ability to socialize and communicate with other men about common interests and concerns • Easy to search and user friendly • Clean design • Nonjudgmental and not preachy	• Frustration about the lack of open, honest, and meaningful communication in online venues • Possibility that some people lie about themselves when looking for sex partners • Few alternatives to sexually oriented sites • Ambivalence regarding participation in Internet-based HIV prevention interventions • May be appealing but may not be creating change in norms, attitudes, behavior • Preference for hook-up sites vs. links to social network sites • Racial/ethnic stereotyping online reinforce divisions in gay communities

Sources: [8, 9, 10]

they are not tailored, not comprehensive, not helpful, and not useful. In addition, they felt quantifying risks in a decision tool and communicating risk information to individuals in a meaningful way would be difficult.

New Media-Based HIV Prevention Interventions: Strengths, Weaknesses, and Challenges

The discussion then focused on the issues surrounding using new media to support MSM in making sexual health and risk-reduction decisions. The primary themes that emerged were that new media (1) are very flexible channels that can easily organize message content and message or intervention delivery, (2) have the potential of high reach, (3) can be visually appealing and engaging, (4) can mimic interactivity like counseling and interpersonal interaction, (5) can be used to facilitate social connections and create community, and (6) can optimize timing of message delivery via linking with other technology or data sources that may increase impact and effectiveness. We summarize potential strengths and challenges noted for most themes.

Flexibility. As the consultants noted, the MSM community is not homogeneous; therefore, communication and messages need to be segmented by relevant priority audiences when implemented. Thus, using new media is a strength because it can facilitate targeting interventions and delivering tailored information. Targeting and tailoring information to priority audiences should not stigmatize MSM subgroups by singling out particular subgroups of MSM.

A new media-based intervention can also be designed and developed in components or offer a continuum of options for users. The consultants viewed this aspect very positively because an intervention and messages can be delivered and adapted over time as needs change. They also noted that a potential challenge of this flexibility is that intervention development can become more complex, requiring greater monetary and technical resources.

Reach. New media also provides a delivery channel that is very high reach, and depending on how it is used, the intervention, or at least promotion of it, can "go viral" and be used on both computers and mobile devices. New media facilitates interfacing with other Websites and organizations and can create opportunities for co-branding so that reach is maximized because content resides on multiple sites. As the consultants noted, although the digital divide is closing, not all MSM may be online. Therefore, it is important to consider that messages, interventions, or tools implemented online only reach MSM who use the Internet. Disparities might be magnified for those who are not regular Internet users or do not have access.

Visually appeal. Web-based applications delivered via a computer or mobile device enable interventions to be visually

appealing, fun, and engaging through multimedia components (e.g., video vignettes, audio, music). The consultants viewed this aspect of the technology very positively because it allows interventions and messages to be delivered so that they can compete in a crowded messaging environment. Furthermore, some of the consultants felt strongly that delivering interesting or engaging messages to some MSM priority audiences is difficult when prohibitions on showing intimacy between two men or sexually explicit images online exist in organizations that deliver HIV prevention programs. The issue of content and images also poses a challenge because health departments cannot access many Websites housing interventions for MSM if they are blocked due to policy or legal concerns. Furthermore, these Websites are likely blocked on public computers in places such as libraries. Thus, although visually appealing and engaging content may be a positive element of online and mobile applications, the types of images need to be considered carefully so access is not decreased.

Interactivity. New media can mimic interactions that take place in a counseling context. Although consultants did not suggest that technology take the place of counseling when needed, they did offer examples when online or mobile interactivity may help set behavior-change goals, provide reminders (e.g., to get tested for HIV, for medical appointments, and for medication adherence), and offer tools to support these activities. Web pages can effectively mimic active listening, track data, and mirror data back to users in visually appealing ways; this potential was viewed as a strength of using new media for delivering prevention messages.

Community building/social networking. Consultants noted that overlapping social networks online can help build MSM communities, which can enhance social support and create positive social norms for MSM. Researchers can capitalize on the power of new media for recruiting study participants and involving MSM in intervention development or formative research for HIV prevention. This capacity was considered a strength. However, the overlapping and mixing of social networks can also increase potential sexual risk, which may facilitate the transmission of HIV by increasing the chances for those who are seeking sex partners outside their primary sexual networks to find each other. The consultants noted that online pornography sites are now integrating social networking into their sites, which could affect behavior and increase risk.

The consultants noted that an additional potential strength of new media is the opportunity for user-generated content that may sustain interventions and messages and make them more accessible, interesting, and relevant for MSM. A potential downside of this, however, is that the sustainability of messaging is threatened if social network members do not

repeat or pass along the messages. Involving MSM as co-creators of online messaging and online communities to support prevention messaging would require a greater online presence in social networking sites (SNSs) of health promotion practitioners and more monitoring how and when messages are delivered.

Optimizing effectiveness via timing and linking. Several issues emerged related to using new media to increase the potential impact and effectiveness of prevention messages. These issues centered on the ability to time message delivery and data or technology linking. Consultants noted that new media offer the ability to intervene in real time by messaging when it might be most influential, a potential strength. For example, if a user is entering his HIV status into his online profile, appropriate prevention messaging can be provided immediately. However, timing can be complicated by actual online use and preferences among MSM users. For example, consultants reported that MSM typically multitask and traverse multiple social sites at once while online, which can pose challenges for delivering an intervention or attempting to select "the" most appropriate Website for an intervention or messages. Thus, limiting messaging, an intervention, or tool to only one site is likely not sufficient. Having prevention messages on multiple sites that are either linked or have related content is important.

Using location-aware applications that use global positioning systems (GPS) is increasingly popular and offers new ways to enhance the timing of message delivery, which consultants viewed as a benefit. Public health workers can use location-aware strategies for prevention messaging and outreach in addition to providing information to MSM about resources available in a neighborhood or locale. At the same time, mobile applications like "Grindr," which capitalize on the GPS function, facilitate the process of finding sex partners in close proximity to the user, which may increase risk and present new challenges for HIV prevention and intervention activities.

The consultants felt strongly that using large-screen technology, such as computers alone, results in missed opportunities to link or supplement with mobile small-screen technology. They emphasized the importance of using multiple technology channels to reinforce messages and advocated for frequent use of mobile applications.

Consultant Recommendations for Using the Internet and New Media

The remainder of the discussion focused on the consultants' recommendations for using new media (including mobile technology) for HIV prevention messaging. We highlight two areas most relevant to health promotion practice.

Recommendations for Intervention Message Content and Delivery

Consultants were very clear that an intervention focused on messaging about HIV needs to also focus on a broader topic if it is to capture MSM's attention. In other words, MSM are not going to be interested in watching a video with HIV in the title. The overarching recommendation was to focus on comprehensive men's health or sexual health rather than on HIV only. Furthermore, they stated that a focus on relationships and dating could be particularly effective, especially since a large proportion of infections (68%) are occurring within primary relationships [11], and presently no interventions are focused on relationships. The current focus in many technology-based interventions is messaging on hook-up sites. The consultants acknowledged a more comprehensive focus would require a different conceptualization for HIV prevention. They believed thought needs to be given to messaging for MSM in relationships so that the formation and maintenance of relationships are not undermined. The consultants offered a number of suggestions for topics to consider in a relationship-based intervention, including relationship skills, pleasure, intimacy, loneliness, negotiating non-monogamy, communication, decision making in critical situations, alcohol, drugs, sexually transmitted diseases (STDs), and acute infection.

The consultants believed using a variety of approaches to reach MSM is important. They recommended reviewing approaches undertaken in other countries, especially in the UK and Australia, and adapting these approaches as a model to effectively engage MSM in the United States. In particular, they suggested reviewing Davidovich's work (e.g., Davidovich, de Wit, and Stroebe [12]), the Center for Sexual Health Promotion at Indiana University, Sigma Research, and Australia's pleasure-focused AIDS Council campaigns. They also recommended considering approaches and guidelines for U.S.-online partner services as an informative model. They suggested looking at the range of existing Websites aimed at MSM, for example, from the DC Fuk!t (www.dcfuk!t.org) Website to those focusing on relationships. This review would lead to understanding the full spectrum of language and images MSM are accustomed to viewing online.

In designing an intervention, the consultants underscored the need to carefully consider the goals of online messages. Other relevant goals mentioned included increasing awareness, promoting information seeking, or informing men of other offline resources for prevention and/or treatment services, or even promoting offline social activities that are safe alternatives. The consultants suggested a pulling-in or opt-in, motivational approach rather than imposing messages in the online context. They further recommended that message and intervention developers avoid anything that looks like teaching or providing information. They also suggested that if health care providers were involved in a

larger real-world communication campaign branded with online interventions or messaging, they could reinforce the online messages to give them further credibility and urgency, especially if they relate to new HIV prevention strategies, like pre-exposure prophylaxis (PrEP), that are still largely unfamiliar to gay communities.

Overall, the consultants felt strongly that interventions need to generate relevant and actionable output (e.g., no one size fits all message that tells all gay men to get tested for everything or to wear a condom 100% of the time). Thus, the information must be tailored to important factors to make the messages relevant. For example, they felt the age of users is an important segmentation variable because use of different Websites varies by age (e.g., dlist is a SNS for gay men, but it has a high proportion of users aged 18 to 24). In particular, the consultants thought developing messages and designing interventions with the specific needs, concerns, and strengths of MSM under age 18 was important.

The consultants recommended using an iterative approach to developing online interventions or decision support tools. A strength of building an Internet-based intervention is that more applications can be built into second and third generations as opposed to having to develop everything all at once (e.g., focus on relationships and create a number of modules and then people can choose which module[s] is most relevant to them). They recommended choosing the three to five most important prevention activities and focusing on those. It would be a first generation mistake to take an intervention that works offline and put it online because it would result in a weak online program. However, an offline intervention can be supplemented with an Internet component. In addition, the consultants thought that developing an intervention or decision support tool that was accessible only via computers would be a critical mistake. New interventions must be compatible with mobile devices such as smart phones and capitalize on Web 2.0 (social) features from the start. They stated that short-messaging service (SMS) (i.e., texting) has not yet been used to its fullest capacity; it can be used for much more than delivering text messages. For example, it could be used to send YouTube videos and links that provide more information.

The consultants suggested using an asset-based approach (as opposed to a risk-based approach) to messaging. They provided a concrete example related to crystal meth. They suggested messaging about the 90% of MSM who do not use crystal meth as opposed to the 10% who do. This strategy can be effective in changing social norms about the prevalence of meth use or the perception of other normative factors in local communities. The recent AIDS Chicago campaign "How Are You Healthy" and the NYC campaign "I Love My Boo" are prime examples of asset-based approaches.

The consultants also supported innovative approaches to message and product development, including using a Wiki-type approach or crowdsourcing to generate content. Crowdsourcing, sometimes referred to as community-based design, refers to using a large group of people or a community to develop a new product or technology. One of the consultants provided the example of Gay Men's Health Crisis' Raw Cut Productions/Anti-Stigma Awareness Project as an example of a Web-based HIV prevention social marketing campaign that incorporated user-generated content.

Another innovative suggestion was to include the ability for each user to build an avatar. This could help create buzz and conversation about the intervention. The avatar application could also be designed so that it could be exported to other Websites (e.g., incorporated into someone's online profile on SNS or dating sites). The avatar could also function as a support provider by offering reminders and tips about what to do in high-risk situations. Furthermore, the consultants recommended developing an intervention or tool that could be embedded on multiple sites to enable broader reach and access.

To supplement a community-based approach, the consultants recommended using the popular opinion leader models and working with the house and ball community as one way to deliver messages. One approach suggested for delivery and dissemination involved CBOs taking messages developed by CDC or others and putting them into their own publications or products. CBOs are already doing this at the local level, and having support from CDC and other agencies would be helpful. The consultants recommended pursuing partnerships among CDC, CBOs, and the private sector to implement messaging, interventions, and decision support tools. This type of partnership may be very important when using newer technologies to deliver HIV prevention messages, because CDC has easier access to important HIV/AIDS surveillance, monitoring and evaluation data, the business sector is ahead of health promotion agencies in using these technologies, and CBOs have closer ties with target audiences of interest. The consultants also underscored the importance of having multilingual messages and materials to reach non-English speaking MSM.

Recommendations Related to Structural Changes

The consultants provided several recommendations related to structural changes to facilitate the use of emerging technologies to communicate HIV prevention messages. They said CDC can help health promotion practitioners by making behavioral, HIV/AIDS, surveillance, monitoring and program evaluation data available more rapidly. The lag in data availability has resulted in delays in identifying "hot spots" and vulnerable populations and prevented the use of

Table 2. Discussion Themes and Implications for Health Promotion Practice

Theme	Implications for Health Promotion Practice
Flexibility	Increases ability to deliver meaningful and relevant information. At the same time developing, hosting, and maintaining Websites can be resource intensive, so partnerships among organizations or linking to other resources could be helpful.
Reach	Increases practitioners' ability to reach priority populations and makes access more convenient for priority populations. At the same time, the intervention or messages could get lost in a crowded online environment so similar messages across multiple Websites could increase effectiveness. Access could be difficult for some groups who may be at higher risk (e.g., younger MSM), so online methods need to be supplemented for particular audiences.
Visual appeal	Multimedia capabilities increase appeal and engagement for priority audiences. Creating dynamic Websites and messaging interventions could be expensive, so collaboration with different types of nontraditional partners (e.g., designers, programmers, communication practitioners, private sector enterprises) could increase this potential.
Interactivity	Leverages important aspects of social interaction without need for face-to-face dialogue. Start to use messaging that goes beyond static text presentation. Information can be layered, tailored based on user input, and user-generated content could capitalize on Web 2.0 capabilities.
Community building and social networking	Building online MSM communities via SNS can enhance positive prevention norms. Ask early adopter MSM to refer friends to build online community focused on assets and prevention rather than risk. Involve MSM as co-creators of information rather than passive recipients.
Optimizing effectiveness via timing and linking	Delivery of interventions and messages via mobile devices can make delivery match the context of an individual's daily life, thereby increasing potential effectiveness. In addition, data on multiple sites can be linked to make Websites easier to use for audience members. This means partnering with mobile phone providers, SMS gateway providers, or organizations using Websites to deliver related content.

technological solutions to address HIV among MSM. The data and technology need to be in better sync to be effective.

Because lack of funds is a barrier to adopting emerging technologies for HIV prevention, the consultants recommended that CDC explicitly state that hardware and software purchases are allowable using prevention funds. In addition, they felt that CBOs may need technical assistance to use technology effectively for HIV prevention activities. Another structural barrier to using technology for HIV prevention is that many city, state, and local health departments have restrictive access policies or firewalls that block access to HIV/AIDS resources that contain sexually explicit information. Given that Websites with adult content could prove to be an important venue for promoting HIV prevention education among MSM, having these Websites blocked or prohibited is a barrier.

CONCLUSIONS

There is a large opportunity to enhance HIV prevention by developing HIV prevention messages that could be delivered via new media. We summarize implications related to the

themes discussed in Table 2. One common thread across the implications shown is that using new media requires collaboration and working with nontraditional partners and involving the priority audiences as meaningful partners in content generation [13].

Overall, consultants felt that new media can play a key role in disseminating HIV messaging to support MSM and connecting them with local agencies, health departments, or CDC. The social integration potential of these technologies is important for creating positive and healthy online and offline communities. The social reinforcing and community building aspects of these communication technologies are likely as important as their "messaging" potential [14]. Emerging communication technologies can play an important role in integrating MSM into a community of prevention and bolstering positive social norms by focusing on community strengths rather than creating stigma by highlighting weaknesses. Many consultants viewed technology in this way, even though it also creates the potential for MSM who are seeking high-risk sex to find it more easily. Given the research showing that community integration, social support, and social capital are health enhancing [15], these technologies could have a positive impact that outweighs the

risk. To fully realize this potential, however, health promotion practitioners must be able to access and use technology to reach MSM.

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