InteragencyYouthWorkingGroup

YouthLens

Communicating with Youth: Using the Internet and Mobile Phones in Reproductive Health Programs

The Internet and mobile phones hold promise as tools for reaching youth, but more evaluation is needed.

A growing number of programs are turning to the Internet and mobile phones to communicate with young people about reproductive health and HIV/AIDS prevention. The surge in availability and popularity of these technologies among youth offers new opportunities but also raises important questions. How can the Internet and mobile phones best be used in reproductive health interventions for youth? What are the advantages and challenges of using these technologies? Is there evidence to demonstrate that interventions using the Internet or mobile phone are effective?

Access in the developing world

Access to and use of the Internet in the developing world depend on a number of factors, including physical access to technology; socioeconomic factors, like income and education; demographic characteristics, such as age, gender, and geographic location; and culture.[1]

Data suggest a moderate level of Internet access among youth in developing countries, especially in urban areas, and point to the significant interest that youth have in this technology. A 2007 survey of 1,011 adolescent girls in an urban area in Nigeria found that 73 percent had used the Internet.[2] In Accra, Ghana, 63 percent of a random sample of 778 adolescents reported using the Internet at least once.[3] A 2006 cross-sectional study of Internet use among 500 adolescents ages 12 to 18 in Mbarra, Uganda, found that almost half had used the Internet, most in the previous week. If Internet access were free, most of the Mbarra youth said they would search for information about HIV (66 percent) and sexual health (61 percent).[4]

At the same time, mobile phone use in the developing world is quickly increasing. Between 2000 and 2003, almost half a billion phones were added in developing countries alone.[5] Sixty-one percent of the world's mobile phone users live in developing countries, and more than 90 percent of phone subscriptions in Africa are with mobile rather than land-line phones.[6] Seventy-five percent of 15- to 24-year-olds in South Africa own mobile phones, and 60 percent report using them every day.[7]

Besides making and receiving calls, mobile phones are also commonly used to send text messages. Text messages, or short messaging services (SMS), are less expensive and more reliable than land-line phone service in most developing countries. Young people are considered enthusiastic adopters of mobile phones and avid users of text messaging.[8]

Internet programs

Web-based initiatives offer additional ways to educate young people. For example, some Web sites house reproductive health curricula intended for youth to use in self-guided study, in or out of school. One such curriculum, *The World Starts With Me*, is used in secondary schools in Indonesia, Thailand, Kenya, and Uganda. The World Population Fund
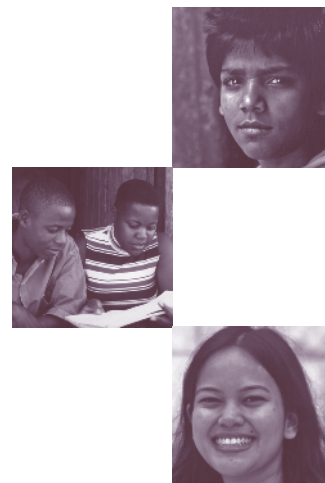
supports the effort, which is currently being evaluated. Similarly, Learning about Living, an HIV prevention program for Nigerian youth, hosts a Web site that provides information on HIV and other STIs through a series of educational modules. Young people can also anonymously contact the program's health educators and ask them questions. Both programs are available on compact disk for off-line use independent of the Internet.

Web sites also promote and provide health-related services. For example, a site in South Africa (*www.karabo.org.za*) uses an online mapping program to help people locate their nearest HIV testing and treatment sites. In Vietnam, one site (*www.tamsubantre.org*) has cultivated an online youth community of more than 53,000 members. Youth counselors moderate discussions, write health-related Web content, and provide counseling online and via e-mail.

Several barriers may limit the reach of Web-based initiatives in developing countries. Web-based programs require adequate technology support and strong computer networks, which may be lacking. In many countries, only a small fraction of the population has access to a computer, and boys may have more access to computers and use them more frequently than do girls.[9] Also, screening programs may block young people from accessing sexual health Web sites.

Little published evidence exists about the effectiveness of Web-based programs. One of the few studies to carefully evaluate a Web-based education project on youth reproductive health and HIV in developing countries had mixed results, at best. The study evaluated TeenWeb, a Web-based program implemented in Kenya and Brazil. Students in middle and secondary schools (1,178 in Kenya; 714 in Brazil) completed an online module on reproductive health and HIV every six to eight weeks. These students were allowed access to the Internet for 30 minutes after finishing each module. Although their computers automatically directed them to health sites, students were free to access nearly any site they wished. At the end of the project, researchers found that students' "absolute level

of knowledge at post-test [was] dismayingly low."[10] There were few differences between students who participated in the program and a control group that did not. Participants spent little time on health-related sites compared to viewing entertainment sites or accessing e-mail. However, the researchers explain that the number of young people in developing countries who will turn to the Internet for health information could rise as access improves.

Mobile phone programs

The number of mobile phone interventions to communicate with youth on reproductive health and HIV-related issues is increasing. In Uganda, a nongovernmental organization called Text to Change collaborated with a telecommunications company to increase awareness of HIV and AIDS among young people and to encourage them to seek HIV testing and treatment. Over six weeks, 15,000 mobile phone subscribers received weekly text messages in the form of multiple choice questions. Those who texted back correct answers had the chance to win phone airtime or new phones; those who answered a question incorrectly received text messages with the accurate information. About 2,500 people responded each week.

India's Heroes AIDS project saw potential for mobile phones as an important tool for those who fear discrimination and are hesitant to ask questions about taboo topics. The project launched a text hotline initiative, in partnership with STAR TV, that targeted urban youth throughout India. From January to May 2007, television publicized the hotline and encouraged young people to text questions about HIV and AIDS to trained counselors. The project received an average of 1,000 text messages per day. One limitation of the technology was that counselors were allowed only 80 characters with which to respond to questions.

Other programs use mobile phones to complement existing projects. Learning about Living, the Nigerian project mentioned above, allows users to send text, e-mail, or phone messages to trained counselors. Young people sent more than 53,000

text messages in the first year. In South Africa, the nongovernmental organization LoveLife expanded its face-to-face peer support networks by starting MyMsta, a mobile phone-based social network dedicated to youth empowerment and HIV prevention. Young people interact via Internet-capable mobile phones to join chat groups, access job and scholarship listings, and win prizes for answering questions on sexual health.

A U.S. text messaging hotline called SEXINFO targets African-American youth with facts about HIV and local testing sites. In its first 25 weeks, the hotline received more than 4,500 text messages, half of which led to service referrals. In a subsequent survey of 214 youth attending local clinics, knowledge of the SEXINFO program was associated with increased concern about STIs.[11]

Finally, mobile phones are also beginning to be used to improve service delivery. For example, the Gold Star Network in Kenya sends text messages to patients to remind them to take their antiretroviral medications and to confirm doctor appointments. Trained counselors also take follow-up calls to address patients' questions. This project is not specifically for youth, but it is likely that young people use the service.

These examples suggest that using mobile phones in sexual health programs for youth can be advantageous. First, youth are responsive to and excited about using these technologies. Second, mobile phones are relatively inexpensive, portable, and accessible. The innovations of SMS and Web access via phone also have increased the ways in which mobile phones can be used to communicate. Third, mobile phones offer more privacy than face-to-face meetings with health care providers and counselors.

One potential challenge to the use of mobile phones is confidentiality, particularly in households where several family members share a mobile phone. For projects that transmit patient data or sensitive information, steps must be taken to ensure that informed consent and patient information are protected.[12]

Future Directions

Researchers and program managers need more information to determine how mobile phones and Internet technologies can improve young people's knowledge, attitudes, and practices related to reproductive health. Questions for future research include:

- Reach: How many young people use these technologies? What is their gender, age, rural or urban status, economic status? What limits the reach of technology—air time, access to electricity, technology literacy?

- Feasibility: What types of information will young people access through new technologies? When is in-person counseling needed or preferred?

RESOURCES ON INTERNET OR MOBILE PHONE USE

Although not focused specifically on youth, the following resources are recommended for people developing health projects that use the Internet or mobile phones.

MobileActive

http://mobileactive.org

MobileActive is a community of people and organizations using mobile phones for social impact. The Web site includes networking opportunities; information on international conferences; and a database of vendors, tools, and projects.

mHealth for Development: The Opportunity of Mobile Technology for Healthcare in the Developing World

http://www.unfoundation.org/global-issues/technology/mhealth-report.html

This 70-page report from the United Nations Foundation and Vodafone Foundation Technology Partnership details the provision of health-related services via mobile communications (mHealth) in the developing world.

TakingITGlobal

http://www.tigweb.org/

TakingITGlobal is a social networking site and resource center for those using information and communications technology for civic participation and youth engagement. The Web site contains research; tools for educators; outreach and collaboration tools; and other resources.

Texting4Health@Stanford University

http://www.texting4health.org/index.html

This site hosts a directory of Web resources for SMS campaigns; SMS health interventions; reports; journal articles; blogs about mobile health care; mobile industry resources; nonprofit organizations; companies that develop SMS campaigns; and more.

■ Evaluation and effectiveness: What is the effect of technology programs on knowledge, attitudes, behavior, or use of services? How cost-effective are they? What features of a program make it successful? How can projects be improved and expanded?

Program managers must consider many issues when developing a new program or expanding an existing one. Some questions specific to programs using mobile phones or the Internet include:[13]

■ Who is the intended audience? Addressing a targeted audience can have more impact, but the cost of developing a technology-based program for a small audience might be prohibitive.

■ How technically accessible is the program? Simpler phones that require less technological literacy are more affordable. Phones with video and Internet capabilities offer more platforms for delivering educational messages.

■ Should a project link to other content or technology? Some mobile phone projects are self-contained, while others might draw content from Internet resources that can be technically and organizationally challenging.

■ What does the program require from technology partners? Planners should determine whether their programs will rely on the cooperation of service providers or manufacturers and prepare for negotiations with them. Program planners should think creatively about how to build alliances with private service providers and manufacturers, who can contribute innovative ideas and, possibly, financial backing.

The development of reproductive health programs that target youth with new technology far outpaces research about and evaluation of these programs. Rigorous monitoring and evaluation activities are needed to inform our efforts to improve young people's health through Internet and mobile phone communications.

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