

Developing a Web-Based Tool Using Information and Communication Technologies to Expand the Reach and Impact of Photovoice

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Abstract:

Information and communication technologies are opening up vast new arenas for conducting the work of health promotion. Technology-based health promotions expand reach, standardize information and its delivery, provide opportunities for tailoring, create engaging interactivity within content delivery, provide for privacy and autonomy, improve portability, and lower delivery costs. This commentary describes the ongoing exploration and development of a web-based tool for enhancing the reach and impact of Photovoice as a community change intervention. Features of the tool use information and communication technologies that integrate the use of an online learning management system, tailored messaging, gaming technology, interactive features, and the application of social media's power to increase the capacity of communities to employ comprehensive strategies to improve the health of their communities. It will enable individuals and groups to use photos and captions to assess the physical environment, social norms, and behaviors of communities; raise community awareness of the factors contributing to ill health in their communities; mobilize stakeholders; and inform environmental strategies and policy changes. We believe that it will enhance the delivery of educational content about conducting Photovoice projects, provide features unavailable without the application of information and communication technologies, and be substantive advancement over existing Photovoice resources.

Keywords: Information technology | Health promotion | Social networks | Community health care | Photovoice

Article:

Information and communication technologies are opening up vast new arenas for conducting the work of health promotion. Technology-based health promotions expand reach, standardize information and its delivery, provide opportunities for tailoring, create engaging interactivity within content delivery, provide for privacy and autonomy, improve portability, and lower delivery costs. This commentary describes the ongoing exploration and development of a web-based tool for enhancing the reach and impact of Photovoice as a community change intervention. Features of the tool use information and communication technologies that integrate the use of an online learning management system, tailored messaging, gaming technology, interactive features, and the application of social media's power to increase the capacity of communities to employ comprehensive strategies to improve the health of their communities. It will enable individuals and groups to use photos and captions to assess the physical environment, social norms, and behaviors of communities; raise community awareness of the factors contributing to ill health in their communities; mobilize stakeholders; and inform environmental strategies and policy changes. We believe that it will enhance the delivery of educational content about conducting Photovoice projects, provide features unavailable without the application of information and communication technologies, and be substantive advancement over existing Photovoice resources.

Information and communication technologies are opening up vast new arenas for conducting the work of health promotion. The advantages associated with the use of digital technology for the design and delivery of health promotion efforts are numerous. Technology-based health promotions expand reach, standardize information and its delivery, provide opportunities for tailoring, create engaging interactivity within content delivery, provide for privacy and autonomy, improve portability, and lower delivery costs.¹

Society's use of the Internet, mobile devices, and social media is swiftly becoming central to our lives within modern society and is largely integrated into our daily social behaviors. The use of digital technology is particularly ubiquitous among youth and young adults (ages 12 to 29), with 93% being online, 75% owning and using mobile phones, and 73% using social media networking applications.² This commentary describes the ongoing exploration and development of a web-based tool for enhancing the reach and impact of Photovoice as a community change intervention. Features of the tool use information and communication technologies that integrate the use of an online learning management system, tailored messaging, gaming technology, interactive features, and the application of social media's power to increase the capacity of communities to employ comprehensive strategies to improve the health of their communities.

PHOTOVOICE

*Healthy People 2020*³ describes the need to address both the individual and societal determinates that affect the health of individuals and communities. Understanding, addressing, and targeting these determinates requires new strategies that move beyond targeting individuals and their behaviors to strategies that target social, economic, built environment, and other ecological factors. Although raising awareness is a critical first step in the process, community perceptions and community norms need to be challenged in order to motivate stakeholders to join in policy and environmental change efforts. Numerous studies provide evidence that the Photovoice

process is a powerful method of engaging communities in needs assessment, advocating for policy change, and community-level prevention.

Photovoice is a process by which participants learn to operate cameras and are invited to take pictures of the strengths, weaknesses, and/or specific issues in their communities. Participants represent through photography and caption writing and reflect through a dialogue process the realities and issues in their lives as a means for raising awareness of salient community issues and encouraging local action by means of public photo exhibits and local participatory action planning. This method has been successfully used to define health challenges within distressed urban neighborhoods, identify plans of action for youth with HIV and AIDS in rural South Africa, enhance civic participation among women in rural Northern Ireland, motivate action to improve poor physical conditions of an urban middle school, address enforcement of smoking policies on a college campus, and engage youth in addressing community level factors contributing to obesity.

PHOTOVOICE WEB-BASED TOOL

The Photovoice web-based tool will include multiple components that lead individuals and communities through the steps and ethics of the Photovoice process. It is being designed to enable individuals and groups to use photos and captions to assess the physical environment, social norms, and behaviors of communities; raise community awareness of the factors contributing to ill health in their communities; mobilize stakeholders; and inform environmental strategies and policy changes. An underlying tenet of the tool is to nurture the advocacy skills of participants and build the capacity of users to be effective community change agents. The research and development of the tool meets the National Institutes of Health's Small Business Innovation Research program's objective of supporting efforts to bring commercially available products and tools that enhance the health of society to the marketplace (R41NR015736).

The web-based Photovoice tool will provide (a) standardized and fun online training on the Photovoice method and advocacy skills; (b) a convenient web portal for uploading photos, adding captions, printing high-quality prints for public display, and hosting online photo exhibits; (c) an online resource center with opportunities to network with other communities engaged in photovoice activities; and (d) an enhanced technology platform that will cultivate a community of Photovoice users.

A program model depicting the expected relationships between Photovoice components, subsequent proximal community outcomes, targeted strategies, and health outcomes guided the development of the web-based Photovoice tool (see Figure 1). This model stands in contrast to other models that focus on individual behaviors and have the potential for victim-blaming.¹⁹ As with other photovoice initiatives of the research team, the emphasis on the community as patient provides a strategy to motivate action while not blaming the victim. The specific targeted strategies and health outcomes will vary by communities and applications of the photovoice methodology.



FIGURE 1 Expected relationships between the tool, community outcomes, targeted strategies, and health outcomes.

The web-based Photovoice tool will provide community coalitions and other groups a method of assessing the current community environment, increasing community awareness, and conducting targeted advocacy activities. As with most Photovoice efforts, these activities are hypothesized to lead to important proximal community outcomes that target desired systems and policy changes within a community.

The use of technology enables us to enhance how Photovoice is implemented. The web-based Photovoice tool will include learning content modules, technology enhanced Photovoice functions, personalized customization, and resource center. The learning modules will provide visually appealing content, interactive exercises, animations, 3D gaming and learning activities, and knowledge assessments.

The technology-enhanced features of the tool include digital photo management and sharing functions that will (a) enable participants to upload digital photos and add descriptive captions, (b) require facilitator approval before photos can be viewed by others, (c) provide a format in which photo galleries can be displayed and shared via online photovoice exhibits and other social media sites, and (d) integrate a digital printing service that simplifies printing photos and captions for face-to-face public exhibits.

The tool will also permit groups to customize their team's personalized Photovoice web pages. These features will enable groups to share documents, have threaded discussions, post to bulletin boards, link to social networking sites, and network with other communities engaged in Photovoice efforts. A monthly blog will be used to provide Photovoice tips and updates on the latest research and facilitate communication between users of the web-based Photovoice tool and researchers engaged in Photovoice.

A resource center of the web-based tool will provide users and team facilitators a clearinghouse of online resources. The evolving set of resources provided through the resource center will include downloadable templates (i.e., letters to the editor, invitations to photo exhibits, strategic planning tools, etc.), links to external resources (i.e., national and local data, funding

opportunities, etc.), and supplementary content that enhances the implementation of a local Photovoice project.

DISCUSSION

This commentary describes the creation of a web-based tool for enhancing the reach and impact of Photovoice as a community change intervention. As health promotion researchers and professionals, we ought to embrace our role in translating promising technologies to the private sector through strategic public and private partnerships, so that life-saving innovations reach consumer markets (i.e., public health professionals, practitioners, end users). The ubiquitous use of technology within society demands that health promotion professionals attend to and understand the changing nature of how ideas are communicated. Taking advantage of new technologies will require the profession to seek out nontraditional partners that can enhance our ability to integrate innovative technologies and strengthen health promotion efforts. Adapting to this new information-rich environment will maximize our ability to harness its power and better impact the health of individuals and communities.

The web-based Photovoice tool described here is an attempt to adapt and enhance an existing and proven methodology by capitalizing on the power of technology. As with other health promotion efforts, using technology to deliver programming will require ongoing research and evaluation to inform program improvement. Questions to be explored include the degree to which technology enhances (a) acceptability: idea/program suitable and satisfying to recipients, (b) demand: assessment of potential demand for idea/product, (c) implementation: factors affecting implementation ease, (d) practicality: ability to carry out program given resources and cost analysis considerations, (e) adaptation: perceived flexibility/customization of program, and (f) integration: perceived fit within current infrastructures.²⁰ Each of these areas of inquiry can not only guide ongoing exploration and program improvement but may also provide justification for the increased use of technology in health promotion.

TRANSLATION TO HEALTH EDUCATION PRACTICE

Health challenges of modern society are shaped by individual behavior and social and environmental influences. Over the course of many years, Photovoice has demonstrated its utility for identifying, representing, and advocating for community-level change. One of the intents of developing the web-based Photovoice tool has been to enhance the reach of Photovoice and its power to motivate stakeholders to join in policy and environmental change efforts. We believe that the tool will enhance the delivery of educational content about conducting Photovoice projects, provide features unavailable without the application of information and communication technologies, and be a substantive advancement over existing Photovoice resources and guides.

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