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## POLICY ARTICLE

# The Central Role of Relevant Health Information for Promoting Cancer Prevention and Control

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### Abstract

Despite major scientific gains in important new knowledge about risks, biological processes, prevention practices, and advanced treatments for many forms of cancer, epidemiological evidence shows that cancer continues to evolve as an increasingly dangerous health issue responsible for unacceptably high levels of death and disability world-wide. Sadly, many major advances in cancer knowledge have not been adequately translated into needed personal and institutional actions that could significantly reduce cancer morbidity and mortality. Disseminating relevant and actionable cancer-related health information to those who are confronting cancer is essential for promoting needed cancer prevention and control. Cancer information dissemination efforts should clearly and persuasively communicate complex cancer information to diverse and often vulnerable audiences who desperately need relevant information about key cancer issues, including cancer prevention, early detection, informed diagnosis, cancer treatment, and successful cancer survivorship. Strategic health communication can build needed awareness about cancer risks and responses, promote trust, cooperation, and personal engagement, as well as support informed cancer decision-making. Communicating meaningfully with those who are at greatest risk from cancer, such as members of the most vulnerable segments of society who suffer from high levels of cancer morbidity and mortality, is especially important for promoting cancer prevention and control. However, effective communication with members of these high-risk populations is often fraught with communication barriers. Since many members of at-risk groups are among the poorest, lowest educated, and most disenfranchised members of society, they may encounter serious challenges to accessing and making sense of relevant health information. They often experience health literacy deficits that make it difficult for them to understand complex cancer information. Their cultural backgrounds may not support their following recommended cancer prevention and control health and life-style practices. They may experience economic limitations that make it difficult to access needed care, as well as to navigate complicated and bureaucratic health care systems. This review and policy article examines these serious challenges to effectively communicating relevant health information to vulnerable populations and suggests strategies for enhancing strategic use of communication messages and media to promote cancer prevention and control.

## Communication Challenges to Achieving Cancer Prevention and Control

### Introduction

Cancer is one of the most dangerous diseases among the many serious health risks confronting modern society. In addition to cancer, these dangerous health risks include heart disease, infectious diseases (such as COVID-19, influenza, monkeypox, and HIV/AIDS), non-communicable diseases (such as diabetes, and stroke), as well as debilitating mental health and chronic health issues.<sup>1,2,3</sup> Despite major scientific advances in knowledge about cancer risks, biology, prevention, and treatment, cancer continues to be a major cause of mortality around the globe.<sup>1,2,3</sup> Worse, poor outcomes from many cancers appear to be increasing in the U.S. and worldwide, especially for the most vulnerable populations, at a most challenging time now when we face daunting health promotion challenges such as widespread health misinformation, flagging levels of trust in science across society, and active public resistance to following important public health recommendations to follow evidence-based guidelines for vaccination, screening, and lifestyle factors.<sup>2,4,5,6</sup> The Centers for Disease Control and Prevention has estimated that by 2030 cancer will overtake heart disease as the leading cause of death in the United States, killing more than 640,000 people each year.<sup>4</sup> Effective health communication is needed to help members of the public, especially those who are at greatest risk from cancer, to recognize the seriousness and salience of cancer health threats, engage in recommended actions to

minimize the likelihood of contracting cancers, and to respond effectively when they do encounter any forms of cancer.<sup>5,6,7,8,9</sup>

A major factor leading to societal problems with cancer has been the continuing failure to adequately disseminate, translate, and implement advanced cancer knowledge to help guide informed decisions about cancer prevention and control.<sup>10,11</sup> This is a health communication and application issue that has been abetted by significant challenges to communicating relevant cancer prevention and control information to those confronting cancer (including health care consumers, providers, and policymakers) due both to the complexities of clearly explaining complex cancer information and the intricacies of communicating effectively about important health issues, especially when attempting to interact meaningfully with diverse and vulnerable populations.<sup>5,11,12</sup> There is a dire need to implement the most effective communication practices and policies concerning serious cancer risks and incidence for different audiences, such as designing the best communication strategies for promoting early detection of cancers, developing accurate cancer diagnoses and sharing these diagnoses meaningfully, motivating adherence with important cancer prevention and control recommendations, implementing the best available cancer treatment strategies, and helping consumers live comfortably with (and sometimes die with dignity from) cancers.<sup>13,14</sup> This review and policy article examines the significant challenges to communicating relevant health information to those who are confronting cancer, especially

to members of the most vulnerable populations, and suggests strategies for effectively using communication messages and media for promoting cancer prevention and control to reduce the burden of cancer and to promote public health.

### The Demand for Relevant Cancer Information

Relevant health information is a tremendously valuable, but largely unrecognized, resource for helping guide both health care consumer and provider responses to cancer by increasing understanding about a host of complicated, but relevant, cancer issues.<sup>8,15</sup> Cancer prevention and care processes are often tremendously complex, especially for laypeople, and are frequently misunderstood, often leading to serious missteps concerning cancer prevention and control.<sup>5</sup> Effective dissemination of relevant and motivating cancer-related information can provide needed guidance for helping health care consumers and providers effectively address many difficult cancer issues that cut across the continuum of cancer care, including enhancing responses to important cancer prevention, detection, diagnosis, treatment, survivorship, and end-of-life care issues.<sup>7,8,16</sup> For example, relevant health information can guide effective cancer prevention by increasing consumer awareness about and encouraging them to engage in relevant lifestyle behaviors (involving personal actions concerning dietary practices, exercise routines, participating in screening and vaccination services, following safer sexual practices, and avoiding carcinogens) to help them avoid dangerous cancer risks.<sup>7,17,18,19</sup>

Provision of timely, accurate, and personally motivating information can promote early recognition of emerging cancer symptoms, which is valuable to both health care consumers and providers for enabling rapid implementation of responsive treatments before emerging cancers begin to spread (metastasize) across the body (when cancers become more difficult to treat effectively). For example, relevant information concerning cancer symptoms and incidence that can be derived from patient interviews/reports, physical examinations, and lab-tests can also provide useful clues for enhancing cancer diagnosis that guide responsive decisions about the best courses of cancer treatment. Health care providers should also be seeking ongoing feedback from their cancer patients and actively gathering/analyzing physical surveillance data from their cancer patients to provide relevant information updates during cancer treatment to monitor changes in condition and about patient responses to medications and medical procedures. This kind of ongoing treatment surveillance information can guide evaluations about how well treatments are working over-time and to determine whether there are any problematic side effects from treatment. This kind of relevant cancer information can guide important decisions about making needed refinements to treatment regimens, as well as to help guide important decisions about whether to introduce new strategies for mitigating any physical changes related to cancers or undesirable side effects from treatments.

It is important to recognize that every health issue has both physical and symbolic dimensions, especially concerning cancer that has deep symbolic resonance for many people.<sup>20,21,22</sup> The best cancer care involves communicating meaningfully about both the physical and symbolic dimensions of cancer. Communicating effectively about the physical aspects of cancer demands attention to sharing accurate and timely content-related scientific health information, such as sharing detailed information about the results of lab tests, diagnoses, and treatment strategies, to guide cancer decision making. In addition, responding effectively to the symbolic dimensions of cancer demands greater attention to sharing relevant relational information concerning emotions, concerns, stress, fatalism, and the need for social support. Content (data-related) information is needed to help increase understanding about the physical aspects of cancer by providing insights about complicated cancer science and treatment data concerning biological, chemical, and pharmacological issues. (Content issues have long been the primary focus of cancer care communication).<sup>22,23,24</sup> However, there are also tremendous demands for providing needed relational information to help address emotional issues concerning powerful feelings (such as fear, anxiety, worry, shame, and anger) that can often emerge when coping with cancer and cancer treatments.<sup>15,21</sup> Responsive and sensitive relational information can provide needed support, empathy, encouragement, and solidarity for helping to address cancer-

related stress, worry, and depression.<sup>22,23</sup> Supportive information can also help increase cooperation and commitment to confronting cancer.<sup>24,25</sup> The content and relational dimensions of cancer are deeply intertwined, and the strategic use of appropriately clear and sensitive communication is needed to provide relevant information and support to help address the powerful symbolic dimensions of cancer.

Disseminating and seeking health information are important aspects of effective cancer communication that demand high levels of communication strategy and competence.<sup>26,27, 28, 29</sup> Relevant cancer information can be provided by many different sources, including by health care experts, family members, health advocates, peer support group members, as well as from a variety of different health information resources (health education materials, news articles, online resources, and from other media).<sup>5,29,30,31</sup> It is important for health care providers and consumers to identify good, reliable, and up-to-date sources for seeking relevant health information. However, care must be taken to make sure the materials recommended are easy for consumers to understand and apply to their lives. In addition to just referring patients to health information sources, it may be necessary for health care providers to discuss complicated cancer information with patients to enhance their comprehension of the material, especially when communicating with vulnerable health care consumers who may have health literacy challenges.<sup>31,32,33,34,35</sup>

It is crucially important to effectively communicate clear, accurate, and motivating information to vulnerable populations about cancer risks, cancer prevention, and cancer care due to both the serious public health threats that cancers pose for these individuals and due to the misinformation and resulting confusion concerning the causes, strategies for early detection, and best treatments for cancers that often leads to late cancer diagnoses and treatments, as well as suboptimal cancer outcomes.<sup>7,8,9,15,16</sup> Cancer is a particularly complex and dangerous set of diseases that present in many different ways, are often difficult to detect, and demand unique, intensive, and timely medical interventions. Even the debilitating physical and psychological effects of cancer treatments can threaten health and well-being.<sup>19,36</sup> Unfortunately, current efforts to educate the public about the complexities of cancer prevention, detection, treatment, and control are often insufficient to help consumers make informed decisions about their best health care choices.<sup>28,29,30</sup> Strategic health communication is needed to provide consumers with the information and support needed to reduce cancer threats and improve cancer-related health outcomes.<sup>7,8</sup> (Strategic communication refers to the planned application of key evaluation and social marketing principles in health communication efforts, such as conducting in-depth audience analyses to learn more about and to segment target audiences, adapting persuasive message design and delivery to the unique characteristics and orientations of targeted

groups, and introducing culturally-sensitive interventions for reinforcing the adoption of health behaviors by targeted audiences).<sup>18</sup>

### **Attention to the Communication Needs of Vulnerable Populations**

The need for effective strategic communication about health risks and benefits is particularly acute, yet also tremendously complex, for reaching the most vulnerable health care consumer populations who are at great risk to suffer significantly higher levels of cancer-related morbidity and mortality than other segments of the general population.<sup>7,8</sup> These vulnerable groups of people, typically the poorest, lowest educated, and most disenfranchised members of modern society, are heir to serious disparities in cancer-related health outcomes, resulting in alarming levels of morbidity and mortality, especially in comparison to the rest of the public. Vulnerable populations regularly encounter serious challenges to accessing and making sense of relevant health information, often abetted by health literacy difficulties that make it difficult for them to understand complex medical information, cultural barriers and economic limitations that make it difficult to access and negotiate modern health care systems, as well as a host of challenging social determinants (such as reduced social status, lower education levels, environmental barriers, employment issues, and limited social support networks) that make it difficult to get the best cancer care.<sup>26,27</sup> These at-risk consumers are often confused and misinformed about the causes of cancers, prevention of cancers, strategies for early



detection of cancers, and the optimal treatments for cancers which leads to serious errors, omissions, and resultant health problems.<sup>28</sup> They also may feel intimidated by health care professionals and the modern health care system, so they may need health care provider support and encouragement to share and seek relevant cancer-related information.<sup>29,30,31</sup>

Members of vulnerable population, who often suffer significant health disparities, are in especially high need of relevant, accurate, and timely health information about cancer prevention and control that is presented to them in sensitive, caring, and meaningful ways that they can easily understand and use the information.<sup>31,32,33,34</sup> Members of these vulnerable groups often include elderly, immigrant, socioeconomically deprived, and minority health care consumers who may need special support and advocacy for effectively accessing and using relevant health information.<sup>37,38</sup> Furthermore, many vulnerable immigrant consumers in the US are non-native English speakers and encounter serious language barriers and health literacy challenges that necessitate adaptive, culturally sensitive communication strategies to provide them with needed health information.<sup>33,39,40,41</sup> In addition, consumers with serious and chronic medical conditions, as well as individuals who confront physical and mental disabilities, are often particularly vulnerable to health risks and have unique communication needs that have to be adequately addressed to provide them with the relevant health information they need to preserve their health.<sup>42,43</sup>

This article examines strategic communication strategies for developing culturally sensitive communication programs that can provide vulnerable consumer populations with the relevant health information they need to effectively evaluate cancer-related health risks, make informed health care decisions, and engage in health behaviors that will enable them to reduce cancer incidence and improve cancer outcomes. A large body of research literature illustrates that culturally sensitive health communication intervention programs are likely to be effective at reaching and influencing vulnerable populations because these programs are designed to be relevant, interesting, and easily understood by target audiences.<sup>7,34,42,43,44,45,46,47</sup> Consumers' unique cultural backgrounds and orientations have powerful influences on their communication practices that must be carefully accounted for in strategic health communication efforts.<sup>48</sup> It is critically important to identify and examine the relevant cultural issues that are likely to influence the ways consumers, particularly members of vulnerable populations, respond to communication about cancer risks, prevention, detection, and control.<sup>42,49</sup> Several of the key cultural variables that influence health communication outcomes include the unique health beliefs, values, norms, and expectations that different consumers bring to health situations.<sup>42</sup> It is also important to assess consumers' culturally based language skills and orientations, their health literacy levels, their motivations to seek health information, and their unique media use

patterns.<sup>50,51</sup> Examination of these key cultural factors provides relevant information for determining how to best design and deliver key messages for effectively communicating complex health information to diverse populations.<sup>42,45,46,47</sup> Culturally sensitive health communication is essential to providing vulnerable consumers with relevant information about cancer risks, prevention, early detection, treatment, and survivorship.<sup>45</sup>

### Communication and Health Outcomes

Meaningful cancer communication not only can help build strong cooperative health care relationships, but it can also dramatically enhance the quality of health care decision-making and improve the outcomes of care. A large body of research illustrates that effective communication has improved a variety of health outcomes, such as reducing morbidity and mortality, decreasing pain and suffering, increasing adherence with treatment recommendations, promoting shared understanding, and enhancing confidence in care.<sup>52,53,54</sup> In particular, research has shown a strong relationship between collaborative clinician-patient communication as a major factor in promoting cancer prevention and control because exchanging relevant cancer information enables and encourages patients and health care providers to actively work together cooperatively to make collaborative health decisions that can improve cancer outcomes.<sup>14,55,56,57</sup> Sharing relevant health information can also improve interprofessional cooperation between members of health care teams (including cancer patients and familial caregivers who should be considered as

central links within health care teams) by utilizing the unique expertise and experiences of health care team members to exchange insights concerning complex health care issues, promoting coordination of care, and encouraging collaborative decision-making.<sup>58,59,60</sup>

### Strategic Health Communication

Health communication messages must be carefully designed and delivered to be effective.<sup>28,61</sup> The critical factor in strategic message design is adapting health messages to meet the unique needs and communication orientations of specific audiences.<sup>18,41</sup> This means that effective health communication efforts should adopt a consumer orientation to encoding messages that will resonate well with specific audiences.<sup>62</sup> Careful audience analysis is essential to identifying the salient consumer characteristics for guiding message design.<sup>50</sup> Messages should be designed to appeal to key beliefs, attitudes, and values of targeted audience members, using familiar and accepted language, images, and examples to illustrate key points. It is wise to pre-test sample health communication messages with representatives of key audiences before implementing health communication intervention programs.<sup>50</sup> Formative evaluation data gathered through message pre-testing is essential to refining health messages.<sup>63</sup> This is a form of user centered design, where health messages are shaped and refined by representatives of the actual audiences targeted in health communication programs.<sup>64,65,66</sup> Pre-testing is also a strategy for increasing audience participation in health communication efforts,

which can increase not only the cultural sensitivity of communication, but can also enhance audience receptivity and cooperation with health promotion efforts.<sup>59</sup> Involving consumers, their family members, key members of their social networks, and community representatives can increase the support and social encouragement for paying attention to, accepting, and utilizing health education messages.<sup>66</sup>

To be most effective it is wise to plan multiple message strategies for reaching and influencing vulnerable audiences with health information, utilizing the communication principles of redundancy and reinforcement to enhance message exposure and impact.<sup>7</sup> Multiple messages can help to capture audience attention, reinforce message content, and illustrate key health education concepts. The use of personalization, vivid imagery, and narratives in health communication messaging can also reinforce message content, especially with audiences who may have limited health literacy and problems with numeracy that make it difficult for them to understand complex, statistical, and other numerically based messages.<sup>67</sup> For example, the use of narratives and visual illustrations that are familiar and appealing to different audiences can often enhance attention to health promotion messages and increase the influence of these messages.<sup>67</sup>

A powerful strategic communication approach to designing health messages that often meets the unique needs of individuals is the use of tailored communication systems, where relevant background information about an

individual (such as use of their names, their occupations, or other groups/organizations that they are affiliated with) to, inform customized use of messages for that individual.<sup>18</sup> Typically, tailored communication systems inform message design by employ interactive computer systems that gather relevant background information from consumers on key communication variables through questions posed to these individuals, including questions eliciting information about individual demographic, psychographic, and health belief=behavior information. Once key background information is gathered from the individual, the information is used to select specific messages stored in a library of messages that match the unique background features of users. In this way, information about the individual health risks and orientations of a specific consumer. For example, a computer-generated tailored information system can automatically adjust health messages to match demographic, personal, and health factors for an elderly, Japanese, female health care consumer with a history of breast cancer and diabetes.<sup>67,68</sup> As the consumer continues to interact with the tailored health information system, providing the system with additional background information, the computer program is able to continually refine information responses to this consumer to match his or her unique personal characteristics and interests.

In addition to developing strategic messages that match the cultural orientations of at-risk consumers, it is critically important to determine the most effective communication channels for reaching targeted populations of



consumers. The best communication channels to utilize are those that are close, familiar, and easily accessible for targeted audience members.<sup>68</sup> For example, the use of indigenous media, such as community newspapers, local radio stations, and cable television programs targeted at specific populations, have been shown to be effective media channels for disseminating health information and influencing health behaviors.<sup>30,33</sup> It is important to employ communication channels that are easy for members of the intended audience to use. It would be a serious error to develop an online health education website for consumers who do not have access to computers and are not sophisticated computer users. Communication channels that are dramatic and memorable can have strong influences on audience attention and interpretation of health messages.<sup>67</sup> Health educators should consider using communication channels that can be accessed over time, channels that can retain important information for later review, and even interactive channels that enable consumers to ask questions and receive clarifications about complex health information.<sup>63,67,68</sup>

It is important to decide what the best sources are for delivering key messages about potential cancer risks, prevention strategies, opportunities for early detection, and optimal treatment modalities.<sup>6,30</sup> It is crucial to identify the most credible sources of health information for members of the intended audiences.<sup>5,67</sup> Decisions need to be made about whether it is best to utilize familiar sources of information, expert sources, or

perhaps peer communication may be most influential with different audiences. Just as with the use of strategic messages, it is a good idea to pre-test different information sources and different communication channels with target audiences.<sup>67</sup>

### Evaluating Communication Interventions

A critical juncture in communicating cancer risk, prevention, detection, and treatment information to vulnerable audiences is evaluating how well different communication strategies work to educate targeted audiences about important health issues.<sup>49</sup> It is important to assess how well consumers really understand the risks and benefits that are being communicated and what difference communication programs are making in promoting informed consumer decision-making. A first step is to establish clear baseline measures of consumer understanding before introducing new health education programs. These baseline measures can be used as a starting point for tracking the influences of communication efforts.<sup>49</sup> Feedback mechanisms, such as consumer surveys, focus groups, hotlines, helpdesks, and comment cards, should be introduced as integral parts of communication interventions for tracking and evaluating consumer understanding of health messages. The data gathered through these feedback mechanisms can be used to refine health communication programs and track progress in health education.

There are three primary levels for evaluating cancer communication programs: formative evaluation, process evaluation, and

summative evaluation that are used at different points in the development and implementation of communication programs.<sup>49</sup> Formative evaluation is used to plan cancer communication efforts, such as health education program, materials, and campaigns. It involves conducting both needs analysis to determine what is known about specific health issues facing different populations and audience analysis to examine the unique beliefs, concerns, information levels, and communication characteristics of different populations. Surveys, interviews, analysis of documents, and use of past research and records are often used for conducting formative evaluation research. Process evaluation involves testing audience reactions to different communication strategies and messages to see how well they are understood and how influential they are. Process evaluation data are essential in guiding design and refinement of communication programs. Surveys, interviews, and message testing experiments are often used to collect process evaluation data. Summative evaluation is used to determine how well communication programs and strategies are achieving intended health goals, such as increasing audience understanding, improving adherence with health recommendations, reducing morbidity and mortality, as well as tracking the cost/benefit levels of communication programs.<sup>49</sup> Pre-post intervention field experiments, surveys, tracking archival data, and observational research are often used for summative evaluation efforts. Evaluation data are essential in developing and implementing

effective strategic cancer communication program.

### Conclusion

To accrue the substantial potential benefits of meaningful cancer communication, health care policymakers, providers, and consumers must take the process of communication seriously. Too often they think of communication as a simple process that they engage in on a daily basis without too much thought. However, health communication problems are typically extremely complex and fragile, involving many different factors. Major health issues, such as responding to pandemics and promoting cancer prevention and control, are extremely complicated and highly equivocal problems that demand in-depth planning, strategy, and skill to achieve desired health outcomes.<sup>68,69</sup> The use of routine communication practices are likely to violate the systems principle of requisite variety that holds that effective responses to complex problems demand that the ways we address these difficult problems must match the information complexity of the problems.<sup>68,69,70</sup> To be effective, health communication must be evidence-based, rigorous, and strategic, operating from a big science perspective.<sup>71</sup> This was the approach taken by the National Cancer Institute (NIH) when it identified cancer communication as an area of extraordinary research opportunity in the early 2000's (under the leadership of former NCI Director, Richard Klausner, and Director of the NCI Division of Cancer Control and Population Sciences, Barbara Rimer), to build an innovative large-scale multi-pronged

program of cancer communication research and intervention programs, including the Health Information National Trends Survey, the Centers of Excellence in Cancer Communication Research, and Multimedia Technology and Health Communication, to advance cancer communication research and intervention for promoting cancer prevention and control.<sup>71,72,73,74</sup>

Significant investments in cancer communication are needed to guide development of policies and best practices that support strategic communication of relevant cancer information to promote cancer prevention and control.<sup>73,74</sup> Building upon the review of cancer communication issues provided in this article, the following specific recommendations are proposed to support strategic use of cancer communication to promote cancer prevention and control:

- Cancer communication programs and practices must be designed to build widespread public awareness about relevant cancer risks, as well as the best current prevention and detection strategies, treatment modalities, and interventions to promote successful survivorship. These information programs can provide needed health information to increase public understanding about the current state of knowledge about cancer to fill serious gaps in knowledge and misunderstandings about cancer.
- Cancer communication efforts should also be persuasive, with a focus on

motivating adoption of recommended actions to prevent and control cancer. These actions should include adopting lifestyle changes concerning diet, exercise, screening, vaccination, safer sexual practices, and avoiding carcinogens.

- While cancer communication efforts are relevant for everyone, care must be taken to focus on addressing the communication needs of the most vulnerable populations, those who are at greatest risk for poor health outcomes from cancers due to issues such as genetic predispositions for cancers, those who are cancer survivors who have a high risk for recurrence, dangerous lifestyle factors, pre-existing health conditions, exposure to carcinogens, as well as cancer risks related age, race, ethnicity, gender, and sexual orientation
- Investments need to be made in using formative evaluation research to guide cancer communication efforts. For example, audience analysis and needs analysis evidence, is needed to guide the design of cancer communication efforts for specific audiences and cancer risk situations. Formative research can identify health information needs, gaps, and misinformation issues that should be addressed. This research can guide decisions about effective message strategies, communication channels,

and information sources to use with different audiences. For example, formative evaluation data can guide the use of messages that are targeted and tailored for specific groups, use familiar communication channels, and utilize trusted sources to deliver relevant cancer information. Formative research is also a good way to assess how health issues have been addressed in the past to identify strategies that have worked and might be incorporated into new programs, as well as to identify any slack resources and/or community partners to collaborate with on cancer communication programs.<sup>49</sup>

- The best cancer communication programs are designed for specific audiences so they can address the unique information needs, concerns, communication orientations, and competencies, and needs of segmented audiences, especially those who are at highest risk from cancer. One size does not fit all when it comes to communication. The best communication efforts adapt the unique characteristics of different audiences.
- Process evaluation efforts are needed to evaluate the effectiveness of communication programs and refine them when needed. For example, message testing and usability testing can help identify problems with communication efforts that can lead

information gaps and misunderstandings. The process evaluation efforts can also identify user-generated strategies for improving communication efforts for specific groups and to adapt to changing situations. On an individual level, health care providers can use the teach-back method to evaluate how well patients understand the health information and recommendations that were provided.<sup>49,80</sup>

- It is also critically important for health communicators to adopt culturally sensitive communication practices to reach and influence vulnerable populations. Community participative communication interventions are a valuable strategy for integrating consumers' perspectives into health education efforts and building community commitment to health communication interventions.<sup>86, 87</sup> Public health promotion policies can be established to guide effective cancer communication programs, materials, and media.
- It is important for health promoters to consider using multiple relevant communication channels and media for health communication interventions, so audience members are exposed to important health messages in a variety of different ways. This can increase reinforcement, recall, and influence of messages with audience members through redundancy and repeated exposure.

- It is important to involve and empower consumers in cancer communication efforts through community-based participative research, user-centered design, and active collaborations with consumers and their advocates.<sup>38,61,66,82</sup>
- Developing inter-organizational partnerships to support intervention efforts can help address the complex sub-specialties and multi-organizational delivery of cancer care to promote coordination and continuity of care across the continuum of cancer care.<sup>8,16</sup>
- Providing appropriate training and support for both consumers and providers to promote effective cancer communication can enhance effective sharing of relevant health information and help address both content and relational cancer care issues.<sup>22,28</sup>
- Designing culturally appropriate messages and materials for communication. Efforts can enhance understanding of and cooperation with cancer prevention and control efforts.<sup>41,44,45,59,</sup>
- Conducting strategic media planning to match communication strategies (such as designing compelling messages, identifying credible information sources, and employing the most effective media channels) to the cultural orientations and communication predispositions of targeted vulnerable audiences.<sup>8</sup>
- Designing relevant, interesting, and compelling health promotion messages, story-lines, and images for use in campaigns that will capture audience attention, generate the greatest message exposure, and have powerful influences on targeted vulnerable populations.<sup>66</sup>
- Delivering campaign messages via strategic multiple channels of communication (such as print, radio, television, online, and interpersonally) that are familiar, attractive, and easy for target audience members to use can enhance access to relevant cancer information.<sup>8</sup>
- Building redundancy into communication campaigns to reinforce key messages over time by utilizing different, yet complementary, delivery channels and messages and improve understanding, retention, and use of cancer information for promoting cancer prevention and control.<sup>80</sup>
- Focusing on the family and the community for delivering and reinforcing messages can use informal communication networks for supporting the formal efforts to deliver cancer prevention and care.<sup>66</sup>
- Providing consumers with preferred choices and options for promoting their health can enhance adoption of cancer prevention and control recommendations by adapting these guidelines to the real lives,



experiences, and cultures of individual  
consumers.<sup>40,79</sup>

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