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Increasing routine cancer screening among underserved populations through effective communication strategies: Application of a health literacy framework

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Abstract

Cancer prevention and control efforts serve as national priorities, as cancer is the second leading cause of death in the United States. In addition, cancer disparities exist, with racial/ethnic minority, low-income, and uninsured populations suffering the greatest burden. The goal of this paper is to describe the role that effective health communication can play in increasing routine cancer screening among medically underserved populations, thus decreasing persistent health disparities. For this paper, we applied Sorenson's integrated model of health literacy as a framework for identifying communication gaps and opportunities that can help improve cancer screening specifically at federally qualified health centers (FQHCs). This integrated model consists of four interrelated dimensions: access, understand, appraise, and apply. Employing communication strategies across this health literacy framework has the potential to facilitate

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improved decision making and cancer screening outcomes among the most underserved populations.

Routine cancer screening such as mammography, colonoscopy, and Papanicolaou (Pap) testing are highly prioritized to address cancer disparities as they have the potential to greatly reduce both incidence and mortality rates [1]. Despite this increased priority, racial/ethnic minority and low-income populations continue to underutilize routine screening, and consequently are more likely to be diagnosed with later stage disease compared to non-Hispanic White and higher socioeconomic status populations [2]. In addition, disparities in cancer prevention and early detection lead to poorer outcomes and lower survival after cancer diagnosis among racial/ethnic minority and low-income populations compared to their counterparts [3]. Efforts to increase cancer screening rates for these vulnerable populations have been made [4]; yet, disparities persist. The goal of this paper is to describe the role that effective health communication within a health literacy framework can play in increasing routine cancer screening among medically underserved populations.

Federally qualified health centers (FQHCs) are funded by the Health Resources and Services Administration to provide preventive and primary health care services, including cancer screening, to the nation's most vulnerable populations [5]. FQHCs offer health care on income-based sliding fee scales, are required to accept all patients regardless of their ability to pay for services, and are strategically located in medically underserved communities [5]. These characteristics position FQHCs as invaluable partners in improving routine cancer screening among the medically underserved. However, many underserved populations still use hospital emergency departments for primary care needs [6]. In 2014, the up-to-date cancer screening rate among FQHC patients was 56.3% and 34.5% for cervical and colorectal cancer, respectively [7]; while the national average of up-to-date screening was 83.0% and over 50% for cervical and colorectal cancer, respectively, during the same period [8]. This could be due, in part, to lack of awareness and/or understanding of the FQHC's role in alleviating the cost concern among uninsured populations [9].

Health communication is an interdisciplinary, applied research field focused on "the production and exchange of information to inform, influence or motivate individual, institutional and public audiences about health issues" (p. 4) [10]. Health communication provides important strategies for reaching diverse populations with health information and services. A goal outlined in Healthy People 2020 calls for ***improving health literacy by the use of health communication*** approaches to achieve health equity [1]. Additionally, Thiede and McIntyre [11] argue that "information is the essential prerequisite for access" (p. 1169) to health services, and that health communication must be emphasized as a means of addressing health inequity.

Health literacy requires "people's knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course" [12]. The significant impact of health literacy on population health has been well established as poor health literacy has been associated with a range of adverse health behaviors, inadequate use of health care

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services, and negative health outcomes [13]. Although the association of poor health literacy on health disparities has been established, the specific mechanisms linking these two require more research [14]. Nonetheless, health literacy is an evolving, multidimensional concept that highlights the critical competencies, skills and abilities needed among individuals and systems to improve health across different contexts.

Sorensen and colleagues [12] propose an integrated model of health literacy across four dimensions. Each of the four dimensions is interrelated and builds upon the previous, starting with *access*, which "refers to the ability to seek, find and obtain health information" (p. 9) [12]. The second dimension involves the ability to *understand* or comprehend information once it has been accessed. The third dimension is *appraise*, which is one's "ability to interpret, filter, judge and evaluate the health information that has been accessed" (p. 9) [12]. The final dimension is *apply*, which refers to the "ability to communicate and use" health information for informed health and healthcare decision-making (p. 9) [12]. Understanding the current health communication gaps and opportunities related to routine cancer screening among medically underserved populations at each health literacy dimension could facilitate access to and utilization of services, ultimately addressing the persistent health disparities among these populations. Thus, we propose the use of health communication methods and techniques across health literacy dimensions to address routine cancer screening among underserved populations.

Access

Enabling access to cancer screening information and services is a foundational component to eliminating cancer disparities, especially among medically underserved populations. Access to care is a multidimensional construct that involves factors which either "facilitate or impede the opportunity to use health services." (p. 1169) [11]. Access to cancer screening involves how, where, when and to whom information and services are made available. FQHCs bring preventive and primary health care to medically underserved communities, covering only one aspect of access – availability. However, access cannot be fully granted if communities are not aware of resources; thus, health communication strategies are needed to enhance the visibility of FQHCs among target communities. There is a lack of research related to how FQHCs are marketed to target communities and whether or not current marketing approaches are effective. More importantly, there is insufficient literature to answer the questions: 1) What do medically underserved populations know about FQHCs and how do they perceive them?; and 2) How are medically underserved populations currently accessing information on cancer screening?

Understand

Even when populations are aware of available cancer screening services and programs, there are various factors that impact their understanding of those services which could impede usage. Almufleh and colleagues [15] conducted a study in which individuals residing in medically underserved areas were screened for cardiovascular risk factors, and when abnormal results were detected, individuals who were uninsured and lacked a primary care provider were referred to FQHCs. Findings indicated that of the nearly 1,900 patients

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referred to FQHCs for follow-up care, only 11% actually sought treatment [15]. The majority of these patients cited lack of health insurance and inability to afford services as the main reason for not adhering to follow-up recommendations [15]. This raises the following research question: To what extent do people understand the payment structure of FQHCs (i.e., sliding fee scale)? There is a lack of research focused on the level of understanding of the FQHC model among underserved communities.

Additionally, the complexity and variability of cancer screening guidelines also clouds understanding and may negatively impact screening rates among underserved populations. For example, the United States Preventive Services Task Force (USPSTF) recently amended their breast cancer screening guidelines, increasing the age for which mammography is recommended [16]. Similarly, the USPSTF amended guidelines for Pap testing to include the recommendation of screening every five years if combined with human papillomavirus (HPV) testing for women 30–65 [17]. Identifying ways to best to communicate cancer prevention and screening guidelines based on evolving science will remain a health communication challenge in public health. Conducting formative research with potential FQHC users to develop and test effective and relevant communication strategies will be essential to assure that underserved populations understand how and why cancer screening services can be beneficial to them [18]. This includes facilitating the procedural knowledge among the target population to assure that they understand how each procedure works, such as pertinent follow-up care instructions. For example, previous research has found substantial gaps in procedural knowledge regarding the Pap test, where this test was confused with other sexual and reproductive health screenings [19]. Thus, in communicating both general health and patient specific information, it is essential that all written materials abide by the plain language principle where information is easy to read and understand [20]. Such principles include using common and everyday words, active voice, and short sentences [21]. Other health literacy techniques such as AskMe3 [22] could also be better utilized where patients are empowered to have pre-identified questions prepared to ask their provider, ultimately fostering patient-provider communication.

Appraise

When cancer screening information and services are made available in an understandable manner to underserved communities, the next layer of health literacy is an individual's ability to evaluate the applicability of the information and services to their specific needs. Two important health communication strategies to assist with making information more acceptable to various populations include message targeting and tailoring. Although often used interchangeably, there is an important distinction between targeting and tailoring in health communication. Targeting focuses on characteristics of a group, whereas tailoring is focused on individual characteristics [23]. With regard to cancer screening among underserved populations, targeted health communication efforts have addressed cultural beliefs around cancer [24], racial/ethnic variability in cancer burden [25], and engaging patients in informed choice and discussions about cancer screening [26]. Tailored health communication interventions have focused on delivering cancer screening recommendations based on individual characteristics such as personal barriers to screening, family history, and genetics [27]. In addition, decision support systems and tools have become increasingly

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popular and hold great promise in identifying the advantages and disadvantages of engaging in various health screening and treatment regimens and can effectively present information to end users in a culturally and linguistically appropriate manner while considering a patient's unique medical history and personal concerns [26].

Apply

The ability to communicate with healthcare providers and family members about cancer risk and appropriate screening, and actually utilize screening services is the final health literacy dimension described by Sorensen and colleagues [12]. As identified in the *appraise* dimension above, decision aids could help patients in their informed decision-making – one of the key outcomes of a health literate individual – by helping them weigh advantages and disadvantages regarding screening in a patient-centered manner. Moreover, strategies to assist patients in disclosing their cancer diagnosis to family members should be readily available as such a diagnosis could be perceived as stigmatizing or culturally taboo in some populations and further contribute to lack of cancer screening and early detection [28]. Furthermore, ensuring individuals both understand and act on the prescribed follow-up care and that they are not lost throughout the various processes of the healthcare system should remain a priority in addressing the persistent cancer disparities. To this end, the use of health navigators in employing patient-centered and culturally competent health communication interventions serve as one example to facilitate an individual's ability to engage in health behaviors across the cancer continuum.

Reflections and Recommendations

This paper applies Sorenson's integrated model of health literacy as a framework for identifying communication gaps and opportunities to help improve cancer screening among medically underserved populations. Specifically, health communication techniques can be employed across the four health literacy dimensions (access, understand, appraise, apply), ultimately facilitating underserved populations in their ability to be engaged and empowered in shared decision-making and patient-centered care. Although presented as a continuum, the health literacy dimensions are not necessarily mutually exclusive, nor linear, and as such, strategies for improving health literacy may be relevant across multiple dimensions. For example, decision aids can be used to help individuals understand, appraise, and apply health information to make screening decisions.

When identifying communication gaps and opportunities through a health literacy framework, an important consideration when raising awareness and understanding of screening services through FQHCs is to ensure that the system is able to keep up with increasing demand. FQHCs must be equipped with resources (staff, personnel, equipment, labs/technology, etc.) to provide quality screening services. Literature indicates that FQHCs face challenges to providing screening services to their patients due to workload, scarce resources, lack of incentives, and lack of referral sources [29]. Not all FQHCs have the capacity to provide cancer screening, especially those that require special equipment or skills such as mammography and colonoscopy. FQHCs use various strategies to provide their patients with specialty services, including leveraging personal relationships with

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specialists for patient referrals, contracting with community hospitals, using telecommunications, or partnering with local health systems (e.g. government or safety-net hospital) that provides access to all subspecialties [30].

Future research and practice could assess and ensure that FQHCs follow the 10 attributes of a health literate organization [31]. This resource is an invaluable blueprint where organizations can assess gaps and opportunities to improve their health literacy efforts across system levels. While a health literate organization aims to integrate health literacy into their mission and planning, a critical component is utilizing health literacy strategies for communication with clients [31]. A health literate organization must also effectively interact with other stakeholders and systems (e.g., Medicaid enrollment, social services, WIC offices, etc.) to leverage and improve the coordination of patient care [32]. Thus, health communication and health literacy efforts are essential in promoting health literate organizations. Establishing health literacy efforts in FQHCs through facilitation of patient navigation and informed decision-making can address cancer screening concerns among medically underserved populations.

In addition to system-level interventions, patient-level efforts must also be integrated to promote access to and uptake of cancer screenings. Thus, a community-engaged approach will be beneficial to identify target populations that are at risk for cancer and/or medically underserved, develop and test appropriate health communication materials regarding both the role of FQHCs and the topic of cancer, and sustain interventions/programs in the community, while assuring that information and services are culturally and linguistically appropriate [33].

In conclusion, utilizing health communication techniques to facilitate access, understanding, appraisal and use of cancer screening information and services among underserved populations serve as national priorities. FQHCs provide an important venue to facilitate cancer screening among this population; thus, better communication approaches are needed to increase their visibility and utilization. These efforts are of public health significance and can assist in promoting uptake of cancer screening modalities and early identification of cancer, and ultimately reducing persistent cancer-related health disparities.

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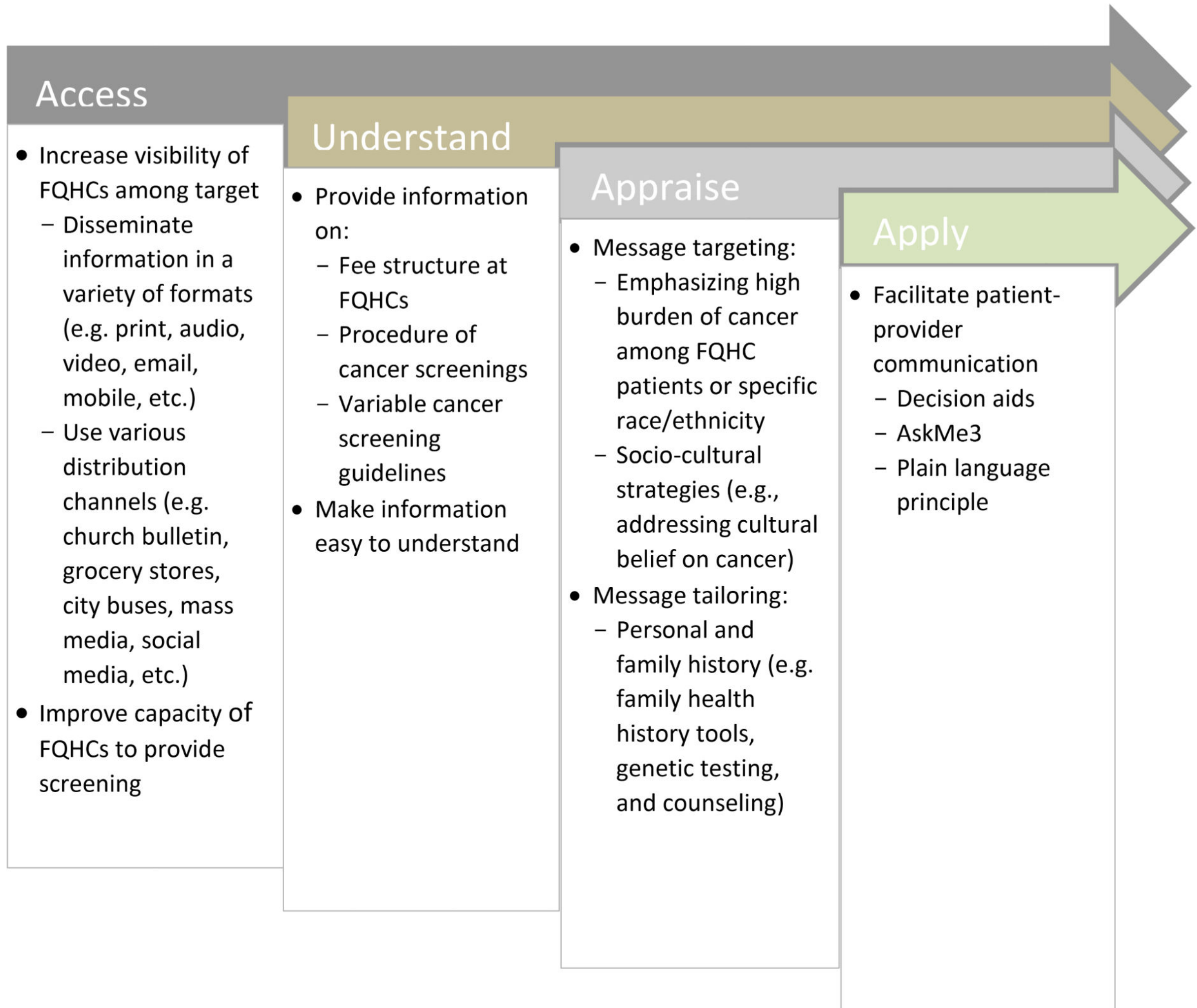

Figure 1.
Communication opportunities across health literacy dimensions to help improve cancer screening at federally qualified health centers