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Utilizing Opinion Leaders to Combat Racial Disparity in Breast Cancer: An Analysis of a Community Health Advisor Model and Communication Techniques used to Decrease the Racial Disparity in Breast Cancer

Heather Watts

Utilizing Opinion Leaders to Combat Racial Disparity in Breast Cancer:

An Analysis of a Community Health Advisor Model and Communication Techniques used to Decrease the Racial Disparity in Breast Cancer

by

Heather Watts

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Dr. Judith Sylvester

Manship School of Mass Communication

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Louisiana State University
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Utilizing Opinion Leaders to Combat Racial Disparity in Breast Cancer

In the United States, cancer is the second leading cause of death in adults. Breast, colorectal, lung and prostate cancer account for 70 percent of cancer deaths (Haas, Earle, Orav, Brawarsky, Neville & Williams, 2008). In women, breast cancer is the most frequently diagnosed cancer in the United States and is the second leading cause of cancer-related death behind lung cancer (Jones, Culler, Kasl & Calvocoressi, 2001; Qureshi, Thacker, Litaker & Kippes, 2000; Jemal, Siegel, Ward, Hao, Xu & Thun, 2009; Amjadi-Begvand, Garzarian, Howland, Trimis & Young, 2011). Several studies have shown that in women with breast cancer there is a racial disparity present between African-American and Caucasian women in the diagnosis, treatment and survival of breast cancer. Although the incidence rate of breast cancer in African-American women is lower compared to Caucasian women, the mortality rate is higher for African-American women (Qureshi et al., 2000; Frisby, 2006).

As the mortality rate and incidence rate in all women increased, the need for awareness and education campaigns became paramount. In recent years, there has been a major push for more social marketing campaigns targeted at increasing breast cancer awareness and educating women about the causes and risks of breast cancer. Though these campaigns appear to have been somewhat successful, due to the decrease in overall incidence and mortality rates for women with breast cancer, the need for communication campaigns targeted at reducing the racial disparity between African-American and Caucasian women is still greatly needed.

To help target and direct these health communication strategies, the causes of this disparity must first be discussed.

Literature Review

Causes of Disparity

The past couple of decades have seen an increase in studies on the causes of the disparity between African-American women and Caucasian women in diagnosis, treatment and survival of breast cancer. These studies have shown that there is not one answer to what causes this disparity, but rather several different factors affecting, not only the individual, but the community as well (Warner & Gomez, 2010). Some of these possible factors include later stage diagnoses, lower screening mammography and preventative measures rates and delayed treatment (Qureshi et al., 2000).

One of the areas with the largest racial disparity is stage at diagnosis. African-American women are more likely to be diagnosed with a later stage of breast cancer than Caucasian women (Jones et al., 2001). Tumors that are found at a later stage are more aggressive and more difficult to treat (Lipkus, Iden, Terrenoire & Feaganes, 1999; Frisby, 2006). Later stage detection is linked to more than one half of the disparities in survival rates (Lipkus et al., 1999; Frisby, 2006). The stage of diagnosis is largely related to the use of early detection and preventative measures (Mandleblatt, Andrews, Kao & Wallace, 1995). An important strategy for reducing the cancer mortality is the use of early detection methods, such as screening and mammography (White, Urban & Taylor, 1993; Jones et al., 2001). Several studies have shown that African-American women are hesitant to participate in breast cancer screenings and preventative treatments.

Many studies have hypothesized several potential barriers that cause late stage diagnosis and low participation in preventative measures and screening methods by African-American women. Low socioeconomic status, segregation and low health

insurance coverage; cultural beliefs and attitudes about care and treatment; and access to care and knowledge about treatment options are a few of these potential barriers. A combination of these factors likely cause this racial disparity – rather than one barrier in particular – as these factors influence one another (Lannin et al., 1998; Peek, Sayad & Markwardt, 2008).

Low Socioeconomic Status and Insufficient Health Insurance Coverage

Several studies have shown that a low socioeconomic status can be a risk factor for negative outcomes in breast cancer diagnosis, treatment and survival (Amjadi-Begvand et al., 2011). Many factors of socioeconomic status are intimately connected to race (Brawley 2002) and directly relate to the disparity in cancer between Caucasian and African-American women (Niu, Pawlish & Roche, 2010). Individuals with low socioeconomic status have fewer resources to pay for health care and are less likely to be insured (Niu et al., 2010). Lack of transportation, ability to navigate the health care system and health literacy are also socioeconomic factors that add to this difference in treatment and cause racial disparities (National Center for Health Services, 2007; Niu et al., 2010). Some studies have found that at all education and socioeconomic levels, minority women compared with Caucasian women are more likely to have less formal education, have lower incomes, hold jobs that do not provide insurance or make them unqualified for Medicare or Medicaid and live below the poverty line (Qureshi et al., 2000).

In a study conducted by Bradley, Given and Roberts (2002), when covariates such as age, socioeconomic status and insurance coverage are controlled, there is no statistically significant disparity found in the outcomes of breast cancer between African-

American women and Caucasian women. However, when these covariates are not controlled, African-American women had a higher mortality rate and greater odds of having a later stage diagnosis and of not undergoing surgery (Amjadi-Begvand et al., 2011).

Studies have shown that Caucasian women are more likely than African-American women to be diagnosed at an early stage (Frisby, 2006). This disparity is found to be largest in low income, but less segregated areas (Frisby, 2006). In a study conducted by Hass, et al. (2008), segregation was not found to be a factor in the racial disparity in early-stage diagnosis for breast cancer. This study defines racial segregation as, "the physical separation of members of one racial/ethnic group from those of another group," (p.699). In fact, it was discovered in the study that in areas of high segregation the disparity was lowest (Frisby, 2006) This is possibly due to higher use of screenings by African Americans in these communities, because these areas have been targeted by early detection outreach programs and other factors concerning access and knowledge (Frisby, 2006).

Along with socioeconomic status, the type of health insurance available also plays a role in the diagnosis and treatment of breast cancer. Women with private insurance are more likely to have a favorable diagnosis than women who are insured by Medicare or Medicaid or are uninsured (Amjadi-Begvand et al., 2011). Several studies show that socioeconomic variables are not the sole cause of this racial disparity and that even when universal access to medical care is guaranteed, racial disparities persist in diagnosis and outcomes of breast cancer (Lannin et al., 1998).

Cultural Beliefs and Attitudes About Care and Treatment

Along with these socioeconomic variables, cultural beliefs and attitudes toward treatment and preventative measures could largely be associated with racial disparities (Lannin et al., 1998). As stated previously, a possible hypothesis for the racial disparity in breast cancer diagnosis and survival is that African-American women are more likely to receive a later stage diagnosis than Caucasian women (Hawley, Fagerlin, Janz & Katz, 2008). Frisby (2002) explained that evidence suggesting that morbidity and mortality among African-American women with breast cancer would be greatly reduced if early detection were used. Cultural beliefs and attitudes in the African-American community toward early detection screenings and treatment options are thought to contribute to this disparity (Lannin et al., 1998; Conway-Phillips & Millon-Underwood, 2009). Breast cancer screening behaviors of African-American women have been largely related to cultural attitudes and beliefs and perceptions of cancer fatalism. (Frisby, 2002; Frisby, 2006; Conway-Phillips & Millon-Underwood, 2009). Research has shown that African-American women are less likely to participate in early screening measures (Spurlock & Cullins, 2006).

A study conducted by Lannin et al. (1998) discovered several categories of cultural and psychosocial factors that all had a significant impact on tumor stage when independently tested. These categories included: folk belief, health care utilization, relationships with men, fundamentalist religious beliefs, perceived risk or fatalism and breast cancer knowledge. Lannin et al. (1998) found that folk beliefs, fundamentalist religious beliefs, relationships with men, and beliefs about cancer fatalism were most common cultural factors among African-American women.

Fear of a cancer diagnosis is closely related to the belief that a cancer diagnosis of any kind is a "death sentence." This view is known as cancer fatalism. The belief in cancer fatalism is thought to be a possible barrier to cancer screenings among African-American women (Spurlock & Cullins, 2006). Several studies have shown that cancer fatalism negatively influences "health promoting practices" such as mammograms and other breast cancer screenings (Spurlock & Cullins, 2006; Conway-Phillips & Millon-Underwood, 2009).

Fear, fatalism and misperception about cancer have been discovered to be some personal factors that prevent African Americans from partaking in cancer health promotion behaviors (Frisby, 2006). Another study discovered that the most commonly held views about breast cancer were negative beliefs and feelings related to fear, loss of breast and/or hair and death (Frisby, 2002). In a study conducted by Conway-Phillip and Millon-Underwood (2009) consisting of three focus groups of African-American women from low- to middle-income families, fear was found to be the predominant feeling expressed concerning breast cancer screenings and was the major reason for not participating in preventative screenings. The same study identified fear of finding cancer and cost of mammograms as the main reasons African-American women did not get mammograms and other screening procedures (Conway-Phillips & Millon-Underwood, 2009).

In a study done by Hughes, Lerman and Lustbader (1996) the influences of cultural factors such as the importance of interpersonal relationships, spirituality and time orientation contributed to the differences in breast cancer risk perception and avoidance. Spirituality and religiousness are major causes of fatalism (Peek et al., 2008). A study

conducted by Mitchell et al. (2002) determined that the belief in religious intervention by a higher power, through prayer or other means, in comparison to medical treatment by some African-American women may explain the racial disparity at stage of diagnosis.

Along with these psychological responses and cultural factors, belief in the efficiency of preventive measures and perceived risk of personal predisposition are also thought to influence African American's behavior in health promotion (Frisby, 2002). Some African-American women may avoid preventative measures due to attitudes associated with the screening procedure, such as concerns about discomfort related with mammograms (Frisby, 2002). These attitudes and beliefs in African-American women toward cancer screening methods are believed by some to be associated with their lack of knowledge about mammograms and screening measures (Lannin et al., 1998).

Access to Care and Knowledge and Communication with Physicians About Screening and Treatment Options

Disparities in access to early screening services and knowledge about the benefits of early detection and screenings for cancer are also possible factors for the disparities between African- American and Caucasian women at stage of diagnosis (Frisby, 2006). One factor that may be associated with differential access to early detection screenings is segregation (Frisby, 2006). Define segregation. Segregation can cause a negative impact on health by a lack in access to medical services, social isolation, dissemination of information about breast cancer screenings and treatment and education about early detection (Haas et al., 2008; Warner and Gomez, 2010).

Along with a disparity in access to screenings, the lack and misperception of factual knowledge about personal risk and treatment options are thought to also contribute to the barriers in breast cancer screening in African-American women (Frisby,

2002). One study found that, despite controlling for surgeon characteristics, treatment location and patient-surgeon communication, racial disparities persisted in breast cancer knowledge (Hawley et al., 2008). Studies have shown that a key element in making informed and high quality breast cancer treatment decisions is having sufficient knowledge about the risk and benefits of different treatment options (Guallatte, Brawley, Kinney, Powe & Mooney, 2010). The racial disparity in knowledge about early detection and mammography screenings among African-American women may be a factor in their propensity to receive regular exams (Amjadi-Begvand et al., 2011). Other potential barriers of access to screening for African-American women are concerns about cost of screenings, lack of physician's recommendation for screening (Jones et al., 2001), lack of transportation, delay in follow-up after abnormal screening (Kerner, Yedidia & Padgett, 2003; Elmore, Nakano, Linden, Reisch, Ayanian & Larson, 2005) and differences in receipt of cancer treatment (Shavers & Brown ,2002; Elmore et al., 2005).

Another area that affects the difference in knowledge about cancer for African-American women is a disparity in communication with physicians. Research has found that a woman's willingness to begin or continue screening can be influenced by the amount of time a physician spends explaining the purpose for the test, the process of the screening and the results (Amjadi-Begvand et al., 2011). A study by Siminoff et al. (2006) found "that patient demographic factors, such as race, income level, education and age seem to influence the amount of time physicians spend in almost all communication categories with patients" (p. 355). In this study, race was one of the most recurring differences in almost all communication categories and possibly leads to a less sufficient decision-making process for African-American women (Siminoff et al., 2006). Another

study found that patients of different racial/ethnic backgrounds experienced different communication from their provider about breast cancer treatment (Siminoff et al., 2006; Hawley et al., 2008). Results indicated that African-American patients received insufficient information about medical treatment options compared to Caucasian patients.

Communication Methods and Strategies

The societal barriers of this racial disparity, like socioeconomic status and prejudice, will take long-term efforts to change (Kreps, 2006). However the behavioral contributing factors to this disparity, such as reluctance to using preventative measures and lack of knowledge and awareness of cancer treatment options, can be combated through health communication campaigns (Kreps, 2006). The implementation of communication campaigns targeted at increasing awareness and knowledge about breast cancer is one strategy for reducing this disparity.

Several studies have shown that the use of culturally and ethnically tailored communication strategies is quite effective at influencing African Americans' behavior toward preventative measures and screening methods (Kreps, 2006). In the past few years there has been an increase in the amount of awareness campaigns targeted at increasing all women's awareness and practice of preventative measures. More recently, there has been a push for more targeted and segmented campaigns directed at different racial groups. These communication campaigns are commonly targeted at combating the behavioral factors of the racial disparity.

One of the major behavioral contributing factors to the racial disparity between African-American and Caucasian women is the low rate of participation in preventative and early detection screenings among African Americans (Kreps, 2006). As stated before,

the use of mammography and other preventative methods is related to stage at diagnosis (Mandleblatt et al., 1995). A woman's chance of survival is largely increased by early diagnosis and treatment (Wagner, 1998). Increased use of preventative methods has caused early detection of breast cancer to be more common, and could possibly decrease the disparity between African-American and Caucasian women (Nelson, 2009).

Kreps (2006) stated that the quality of health communication about cancer prevention, controls and care may strongly influence the contributing factors of this disparity. Due to this relation between increased use of preventative measures and early detection outcomes, communication campaigns targeted at increasing the practice and the knowledge of the benefits of mammography and other early detection tests would be the best strategy.

Several studies have shown that health communication campaigns that are sensitive, adaptive and strategic can help dissolve these barriers that cause the racial disparity in health outcomes through facilitating the achievement of goals at each stage of care (Kreps, 2006). A communication campaign strategy that is segmented and tailored for a specific racial or ethnic demographic has been shown to be effective at helping to reduce the racial disparity between African-American and Caucasian women (Kreps, 2006). Therefore, for a health campaign to be effective at influencing cancer prevention and screening behaviors in African-American women, the message of the campaign should be culturally tailored for this specific segmented audience.

A health communication campaign that is strategic allows for the application of "primary prevention strategies," (p.763) that include risk prevention and health promotion campaigns, and the distribution of "secondary prevention programs" (p.763)

such as encouraging cancer screenings and early detection (Kreps, 2006). This type of strategic communication campaign would focus on identifying significant risk associated with cancer as well as promoting healthy behaviors that can help prevent cancer (Kreps, 2006).

A study by Hornick (2006) gave four methods for racial segmentation in a health communication campaign. The four kinds of segmentation are behavioral, message, channel and execution segmentation.

- Behavioral segmentation would include tailoring different behavioral goals to specific racial groups. In this case, targeting the health communication campaign at increasing African-American women's practice of using preventative and early detection methods.
- In message segmentation, the message would be tailored to the different racial groups, but the behavioral goal would remain the same. For African-American women this may mean using fear or fatalistic messages to persuade these women to get a mammography.
- Channel segmentation involves using specific channels that are commonly used by a racial group to receive information. In this situation the use of radio, word of mouth and face-to-face communication would be the best options because these channels have been identified as methods that many people in this population use to receive information.
- In execution segmentation, race specific details are used in the execution of the message. An example of this would to use an African-American woman to deliver the message in an ad or using a breast cancer survivor.

The Community Health Advisor Model

Many models have been created to target segmented audiences. In this situation, the best strategy is to use a model that will successfully increase awareness of the benefits of preventative measures and increase breast cancer screening participation. One model that uses opinion leaders and trusted individuals as a method of effective communication is the Community Health Advisor (CHA) model.

The CHA model puts into practice part of the Diffusion Theory. According to Rogers (2002), diffusion is the process through which: (1) an innovation, (2) is

communicated through certain channels, (3) over time, (4) among the members of a social system. When looking at the best channels to use to communicate these innovations Rogers (2002) stated, “mass media channels are more effective in creating initial knowledge of innovations, whereas interpersonal channels are more effective in forming and changing attitudes toward a new idea, and thus influencing the decision to adopt or reject a new idea” (p.990). The CHA model uses interpersonal communication to increase positive health behavior in specific communities.

In the CHA model, trusted individuals in a community are recruited to serve as liaisons between the community and healthcare providers (Hunt, Grant & Appel, 2011). The use of CHAs in underserved populations and communities with large health disparities, particularly cancer disparities, is very important (Hunt et al., 2011). Part of a CHA’s responsibility is to educate the healthcare providers about the needs of the communities that they serve and to provide education that is culturally appropriate (Hunt et al., 2011). The CHA model allows for direct implementation of a larger awareness campaign at the individual level due to the individual’s status as an opinion leader in the community.

The CHA model also puts into practice Hornick’s four kinds of segmentation. The purpose of most CHAs is to help influence underserved populations to change their healthcare behavior. This is an example of behavioral segmentation. CHAs use message segmentation by using the messages that are culturally segmented and targeted to the community. The CHAs themselves are examples of channel and execution segmentation because they are specific channels that these communities use

to receive information and are mostly the same race and socioeconomic status of most of the population of these communities.

Summary

There is not one sole cause of the racial disparity between African-American and Caucasian women in breast cancer. Socioeconomic status, attitudes about cancer and lack of access to care all contribute to this disparity. Later stage at diagnosis has been identified as being one of the major reasons African-American women have such a high mortality rate with breast cancer. Since several studies indicate that lack of use of preventative measures contributes to later stage at diagnosis, it will be important to target the attitude and behavior toward preventative measures that cause African-American women to not get tested.

The CHA model uses interpersonal communication to help influence people to change their behavior toward preventative measures. It is important to analyzing the messages and methods used in the CHA model that persuade people to change their behavior toward preventative measures.

Method

In this project, one specific organization – the Deep South Network for Cancer Control – and their use of the CHA model was studied to examine which messages and channels worked best at influencing participation in breast cancer screenings of African-American women in underserved communities.

The Deep South Network for Cancer Control (DSN) is a faction of the University of Alabama at Birmingham (UAB) Comprehensive Cancer Center. The main purpose of the DSN is to decrease or eradicate cancer health disparities in African Americans in

rural and urban areas in Alabama and Mississippi (Baskin et al., 2011). The DSN works specifically in the Black Belt of Alabama and the Mississippi Delta. These two areas have a largely agricultural economy and are historically known to have inadequate health care and social services (Baskin et al., 2011). The DSN is an academic-community partnership that uses the community-based participatory research approach through the CHA model.

Depth Interviews

This project involved interviewing the program director of the DSN and three community health advisor research partners (CHARPs) that work with the DSN. The DSN and its CHARPs were chosen due to the success of the implementation of the CHA model and the increase in cancer screening participation seen in the communities that they serve. All of the interviewees are members of the communities that the DSN targets. Through their experience as CHARPs and their participation as community members, they will be able to offer insight into the attitudes and behaviors of the people in these communities toward cancer and preventative measures. The depth interview process was used because it allowed each interviewee to offer her own personal experiences as CHARPs and allowed for the potential for more candid responses since their answers are confidential. The CHARPs' responses were kept confidential to ensure honest and thorough answers to the questions. All interviewees were asked the same set of questions about the communication barriers they have experienced and the central messages they disseminated.

Research Participants

- Claudia Hardy is the program director of the Deep South Network for Cancer Control at the UAB Comprehensive Cancer Center. She has been with the DSN since 2000.
- CHARP 1 has been with the Deep South Network for Cancer Control since 2002.
- CHARP 2 became involved with the Deep South Network for Cancer Control by becoming a CHARP in 2006.
- CHARP 3 was first involved with the Deep South Network for Cancer Control through the DSN WALK program and became a CHARP after her participation as a WALK leader.

Interview Guides

The four women were all asked the same set of interview questions (Appendix A). The questions were divided into three categories: barriers, messages and success/outcomes. The questions were developed to discover what causes racial disparity in these specific communities and which messages are being developed to combat this disparity.

Each woman was asked about the types of barriers she sees through her work that might influence the racial disparity among African-American women in breast cancer screening rates. The answers covered socioeconomic, attitude/behavioral, access, miscellaneous and communication barriers. These specific barriers were selected because of the wealth of literature that identified these as the major barriers and causes of this racial disparity. The interview also covered the type of messages the CHARPs are disseminating in these communities and the channels and media that are being used to spread these messages. These questions were developed to better understand the approach and theme the DSN is using to change the attitudes and behaviors toward preventative measures in these communities.

Results

Below are the CHARPs' responses to the interview questions. They are divided up by question.

Socioeconomic Barriers

The main socioeconomic barrier CHARP 1, CHARP 3 and Hardy discussed was the lack of proper healthcare insurance among the populations of the communities that they serve. "Sometimes people in this socioeconomic environment don't have insurance or don't have jobs that provide insurance so consequently they don't get tested because they don't have the money to do that," CHARP 3 said. Hardy also explained, "Many people have some healthcare coverage but their healthcare coverage is not adequate or the healthcare providers are just not there."

Attitude/Behavior Barriers

When asked about attitude or behavior barriers found in these communities, CHARP 2 and CHARP 3 both responded saying that many of the people in these communities have an "It can't happen to me" attitude about cancer. CHARP 2 said that she sees this attitude primarily in the younger populations in this community. She also suggested that this attitude might be associated with a fear of getting cancer. CHARP 3 said that this "It can't happen to me" attitude is used by many in this population as an excuse for not getting tested. While this attitude is extremely common among those in the community who are underinsured, CHARP 3 also explained that even those who have adequate insurance to get tested also use this attitude as a reason for why these chose to not get tested. CHARP 2 indicated that this attitude causes some people in this community to be less motivated to live a healthy lifestyle and participate in other preventative measures

because they believe that they are not at risk of getting cancer. The main behavioral barrier that was identified in the interviews was the refusal to get preventative tests and seek medical advice.

Access Barriers

One of the main access barriers that both CHARP 1 and Hardy identified was the lack of access to good healthcare facilities. "In many of these counties there is nothing more than a local health department, there is no hospital," Hardy explained. "And if there is a hospital, places like Sumter County has a 28 bed hospital called Hill Hospital, or you come over to Dallas County where there are about 90 beds in a hospital that serves seven counties."

Another access barrier is lack of transportation to healthcare facilities. CHARP 1 said that through her work as a CHARP she realized the lack of transportation to facilities like UAB (University of Alabama at Birmingham) Hospital is not only a problem for people in rural areas, but is also a barrier for people who live in the urban areas surrounding Birmingham. She and Hardy both described how the lack of access to transportation could be a chain reaction in the community. They explained that some people are too sick to drive themselves to their appointments so they need someone to take them. However, that person then has to take off work to be able to take the go to the appointment. In addition, that person needs to be supported monetarily for gas or for their time since they had to take off work. CHARP 1 also said that the lack of public transportation in Alabama and Mississippi could also be a transportation barrier in these areas. "In Alabama and Mississippi everything is dependent on someone having a car and it being

readily available," explained CHARP 1. "There is no rail system to get people from point A to point B and it impacts local people from getting to UAB."

The lack of access to quality fruits and vegetables in these communities is also a barrier that CHARP 1 has seen. "There is an issue of getting fresh fruits and vegetables in our stores," said CHARP 1. "They are not always the best quality, variety or diversity." She explained that due to the lack quality fresh fruits and vegetables in their stores, the people in these communities must travel to other cities to get quality fruits and vegetables. This barrier is similar to the lack of transportation to their appointments and quality facilities.

Other Barriers

Another type of barrier that CHARP 1 and CHARP 3 identified was body image issues among the people in their communities. They both said that many of the people in these communities avoid getting regular checkups or preventative tests because they are self-conscious about the way their bodies' look. "When you come to people and start talking about weight they shut down because that makes them feel bad if they are overweight," explained CHARP 1. CHARP 3 reiterated this point when she explained that they don't like the way that they look, so they do not want anyone to see them.

CHARP 1 also said physician bias is another barrier that she has seen in these communities. She explained that some physicians in these smaller local hospitals seem hesitant to refer their patients to specialists. "Some of it, I think, is that they're financially challenged so they try to hold onto their patients," CHARP 1 said.

Communication Barriers

The type of communication barriers identified by the CHARPs varied from the messages, themselves, to the media used to deliver the messages.

One of the main communication barriers that Hardy, CHARP 2 and CHARP 1 described was the lack of knowledge and education of medical terms and preventative measures among the people in these communities. “The education and literacy level in many of these communities is pretty average,” Hardy explained. The lack of education about preventative measures and their benefits deters many people in these communities from getting preventative tests. CHARP 2 said that she sees this barrier mostly in the older population. CHARP 1 said that the medical terminology on the fliers and information brochures is too scientific for the communities they are targeting.

Another barrier that CHARP 3 identified was being unsure how to approach someone and encourage him or her to go and get tested without pointing out something negative about that person. She said that it is important to think internally about what a person can say or do to make someone understand the importance of preventative tests before approaching him or her.

A spokesperson or message deliverer that the community does not relate to was also identified as a communication barrier. CHARP 2 said that an everyday person who is relatable and similar to the audience is the best thing for encouraging the people in these communities to get tested and participate in other preventative measures.

Finally, the lack of available print materials and billboards in these communities was described as being a communication barrier. “There is not a whole lot of print media

in these communities," explained Hardy. "Many of these small communities only have weekly newspapers and then many people do not subscribe to them."

Messages

Central Message(s)

The central message of the DSN that was identified by all the women who were interviewed was, "Early Detection Saves Lives." This message is the main message that the CHARPs try to communicate to the people in their communities and is the backbone of the eight key messages that the DSN uses in their community education. These eight key messages include encouraging people to get pap smears, mammograms and colon cancer screening tests regularly.

Another main message that Hardy, CHARP 3 and CHARP 1 identified was, "With Cancer There is Hope." This is also one of the eight key messages used in community education. CHARP 2 also said that it is important to promote the significance of regular doctors visits and seeking professional opinions on medical issues rather than relying on personal opinion.

The DSN also has messages that encourage healthy lifestyle and diet. One of the eight key messages is to promote eating five servings of colorful fruits and vegetables every day. CHARP 1 said that part of communicating this message is to educate people that it may be more important to spend money obtaining quality fresh fruits and vegetables than on eating out. Another message CHARP 1 identified was the importance of getting 30 minutes or more of exercise five times a week.

Media/Channels

Effective Media and Channels

Word-of-mouth and face-to-face communication were identified by CHARP 2 and Hardy as being the main channels used to disseminate messages. Hardy said that using trusted individuals, like opinion leaders, in the community to deliver these messages was important for the effectiveness of the messages. CHARP 1 and CHARP 3 identified health fairs as being one of the main places where this face-to-face communication is facilitated. They both said that having demonstrations of self-breast exams and other visual mediums at the health fairs help to increase two-way communication between the CHARPs and the audience.

Radio was also identified as another useful medium for disseminating messages. Hardy said that she believed radio could be very effective, but it could also be very costly to purchase airtime during primetime hours. Why these hours for this audience?

Analysis and Discussion

Several of the responses from the interviews supported many of the hypothesis introduced by the literature.

Several of the CHARPs identified lack of proper healthcare insurance as a barrier for people in these communities in getting proper preventative tests. According to Niu et al. (2010) patients who were underinsured or insured by Medicaid that were diagnosed with breast, colorectal, lung and prostate cancer were found in some studies to have worse survival than patients with private health insurance. A study by Bradley et al. (2002) said that women who are privately insured have a better stage of disease at breast cancer diagnosis than women who are insured by Medicare and Medicaid. Both of these

groups of women had more favorable stage of disease at diagnosis than women who were uninsured.

The attitude of "It can't happen to me" was also described as being a barrier that prevents the people in these communities from getting preventative tests. While the incidence rate of breast cancer is lower in African-American women than Caucasian women, the mortality rate is higher (Qureshi et al., 2000; Frisby, 2006; Guallatte et al. 2010). This attitude or belief has been identified in many studies as being a major influence on health promotion behaviors among African Americans (Frisby, 2002). Two of the CHARPs said that lack of access to quality facilities and transportation to these facilities was a barrier that they see in these communities. According to a study by Warner and Gomez (2010), lack of access to medical services and social isolation can negatively impact health.

The main communication barrier that was identified by the CHARPs was the lack of knowledge and education in these communities. Several studies have indicated that lack of knowledge about breast cancer and early detection tests are potential causes to the lower screening rates among African Americans (Jones et al., 2001; Hawley et al., 2008; Amjadi-Begvand et al., 2011,). Another communication barrier that was described by one of the CHARPs was not having relatable spokespersons to spread the messages. Studies suggest that spokespersons and campaigns that are not culturally sensitive to minority audiences may cause communication barriers in these populations (Frisby, 2002; Siminoff et al., 2006).

The message that "With Cancer There is Hope" taps into the fatalistic views of breast cancer in African-American women. A study conducted by Spurlock and Cullins

(2006) said that in African-American populations the belief that a cancer diagnosis is a death sentence has been said to be a barrier to cancer screenings. CHARP 1 and Hardy both emphasized the importance of educating and encouraging people in these communities to not think about cancer as the end. They both stressed that educating them about early detection screenings and tests, and the benefits that come from being diagnosed at an earlier stage, is very important in these vulnerable populations. These messages tie into the main message of the DSN, which is "Early Detection Saves Lives." Fear and fatalistic beliefs about breast cancer and mammography are major barriers for African-American women preventing them from participating in cancer screenings (Frisby 2002; Frisby, 2006; Spurlock and Cullins 2006; Conway-Phillips and Millon-Underwood 2009).

Conclusion

One of the main goals of the DSN is to increase participation in preventative screenings in these communities. According to Hardy and research conducted by the DSN, during the past 12 years there has been a significant decrease in disparities in participation in screenings between Caucasian and African-American women in the counties the DSN serves. Four of the counties have reversed the disparity, meaning more African-American women are getting cancer screenings than Caucasian women. In Alabama, Choctaw County has seen the largest reversal in the disparity with 64 percent of eligible African-American women getting screened compared to 50 percent of eligible Caucasian women (see Appendix B). Though they have seen significant increases in participation in cancer screenings, there has not been a major decrease in cancer deaths in these communities.

These results suggest that the CHA model has been quite successful in disseminating the message that cancer screenings and preventative measures are important and that early detection can greatly influence the results of a cancer diagnosis. The decrease in the racial disparity in preventative screenings implies that, not only is the message important when trying to change people's attitudes and behaviors, but the messenger is incredibly important as well. Because the CHAs are trusted individuals and opinion leaders in their communities, they have a large amount of influence over the attitudes and opinions of the people in the community that they communicate these messages to. The Diffusion of Innovation theory supports this hypothesis and suggests that the CHAs have a greater deal of influence over women's decision to use preventative measures and test than a large mass media campaign (Rogers 2002). However, that does not mean that there is not a use for mass media campaigns. This same theory also states that mass media channels serve the role of creating initial knowledge of the benefits of these preventative measures and then the CHA's influence people to actually participate in the preventative tests (Rogers 2002). Several studies suggest that using opinion leaders in the community to introduce health interventions and new ideas about health interventions will increase the rate of the diffusion process (Rogers 2002).

Though this approach has seen good results, it takes a lot of people and channels to communicate these messages, which can be very time consuming. In order to combat racial disparity on a larger scale, more targeted and segmented cancer awareness campaigns need to be created and distributed in communities with significant racial disparities. These campaigns must be culturally sensitive and use opinion leaders and relatable spokespersons. These spokespersons should be able to relate to the people in

these communities culturally and socially. If the spokespersons or people disseminating the messages are relatable to these communities, the people in these communities are more likely to listen and respond to the messages they are sending out.

Like the messages of the DSN, communicating the importance of preventative tests and early detection will be important as well as offering messages of encouragement and hope. Cancer survivors should communicate messages of hope and encouragement. Combating negative ideas and beliefs about cancer screenings and cancer diagnosis is important in these populations along with emphasizing the benefits of preventative tests and early detection.

There is a need for further research in this area to decide how to best finance and run organizations that use a CHA model to disseminate information. Due to budget cuts at the federal and state levels, research will need to be conducted to determine how best to finance programs like the Deep South Network. Additional research comparing multiple programs like the Deep South Network in other states and underserved areas will be important to fully determine the effectiveness of the CHA model and discover other models that work at changing people's behavior regarding preventative measures.

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Appendix A

Interview Questions

1. Barriers
    a. What barriers to health care do you see through your work?
        i. Socioeconomic, Attitudes, Physical
    b. What communication barriers do you see through your work?
    c. What other barriers do you see?
2. Effective Communication
    a. Is there a central message being put out to these communities by your organization and/or similar organization?
3. Medium/Channels
    a. What channels/mediums do you to disseminate these messages?
4. Success/Outcome
    a. What do you think has been successful for your organization?
    b. What outcomes have you seen?
5. Recommendations
    a. What methods are communication do you think work best?
    b. Are there any other things you would like to discuss or go over?
    c. Do you feel that we covered everything?

Appendix B

Figure 1

Deep South Network: Disparities in Mammography Screening Between White and African American Women

Alabama

County	1997-1998 % of eligible women screened		Disparity Between White/AA	1999-2001 % of eligible women screened		Disparity Between White/AA	2002-2003 % of eligible women screened		Disparity Between White/AA
	White	AA		White	AA		White	AA	
Bullock	---	---	---	57	53	4%	67	51	16%
Choctaw	40	29	11%	55	50	5%	59	51	8%
Dallas	50	29	21%	59	53	6%	58	52	6%
Greene	47	28	19%	64	48	16%	74	55	19%
Hale	41	35	6%	54	51	3%	57	55	2%
Jefferson	---	---	---	65	54	11%	63	57	6%
Lowndes	---	---	---	63	53	10%	70	58	12%
Macon	---	---	---	58	46	12%	47	47	0%
Marengo	39	19	20%	49	48	1%	54	47	7%
Perry	46	30	16%	55	44	11%	55	41	14%
Sumter	46	30	16%	70	50	20%	66	53	13%
Wilcox	49	29	20%	69	41	28%	52	49	3%
Average	45	29	16%	60	49	11%	60	51	9%

Appendix B

Figure 2

Deep South Network: Disparities in Mammography Screening Between White and African American Women Cont'd

Alabama

County	2004-2006 % of eligible women screened		Disparity Between White/AA	2006-2008 % of eligible women screened		Disparity Between White/AA
	White	AA		White	AA	
Bullock	70	62	8%	63	61	2%
Choctaw	53	59	(6%)	50	64	(14%)
Dallas	60	57	3%	59	54	5%
Greene	64	50	14%	51	62	(11%)
Hale	49	63	(14%)	57	56	1%
Jefferson	64	59	5%	65	62	3%
Lowndes	67	56	11%	66	62	4%
Macon	49	48	1%	52	51	1%
Marengo	53	55	(2%)	61	55	6%
Perry	67	50	17%	58	59	(1%)
Sumter	69	54	15%	60	62	(2%)
Wilcox	66	53	13%	58	55	3%
Average	61	51	10%	58.33	58.58	(.25%)