Advancing Equity in Clinical Preventive Services: The Role of Health Communication

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In 2002, the Institute of Medicine released its landmark report “Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.” This report led to increased efforts in identifying, assessing, and documenting racial and ethnic disparities in health care, as well as developing, testing, and implementing interventions in an attempt to reduce health disparities throughout the United States. This article reviews the rise of health disparities research in the United States and reports on selected studies and interventions developed by researchers at the Northwestern University Feinberg School of Medicine. These interventions have used communication and behavioral science theories and frameworks in their development and dissemination, particularly in the realm of clinical preventive medicine.

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The past few decades have seen an increase in awareness of health disparities within the United States, as well as concentrated efforts in identifying, addressing, and reducing these disparities with the goal of achieving health equity. Health communication scholars have a crucial role to play within these efforts.

As evidenced by two publications in Patient Education and Counseling, which provide brief overviews of selected persuasion (Cameron, 2009) and interpersonal (Bylund, Peterson, & Cameron, 2012) theories, models, and frameworks, there is heightened interest among interdisciplinary researchers and medical practitioners regarding these foundations routinely used by health communication scholars. The methodological and theoretical training health communication scholars receive, in addition to their expertise in message development, dissemination, and effects, are
of great collaborative benefit to researchers in other disciplines seeking to address health disparities.

This article provides a brief overview of the rise of health disparities research in the United States, with a particular focus on racial and ethnic disparities. Following this overview, I provide a description of four selected studies, highlighting how the researchers used foundations of communication in the development and dissemination of their interventions.

Although this article focuses predominantly on racial and ethnic disparities in health and health care in the United States, it is important to recognize that many different populations are affected by disparities, including residents of rural areas, women, children, individuals of differing sexual orientations or gender identity, the elderly, persons with disabilities, individuals of various religious beliefs, residents of diverse geographical areas, and persons with lower levels of socioeconomic status, among others. Indeed, many of the characteristics that have been linked historically to discrimination are now known to influence one’s health status (U.S. Department of Health and Human Services [HHS], 2011). Furthermore, health disparities are a significant global concern. The Black Report, published in the United Kingdom in 1980, concluded that widespread health inequalities remained, even after the introduction of the National Health Service (Department of Health and Social Security, 1980). In 1998, the World Health Organization (WHO) Regional Office for Europe approved a “health for all policy framework” with a goal of “reducing social and economic inequities in improving the health of the whole population” (WHO, 1999, p. v). Addressing inequities in health has become a priority in many countries, both in the developed and the developing world (Braveman, 2006; Casas-Zamora & Ibrahim, 2004).

**What is a “health disparity”?**

In response to a White House initiative, a definition of “health disparities” was proposed in the United States in September 1999. Dr. Harold Varmus, the director of the National Institutes of Health (NIH), assembled an NIH-wide working group to develop a strategic plan to reduce health disparities. From this group, the first NIH definition of “health disparities” emerged: “Health disparities are differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific population groups in the United States” (National Cancer Institute, 2010).

In 2000, United States Public Law 106-525, also known as the “Minority Health and Health Disparities Research and Education Act” (2010), provided a “legal” definition of health disparities:

> A population is a health disparity population if, as determined by the Director of the Center after consultation with the Director of the Agency for Healthcare Research and Quality, there is a significant disparity in the overall rate of disease
incidence, prevalence, morbidity, mortality or survival rates in the population as compared to the health status of the general population. (p. 2498)

This Act also was responsible for the authorization of the National Center on Minority Health and Health Disparities, which transitioned in 2010 to being the National Institute on Minority Health and Health Disparities (NIMHD) (U.S. HHS, 2010a).

Simultaneously with NIH’s efforts to define health disparities, Congress requested an Institute of Medicine (IOM) study to assess the extent of disparities in the types and quality of health services received by U.S. racial and ethnic minorities and nonminorities. Congress asked the IOM study to explore factors that may contribute to inequities in care and to recommend policies and practices to eliminate these inequities. These inquiries led to the IOM’s landmark report, released in 2002, “Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care.” This report, published in book format in 2003, concluded that many sources contribute to disparities; these sources are complex and involve numerous levels, including the individual patient and health care professional, health systems, and other administrative and bureaucratic systems and processes (Smedley, Stith, & Nelson, 2003).

Not surprisingly, lack of insurance was identified as one of the significant drivers of health disparities; however, the report also discovered significant variations in the rates of medical procedures completed by race, even when variables such as age, insurance, income, and severity of conditions or illness were comparable. The report documented that racial and ethnic minorities in the United States are significantly less likely to have insurance than the rest of the population, but it also noted that there is not one simple solution to addressing such health disparities (Smedley et al., 2003). For example, individuals living and working in low socioeconomic settings are at increased risk for morbidity and mortality; Hispanic and non-Hispanic Blacks are significantly more likely to be uninsured than non-Hispanic Whites; a higher prevalence of chronic diseases including cancer, diabetes, and heart disease are reported in rural as opposed to urban areas; non-Hispanic Blacks and Hispanics are less likely to be vaccinated against influenza; babies born to Black women are between 1.5 and 3 times more likely to die than those born to women of other races/ethnicities; and although there has been a significant decrease in the difference in life expectancy between non-Hispanic Whites and non-Hispanic Blacks, non-Hispanic Black men have the lowest life expectancy in the United States (Centers for Disease Control and Prevention [CDC], 2011; Lurie & Dubowitz, 2007; Olshansky et al., 2012).

The IOM report recommended the need to increase awareness among the general public about the presence of health disparities, while concurrently increasing awareness among health care providers, insurance companies, policy makers, and other key stakeholders. Release of this report, as well as galvanization of clinical, research, political, and many other communities, has led to a continuing emphasis on health disparities as they affect the population.
Due to the national spotlight placed on the challenge of health disparities and concurrent calls for awareness as we work toward achieving equity, there are numerous annual or continuing reports compiled to document progress, challenges, and unexpected findings. The Agency for Healthcare Research and Quality (AHRQ) has published a National Health Disparities Report (NHDR) since 2003. In 2010, AHRQ started publishing a chapter in both the NHDR and the National Healthcare Quality Report that summarizes and integrates findings from both reports to emphasize the need to consider both the quality of health care and health disparities simultaneously.

The CDC published *Health Disparities and Inequalities in the United States—2011*, the first report in a planned periodic series to examine disparities in selected social and health indicators, such as education, environmental hazards, income inequality, sexual orientation, health care access, and preventive health services. Also in 2011, the U.S. HHS unveiled their action plan related to racial and ethnic health disparities. In it, they call for “integrated approaches, evidence-based programs, and best practices” to reduce disparities (U.S. HHS, 2011). Furthermore, one of the four overarching goals of *Healthy People 2020* is to “Achieve health equity, eliminate disparities and improve the health of all groups” (U.S. HHS, 2010b). However, the most recent published AHRQ reports, which include data from 2011, note that while health care quality is improving, we are not seeing the same improvement in terms of access to health care and health disparities (AHRQ, 2012a, 2012b).

**The impact of health disparities**

Research has identified disparities in risk factors, quality of life, morbidity, and life expectancy among portions of the U.S. population (Truman et al., 2011). These disparities have a significant impact on individual health, the health and well-being of the society, and the economy and social structure of the country (Joint Center for Political and Economic Studies, 2010; Murray et al., 2006; U.S. HHS, 2011). Murray et al. (2006) discussed the existence of “eight Americas,” defined by race, location of county of residence, population density, race-specific county-level per capita income, and cumulative homicide rate, and the authors concluded that “disparities in mortality across the eight Americas, each consisting of millions or tens of millions of Americans, are enormous by all international standards” (p. e260). The Joint Center for Political and Economic Studies reported that between 2003 and 2006 “the cost of racial/ethnic disparities in direct medical costs and lost productivity in the U.S. exceeded $1.24 trillion” (2010, p. 6).

Although there have been significant successes in the reduction of some health disparities (e.g., decreased cancer deaths among individuals 65 and older; decreased hospital admissions among Blacks and Hispanics for congestive heart failure; increased pneumococcal screening or vaccination among hospitalized Hispanic patients), we still certainly have a long and difficult road to travel in reducing and eliminating such disparities (AHRQ, 2012a). Orsi, Margellos-Anast, and Whitman
(2010) analyzed health disparities between Blacks and Whites in the United States, considering 15 health status indicators: all-cause mortality, 10 specific indicators of mortality, percentage of low-birthweight babies, percentage of no prenatal care in the first trimester, tuberculosis case rate, and primary and secondary syphilis case rate. Between 1990 and 2005, disparities between non-Hispanic Black and non-Hispanic White populations at the national level narrowed significantly for seven of the 15 measured indicators. Yet even in these areas where improvement was seen, the overall progress was deemed to be “generally slow” (p. 352). For 6 of the 15 indicators, disparities widened (five significantly). The authors conclude that “there was no significant trend toward overall improvement (P = .85)” (p. 352).

The authors also explored the same health status indicators among Black and White residents of Chicago, IL. They found that 11 of the 15 indicators showed a widening of disparities (five significantly), and only four indicators showed a narrowing of disparities (two significantly) (Orsi et al., 2010). Thus, even though some health status indicators are improving, and may be improving for multiple populations, improvement does not automatically equal a reduction in disparities. As we work to address both identified and suspected health disparities facing our nation, it is critical to ensure not only that programs and interventions are increasing the use of preventive services among the population as a whole but also that we are working toward achieving equity in health care.

**Developing patient education tools to achieve equity in clinical preventive services**

Communication strategies to reduce health disparities comprise several different approaches to intervention. Some approaches focus at an individual level, attempting to change patient or provider attitudes and behaviors (e.g., Cegala & Post, 2006; Shaw et al., 2006). Other strategies may address community (e.g., Meade, Menard, Luque, Martinez-Tyson, & Gwede, 2011), mass media (e.g., Campo et al., 2008; Hornik & Ramirez, 2006), policy (Niederdeppe, Bu, Borah, Kindig, & Robert, 2008), or may have a multilevel focus (Gorin, Baadr, Krebs, & Das, 2012). Indeed, in 2006, an issue of *American Behavioral Scientist* was devoted to the topic of communication and health care disparities; this issue of the *Journal of Communication* continues to highlight the significant role of communication in addressing health disparities.

A focus of our work in the Division of General Internal Medicine and Geriatrics at the Northwestern University Feinberg School of Medicine has been on addressing racial and ethnic disparities in clinical preventive services. Screening tests such as colonoscopy, mammography, or blood pressure measurement; counseling to prevent tobacco use; preventive medications such as aspirin to reduce the likelihood of heart attack or stroke; and immunizations to prevent illnesses in infants, children, and adults (e.g., influenza, polio, herpes zoster, invasive pneumococcal disease) are all examples of clinical preventive services. These services are provided by clinicians in numerous fields including preventive medicine and primary care (e.g., internal and...
family medicine, pediatrics, behavioral health, obstetrics/gynecology, and nursing; U.S. Preventive Services Task Force [USPTSF], 2010). Significant disparities exist in the United States related to many of these services (AHRQ, 2012a; Orsi et al., 2010; U.S. HHS, 2011).

Our intervention development process includes an initial identification of both primary and secondary learning goals in preparation for designing interventions with explicit links to theoretical constructs, as well as the desired health behaviors, such as increased exercise and better nutrition habits for those individuals diagnosed with diabetes or prediabetes, completion of colorectal cancer screening, and receipt of influenza vaccination (Cameron, Francis, Wolf, Baker, & Makoul, 2007; Cameron et al., 2009; Goel, Gracia, & Baker 2011; Kandula, Khurana, Makoul, Glass, & Baker, 2012; Kandula et al., 2009). We build our interventions on principles, theories, models, and frameworks, many of which have come from the field of communication or other social and behavioral fields, including social psychology, cognitive science, educational psychology, and anthropology. These theories often are juxtaposed with other frameworks, such as the chronic care model, with its focus on identifying basic elements to improve health care and health care systems at the organization, community, practice, and patient level (Wagner, 1998; Wagner, Austin, & Von Korff, 1996). We work in collaboration with patients and health care providers to identify words, graphics, and analogies to best communicate essential messages. We use an iterative design process in that we return repeatedly to our collaborating patients and providers to ensure that we receive continual feedback and constructive criticism.

By using such methods, we are also employing some of the principles of community engagement described by the U.S. Department of Health and Human Services Clinical and Translational Science Awards Consortium Community Engagement Key Function Committee Task Force on Principles of Community Engagement (2011). We work to ensure clarity regarding purposes and goals of the engagement effort, recognizing that partnering with the community is necessary for creating change and improving health. We strive to design intervention and educational tools to assist with information transfer, but not to replace the essential human interaction that is needed to achieve optimal patient care.

We also pay close attention to issues related to health literacy. Health literacy, defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (Nielsen-Bohlman, Panzer, & Kindig, 2004, p. 2) has been identified as a significant variable in numerous areas of health care and health disparities; limited literacy has been specifically linked to poor health knowledge, problems with the use of preventive services, delayed diagnoses, and poor health outcomes (Davis et al., 2001; Gazmararian et al., 1999; Nielsen-Bohlman et al., 2004). When developing patient education materials, we ensure that the text, graphics, and narration we use relate to and teach the identified learning goal(s) in plain language. Our materials use active voice, short sentences, common words, and simple graphics and pictures. We avoid medical jargon and present information in a logical sequence, allowing learners
to build upon what they have learned. Information also is repeated and summarized as necessary (Cameron, Baker, & Wolf, 2011; Kandula et al., 2012; Makoul et al., 2009).

Assessing patient education tools designed to address issues of health disparities

Below, I provide a very brief overview of four selected interventions designed with attention to theory, health literacy, and ability to work within our current system of care to achieve reduction of known disparities in the areas of influenza vaccination, cardiovascular disease, and breast and colorectal cancer screening. The examples chosen focus specifically on racial and ethnic disparities as opposed to other disparities, such as those related to education or income. Much of the work described below is ongoing, part of a larger research trajectory, or has been completed only recently. Hence, behavioral outcomes are not presented and only preliminary analyses are reported for some of the projects. Participants in these studies were from the Chicagoland area, from a diversity of locations (senior centers, community centers, community clinics) representing varying races and ethnicities (African American, Hispanic/Latino, South Asian).

Influenza vaccination among African American seniors

Influenza and influenza-related illnesses cause approximately 36,000 annual deaths in the United States, 90% of which occur among those ages 65 and older (CDC, 2010). A major focus of influenza prevention is increased vaccination, which is the most effective prevention technique available (CDC, 2010). Vaccination rates among individuals 65 and older fall far short of the Healthy People 2020 goal of 90%: Recent estimates for influenza vaccination among this population were 70.8% ±2.3 (CDC, 2012). Racial and ethnic disparities in influenza vaccination among those 65 and older persist: Estimated rates of influenza vaccination as of the end of May 2011 for non-Hispanic Black seniors were 56.1%; rates for Hispanic seniors were 66.8%; and rates for non-Hispanic Whites reached 67.7% (CDC, 2012).

We undertook a study to evaluate knowledge, attitudes, intentions, and past behaviors of African American seniors regarding influenza and the influenza vaccine. Focus group (N = 121 participants) analyses using latent content and constant comparative analysis, as well as the identification of emergent themes related to the constructs of the extended parallel process model (EPPM: perceived severity, perceived susceptibility, self-efficacy, response efficacy; Witte, 1992, 1994), were used to pinpoint key information needs among African American seniors. Analyses identified barriers and facilitators to vaccination, knowledge, attitudes, and past vaccination behaviors of participants. Familiarity with influenza and influenza vaccination appeared to be fairly high, yet misconceptions remained: Many participants noted a belief that the vaccine gave them the flu, some believed the vaccine contains a live virus, and others expressed concern about the composition of the vaccine (Cameron et al., 2009).
Following this first wave of focus groups, we drafted an initial message and revised it through three further waves of focus groups, allowing for focus group participants to identify preferences for voiceover, format and images, the order of presentation, the strength of various images, and to provide an overall critique of the message. The final result was a 6-minute multimedia program that drew on the theoretical frameworks of the EPPM (Witte, 1992, 1994), the theory of reasoned action/theory of planned behavior (TRA/TPB; Ajzen, 1985, 1991; Ajzen & Fishbein 1980), and prospect theory (Kahneman & Tversky, 1979) to raise and refute widespread myths about influenza and the influenza vaccine. Using such existing theories as frameworks allowed us to identify leverage points on which to build the message, which was then woven into a structured narrative. For example, from the EPPM, we identified that participants cited personal knowledge and health status to justify their personal perceptions of susceptibility, which led us to include a voiceover that stressed how easy it was to catch the flu and that “even healthy persons” could get the flu. Similarly, participant perceptions of perceived severity ranged from perceptions of influenza as a nuisance, as incapacitating, and as deadly. Our final message addressed this range while also stressing concepts related to response efficacy (vaccine effectiveness and describing exactly how the flu shot works to create antibodies within our bodies). Self-efficacy was stressed in information regarding the accessibility and affordability of the vaccine, and we tested both a gain- and loss-framed introduction to the video.

Analyses of a pilot test of the intervention are ongoing. Preliminary analyses suggest increases in knowledge and intention to be vaccinated among individuals who viewed the multimedia program.

Creating cardiovascular health promotion messages for a South Asian community

Coronary heart disease (CHD), a narrowing of the blood vessels supplying oxygen to the heart, is the leading cause of death for both men and women in the United States; over 400,000 Americans die each year from the disease (National Heart Lung and Blood Institute, 2012). There is increasing evidence to suggest that South Asians (Asian Indians and Pakistanis) are at greater risk than other racial and ethnic groups in the United States for CHD (Enas et al., 1996; Palaniappan, Wang, & Fortmann, 2004). South Asians both report the lowest levels of physical activity and have higher rates of overweight and obesity than other Asian groups in the United States (Lauderdale & Rathouz, 2000; Ye, Rust, Baltrus, & Daniels, 2009).

Researchers in our group conducted a survey and in-depth, semistructured interviews in English, Hindi, and Urdu to better understand current knowledge and explanatory models, as well as misconceptions regarding CHD among South Asian immigrants (Kandula et al., 2010; Tirodkar et al., 2011a, 2011b). Specifically, respondents indicated their beliefs that psychosocial factors, such as stress, as well as behavioral factors (e.g., diet), physiological factors (e.g., cholesterol, high blood pressure, and diabetes), sudden adverse events (e.g., receipt of disturbing or shocking news), and spiritual factors, contributed to or caused heart attacks (Tirodkar et al., 2011b).
To address the need for more culturally based messages, researchers designed a multimedia Patient Education Program (PEP) related to CHD for South Asian immigrants. This PEP, consisting of six multimedia modules, was based on both participants’ explanatory models identified in previous research and the Health Belief Model (HBM; Becker, 1974; Janz and Becker, 1984) and the TPB. Perceptions of severity, susceptibility, and benefits were hypothesized to be mediators of CHD prevention behaviors; formative research identified attitudes, subjective norms, and perceived behavioral control as strong influences among the South Asian community regarding CHD prevention behaviors (Kandula et al., 2012). The multimedia modules incorporated elements of framing (Scott & Curbow, 2006), cultural targeting (Kreuter & McClure, 2004; Resnicow, Baranowski, Ahluwalia, & Braithwaite, 1999; Sanders Thompson et al., 2008), and use of fear appeals (Chaudhuri & Buck, 1995). The PEP began with a fear appeal, but it also included positive, gain-framed messages because such messages have been identified as being effective in increasing behavioral intent and self-efficacy regarding CHD screening behaviors.

These modules were presented to members of the South Asian community via multiple focus groups and individual interviews. Analyses identified four specific themes that guided the revision of the PEP. Participants initially had a negative response to the original targeted impact statement that focused on perceived severity and susceptibility (“Heart attack is the number one killer of Asian Indians and Pakistanis”) because they felt as though it was an “attack.” Others were concerned that the video did not adequately address the heterogeneity of the community in regards to age, gender, and body type. Participants’ strong beliefs in stress as a primary cause of CHD was voiced repeatedly; merely stating that stress was not the cause of heart attacks would be insufficient to eliminate myths widely held as cultural, or normative, beliefs. Finally, the need for the message to address structural barriers to screening (perceived behavioral control) was raised, such as where individuals who were uninsured or underinsured could be screened for heart disease. The researchers thus integrated communication and behavioral theory with the identified explanatory models from the community to pursue what they termed “a community and cultural-centered approach” when developing preventive health messages (Kandula et al., 2012).

Researchers are currently engaged in evaluating the effect of these modules on knowledge and perceptions about CHD, as well as assessing its effect on individuals with varying levels of education. Future plans include assessing if the combination of such a program with lifestyle counseling or action planning could assist in the initiation and maintenance of behavior change to reduce CHD risk among South Asians.

Breast cancer screening among Latina women
It is estimated that there will be 226,870 new cases and 39,510 deaths of women from breast cancer in the United States in 2012 (National Cancer Institute [NCI], 2012a). Current incidence rates project that approximately one in eight women will
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develop invasive breast cancer during her lifetime (NCI, 2012b). Breast cancer is the leading cause of cancer death among all women. Although Latina women have a lower overall incidence rate of breast cancer than non-Latina women, it remains the leading cause of cancer death among Latina women (American Cancer Society [ACS], 2009). Furthermore, Latina women are more likely than non-Latina women to be diagnosed at advanced stages; this disparity has been attributed to lower rates of screening mammography (Smith-Bindman et al., 2006).

For this study, barriers to mammography screening among Latina patients were identified through both a literature review and a series of focus groups with Latina women. The focus group protocol was developed with attention to the HBM, assessing perceptions of severity, susceptibility, benefits, and an in-depth focus on barriers to screening among the target population (Goel et al., 2011). A brief multimedia program was developed to address the identified barriers through both visual and auditory messages, ensuring the message was appropriate for viewers of varying levels of health literacy. The final multimedia intervention consisted of a 5-minute Spanish- and 4-minute English-language video (some difference in length of the videos was due to translation; the remainder was due to the inclusion of information about translation services for the Spanish-language version).

Results from a pre-post pilot test of the intervention demonstrated an increase in knowledge, with the greatest increase seen among those women who had the lowest knowledge scores at baseline (Goel et al., 2011). Although no change was identified overall in attitude scores, among the subsample of women who had negative scores at baseline, 50% developed positive attitudes after viewing the multimedia intervention, suggesting that the intervention may be effective in increasing patient knowledge and attitudes regarding screening mammography. Ongoing research has incorporated the framework of social cognitive theory (SCT; Bandura, 1986) in understanding that screening mammography behavior among Latina women can be explained by the interaction of behavior, personal factors, and environmental influences. This research is assessing the effect of the developed intervention on mammography screening behavior among a sample of Spanish-speaking Latina women seeking care at a Federally Qualified Health Center (FQHC) (M.S. Goel, personal communication, April 9, 2012).

Addressing colorectal cancer screening among Hispanic/Latino and African American adults

Colorectal cancer (CRC) is the second leading cause of cancer death in the United States among men and women combined: An estimated 143,460 adults will be diagnosed with CRC in 2012, and an estimated 51,690 will die as a result of the disease (ACS, 2012). CRC is ideally suited for early detection strategies, as precancerous adenomas precede the development of malignancies (Levin & Murphy, 1992); up to 60% of CRC deaths could be prevented with regular testing (U.S. HHS, 2012). The United States Preventive Services Task Force (USPTSF) strongly recommends that persons age 50–75 years of age undergo screening for CRC via fecal...
occult blood tests (FOBT), fecal immunochemical test (FIT), flexible sigmoidoscopy, and colonoscopy (USPTSF, 2008a, 2008b).

However, recent estimates suggest that only 58.6% of American adults age 50–75 years of age have been screened appropriately for CRC (CDC, 2012d). Screening rates are even lower among Black and Hispanic populations (Holden, Jonas, Porterfield, Reuland, & Harris, 2010; Jerant, Arellanes, & Franks, 2008); published rates of CRC screening among low-income minority patients have been as low as 7% (Khankari et al., 2007). Barriers to CRC screening include access, low patient awareness, and perceived lack of provider recommendation of screening. In recent years we have seen an increase in CRC screening among Hispanic/Latino and Black populations, yet significant disparities remain when these groups are compared to a non-Hispanic White population. This trend indicates that although screening rates are increasing among various racial and ethnic groups, disparities in screening are not decreasing as desired, and equity is not being achieved (AHRQ, 2012a).

For over a decade, researchers at Northwestern University have collaborated with numerous community groups and organizations to develop and implement interventions designed to increase CRC screening among minority, low-income, and low-health-literate populations (Cameron et al., 2007; Davis et al., 2001; Khankari et al., 2007; Makoul et al., 2009). Throughout intervention development, we have drawn upon numerous health communication and social science/behavioral theories, including the TPB, HBM, EPPM, SCT, and the information processing model (Wogalter, DeJoy, & Laughery, 1999). Additional frameworks and foundations include a health literacy perspective (DeWalt, 2007; Doak, Doak, & Root, 1996) and continuous quality improvement (Deming, 1993). Each framework and foundation provides a critical element to the systematic process of intervention development, taking into consideration the perspective of patients and providers and the health system within which the encounters occur.

In 2004, we conducted a study to assess Hispanic/Latino perceptions about CRC and CRC screening, partnering with Erie Family Health Center in Chicago, Illinois. Participants completed an in-person structured interview developed using constructs from the HBM and the EPPM. Results of the 234 interviews, which were conducted in Spanish, demonstrated numerous literacy issues among the participants, with 63.3% of them reporting their reading ability as “less than good.” A limited number of individuals was able to correctly identify a picture of the colon or correctly describe a polyp. Less than half of participants (48.7%) perceived themselves at risk for CRC, although a vast majority recognized that tests for CRC were available to find early signs and to help prevent CRC. Critical barriers identified included 65.7% of participants reporting that CRC screening had not been mentioned to them by a healthcare provider and 27.3% indicating they did not need to be tested because they felt fine and were not worried about CRC (Cameron et al., 2007).

On the basis of these findings, we developed a brief multimedia Patient Education Program/Programa Educativo para Pacientes related to CRC and CRC screening, using the input of the community and the theoretical framework of the EPPM.
Specifically, the message aimed to increase perceived susceptibility to appeal to the majority of participants who did not see themselves at risk for CRC. Further, because we discovered that the screening tests themselves (FOBT and colonoscopy) were not viewed as particularly scary or humiliating to patients, we were able to focus our message on the ease of completing the screening (self-efficacy), as well as the benefits of screening, such as the ability to remove a polyp if discovered during colonoscopy, thus eliminating the chance of the polyp growing and turning into cancer (response efficacy).

A pretest-posttest design resulted in significantly increased knowledge regarding key terms (e.g., polyp), CRC screening, and anatomy and increased awareness of primary screening options for CRC among patients who viewed the program. These patients reported a significantly increased willingness to be screened and increased perceptions of personal risk for CRC (susceptibility). Over 90% of participants reported an intention to discuss CRC screening with their provider (Makoul et al., 2009).

We are currently conducting an NCI-funded randomized controlled trial among Hispanic/Latino and African American patients in multiple FQHCs in Chicago that utilizes this multimedia program as part of a combined physician-patient intervention to increase colorectal cancer screening. Critical in this ongoing study is the combination of a focus at the patient level (exposure to the multimedia program) and intervention at the provider level (physicians are randomized to receive communication skills and health literacy related training). Multilevel interventions that include patients, providers, and systems are likely to be more effective in achieving lasting improved behavioral outcomes (Wagner et al., 1996). As patients voiced, if a recommendation by a physician is not provided to a patient, then the likelihood of that patient completing CRC screening is much less—and may be even impossible in the case of colonoscopy, where an order for the colonoscopy is a prerequisite for screening.

Models such as the chronic care model (Wagner, 1998; Wagner et al., 1996) recognize the need for multilevel interventions, as successful interventions often need the buy-in and critical support of physicians, nurses, medical assistants, and administrators in the practices where patients receive their care. Access to care, such as access to affordable colonoscopies, is yet another significant barrier that remains. Issues of access may be more adequately addressed through policy interventions in conjunction with interventions addressing patient and provider education.

**Future directions**

These research trajectories related to assessing patient knowledge, attitudes, and intention; developing relevant and applicable multimedia and print interventions; and testing the effect of the interventions on knowledge, attitudes, intentions, and behavior are firmly grounded in health communication and behavioral theories. This article describes the development and initial testing of numerous theoretically based
interventions; assessing the effect of these interventions on behavioral outcomes and on the ultimate goal of reduction in health disparities is still underway. The strong research base that has been built, not only by researchers at Northwestern but also by numerous social and behavioral researchers across the nation (e.g., Ashton et al., 2003; Kreuter & McClure, 2004; Kreps, 2006; Viswanath et al., 2012), has led to the recognition and support of multiple programs in the United States that are seeking to improve the delivery of clinical preventive services.

One such program is the Centers of Excellence in Clinical Preventive Services, established by AHRQ in 2011. As the lead Federal agency charged with conducting research to improve health care, AHRQ has the mission “to improve the quality, safety, efficiency, and effectiveness of health care for all Americans” (AHRQ, 2012c). Its Centers of Excellence program has the goal of supporting research to advance understanding of how to optimally deliver clinical preventive services, especially those recommended by USPTSF.

AHRQ funded three Centers of Excellence: The Research Center for Excellence in Clinical Preventive Services at the University of North Carolina, with a focus on improving safety and appropriate use of services; the Center for Excellence in Research in Implementation Science and Prevention (CRISP) at the Anschutz Medical Campus at the University of Colorado, with a focus on increasing utilization of preventive health services in primary care; and the Center for Advancing Equity in Clinical Preventive Services at Northwestern University’s Feinberg School of Medicine, with a focus on strategies to reduce health disparities. In particular, our Center at Northwestern aims “to expand and accelerate the development, testing, and dissemination of innovative, practical, effective, generalizable interventions to increase equity of access to and use of clinical preventive services” (Center for Advancing Equity in Clinical Preventive Services, 2012). Together, these three centers intend to serve as a national resource in assisting with the development, transformation, and support of research in clinical preventive services throughout the United States.

Health communication scholars are poised to collaborate in these efforts to address health disparities in clinical preventive services through identifying innovative and feasible ways of expanding communication beyond the clinical encounter. Clinicians’ time to discuss health issues within an encounter is very limited; health care systems need to employ strategies to integrate and improve communication before, during, and after a patient visit. These strategies could focus on providing patients information about appropriate use of services, increasing utilization of services, and addressing issues of health disparities. Harnessing the potential of the electronic health record and patient portals, researchers can develop patient education materials in conjunction with information systems. For example, systems now allow us to identify average-risk patients “newly eligible” for clinical preventive services, such as CRC or breast cancer screening, and pneumococcal or herpes zoster vaccinations. With prior physician approval, relevant information (e.g., about recommended vaccinations, cancer screenings) can be “pushed” to these patients for them to review before a
scheduled physician visit. There remains a great need for innovative development and evaluation of tools to assist in patient understanding of the need for such preventive services, and in engaging patients, physicians, and health care systems to identify interventions that are optimally effective in encouraging use of these services.

Future research will also be needed to assess the generalizability and replicability of the developed interventions in the realm of clinical preventive services. Following stringent empirical testing, these theoretically based interventions will be poised for broader dissemination and integration into the health systems as we strive to reduce numerous racial and ethnic disparities in clinical preventive services.

Conclusion

As much of a role as those of us engaged in health communication scholarship have to play in reducing health disparities and advancing equity in clinical preventive services, it is always good advice to remember that we do not accomplish great change on our own or in a vacuum. The root causes of disparities are numerous and complex, and thus, not surprisingly, they require multifaceted solutions. As noted by Kathleen Sebelius, U.S. Secretary for Health and Human Services, “it is time to refocus, reinforce, and repeat the message that health disparities exist and that health equity benefits everyone” (U.S. HHS, 2011, p. 1). Those of us in the field of health communication are well prepared to collaborate with basic and social scientists, clinicians, providers, policy makers, advocates, and patients themselves, to ensure this message is not overlooked and to work together toward identifying novel, effective, and feasible strategies to achieve our collective goal of health equity. Together we can work to achieve one of the goals set by Healthy People 2020: “To achieve health equity, eliminate disparities, and improve the health of all groups” (U.S. HHS, 2010b).

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References


